






Housings

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Specifications of „size 1” housings and short overview of installation possibilities for series A3, A4, A5, D7 and D8 inserts

Plastic housings

Material: Glass-fibre reinforced polyamide
 Locking levers: Polyamide
 Flame class rating acc. to UL 94: V 0
 Housing seal: NBR
 Temperature range: - 40 °C up to + 125 °C
 (depending on cable gland)
 Protection degree acc. to DIN EN 60 529: IP 65 (in locked condition)











Metal housings

Material: Zinc die casting
 Surface: Powder coated
 Locking levers: Zinc-plated steel
 Housing seal: NBR
 Temperature range: - 40 °C up to + 125 °C
 (depending on cable gland)
 Protection degree acc. to DIN EN 60 529: IP 65 (in locked condition)

D7 - inserts are only suitable for plastic housings !

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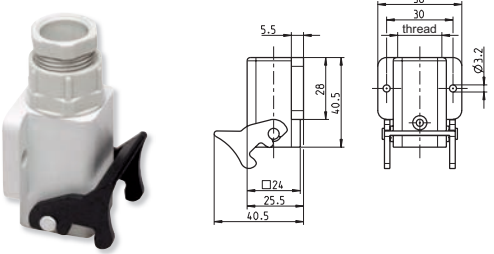
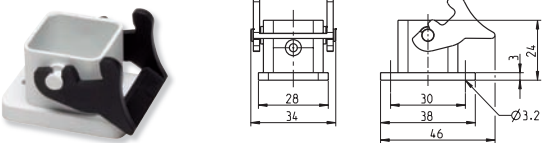
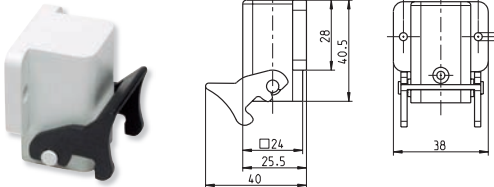
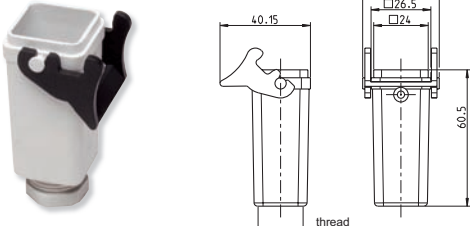
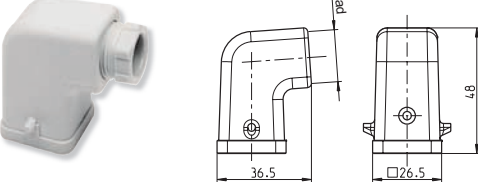
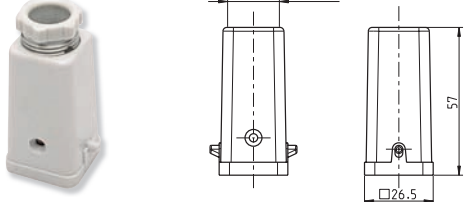
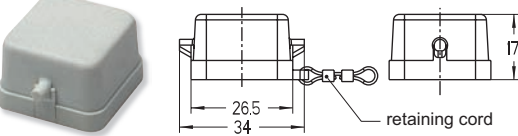
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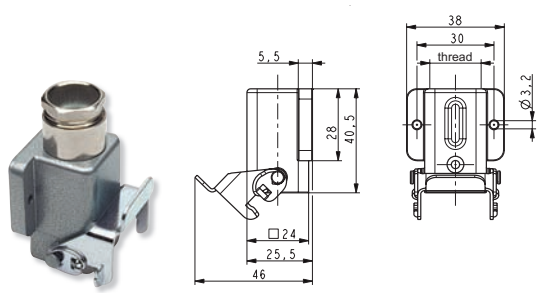
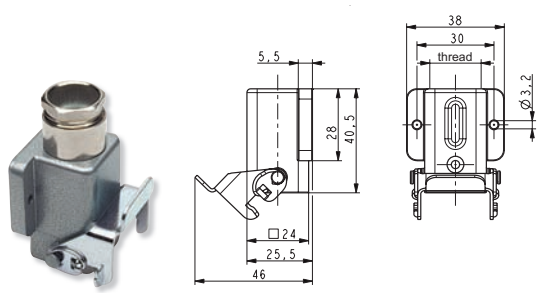
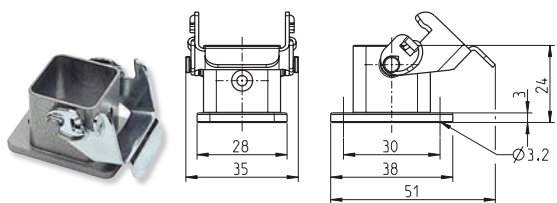
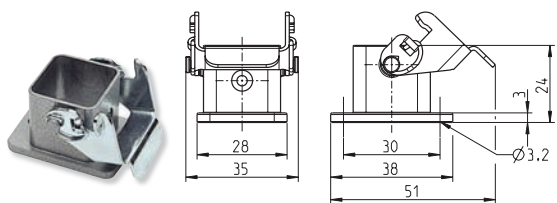
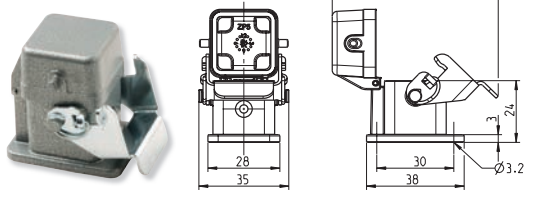
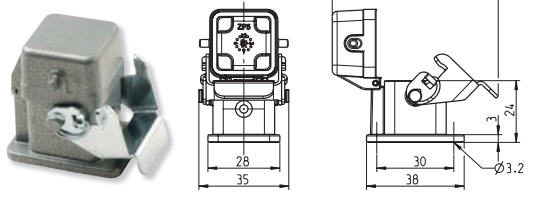
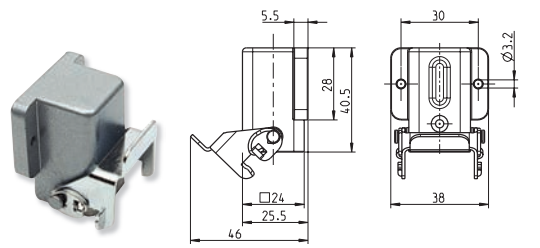
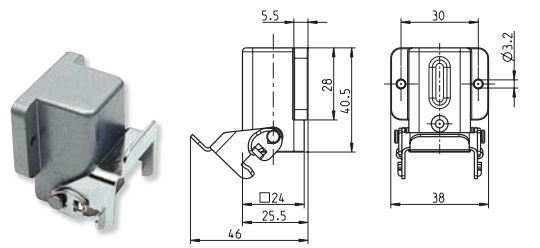
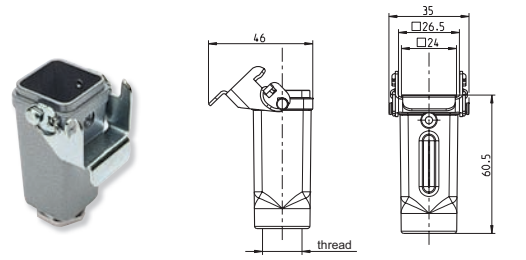
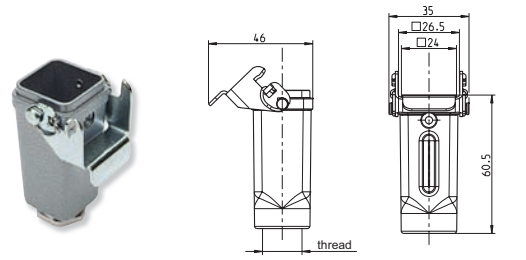
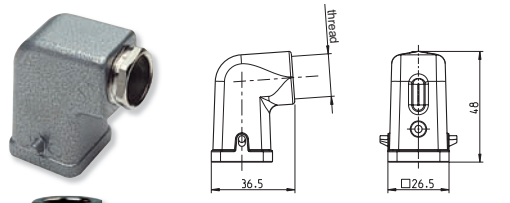
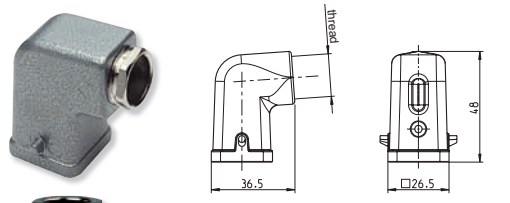
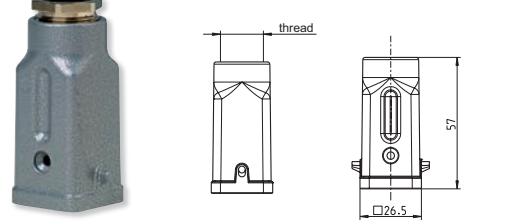
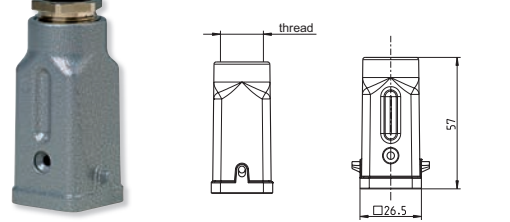
	Screw terminal inserts		Crimp contact carriers	
A3 4 p. 14	Female insert, screw terminal,  Part no. 700 103	Male insert, screw terminal,  Part no. 700 203		
A4 4 p. 15	Female insert, screw terminal,  Part no. 700 104	Male insert, screw terminal,  Part no. 700 204		
A5 4 p. 15			Female insert  Part no. 700 105	Male insert  Part no. 700 205
D7 4 p. 40			Crimp contact carrier for sleeve contacts,  Part no. 720 307 <i>- only for plastic housings -</i>	Crimp contact carriers for pin contacts,  Part no. 720 407 <i>- only for plastic housings -</i>
D8 4 p. 41			Crimp contact carrier for sleeve contacts,  Part no. 720 308	Crimp contact carriers for pin contacts,  Part no. 720 408

4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

A 5: see page 15
 D 7: see page 40
 D 8: see page 41

Description	Previous part number	New part number	M	Housings for series A 3, A 4, A 5, D 7, D 8	
Housings: plastic					
Wall mount housing, height 25.5 mm with single locking system					
<i>light grey (RAL 7035)</i> with threaded hole with collar with cable gland <i>black</i> with threaded hole with collar with cable gland	- / - 700 620 OV 700 620 - / - 700 671 OV 700 671	T 700 620 T 700 620 MS T 700 620 MV T 700 671 T 700 671 MS T 700 671 MV	1 x M 20 Housings open at flange		10 20 25 29 20 25 29
Panel housings, height 24 mm with single locking system, straight					
<i>light grey (RAL 7035)</i> <i>black</i>	700 621 700 672		Panel cut out 21x21 mm		10 18 18
Panel housings, height 25.5 mm with single locking system, angled					
<i>light grey (RAL 7035)</i> <i>black</i>	700 622 700 673		Panel cut out 21x21 mm		10 23 23
Coupler hoods, height 60.5 mm with single locking system, top cable entry					
<i>light grey (RAL 7035)</i> with collar with cable gland <i>black</i> with collar with cable gland	700 623 OV 700 623 700 674 OV 700 674	T 700 623 MS T 700 623 MV T 700 674 MS T 700 674 MV	1 x M 20		10 23 27 23 27
Hoods, height 48 mm for single locking system, side cable entry					
<i>light grey (RAL 7035)</i> with collar with cable gland <i>black</i> with collar with cable gland	700 624 OV 700 624 700 675 OV 700 675	T 700 624 MS T 700 624 MV T 700 675 MS T 700 675 MV	1 x M 20		10 13 17 13 17
Hoods, height 57 mm for single locking system, top cable entry					
<i>light grey (RAL 7035)</i> with collar with cable gland <i>black</i> with collar with cable gland	700 625 OV 700 625 700 676 OV 700 676	T 700 625 MS T 700 625 MV T 700 676 MS T 700 676 MV	1 x M 20		10 18 22 18 22
Protective covers: plastic					
Protective covers with retaining cord for housings with single locking system, light grey (RAL 7035) for housings with: female insert male insert	700 631 MD 700 631				10 5 5

Description		Previous part number	New part number	Housings for series A 3, A 4, A 5, D 8		
Housings: zinc die casting						
Wall mount housing, height 25.5 mm with single locking system						
with open bottom with threaded hole with collar with cable gland	- / - 701 403 OV 701 403	T 701 403 T 701 403 MS T 701 403 MV	1 x M 20			10 57 72 85
with closed bottom with threaded hole with collar with cable gland	- / - 701 003 OV 701 003	T 701 003 T 701 003 MS T 701 003 MV	1 x M 20			64 79 92
Panel housings, height 24 mm with single locking system, straight						
Panel cut out 21 x 21 mm	704 303					10 22
Panel housing, height 24 mm with single locking system, straight						
only for female insert, with hinged cover	704 403		Panel cut out 21 x 21 mm			10 27
only for male insert, with hinged cover, without gasket	704 403 OD					27
Panel housings, height 25.5 mm with single locking system, angled						
Panel cut out 21 x 21 mm	704 503					10 67
Coupler hoods, height 60.5 mm with single locking system, top cable entry						
with collar with cable gland	703 803 OV 703 803	T 703 803 MS T 703 803 MV	1 x M 20			10 80 92.5
Hoods, height 48 mm for single locking system, side cable entry						
with collar with cable gland	702 603 OV 702 603	T 702 603 MS T 702 603 MV	1 x M 20			10 56 68.5
Hoods, height 57 mm for single locking system, top cable entry						
with collar with cable gland	702 803 OV 702 803	T 702 803 MS T 702 803 MV	1 x M 20			10 63 75.5

A 3 Connectors with Insulation Displacement Connection

The convenience of insulation displacement connection can now be utilized with a classic square connector – a 4 pole (3 + PE) industrial plug connector, series A.

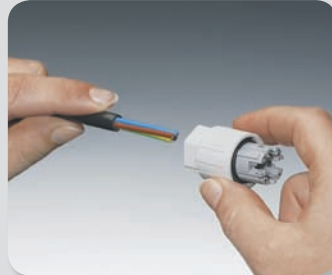
Male and female versions are available in hood and coupler hoods made of plastic.



Thanks to insulation displacement connection it now only takes a few seconds to connect the 4-pole round conductor: Only the sleeve nut has to be slid onto the conductor – since splicing ring, seal and strain relief are included in the sleeve nut.

Assembly

Slide the sleeve nut of the insulation displacement connection onto the stripped conductor.



Screw the sleeve nut onto the plug connector – and the round conductor connection is ready.



Lead the cores into the marked core entries and cut off the projecting core ends flush, i.e. so that there is no overhang.


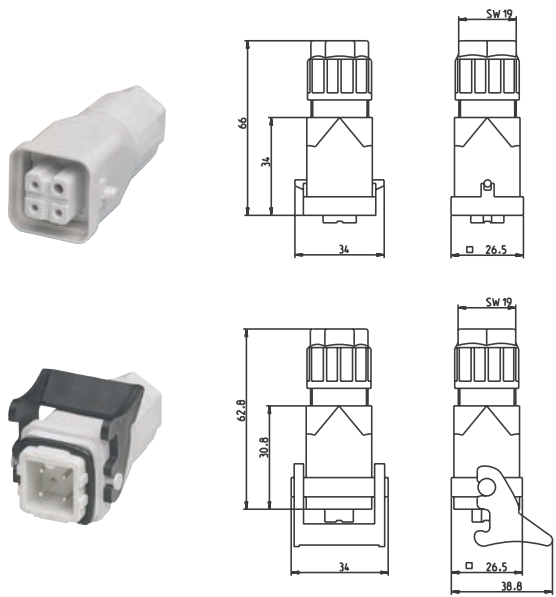


If you need to undo the connection, then just unscrew the sleeve nut.



IDC technique is tested on the basis of:

- **EN 60 352-4:** Solder-free and inaccessible IDC terminal blocks
- **EN 50 262:** Entries for cables and conductors
- **DIN EN 60 998-2-3:** Equipment for IDC terminal points
- **DIN VDE 0627:** Connectors and plug-in socket devices

Description	Part no.	M	Series A 3 connectors with insulation displacement connection		
A 3 connectors with insulation displacement connection					
Hoods with female insert Height 66 mm for single locking system	700 724				10 25
Hoods with male insert Height 66 mm for single locking system	700 725				10 25
Coupler hood with female insert Height 63 mm with single locking system	700 726				10 28
Coupler hood with male insert Height 63 mm with single locking system	700 727				10 28







Specifications of „size 2” housings and short overview of installation possibilities for series A 10 and D 15 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Zinc-plated steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)

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The housings shown on the following pages can be equipped with the inserts listed below:


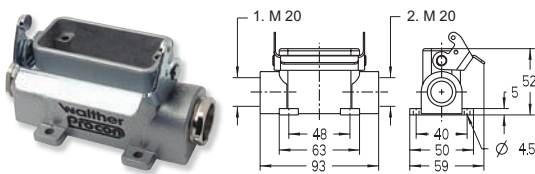
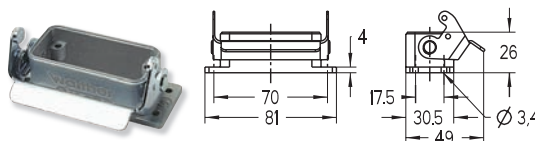
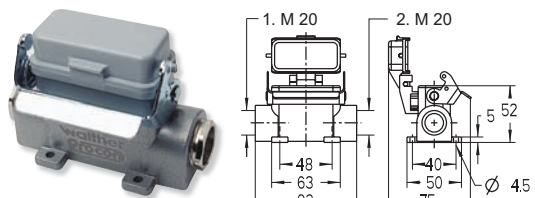
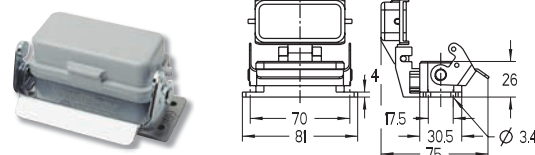
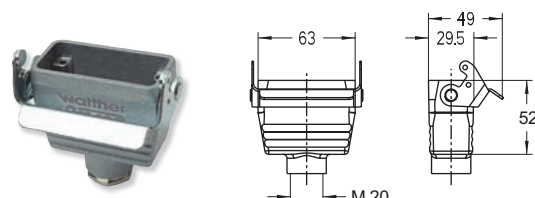
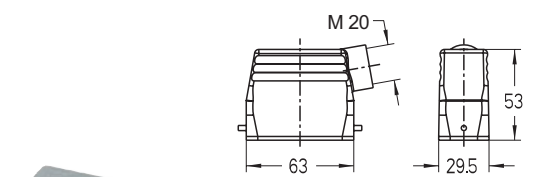
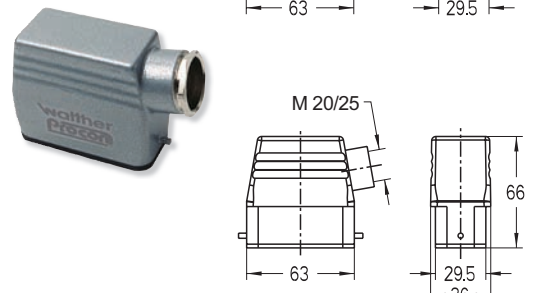
	Screw terminal inserts		Crimp contact carriers	
A 10	Female insert, screw terminal, Part no. 700 110	Male insert, screw terminal, Part no. 700 210	Crimp contact carrier for sleeve contacts, Part no. 700 310	Crimp contact carrier for pin contacts, Part no. 700 410
4 p. 16				
D 15			Crimp contact carrier for sleeve contacts, Part no. 720 315	Crimp contact carriers for pin contacts, Part no. 720 415
4 p. 42				


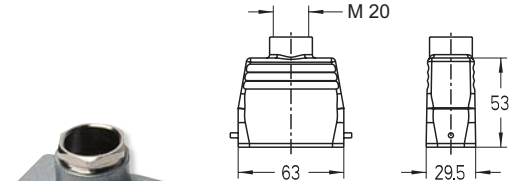
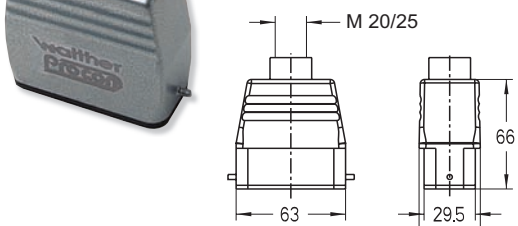
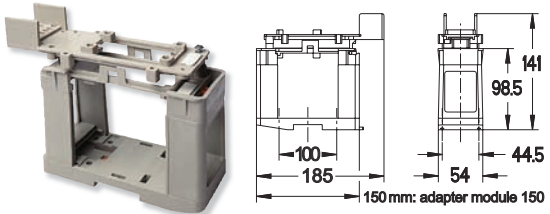
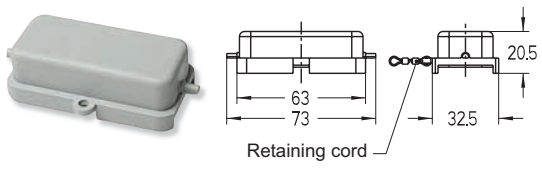
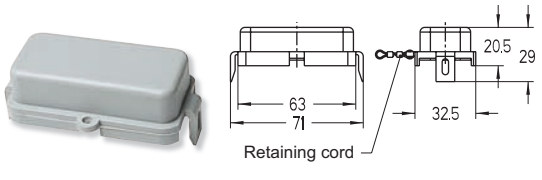
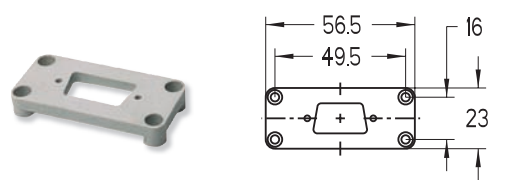
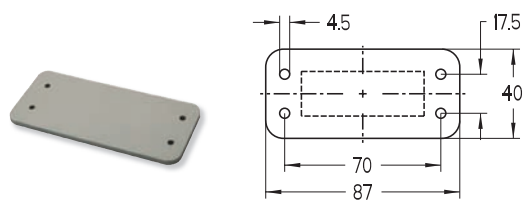
4 The page reference at the left of the table guides you to the detailed overview of inserts.

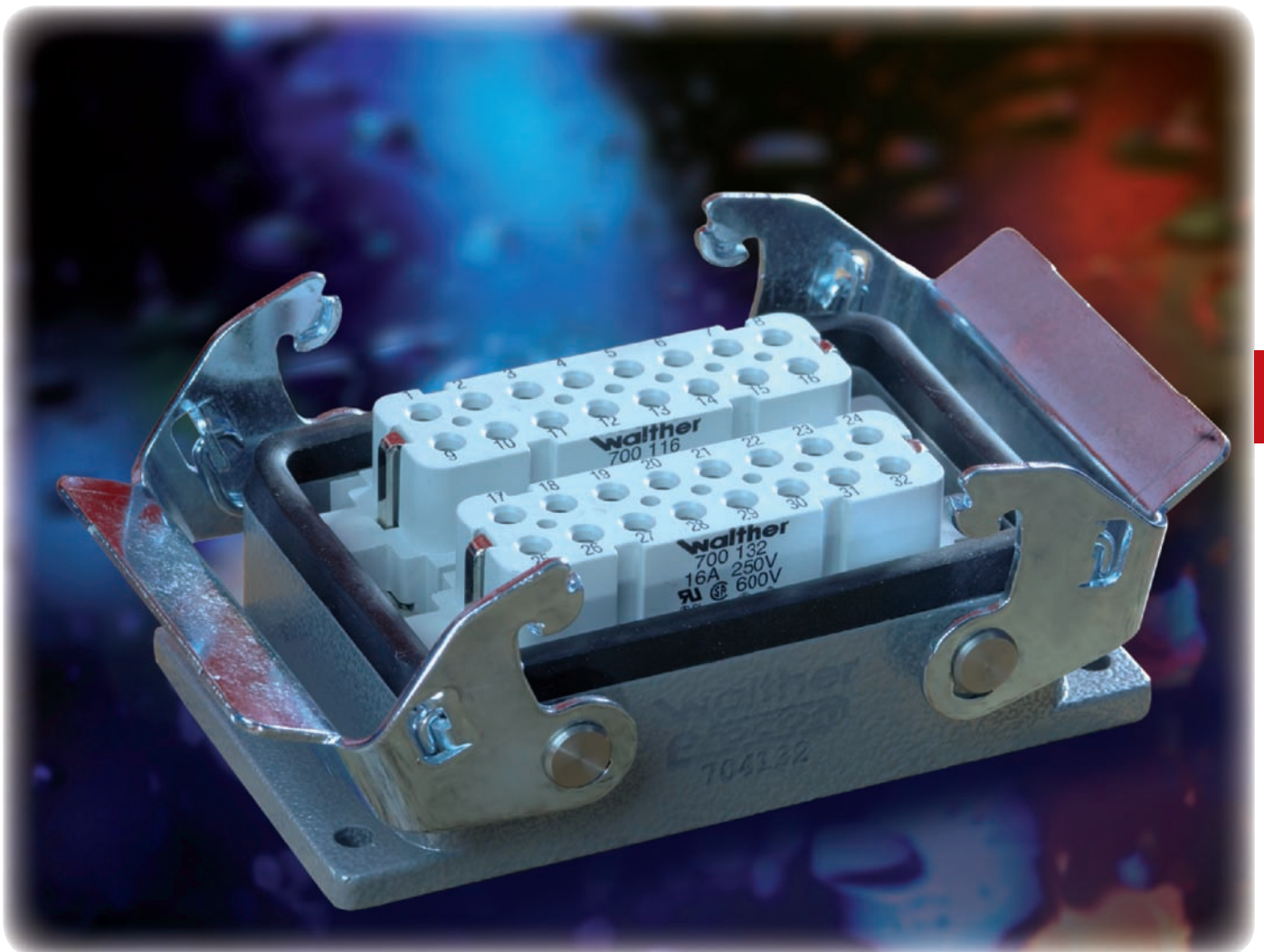
Contacts for crimp contact carriers of series ...

A 10: see page 16

D 15: see page 43

Description	Previous part number	New part number	M	Housings for series A 10 and D 15	
Housings: single locking system					
Wall mount housing, height 52 mm with single locking system					
with collar with cable gland	701 410 OV 701 410	T 701 410 MS T 701 410 MV	1 x M 20		10 197 210
with collar with cable gland	701 510 OV 701 510	T 701 510 MS T 701 510 MV	2 x M 20		195 222
Panel housing, height 26 mm with single locking system					
Panel cut out 57.5 x 24 mm		704 310			10 76
Wall mount housing, height 52 mm with single locking system, with hinged cover					
with collar with cable gland	701 610 OV 701 610	T 701 610 MS T 701 610 MV	1 x M 20		10 219 232
with collar with cable gland	701 710 OV 701 710	T 701 710 MS T 701 710 MV	2 x M 20		217 244
Panel housing, height 26 mm with single locking system, with hinged cover					
Panel cut out 57.5 x 24 mm		704 410			10 98
Coupler hoods, height 52 mm with single locking system, top cable entry					
with collar with cable gland	703 810 OV 703 810	T 703 810 MS T 703 810 MV	1 x M 20		10 108 121
Hoods, height 53 mm for single locking system, side cable entry					
with collar with cable gland	702 610 OV 702 610	T 702 610 MS T 702 610 MV	1 x M 20		10 78 92
Hoods, height 66 mm for single locking system, side cable entry					
with threaded hole with collar with cable gland	708 610 OS 708 610 OV 708 610	T 708 610 T 708 610 MS T 708 610 MV	1 x M 20		10 139 154 168
with threaded hole with collar with cable gland	708 710 OS 708 710 OV 708 710	T 708 710 T 708 710 MS T 708 710 MV	1 x M 25		131 155 177

Description	Previous part number	New part number		Housings for series A 10 and D 15	
Housings: single locking system					
Hoods, height 53 mm for single locking system, top cable entry					
with collar with cable gland	702 810 OV 702 810	T 702 810 MS T 702 810 MV	1 x M 20		10 80 94
Hoods, height 66 mm for single locking system, top cable entry					
with threaded hole with collar with cable gland	708 810 OS 708 810 OV 708 810	T 708 810 T 708 810 MS T 708 810 MV	1 x M 20		10 139 154 167
with threaded hole with collar with cable gland	708 910 OS 708 910 OV 708 910	T 708 910 T 708 910 MS T 708 910 MV	1 x M 25		10 137 161 182
Snap-on mounting adapter, swing-type					
Snap-on mounting adapter					
Adapter module 150 760 115					
mountable on DIN rails, top can be screwed together with bottom					5 213
Protective covers: plastic					
Protective cover for housings with single locking system					
with retaining cord 700 633					10 11
Protective cover for hoods without single locking system					
with retaining cord 700 637					10 10
Adapter plates for contact inserts					
for installation in series A 10 housings					
Sub miniature, single 9-pole 700 681 15-pole 700 677 25-pole 700 678					10 3 3.5 3.5
Cover plates for switch cabinets					
Cover plates for A 10 panel housings					
grey 700 684 orange 700 686 green 700 688					10 12 12 12



Specifications of „size 4” housings and short overview of installation possibilities for series A 32 and D 50 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Zinc-plated steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)

The housings shown on the following pages can be equipped with the inserts listed below:


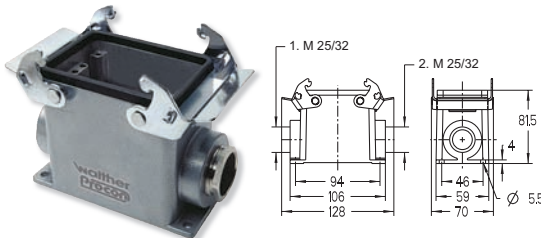
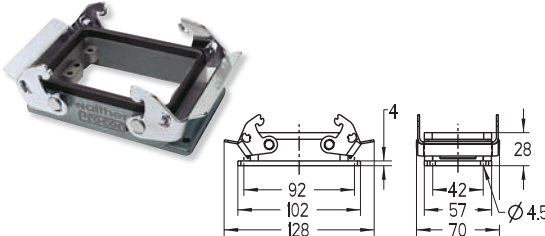
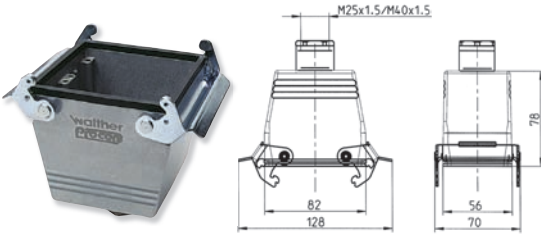
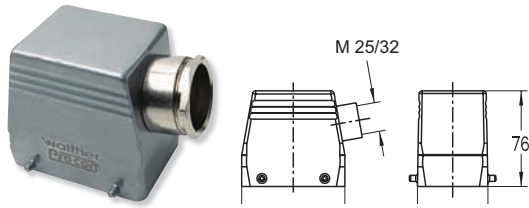
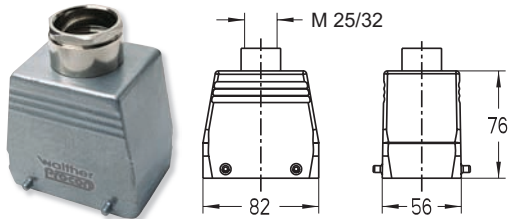
	Screw terminal inserts				Crimp contact carriers			
A 32	Female insert, screw terminal, with wire protection 1-16 Part no. 700 116	Female insert, screw terminal, with wire protection 17-32 Part no. 700 132	Male insert, screw terminal, with wire protection 1-16 Part no. 700 216	Male insert, screw terminal, with wire protection 17-32 Part no. 700 232	Crimp contact carrier for sleeve contacts 1-16 Part no. 700 316	Crimp contact carrier for sleeve contacts 17-32 Part no. 700 332	Crimp contact carrier for pin contacts 1-16 Part no. 700 416	Crimp contact carrier for pin contacts 17-32 Part no. 700 432
D 50					Crimp contact carrier for sleeve contacts Part no. 2 x 720 325		Crimp contact carrier for pin contacts Part no. 2 x 720 425	


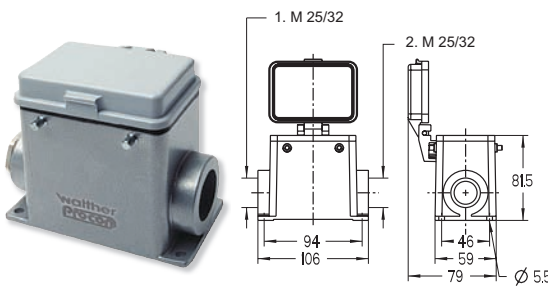
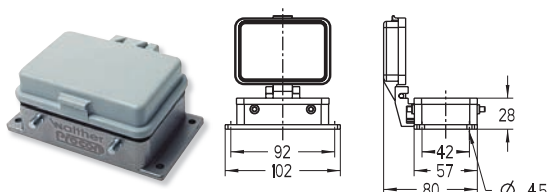
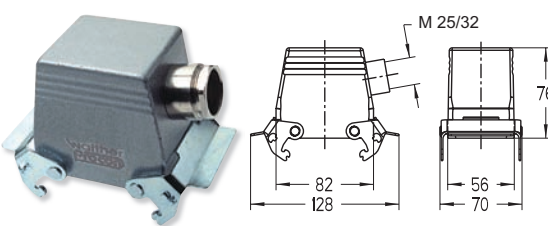
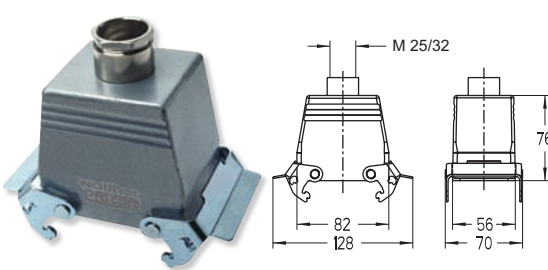
4 The page reference at the left of the table guides you to the detailed overview of inserts.


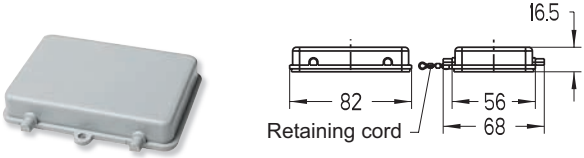
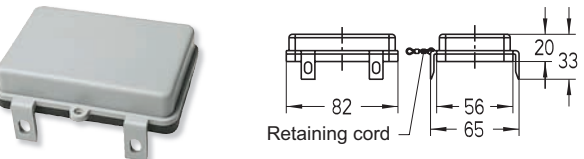
Contacts for crimp contact carriers of series ...

A 32: see page 18

D 50: see page 48

Description	Previous part number	New part number	M	Housings for series A 32 and D 50	
Housings: double locking system					<div>10</div> <div>483</div> <div>505</div> <div>479</div> <div>522</div> <div>459</div> <div>495</div> <div>474</div> <div>517</div>
Wall mount housings, height 81.5 mm with double locking system					
with collar with cable gland	701 032 OV 701 032	T 701 032 MS T 701 032 MV	1 x M 25		
with collar with cable gland	701 132 OV 701 132	T 701 132 MS T 701 132 MV	2 x M 25		
with collar with cable gland	701 832 OV 701 832	T 701 832 MS T 701 832 MV	1 x M 32		
with collar with cable gland	707 132 OV 707 132	T 707 132 MS T 707 132 MV	2 x M 32		
Panel housing, height 28 mm with double locking system					<div>10</div> <div>156</div>
Panel cut out 76 x 48 mm 704 132					
Coupler hoods, height 78 mm with double locking system, top cable entry					<div>10</div> <div>280</div> <div>300</div> <div>320</div> <div>275</div> <div>320</div> <div>340</div>
with threaded hole with collar with cable gland	703 632 OS 703 632 OV 703 632	T 703 632 T 703 632 MS T 703 632 MV	1 x M 25		
with threaded hole with collar with cable gland	703 732 OS 703 732 OV 703 732	T 703 732 T 703 732 MS T 703 732 MV	1 x M 32		
Hoods, height 76 mm for double locking system, side cable entry					<div>10</div> <div>244</div> <div>268</div> <div>290</div> <div>242</div> <div>276</div> <div>313</div>
with threaded hole with collar with cable gland	708 032 OS 708 032 OV 708 032	T 708 032 T 708 032 MS T 708 032 MV	1 x M 25		
with threaded hole with collar with cable gland	708 132 OS 708 132 OV 708 132	T 708 132 T 708 132 MS T 708 132 MV	1 x M 32		
Hoods, height 76 mm for double locking system, top cable entry					<div>10</div> <div>251</div> <div>275</div> <div>297</div> <div>247</div> <div>281</div> <div>316</div>
with threaded hole with collar with cable gland	708 232 OS 708 232 OV 708 232	T 708 232 T 708 232 MS T 708 232 MV	1 x M 25		
with threaded hole with collar with cable gland	708 332 OS 708 332 OV 708 332	T 708 332 T 708 332 MS T 708 332 MV	1 x M 32		

Description	Previous part number	New part number		Housings for series A 32 and D 50	
Housings: double locking system					
Wall mount housings, height 81.5 mm for double locking system, with hinged cover					
with collar with cable gland	701 232 OV 701 232	T 701 232 MS T 701 232 MV	1 x M 25		10 444 465
with collar with cable gland	701 332 OV 701 332	T 701 332 MS T 701 332 MV	2 x M 25		463 486
with collar with cable gland	707 232 OV 707 232	T 707 232 MS T 707 232 MV	1 x M 32		439 461
with collar with cable gland	707 332 OV 707 332	T 707 332 MS T 707 332 MV	2 x M 32		458 483
Panel housing, height 28 mm for double locking system, with hinged cover					
Panel cut out 76 x 48 mm	704 232				10 121
Hoods, height 76 mm with double locking system, side cable entry					
with threaded hole with collar with cable gland	703 032 OS 703 032 OV 703 032	T 703 032 T 703 032 MS T 703 032 MV	1 x M 25		10 316 340 361
with threaded hole with collar with cable gland	703 132 OS 703 132 OV 703 132	T 703 132 T 703 132 MS T 703 132 MV	1 x M 32		321 355 391
Hoods, height 76 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	703 232 OS 703 232 OV 703 232	T 703 232 T 703 232 MS T 703 232 MV	1 x M 25		10 315 339 360
with threaded hole with collar with cable gland	703 332 OS 703 332 OV 703 332	T 703 332 T 703 332 MS T 703 332 MV	1 x M 32		320 354 390



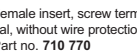
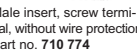








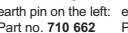
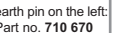





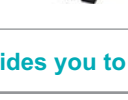


Description	Part no.	M	Housings for series A 32 and D 50	
Protective covers: plastic Protective cover for housings with double locking levers with retaining cord	700 627			10 17
Protective cover with sealing for hoods without double locking levers with retaining cord	700 629			10 23

Specifications of „size 6” housings and short overview of installation possibilities for series B 10, BB 18, DD 42, and MOB 10 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Plastic; locking elements made of stainless steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)



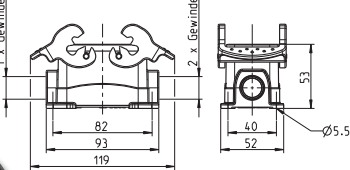

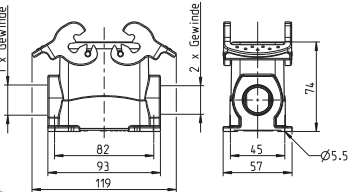

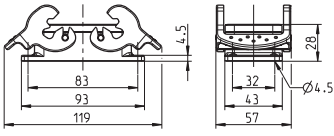

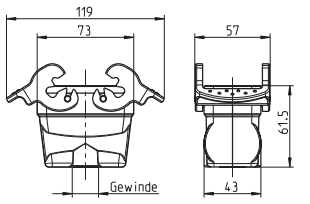

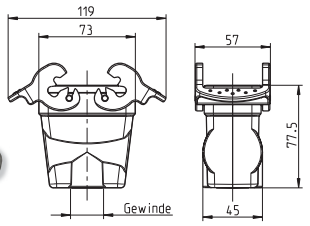
The housings shown on the following pages can be equipped with the inserts listed below:



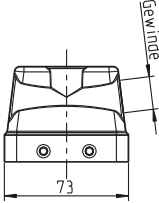
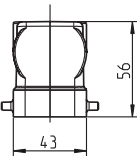

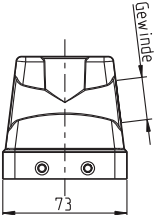
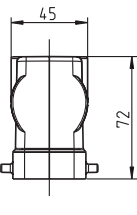

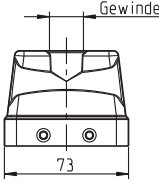
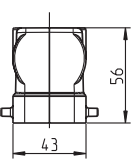

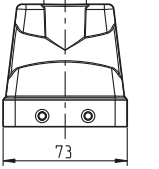
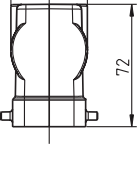
	Screw terminal inserts	Crimp contact carriers	IDC inserts	Push-in inserts	Wiring adapters for panel housings
B 10 ▶ p. 24 to 25	Female insert, screw terminal, with wire protection, Part no. 710 110  Male insert, screw terminal, with wire protection, Part no. 710 210  Female insert, screw terminal, without wire protection, Part no. 710 770  Male insert, screw terminal, without wire protection, Part no. 710 774 	Crimp contact carrier for sleeve contacts Part no. 710 310  Crimp contact carrier for pin contacts Part no. 710 410 	Female insert, IDC terminal Art. 710 110 01  Male insert, IDC terminal Art. 710 210 01 	Female insert, push-in terminal Part no. 710 110 04  Male insert, push-in terminal Part no. 710 210 04 	Wiring adapter, female insert, earth pin o.t. right: Part no. 710 658  Wiring adapter, male insert, earth pin o.t. right: Part no. 710 666  earth pin on the left: Part no. 710 662  earth pin on the left: Part no. 710 670 
BB 18 ▶ p. 25		Crimp contact carrier for sleeve contacts Part no. 710 318  Crimp contact carrier for pin contacts Part no. 710 418 			
DD 42 ▶ p. 59		Crimp contact carrier for sleeve contacts Part no. 750 142  Crimp contact carrier for pin contacts Part no. 750 242 			
MOB 10 ▶ p. 71	Female frame MO B10 for 3 contact carriers for pin and sleeve contacts (frame coding A-C) Part no. 770 010  for pin and sleeve contacts (2 x PE) Part no. 770 410 		Male frame MO B10 for 3 contact carriers for pin and sleeve contacts (frame coding A-C) Part no. 770 110  for pin and sleeve contacts (2 x PE) Part no. 770 510 		




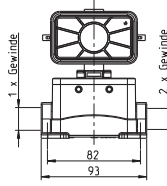
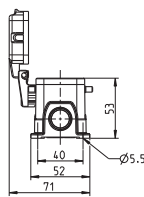


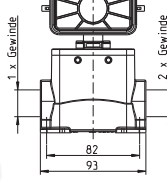
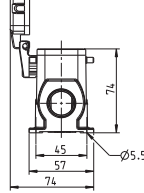

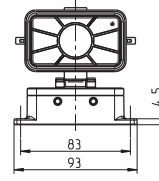
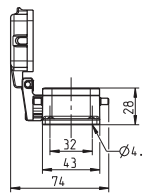
▶ The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

B 10:	see page 25
BB 18:	
DD 42:	see page 59
MOB 10:	see page 73, 75, 77, 79, 81, 83 and 85

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 10, BB 18, DD 42, MOB 10	 old / new
Housings: double locking system					
Wall mount housings, height 53 mm with double locking system					
with collar with cable gland	711 010 OV 711 010	P 711 010 MS P 711 010 MV	1 x M 20	 	10 159/231 272/243
with collar with cable gland	711 110 OV 711 110	P 711 110 MS P 711 110 MV	2 x M 20		257/230 283/254
Wall mount housings, height 74 mm with double locking system					
with collar with cable gland	751 042 OV 751 042	P 751 042 MS P 751 042 MV	1 x M 25	 	10 434/332 456/351
with collar with cable gland	751 142 OV 751 142	P 751 142 MS P 751 142 MV	2 x M 25		455/330 477/368
with collar with cable gland	757 042 OV 757 042	P 757 042 MS P 757 042 MV	1 x M 32		459/303 471/330
with collar with cable gland	757 142 OV 757 142	P 757 142 MS P 757 142 MV	2 x M 32		485/299 507/353
Panel housing, height 28 mm with double locking system					
Panel cut out 65 x 35 mm	714 110	-/-		 	12 10 147
Coupler hoods, height 61,5 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	-/- -/- -/-	P 713 610 P 713 610 MS P 713 610 MV	1 x M 20	 	10 - / 171 - / 186 - / 199
with threaded hole with collar with cable gland	-/- -/- -/-	P 713 710 P 713 710 MS P 713 710 MV	1 x M 25		10 - / 166 - / 190 - / 205
Coupler hoods, height 77,5 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	753 642 OS 753 642 OV 753 642	P 753 642 P 753 642 MS P 753 642 MV	1 x M 25	 	10 260/202 284/224 305/243
with threaded hole with collar with cable gland	753 742 OS 753 742 OV 753 742	P 753 742 P 753 742 MS P 753 742 MV	1 x M 32		258/199 292/232 328/260

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 10, BB 18, DD 42, MOB 10	 old / new
Housings: double locking system					
Hoods, height 56 mm for double locking system, side cable entry					
with threaded hole with collar with cable gland	-/- 712 010 OV 712 010	P 712 010 P 712 010 MS P 712 010 MV	1 x M 20	<div>Discontinued model</div>   	10 - / 130 116/145 130/158
with threaded hole with collar with cable gland	-/- -/- -/-	P 712 110 P 712 110 MS P 712 110 MV	1 x M 25		
Hoods, height 72 mm for double locking system, side cable entry					
with threaded hole with collar with cable gland	758 042 OS 758 042 OV 758 042	P 758 042 P 758 042 MS P 758 042 MV	1 x M 25	<div>New design</div>   	10 164/158 188/180 209/199
with threaded hole with collar with cable gland	758 142 OS 758 142 OV 758 142	P 758 142 P 758 142 MS P 758 142 MV	1 x M 32		
Hoods, height 56 mm for double locking system, top cable entry					
with threaded hole with collar with cable gland	-/- 712 210 OV 712 210	P 712 210 P 712 210 MS P 712 210 MV	1 x M 20	<div>Discontinued model</div>   	10 - / 130 109/145 123/158
with threaded hole with collar with cable gland	-/- -/- -/-	P 712 310 P 712 310 MS P 712 310 MV	1 x M 25		
Hoods, height 72 mm for double locking system, top cable entry					
with threaded hole with collar with cable gland	758 242 OS 758 242 OV 758 242	P 758 242 P 758 242 MS P 758 242 MV	1 x M 25	<div>New design</div>   	10 173/159 197/181 218/200
with threaded hole with collar with cable gland	758 342 OS 758 342 OV 758 342	P 758 342 P 758 342 MS P 758 342 MV	1 x M 32		

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 10, BB 18, DD 42, MOB 10	 old / new
Housings: double locking system					
Wall mount housings, height 53 mm for double locking system, with hinged lid					
with collar with cable gland	*711 210 OV *711 210	*P 711 210 MS *P 711 210 MV	1 x M 20	  	10 205/236 218/248
with collar with cable gland	*711 310 OV *711 310	*P 711 310 MS *P 711 310 MV	2 x M 20		196/235 227/259
Wall mount housings, height 74 mm for double locking system, with hinged lid					
with collar with cable gland	*751 242 OV *751 242	*P 751 242 MS *P 751 242 MV	1 x M 25	  	10 383/335 404/354
with collar with cable gland	*751 342 OV *751 342	*P 751 342 MS *P 751 342 MV	2 x M 25		410/333 425/371
with collar with cable gland	*757 242 OV *757 242	*P 757 242 MS *P 757 242 MV	1 x M 32		409/307 419/334
with collar with cable gland	*757 342 OV *757 342	*P 757 342 MS *P 757 342 MV	2 x M 32		424/303 455/357
Panel housing, height 28 mm for double locking system, with hinged lid					
Panel cut out 65 x 35 mm	*714 210	-/-		  	10 105/-



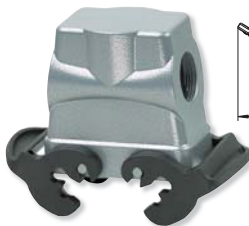
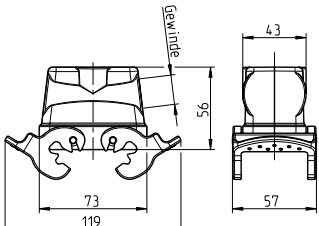
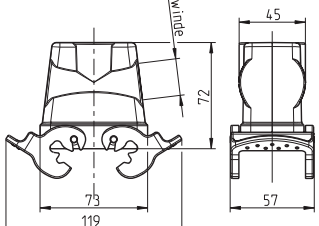


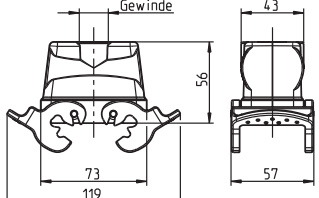
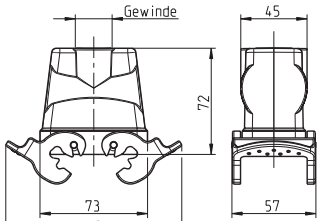


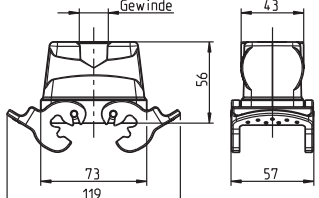
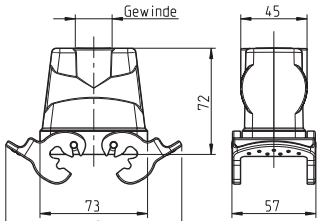


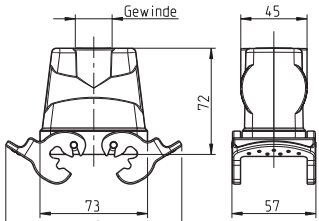
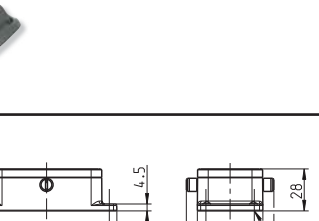
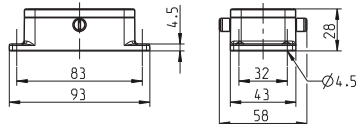

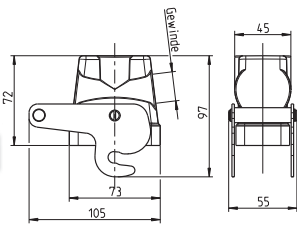

* **Other cover version required?** Simply add the corresponding letters at the end of the part number:



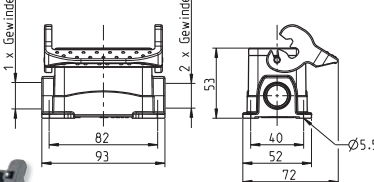

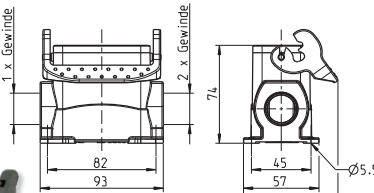

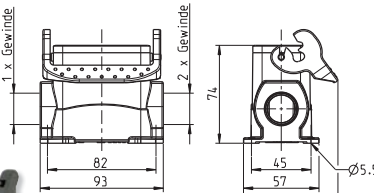

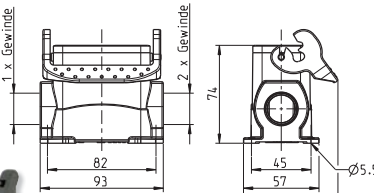

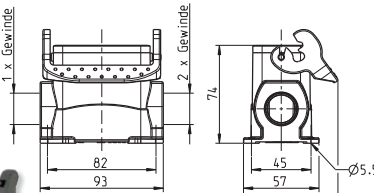

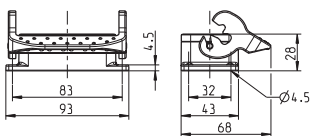

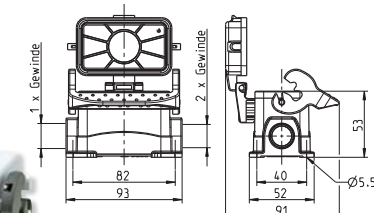

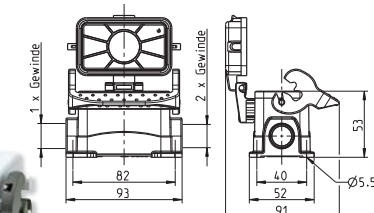

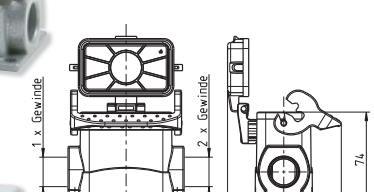

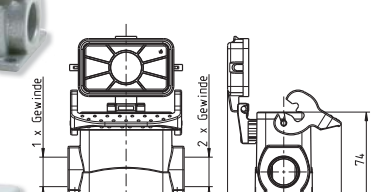

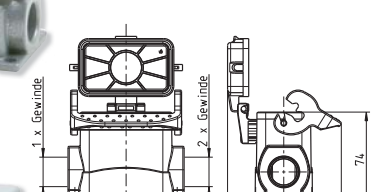

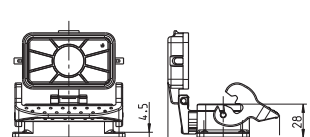
SK = self-closing, plastic

AL = Aluminium

SA = self-closing, aluminium

(For wall mount and panel housings)

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 10, BB 18, DD 42, MOB 10	 old / new
Housings: double locking system				<div>Discontinued model</div>  <div>New design</div> 	  <div>10 - /163 219/178 233/191</div>
Hoods, height 56 mm with double locking system, side cable entry					
with threaded hole with collar with cable gland	-/- 713 010 OV 713 010	P 713 010 P 713 010 MS P 713 010 MV	1 x M 20		
Hoods, height 72 mm with double locking system, side cable entry				<div>Discontinued model</div>  <div>New design</div> 	  <div>10 253/191 277/213 298/232</div>
with threaded hole with collar with cable gland	753 042 OS 753 042 OV 753 042	P 753 042 P 753 042 MS P 753 042 MV	1 x M 25		
with threaded hole with collar with cable gland	753 142 OS 753 142 OV 753 142	P 753 142 P 753 142 MS P 753 142 MV	1 x M 32		208/186 242/219 327/247
Hoods, height 56 mm with double locking system, top cable entry				<div>Discontinued model</div>  <div>New design</div> 	  <div>10 - / 162 218/177 231/190</div>
with threaded hole with collar with cable gland	-/- 713 210 OV 713 210	P 713 210 P 713 210 MS P 713 210 MV	1 x M 20		
Hoods, height 72 mm with double locking system, top cable entry				<div>Discontinued model</div>  <div>New design</div> 	  <div>10 253/192 277/214 298/233</div>
with threaded hole with collar with cable gland	753 242 OS 753 242 OV 753 242	P 753 242 P 753 242 MS P 753 242 MV	1 x M 25		
with threaded hole with collar with cable gland	753 342 OS 753 342 OV 753 342	P 753 342 P 753 342 MS P 753 342 MV	1 x M 32		258/189 292/222 327/250
Housings: central locking system				 	10 78 / -
Panel housing, height 28 mm for central locking system					
Panel cut out 65 x 35 mm	770 652	-/-			
Hoods, height 72 mm with central locking system, side cable entry				 	10 - /295 - /317 - /336
with threaded hole with collar with cable gland	-/- -/- -/-	P 770 653 P 770 653 MS P 770 653 MV	M 25		

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 10, BB 18, DD 42, MOB 10	 old / new
Housings: single locking system					
Wall mount housings, height 53 mm with single locking system				 	
with collar with cable gland	711 410 OV 711 410	P 711 410 MS P 711 410 MV	1 x M 20	 	10 218/216 229/228
with collar with cable gland	711 510 OV 711 510	P 711 510 MS P 711 510 MV	2 x M 20		216/215 243/239
Wall mount housings, height 74 mm with single locking system					
with collar with cable gland	751 442 OV 751 442	P 751 442 MS P 751 442 MV	1 x M 25	 	10 397/317 419/340
with collar with cable gland	751 542 OV 751 542	P 751 542 MS P 751 542 MV	2 x M 25	 	392/315 440/353
with collar with cable gland	757 442 OV 757 442	P 757 442 MS P 757 442 MV	1 x M 32		395/287 432/314
with collar with cable gland	757 542 OV 757 542	P 757 542 MS P 757 542 MV	2 x M 32	 	386/283 469/337
Panel housing, height 28 mm with single locking system					
Panel cut out 65 x 35 mm				 	10 125 / -
Wall mount housings, height 53 mm with single locking system, with hinged lid					
with collar with cable gland	*711 610 OV *711 610	*P 711 610 MS *P 711 610 MV	1 x M 20	 	10 248/254 261/266
with collar with cable gland	*711 710 OV *711 710	*P 711 710 MS *P 711 710 MV	2 x M 20	 	247/253 274/277
Wall mount housings, height 74 mm with single locking system, with hinged lid					
with collar with cable gland	*751 642 OV *751 642	*P 751 642 MS *P 751 642 MV	1 x M 25	 	10 426/355 447/374
with collar with cable gland	*751 742 OV *751 742	*P 751 742 MS *P 751 742 MV	2 x M 25	 	420/353 469/391
with collar with cable gland	*757 642 OV *757 642	*P 757 642 MS *P 757 642 MV	1 x M 32		423/326 461/353
with collar with cable gland	*757 742 OV *757 742	*P 757 742 MS *P 757 742 MV	2 x M 32	 	482/322 497/376
Panel housing, height 28 mm with single locking system, with hinged lid					
Panel cut out 65 x 35 mm				 	10 152 / -



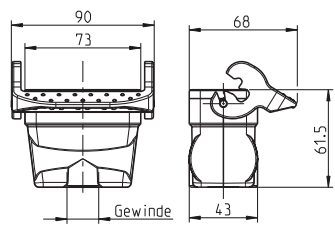

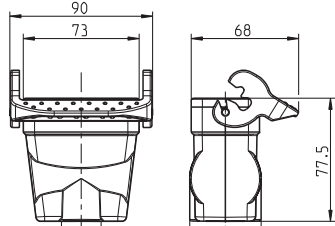

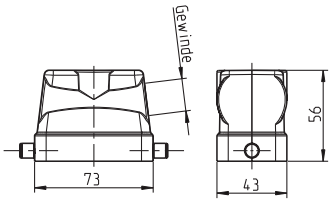

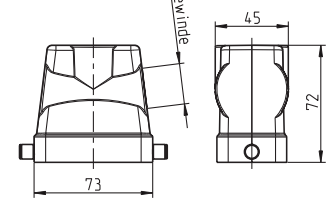

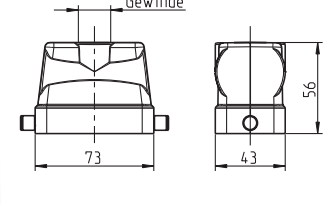

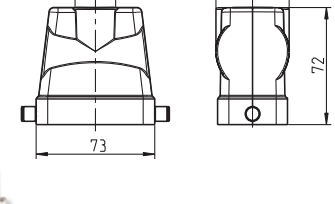
* **Other cover version required?** Simply add the corresponding letters at the end of the part number:



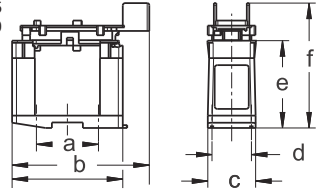

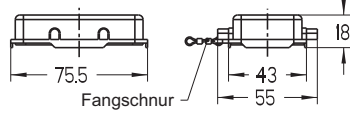

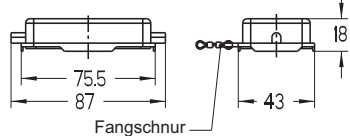

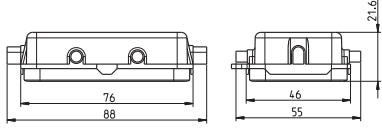

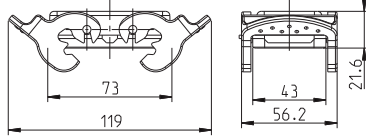

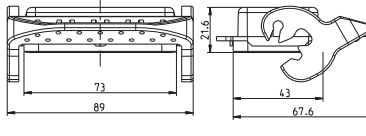

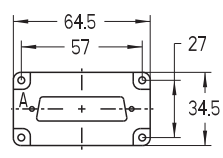

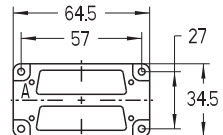

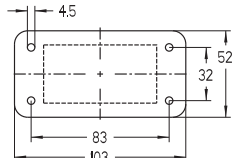
SK = self-closing, plastic

AL = Aluminium

SA = self-closing, aluminium

(For wall mount and panel housings)

Description	Part no.	Part no.	M	Housings for series B 10, BB 18, DD 42, MOB 10	 old / new
	Discontinued model	New design			
Housings: single locking system					
Coupler hoods, height 61,5 mm with single locking system, top cable entry					
with threaded hole	-/-	P 713 810	1 x M 20	 	10 - /158 - /173 - /186
with collar	-/-	P 713 810 MS			
with cable gland	-/-	P 713 810 MV			
Coupler hoods, height 77,5 mm with single locking system, top cable entry					
with threaded hole	753 842 OS	P 753 842	1 x M 25	 	10 241/187 265/209 286/228
with collar	753 842 OV	P 753 842 MS			
with cable gland	753 842	P 753 842 MV			
with threaded hole	753 942 OS	P 753 942	1 x M 32		238/184 272/217 308/245
with collar	753 942 OV	P 753 942 MS			
with cable gland	753 942	P 753 942 MV			
Hoods, height 56 mm for single locking system, side cable entry					
with threaded hole	-/-	P 712 610	1 x M 20	 	10 - /136 122/151 135/164
with collar	712 610 OV	P 712 610 MS			
with cable gland	712 610	P 712 610 MV			
Hoods, height 72 mm for single locking system, side cable entry					
with threaded hole	758 642 OS	P 758 642	1 x M 25	 	10 173/166 197/188 218/207
with collar	758 642 OV	P 758 642 MS			
with cable gland	758 642	P 758 642 MV			
with threaded hole	758 742 OS	P 758 742	1 x M 32		178/161 212/194 247/222
with collar	758 742 OV	P 758 742 MS			
with cable gland	758 742	P 758 742 MV			
Hoods, height 56 mm for single locking system, top cable entry					
with threaded hole	-/-	P 712 810	1 x M 20	 	10 - /135 116/150 129/163
with collar	712 810 OV	P 712 810 MS			
with cable gland	712 810	P 712 810 MV			
Hoods, height 72 mm for single locking system, top cable entry					
with threaded hole	758 842 OS	P 758 842	1 x M 25	 	10 173/167 197/189 219/208
with collar	758 842 OV	P 758 842 MS			
with cable gland	758 842	P 758 842 MV			
with threaded hole	758 942 OS	P 758 942	1 x M 32		178/164 212/197 247/225
with collar	758 942 OV	P 758 942 MS			
with cable gland	758 942	P 758 942 MV			























Description	Part no.	M	Housings for series B 10, BB 18, DD 42, MOB 10	 9																					
Snap-on mounting adapters																									
Snap-on mounting adapters, swing-type																									
adapter module 125	760 010		 125 mm: Steckermodule 125 150 mm: Steckermodule 150  <table><tr><th></th><th>a</th><th>b</th><th>c</th><th>d</th><th>e</th><th>f</th></tr><tr><td>760 010</td><td>70</td><td>155</td><td>54</td><td>44,5</td><td>98,5</td><td>141</td></tr><tr><td>760 110</td><td>100</td><td>185</td><td>54</td><td>44,5</td><td>98,5</td><td>141</td></tr></table>		a	b	c	d	e	f	760 010	70	155	54	44,5	98,5	141	760 110	100	185	54	44,5	98,5	141	5 207 207
	a	b		c	d	e	f																		
760 010	70	155	54	44,5	98,5	141																			
760 110	100	185	54	44,5	98,5	141																			
mountable on DIN rails, top can be screwed together with bottom																									
Protective covers																									
Protective covers with retaining cord for housings with double locking system																									
Plastic	710 624		 Fangschnur 	10 15 55																					
Aluminium	710 624 AL																								
Protective covers with retaining cord for housings with single locking system																									
Plastic	710 632		 Fangschnur 	10 15 54																					
Aluminium	710 632 AL																								
Protective covers with seal and retaining cord for hoods with double locking system																									
Plastic	710 756		 	10 20 60																					
Aluminium	710 756 AL																								
Protective covers with seal and retaining cord for hoods with latch pins for double locking system																									
Plastic	710 759		 	10 80 120																					
Aluminium	710 759 AL																								
Protective covers with seal and retaining cord for hoods with latch pins for single locking system																									
Plastic	710 763		 	10 61 107																					
Aluminium	710 763 AL																								
Adapter plates for contact inserts																									
for installation in series B 10 housings																									
Sub miniature, single 25-pole	710 798		 Installation possibilities: Front and reverse side of the plate are marked with "A" respectively "T". If installed in a panel housing, the "A" must be readable, if installed in a hood, the "T" must be readable. The corresponding fixing screws are included in the scope of delivery. 	10 15																					
Sub miniature, double 25-pole	710 804			 	10 10																				
Cover plates for switch cabinets																									
Cover plate for panel housing B10																									
grey	720 639		 	10 20 20 20																					
orange	720 643																								
green	720 647																								

Specifications of „size 7” housings and short overview of installation possibilities for series B 16, BA6, BB 32, D 40, DD 72, MOB 16 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Plastic; locking elements made of stainless steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)


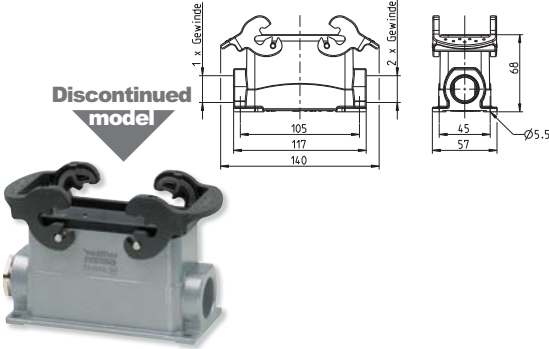
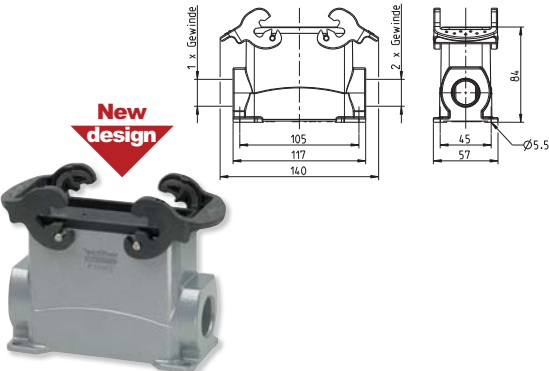
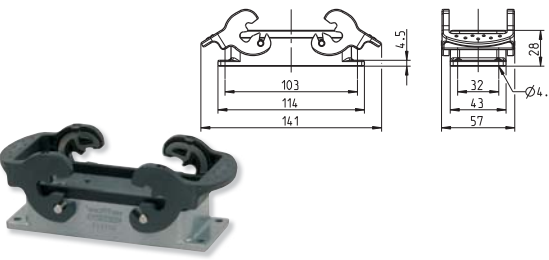
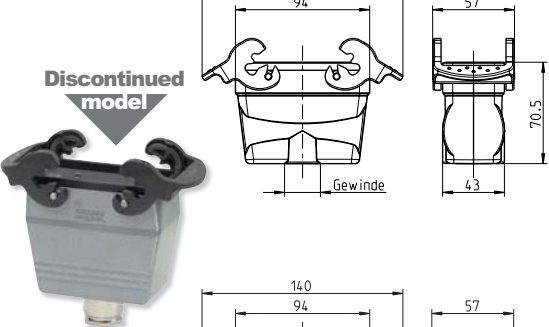
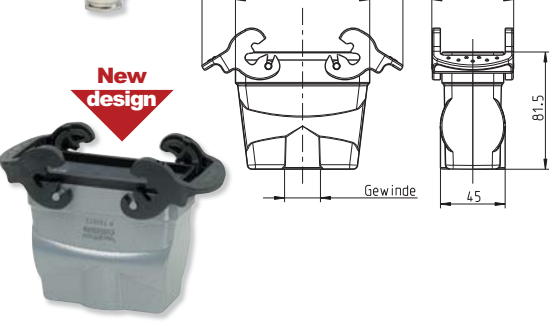
The housings shown on the following pages can be equipped with the inserts listed below:






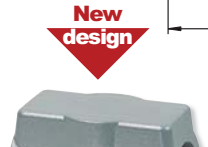



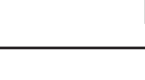







	Screw terminal inserts		Crimp contact carriers		IDC inserts	Push-in inserts		Wiring adapters for panel housings		
B 16	Female insert, screw terminal, with wire protection, Part no. 710 116	Male insert, screw terminal, with wire protection, Part no. 710 216	Crimp contact carrier for sleeve contacts Part no. 710 316	Crimp contact carrier for pin contacts Part no. 710 416	Female insert, IDC terminal Part 710 116 01	Male insert, IDC terminal Part 710 216 01	Female insert, push-in terminal Part 710 116 04	Male insert, push-in terminal Part 710 216 04	Wiring adapter, female insert, earth pin o.t. right: Part no. 710 659	Wiring adapter, male insert, earth pin o.t. right: Part no. 710 667
► p. 26 to 27										
	Female insert, screw terminal, without wire protection, Part no. 710 771	Male insert, screw terminal, without wire protection, Part no. 710 775							earth pin on the left: Part no. 710 663	earth pin on the left: Part no. 710 671
BB 32			Crimp contact carrier for sleeve contacts Part no. 710 333	Crimp contact carrier for pin contacts Part no. 710 433						
► p. 27										
BA 6	Female insert, screw terminal, with wire protection, Part no. 710 620	Male insert, screw terminal, with wire protection, Art. 710 621								
► p. 36										
D 40			Crimp contact carrier for sleeve contacts Part no. 720 340	Crimp contact carrier for pin contacts Part no. 720 440					Wiring adapter, female insert, earth pin o.t. left: Part no. 720 633	Wiring adapter, male insert, earth pin o. t. left: Part no. 720 632
► p. 46 to 47										
DD 72			Crimp contact carrier for sleeve contacts Part no. 750 172	Crimp contact carrier for pin contacts Part no. 750 272						
► p. 60										
MOB 16	Female frame MO B16 for 5 contact carriers				Male frame MO B16 for 5 contact carriers					
► p. 71	for pin and sleeve contacts (frame coding A-E)	Part no. 770 016			for pin and sleeve contacts (frame coding A-E)	Part no. 770 116				
	for pin and sleeve contacts (2 x PE)	Part no. 770 416			for pin and sleeve contacts (2 x PE)	Part no. 770 516				

▶ The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

B 16:	see page 27
BB 32:	
D 40:	see page 47
DD 72:	see page 61
MOB 16:	see page 73, 75, 77, 79, 81, 83 and 85

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16	 old / new
Housings: double locking system					
Wall mount housings, height 68 mm with double locking system					10
with collar with cable gland	711 016 OV 711 016	P 711 016 MS P 711 016 MV	1 x M 25		363/340 385/359
with collar with cable gland	711 116 OV 711 116	P 711 116 MS P 711 116 MV	2 x M 25		370/338 414/376
Wall mount housings, height 84 mm with double locking system					
with collar with cable gland	757 072 OV 757 072	P 757 072 MS P 757 072 MV	1 x M 32		10
with collar with cable gland	757 172 OV 757 172	P 757 172 MS P 757 172 MV	2 x M 32		523/418 556/445
with collar with cable gland	757 072 40 OV 757 072 40	P 757 072 40 MS P 757 072 40 MV	1 x M 40		581/414 590/468
with collar with cable gland	757 172 40 OV 757 172 40	P 757 172 40 MS P 757 172 40 MV	2 x M 40		523/379 566/422
					591/350 600/436
Panel housing, height 28 mm with double locking system					
Panel cut out 86 x 35 mm	714 116	- / -			10 165
					13
Coupler hoods, height 70,5 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	- / - - / - - / -	P 713 616 P 713 616 MS P 713 616 MV	1 x M 25		10
with threaded hole with collar with cable gland	- / - - / - - / -	P 713 716 P 713 716 MS P 713 716 MV	1 x M 32		- /208 - /230 - /249
with threaded hole with collar with cable gland	- / - - / - - / -	P 713 716 P 713 716 MS P 713 716 MV			- /205 - /238 - /266
Coupler hoods, height 81,5 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	753 772 OS 753 772 OV 753 772	P 753 772 P 753 772 MS P 753 772 MV	1 x M 32		10
with threaded hole with collar with cable gland	753 772 40 OS 753 772 40 OV 753 772 40	P 753 772 40 P 753 772 40 MS P 753 772 40 MV	1 x M 40		328/234 362/267 396/295
with threaded hole with collar with cable gland	753 772 40 OS 753 772 40 OV 753 772 40	P 753 772 40 P 753 772 40 MS P 753 772 40 MV			311/228 356/272 375/314

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16	 old / new
Housings: double locking system					
Hoods, height 60 mm for double locking system, side cable entry					
with cable gland without cable gland	712 016 712 016 OV	-/- -/-	1 x M 25		10 178/ - 157/ -
Hoods, height 65 mm for double locking system, side cable entry					
with threaded hole with collar with cable gland	718 016 OS 718 016 OV 718 016	P 718 016 P 718 016 MS P 718 016 MV	1 x M 25		10 215/166 239/188 260/207
with threaded hole with collar with cable gland	-/- -/- -/-	P 718 116 P 718 116 MS P 718 116 MV	1 x M 32		- /162 - /195 - /223
Hoods, height 76 mm for double locking system, side cable entry					
with threaded hole with collar with cable gland	728 140 OS 728 140 OV 728 140	P 728 140 P 728 140 MS P 728 140 MV	1 x M 32		10 258/185 292/218 328/246
with threaded hole with collar with cable gland	728 140 40 OS 728 140 40 OV 728 140 40	P 728 140 40 P 728 140 40 MS P 728 140 40 MV	1 x M 40		257/176 302/220 338/262
Hoods, height 45 mm for double locking system, top cable entry					
with cable gland without cable gland	712 216 712 216 OV	-/- -/-	1 x M 25		10 178/ - 157/ -
Hoods, height 65 mm for double locking system, top cable entry					
with threaded hole with collar with cable gland	718 216 OS 718 216 OV 718 216	P 718 216 P 718 216 MS P 718 216 MV	1 x M 25		10 213/167 237/189 258/208
with threaded hole with collar with cable gland	-/- -/- -/-	P 718 316 P 718 316 MS P 718 316 MV	1 x M 32		- /164 - /197 - /225
Hoods, height 76 mm for double locking system, top cable entry					
with threaded hole with collar with cable gland	728 340 OS 728 340 OV 728 340	P 728 340 P 728 340 MS P 728 340 MV	1 x M 32		10 253/188 287/221 323/249
with threaded hole with collar with cable gland	728 340 40 OS 728 340 40 OV 728 340 40	P 728 340 40 P 728 340 40 MS P 728 340 40 MV	1 x M 40		257/182 302/226 338/268

Description	Part no.	Part no.	M	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16	
	Discontinued model	New design			
Housings: double locking system					
Wall mount housings, height 68 mm for double locking system, with hinged lid					
with collar with cable gland	*711 216 OV *711 216	*P 711 216 MS *P 711 216 MV	1 x M 25		10 320/350 341/369 311/348 353/386
with collar with cable gland	*711 316 OV *711 316	*P 711 316 MS *P 711 316 MV	2 x M 25		
Wall mount housings, height 84 mm for double locking system, with hinged lid					
with collar with cable gland	*751 272 OV *751 272	*P 751 272 MS *P 751 272 MV	1 x M 25		10 471/458 492/477 474/456 484/494 499/427 507/454 495/423 542/477
with collar with cable gland	*751 372 OV *751 372	*P 751 372 MS *P 751 372 MV	2 x M 25		
with collar with cable gland	*757 272 OV *757 272	*P 757 272 MS *P 757 272 MV	1 x M 32		10 471/458 492/477 474/456 484/494 499/427 507/454 495/423 542/477
with collar with cable gland	*757 372 OV *757 372	*P 757 372 MS *P 757 372 MV	2 x M 32		
Panel housing, height 28 mm for double locking system, with hinged lid					
Panel cut out 86 x 35 mm	*714 216	- / -			10 111
Hoods, height 65 mm with double locking system, side cable entry					
with threaded hole with collar with cable gland	- / - 713 016 OV 713 016	P 713 016 P 713 016 MS P 713 016 MV	1 x M 25		10 - / 200 316/222 339/241
Hoods, height 76 mm with double locking system, side cable entry					
with threaded hole with collar with cable gland	723 040 OS 723 040 OV 723 040	P 723 040 P 723 040 MS P 723 040 MV	1 x M 25		10 326/222 350/244 371/263 298/217 332/250 368/278
with threaded hole with collar with cable gland	723 140 OS 723 140 OV 723 140	P 723 140 P 723 140 MS P 723 140 MV	1 x M 32		
Hoods, height 65 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	713 216 OS 713 216 OV 713 216	P 713 216 P 713 216 MS P 713 216 MV	1 x M 25		10 292/200 316/222 339/241
Hoods, height 76 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	723 240 OS 723 240 OV 723 240	P 723 240 P 723 240 MS P 723 240 MV	1 x M 25		10 323/224 347/246 368/265 298/221 332/254 368/282
with threaded hole with collar with cable gland	723 340 OS 723 340 OV 723 340	P 723 340 P 723 340 MS P 723 340 MV	1 x M 32		




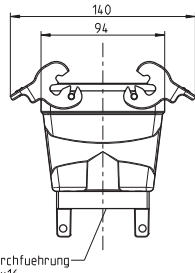
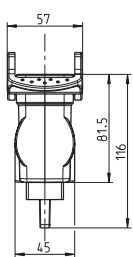



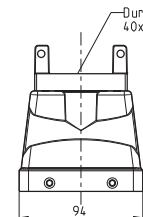
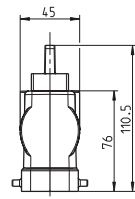



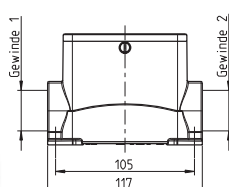
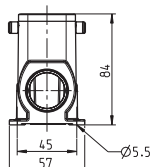


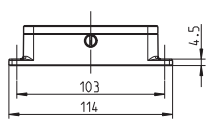
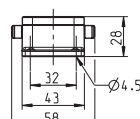



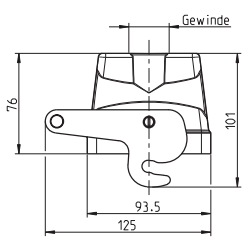
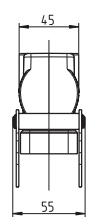



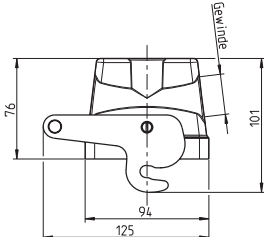
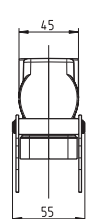

* Other cover version required? Simply add the corresponding letters at the end of the part number:

SK = self-closing, plastic



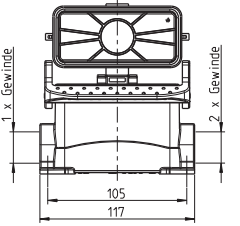
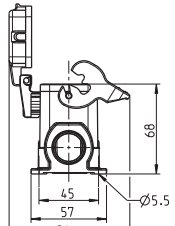


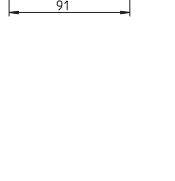

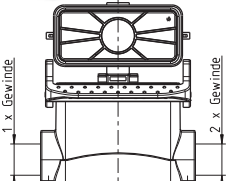
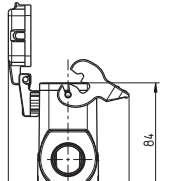

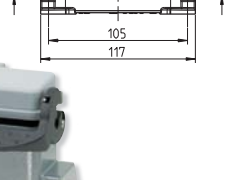
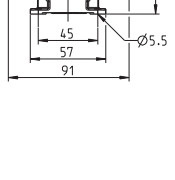

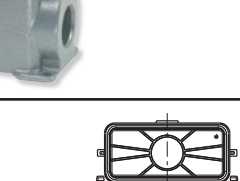
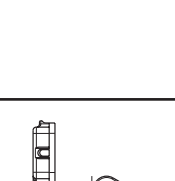

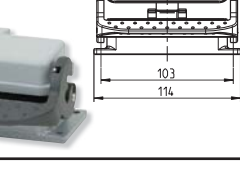
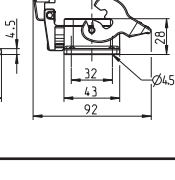

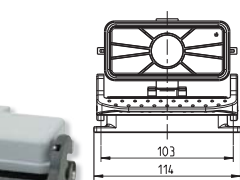
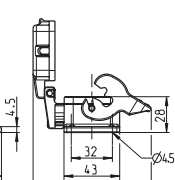

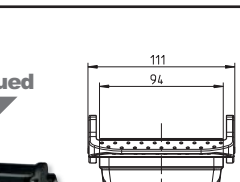
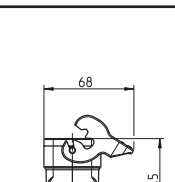

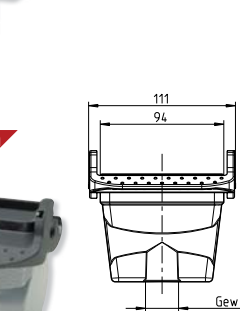
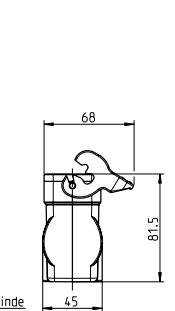

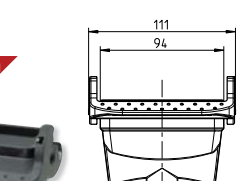
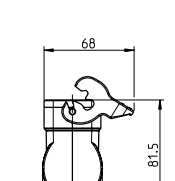


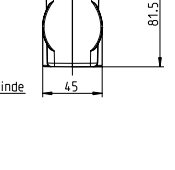
AL = Aluminium



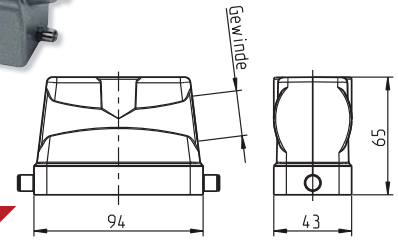

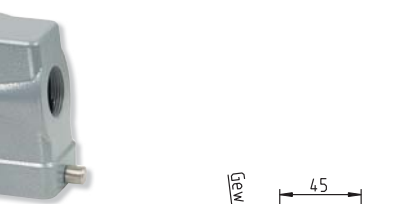
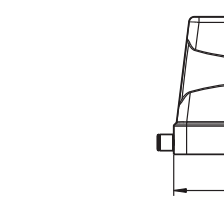
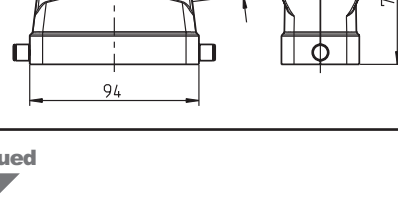


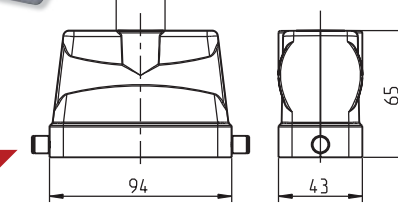
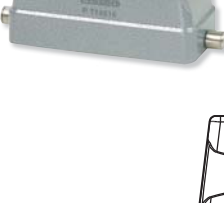
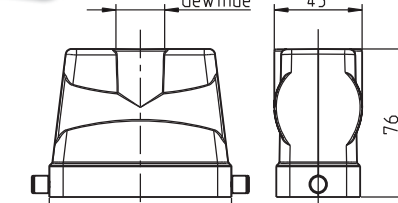
SA = self-closing, aluminium


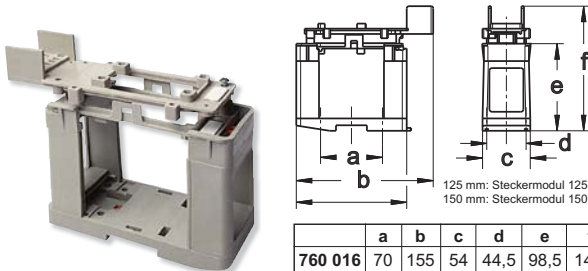
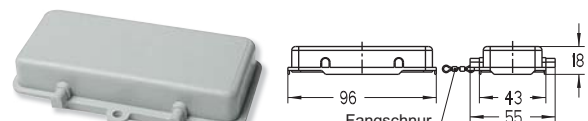
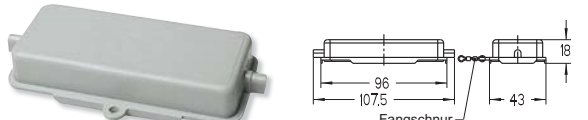
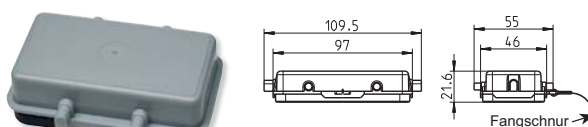
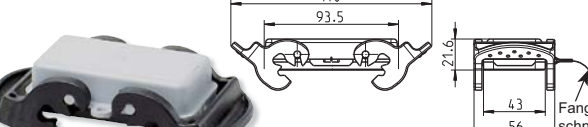
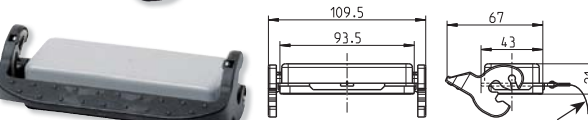
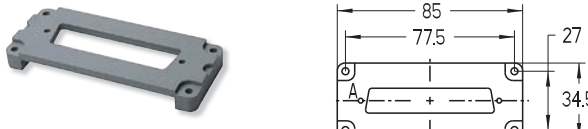
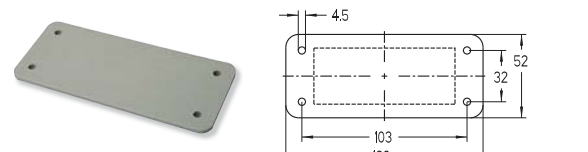
(For wall mount and panel housings)

Description	Part no.	M	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16	
Housings: double locking system			   	
Coupler hoods for flat cable, height 81 mm				
with double locking system	P 729 740			10 322
Hoods for flat cable, height 76 mm			   	
with double locking system	P 729 440			
Housings: central locking system			   	
Wall mount housings, height 84 mm				
for central locking system				10 381 408
with collar	P 770 654 MS	1 x M 32		
with cable gland	P 770 654 MV			
Panel housing, height 28 mm			  	
for central locking system				
Panel cut out 86x35mm	770 655			10 82
Hoods, height 76 mm			   	
with central locking system top cable entry				
with threaded hole	P 770 656	M 32		10 327 360 388
with collar	P 770 656 MS			
with cable gland	P 770 656 MV			
Hoods, height 76 mm			   	
with central locking system side cable entry				
with threaded hole	P 770 657	M 32		10 324 357 385
with collar	P 770 657 MS			
with cable gland	P 770 657 MV			

Description		Part no.	Dimensions mm	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16		
Housings: single locking system				 Dimensions: 111, 94, 68, 81.5, 116, 45, Durchfuehrung 40x16	 10 309	
Coupler hoods for flat cable, height 81 mm						
with single locking system		P 729 840				
Hoods for flat cable, height 76 mm				 Dimensions: 45, 76, 110.5, 94, Durchfuehrung 40x16	 10 285	
for single locking system		P 729 640				
Sealing sets with strain relief clamp				 Dimensions: 5mm f. 1 Flachleitung, 10mm f. 2 Flachleitungen, 15mm f. 3 Flachleitungen, 40	 10 87 84 81	
for 1 flat cable		719 601	40 x 5			
for 2 flat cables		719 602	40 x 10			
for 3 flat cables		719 603	40 x 15			
Description		Part no. 	Part no. 	M	 alt / neu	
Wall mount housings, height 68 mm with single locking system				 Dimensions: 1 x Gewinde, 2 x Gewinde, 68, 105, 117, 45, 57, 75, Ø5.5	 10 352/328 374/347 349/326 392/364	
with collar with cable gland		711 416 OV 711 416	P 711 416 MS P 711 416 MV			1 x M 25
with collar with cable gland		711 516 OV 711 516	P 711 516 MS P 711 516 MV			2 x M 25
Wall mount housings, height 84 mm with single locking system				 Dimensions: 1 x Gewinde, 2 x Gewinde, 84, 105, 117, 45, 57, 75, Ø5.5	 10 497/406 536/433 487/402 572/456 507/379 546/422 497/350 582/436	
with collar with cable gland		757 472 OV 757 472	P 757 472 MS P 757 472 MV			1 x M 32
with collar with cable gland		757 572 OV 757 572	P 757 572 MS P 757 572 MV			2 x M 32
with collar with cable gland		757 472 40 OV 757 472 40	P 757 472 40 MS P 757 472 40 MV			1 x M 40
with collar with cable gland		757 572 40 OV 757 572 40	P 757 572 40 MS P 757 572 40 MV			2 x M 40
Panel housing, height 28 mm with single locking system				 Dimensions: 103, 114, 4.5, 32, 43, 67, Ø4.5	 10 146	
Panel cut out 86 x 35 mm		714 316	- / -			

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16	 old / new
Housings: single locking system					
Wall mount housings, height 68 mm with single locking system, with hinged lid					
with collar with cable gland	*711 616 OV *711 616	*P 711 616 MS *P 711 616 MV	1 x M 25	  	10 378 / 370 400 / 389
with collar with cable gland	*711 716 OV *711 716	*P 711 716 MS *P 711 716 MV	2 x M 25	  	377 / 368 420 / 406
Wall mount housings, height 84 mm with single locking system, with hinged lid					
with collar with cable gland	*757 672 OV *757 672	*P 757 672 MS *P 757 672 MV	1 x M 32	  	10 529 / 447 568 / 474
with collar with cable gland	*757 772 OV *757 772	*P 757 772 MS *P 757 772 MV	2 x M 32	  	510 / 443 604 / 497
with collar with cable gland	*757 672 40 OV *757 672 40	*P 757 672 40 MS *P 757 672 40 MV	1 x M 40	  	525 / 421 578 / 464
with collar with cable gland	*757 772 40 OV *757 772 40	*P 757 772 40 MS *P 757 772 40 MV	2 x M 40	  	500 / 392 614 / 478
Panel housing, height 28 mm with single locking system, with hinged lid					
Panel cut out 86 x 35 mm	*714 416	- / -		  	10 179
Coupler hoods, height 70,5 mm with single locking system, top cable entry					
with threaded hole with collar with cable gland	- / - - / - - / -	P 713 816 P 713 816 MS P 713 816 MV	1 x M 25	  	10 - / 199 - / 221 - / 240
with threaded hole with collar with cable gland	- / - - / - - / -	P 713 916 P 713 916 MS P 713 916 MV	1 x M 32	  	- / 196 - / 229 - / 257
Coupler hoods, height 81,5 mm with single locking system, top cable entry					
with threaded hole with collar with cable gland	753 972 OS 753 972 OV 753 972	P 753 972 P 753 972 MS P 753 972 MV	1 x M 32	  	10 328 / 220 362 / 253 396 / 281
with threaded hole with collar with cable gland	753 972 40 OS 753 972 40 OV 753 972 40	P 753 972 40 P 753 972 40 MS P 753 972 40 MV	1 x M 40	  	310 / 215 355 / 259 406 / 301

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16	 old / new
Housings: single locking system					
Hoods, height 60 mm for single locking system, side cable entry				Discontinued model 	
with cable gland without cable gland	712 616 712 616 OV	-/- -/-	1 x M 25		10 189 / - 167 / -
Hoods, height 65 mm for single locking system, side cable entry				New design 	
with threaded hole with collar with cable gland	718 616 OS 718 616 OV 718 616	P 718 616 P 718 616 MS P 718 616 MV	1 x M 25		10 221 / 168 245 / 190 267 / 209
	-/- -/- -/-	P 718 716 P 718 716 MS P 718 716 MV	1 x M 32		- / 163 - / 195 - / 215
Hoods, height 76 mm for single locking system, side cable entry					
with threaded hole with collar with cable gland	728 740 OS 728 740 OV 728 740	P 728 740 P 728 740 MS P 728 740 MV	1 x M 32		10 260 / 190 294 / 223 329 / 251
	728 740 40 OS 728 740 40 OV 728 740 40	P 728 740 40 P 728 740 40 MS P 728 740 40 MV	1 x M 40		259 / 182 304 / 226 339 / 268
Hoods, height 45 mm for single locking system, top cable entry				Discontinued model 	10 151 / - 129 / -
Hoods, height 65 mm for single locking system, top cable entry					
with threaded hole with collar with cable gland	718 816 OS 718 816 OV 718 816	P 718 816 P 718 816 MS P 718 816 MV	1 x M 25		10 221 / 170 245 / 192 267 / 233
	-/- -/- -/-	P 718 916 P 718 916 MS P 718 916 MV	1 x M 32		- / 163 - / 195 - / 215
Hoods, height 76 mm for single locking system, top cable entry					
with threaded hole with collar with cable gland	728 940 OS 728 940 OV 728 940	P 728 940 P 728 940 MS P 728 940 MV	1 x M 32		10 251 / 193 285 / 226 321 / 254
	728 940 40 OS 728 940 40 OV 728 940 40	P 728 940 40 P 728 940 40 MS P 728 940 40 MV	1 x M 40		259 / 187 304 / 231 339 / 273

Description		Part no.	Housings for series B 16, BA 6, BB 32, D 40, DD 72, MOB 16																						
Snap-on mounting adapters			 <table border="1"><thead><tr><th></th><th>a</th><th>b</th><th>c</th><th>d</th><th>e</th><th>f</th></tr></thead><tbody><tr><td>760 016</td><td>70</td><td>155</td><td>54</td><td>44,5</td><td>98,5</td><td>141</td></tr><tr><td>760 116</td><td>100</td><td>185</td><td>54</td><td>44,5</td><td>98,5</td><td>141</td></tr></tbody></table>		a	b	c	d	e	f	760 016	70	155	54	44,5	98,5	141	760 116	100	185	54	44,5	98,5	141	5 183 294
	a	b		c	d	e	f																		
760 016	70	155		54	44,5	98,5	141																		
760 116	100	185	54	44,5	98,5	141																			
Snap-on mounting adapters, swing-type																									
adapter module 125 adapter module 150		760 016 760 116																							
mountable on DIN rails, top can be screwed together with bottom																									
Protective covers																									
Protective covers with retaining cord for housings with double locking system				10 19 70																					
Plastic Aluminium		710 626 710 626 AL																							
Protective covers with retaining cord for housings with single locking system				10 18 65																					
Plastic Aluminium		710 634 710 634 AL																							
Protective covers with seal and retaining cord for hoods with double locking system				10 25 76																					
Plastic Aluminium		710 757 710 757 AL																							
Protective covers with seal and retaining cord for hoods with latch pins for double locking system				10 85 136																					
Plastic Aluminium		710 760 710 760 AL																							
Protective covers with seal and retaining cord for hoods with latch pins for single locking system				10 84 138																					
Plastic Aluminium		710 764 710 764 AL																							
Adapter plates for contact inserts																									
for installation in series B 16 housings			 <p>Installation possibilities: Front and reverse side of the plate are marked with "A" respectively "T". If installed in a panel housing, the "A" must be readable, if installed in a hood, the "T" must be readable. The corresponding fixing screws are included in the scope of delivery.</p>	10 17 16																					
Sub miniature, single 37-pole 50-pole		710 799 710 800																							
Sub miniature, double 37-pole 50-pole		710 805 710 806		10 14 13																					
Cover plates for switch cabinets																									
Cover plate for panel housing B 16				10 23 23 23																					
grey orange green		720 640 720 644 720 648																							













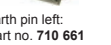
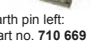










Specifications of „size 5” housings and short overview of installation possibilities for series B 6, BB 10, DD 24 and MOB 6 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Plastic; locking elements made of stainless steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)



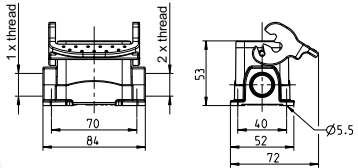

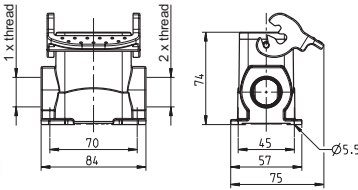

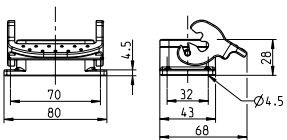

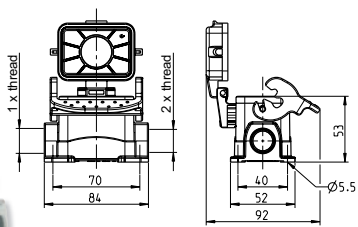

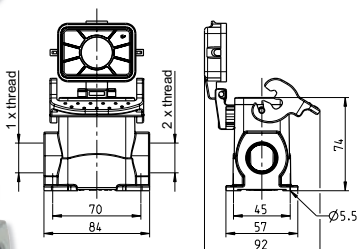

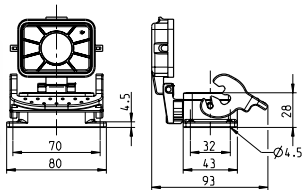
The housings shown on the following pages can be equipped with the inserts listed below:

	Screw terminal inserts	Crimp contact carriers	IDC inserts	Push-in inserts	Wiring adapters for panel housings
B 6 4 p. 22	Female insert, screw terminal, with wire protection, Part no. 710 106  Female insert, screw terminal, without wire protection, Part no. 710 769  Male insert, screw terminal, with wire protection, Part no. 710 206  Male insert, screw terminal, without wire protection, Part no. 710 773 	Crimp contact carrier for sleeve contacts Part no. 710 306  Crimp contact carrier for pin contacts Part no. 710 406 	Female insert, IDC terminal Part no. 710 106 01  Male insert, IDC terminal Part no. 710 206 01 	Female insert, push-in terminal Art. 710 106 04  Male insert, push-in terminal Art. 710 206 04 	Wiring adapter, female insert, earth pin on the right: Part no. 710 657  Wiring adapter, male insert, earth pin on the right: Part no. 710 665  earth pin left: Part no. 710 661  earth pin left: Part no. 710 669 
BB 10 4 p. 23		Crimp contact carrier for sleeve contacts Part no. 710 311  Crimp contact carrier for pin contacts Part no. 710 411 			
DD 24 4 p. 58		Crimp contact carrier for sleeve contacts Part no. 750 124  Crimp contact carrier for pin contacts Part no. 750 224 			
MOB 6 4 p. 71	Female frame MO B6 for 2 contact carriers for pin and sleeve contacts (frame coding A-B) Part no. 770 006  for pin and sleeve contacts (2 x PE) Part no. 770 406 		Male frame MO B6 for 2 contact carriers for pin and sleeve contacts (frame coding A-B) Part no. 770 106  for pin and sleeve contacts (2 x PE) Part no. 770 506 		

4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

B 6:	see page 23
BB 10:	
DD 24:	see page 58
MO:	see page 73, 75, 77, 79, 81, 83 and 85

Description	Part no.	Part no.	M	Housings for series B 6, BB 10, DD 24 and MOB 6	 old / new
	Discontinued model	New design			
Housings: single locking system					
Wall mount housings, height 53 mm with single locking system					
with collar with cable gland	711 406 OV 711 406	P 711 406 MS P 711 406 MV	1 x M 20	 	10 205/196 189/208 206/195 233/219
with collar with cable gland	711 506 OV 711 506	P 711 506 MS P 711 506 MV	2 x M 20		
Wall mount housings, height 74 mm with single locking system					
with collar with cable gland	- / - - / -	P 751 424 MS P 751 424 MV	1 x M 25	 	10 - /296 - /315 - /294 - /332 - /279 - /306 - /262 - /316
with collar with cable gland	- / - - / -	P 751 524 MS P 751 524 MV	2 x M 25		
with collar with cable gland	- / - - / -	P 757 424 MS P 757 424 MV	1 x M 32		
with collar with cable gland	- / - - / -	P 757 524 MS P 757 524 MV	2 x M 32		
Panel housing, height 28 mm with single locking system					
Panel cut out 52 x 35 mm	714 306	-/-		 	10 109/-
Wall mount housings, height 53 mm with single locking system, with hinged cover					
with collar with cable gland	*711 606 OV *711 606	*P 711 606 MS *P 711 606 MV	1 x M 20	 	10 218/230 232/242 233/229 260/253
with collar with cable gland	*711 706 OV *711 706	*P 711 706 MS *P 711 706 MV	2 x M 20		
Wall mount housings, height 74 mm with single locking system, with hinged cover					
with collar with cable gland	- / - - / -	*P 751 624 MS *P 751 624 MV	1 x M 25	 	10 - /331 - /350 - /329 - /367 - /314 - /341 - /297 - /351
with collar with cable gland	- / - - / -	*P 751 724 MS *P 751 724 MV	2 x M 25		
with collar with cable gland	- / - - / -	*P 757 624 MS *P 757 624 MV	1 x M 32		
with collar with cable gland	- / - - / -	*P 757 724 MS *P 757 724 MV	2 x M 32		
Panel housing, height 28 mm with single locking system, with hinged cover					
Panel cut out 52 x 35 mm	*714 406	-/-		 	10 135/-



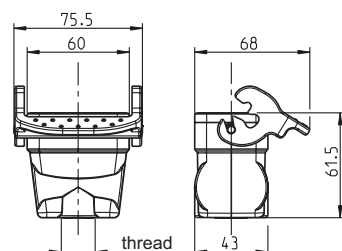

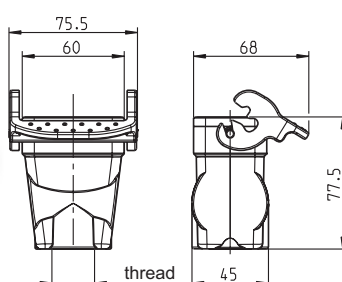

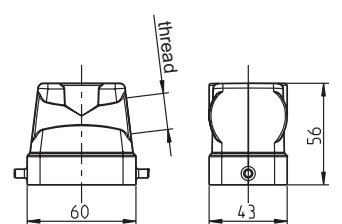

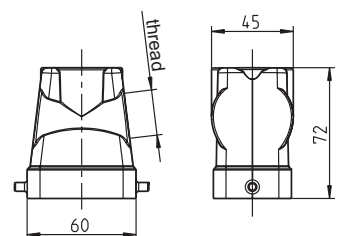

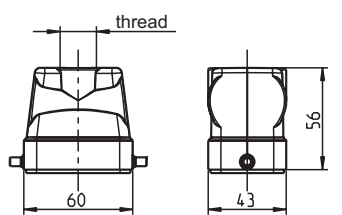

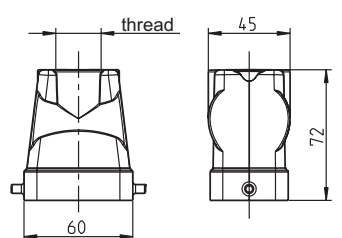
* Other cover version required? Simply add the corresponding letters at the end of the part number:







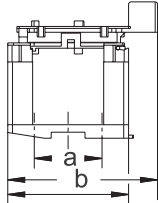

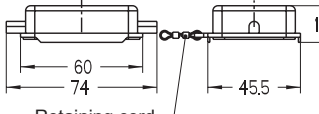


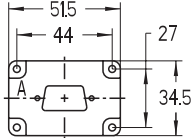
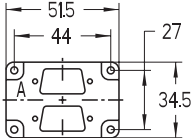

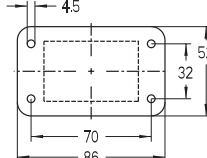
SK = self-closing, plastic

AL = Aluminium

SA = self-closing, aluminium

(For wall mount and panel housings)

Description	Part no.	Part no.	M	Housings for series B 6, BB 10, DD 24 and MOB 6	 old / new
	Discontinued model	New design			
Housings: single locking system					
Coupler hoods, height 61.5 mm with single locking system, top cable entry					
with threaded hole	-/-	P 713 806	1 x M 20	 	10 - / 138 - / 153 - / 166
with collar	-/-	P 713 806 MS			
with cable gland	-/-	P 713 806 MV			
Coupler hoods, height 77.5 mm with single locking system, top cable entry					
with threaded hole	753 824 OS	P 753 824	1 x M 25	 	10 212/162 232/184 254/203
with collar	753 824 OV	P 753 824 MS			
with cable gland	753 824	P 753 824 MV			
with threaded hole	753 924 OS	P 753 924	1 x M 32		208/159 247/192 284/220
with collar	753 924 OV	P 753 924 MS			
with cable gland	753 924	P 753 924 MV			
Hoods, height 56 mm for single locking system, side cable entry					
with threaded hole	- / -	P 712 606	1 x M 20	 	10 - / 112 96/127 106/140
with collar	712 606 OV	P 712 606 MS			
with cable gland	712 606	P 712 606 MV			
Hoods, height 72 mm for single locking system, side cable entry					
with threaded hole	758 624 OS	P 758 624	1 x M 25	 	10 150/138 174/160 195/179
with collar	758 624 OV	P 758 624 MS			
with cable gland	758 624	P 758 624 MV			
with threaded hole	758 724 OS	P 758 724	1 x M 32		155/134 189/167 225/195
with collar	758 724 OV	P 758 724 MS			
with cable gland	758 724	P 758 724 MV			
Hoods, height 56 mm for single locking system, top cable entry					
with threaded hole	- / -	P 712 806	1 x M 20	 	10 - / 112 88/127 96/140
with collar	712 806 OV	P 712 806 MS			
with cable gland	712 806	P 712 806 MV			
Hoods, height 72 mm for single locking system, top cable entry					
with threaded hole	758 824 OS	P 758 824	1 x M 25	 	10 155/143 179/165 200/206
with collar	758 824 OV	P 758 824 MS			
with cable gland	758 824	P 758 824 MV			
with threaded hole	758 924 OS	P 758 924	1 x M 32		153/140 187/173 223/201
with collar	758 924 OV	P 758 924 MS			
with cable gland	758 924	P 758 924 MV			



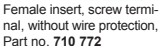
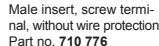








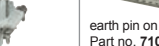
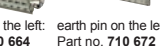
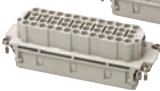






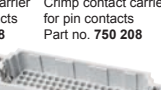
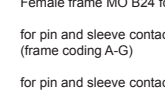
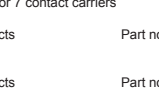


Description	Part no.	M	Housings for series B 6, BB 10, DD 24 and MOB 6																													
Housings: central locking system			  																													
Panel housing, height 28 mm for central locking system					10 70																											
Panel cut out 52 x 35 mm						10 273 295 314																										
Hoods, height 72 mm with central locking system, side cable entry																																
with threaded hole P 770 651 M 25 with collar P 770 651 MS with cable gland P 770 651 MV																																
Snap-on mounting adapters			  <table><thead><tr><th></th><th>a</th><th>b</th><th>c</th><th>d</th><th>e</th><th>f</th></tr></thead><tbody><tr><td>760 006</td><td>70</td><td>155</td><td>54</td><td>44.5</td><td>98.5</td><td>141</td></tr><tr><td>760 106</td><td>100</td><td>185</td><td>54</td><td>44.5</td><td>98.5</td><td>141</td></tr><tr><td>760 112</td><td>100</td><td>185</td><td>54</td><td>44.5</td><td>98.5</td><td>141</td></tr></tbody></table>		a		b	c	d	e	f	760 006	70	155	54	44.5	98.5	141	760 106	100	185	54	44.5	98.5	141	760 112	100	185	54	44.5	98.5	141
	a	b		c	d	e	f																									
760 006	70	155		54	44.5	98.5	141																									
760 106	100	185		54	44.5	98.5	141																									
760 112	100	185		54	44.5	98.5	141																									
Snap-on mounting adapters																																
adapter module 125 760 006 for 1 insert adapter module 150 760 106 for 1 insert adapter module 150 760 112 for 2 inserts																																
mountable on DIN rails, top can be screwed together with bottom																																
Protective covers																																
Protective covers with retaining cord for housings with single locking system			  Retaining cord	10 13 48																												
Plastic 710 630 Aluminium 710 630 AL																																
Protective covers with seal and retaining cord for hoods with latch pins for single locking system																																
Plastic 710 762 Aluminium 710 762 AL																																
Adapter plates for contact inserts																																
for installation in series B 6 housings			  <p>Installation possibilities: Front and reverse side of the plate are marked with "A" respectively "T". If installed in a panel housing, the "A" must be readable, if installed in a hood, the "T" must be readable. The corresponding fixing screws are included in the scope of delivery.</p>  	10 14 14																												
Sub miniature, single																																
9-pole 710 796 15-pole 710 797																																
Sub miniature, double																																
9-pole 710 802 15-pole 710 803																																
Cover plates for switch cabinets			 	10 18 18																												
Cover plate for panel housing B 6																																
grey 720 638 orange 720 642																																

Specifications of „size 8” housings and short overview of installation possibilities for series B 24, BB 46, D 64, DD 108, MOB 24 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Plastic, locking elements made of stainless steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)


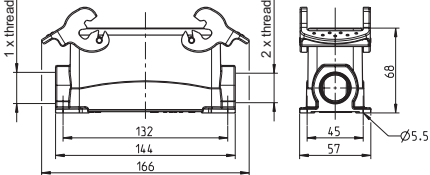

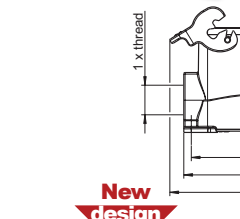
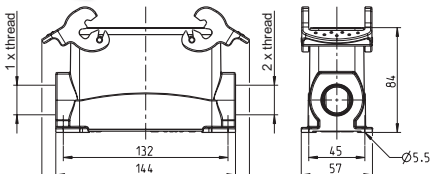
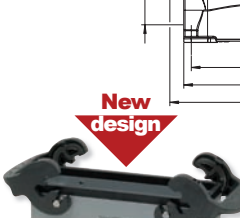

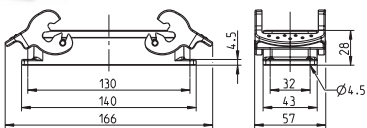

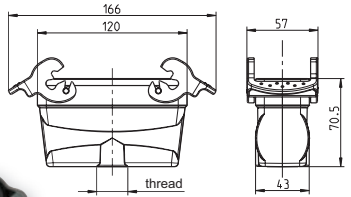


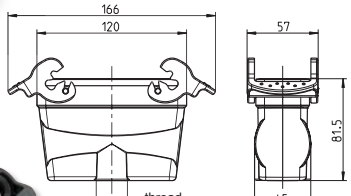


The housings shown on the following pages can be equipped with the inserts listed below:


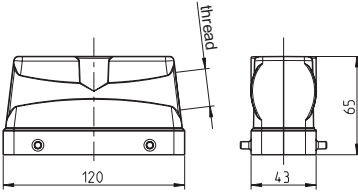

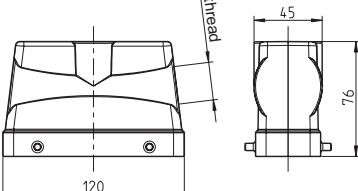

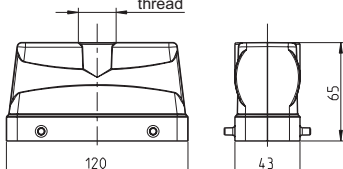

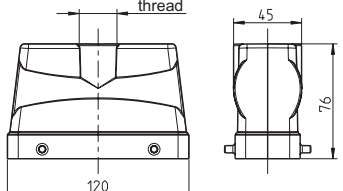

	Screw terminal inserts	Crimp contact carriers	IDC inserts	Push-in inserts	Wiring adapters for panel housings
B 24 4 p. 28 to 29	<p>Female insert, screw terminal, with wire protection, Part no. 710 124</p>  <p>Male insert, screw terminal, with wire protection, Part no. 710 224</p>  <p>Female insert, screw terminal, without wire protection, Part no. 710 772</p>  <p>Male insert, screw terminal, without wire protection, Part no. 710 776</p> 	<p>Crimp contact carrier for sleeve contacts Part no. 710 324</p>  <p>Crimp contact carrier for pin contacts Part no. 710 424</p> 	<p>Female insert, IDC terminal Part 710 124 01</p>  <p>Male insert, IDC terminal Part 710 224 01</p> 	<p>Female insert, push-in terminal Part 710 124 04</p>  <p>Male insert, push-in terminal Part 710 224 04</p> 	<p>Wiring adapter, female insert, earth pin o.t. right: Part no. 710 660</p>  <p>Wiring adapter, male insert, earth pin o.t. right: Part no. 710 668</p>  <p>earth pin on the left: Part no. 710 664</p>  <p>earth pin on the left: Part no. 710 672</p> 
BB 46 4 p. 29		<p>Crimp contact carrier for sleeve contacts Part no. 710 346</p>  <p>Crimp contact carrier for pin contacts Part no. 710 446</p> 			
D 64 4 p. 49		<p>Crimp contact carrier for sleeve contacts Part no. 720 364</p>  <p>Crimp contact carrier for pin contacts Part no. 720 464</p> 			<p>Wiring adapter, female insert, earth pin o.t. left: Part no. 720 635</p>  <p>Wiring adapter, male insert, earth pin o. t. left: Part no. 720 634</p> 
DD 108 4 p. 62		<p>Crimp contact carrier for sleeve contacts Part no. 750 108</p>  <p>Crimp contact carrier for pin contacts Part no. 750 208</p> 			
MOB 24 4 p. 71	<p>Female frame MO B24 for 7 contact carriers for pin and sleeve contacts (frame coding A-G) Part no. 770 024</p>  <p>for pin and sleeve contacts (2 x PE) Part no. 770 424</p> 	<p>Male frame MO B24 for 7 contact carriers for pin and sleeve contacts (frame coding A-G) Part no. 770 124</p>  <p>for pin and sleeve contacts (2 x PE) Part no. 770 524</p> 			



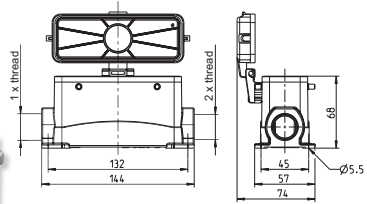

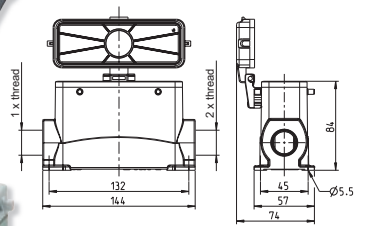

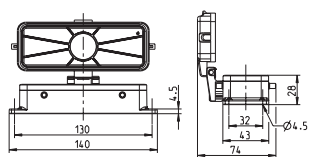

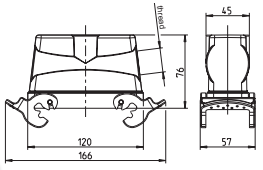

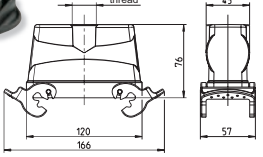

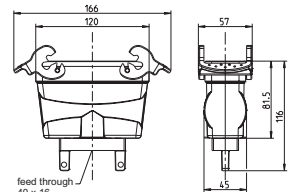

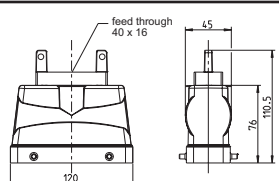
4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

B 24:	page 29
BB 46:	
D 64:	page 50
DD 108:	page 63
MO:	page 73, 75, 77, 79, 81, 83 and 85

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 24, BB 46, D 64, DD 108, MOB 24	 old / new
Housings: double locking system					
Wall mount housings, height 68 mm with double locking system					
with collar with cable gland	711 024 OV 711 024	P 711 024 MS P 711 024 MV	1 x M 25		10 449/396 466/415
with collar with cable gland	711 124 OV 711 124	P 711 124 MS P 711 124 MV	2 x M 25		10 437/393 476/431
Wall mount housings, height 84 mm with double locking system					
with collar with cable gland	757 008 OV 757 008	P 757 008 MS P 757 008 MV	1 x M 32		10 595/485 635/512
with collar with cable gland	757 108 OV 757 108	P 757 108 MS P 757 108 MV	2 x M 32		10 661/480 674/534
with collar with cable gland	757 008 40 OV 757 008 40	P 757 008 40 MS P 757 008 40 MV	1 x M 40		10 590/460 645/503
with collar with cable gland	757 108 40 OV 757 108 40	P 757 108 40 MS P 757 108 40 MV	2 x M 40		10 651/458 684/544
Panel housing, height 28 mm with double locking system					
Panel cut out 112 x 35 mm		714 124			10 178
Coupler hoods, height 70.5 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	- / - - / - - / -	P 753 608 P 753 608 MS P 753 608 MV	1 x M 25		10 - /248 - /270 - /289
with threaded hole with collar with cable gland	- / - - / - - / -	P 753 708 P 753 708 MS P 753 708 MV	1 x M 32		10 - /245 - /278 - /306
Coupler hoods, height 81.5 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	713 724 OS 713 724 OV 713 724	P 713 724 P 713 724 MS P 713 724 MV	1 x M 32		10 396/277 430/310 466/338
with threaded hole with collar with cable gland	713 724 40 OS 713 724 40 OV 713 724 40	P 713 724 40 P 713 724 40 MS P 713 724 40 MV	1 x M 40		10 380/272 425/316 476/358

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 24, BB 46, D 64, DD 108, MOB 24	 old / new
Housings: double locking system					
Hoods, height 65 mm for double locking system, side cable entry					
with threaded hole with collar with cable gland	- / - 712 024 OV 712 024	P 712 024 P 712 024 MS P 712 024 MV	1 x M 25		10 - /200 189/222 211/241
with threaded hole with collar with cable gland	- / - 712 124 OV 712 124	P 712 124 P 712 124 MS P 712 124 MV	1 x M 32		- /196 185/229 221/257
Hoods, height 76 mm for double locking system, side cable entry					
with threaded hole with collar with cable gland	718 124 OS 718 124 OV 718 124	P 718 124 P 718 124 MS P 718 124 MV	1 x M 32		10 302/232 336/265 362/293
with threaded hole with collar with cable gland	718 124 40 OS 718 124 40 OV 718 124 40	P 718 124 40 P 718 124 40 MS P 718 124 40 MV	1 x M 40		301/224 346/268 372/310
Hoods, height 65 mm for double locking system, top cable entry					
with threaded hole with collar with cable gland	- / - 712 224 OV 712 224	P 712 224 P 712 224 MS P 712 224 MV	1 x M 25		10 - /202 176/224 198/243
with threaded hole with collar with cable gland	- / - - / - - / -	P 712 324 P 712 324 MS P 712 324 MV	1 x M 32		- /196 - /229 - /257
Hoods, height 76 mm for double locking system, top cable entry					
with threaded hole with collar with cable gland	718 324 OS 718 324 OV 718 324	P 718 324 P 718 324 MS P 718 324 MV	1 x M 32		10 285/235 319/268 356/296
with threaded hole with collar with cable gland	718 324 40 OS 718 324 40 OV 718 324 40	P 718 324 40 P 718 324 40 MS P 718 324 40 MV	1 x M 40		301/229 346/273 372/315

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 24, BB 46, D 64, DD 108, MOB 24	 old / new
Housings: double locking system					
Wall mount housings, height 68 mm for double locking system, with hinged lid					
with collar with cable gland	*711 224 OV *711 224	*P 711 224 MS *P 711 224 MV	1 x M 25		10 395/413 417/432
with collar with cable gland	*711 324 OV *711 324	*P 711 324 MS *P 711 324 MV	2 x M 25		395/410 437/448
Wall mount housings, height 84 mm for double locking system, with hinged lid					
with collar with cable gland	*751 208 OV *751 208	*P 751 208 MS *P 751 208 MV	1 x M 25		10 600/534 622/553
with collar with cable gland	*751 308 OV *751 308	*P 751 308 MS *P 751 308 MV	2 x M 25		554/532 601/570
with collar with cable gland	*757 208 OV *757 208	*P 757 208 MS *P 757 208 MV	1 x M 32		559/502 594/529
with collar with cable gland	*757 308 OV *757 308	*P 757 308 MS *P 757 308 MV	2 x M 32		554/497 630/551
Panel housing, height 28 mm for double locking system, with hinged lid					
Panel cut out 112 x 35 mm	*714 224	- / -			10 132 / -
Hoods, height 76 mm with double locking system, side cable entry					
with threaded hole with collar with cable gland	713 024 OS 713 024 OV 713 024	P 713 024 P 713 024 MS P 713 024 MV	1 x M 25		10 354/270 378/292 400/311
with threaded hole with collar with cable gland	713 124 OS 713 124 OV 713 124	P 713 124 P 713 124 MS P 713 124 MV	1 x M 32		374/266 408/299 445/327
Hoods, height 76 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	713 224 OS 713 224 OV 713 224	P 713 224 P 713 224 MS P 713 224 MV	1 x M 25		10 354/271 378/293 400/312
with threaded hole with collar with cable gland	713 324 OS 713 324 OV 713 324	P 713 324 P 713 324 MS P 713 324 MV	1 x M 32		374/269 408/302 445/330
Coupler hoods for flat cable, height 80 mm with double locking system					
	- / -	P 719 724			10 - / 364
Hoods for flat cable, height 76 mm for double locking system					
	- / -	P 719 424			10 - / 324



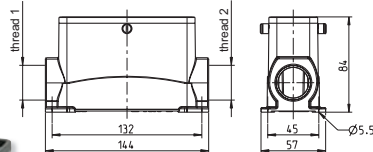

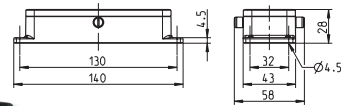

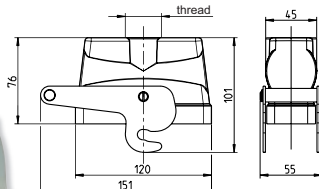

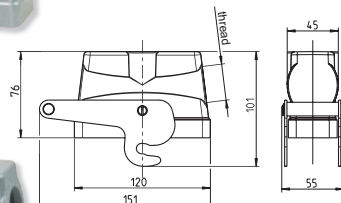

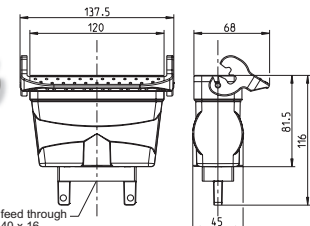

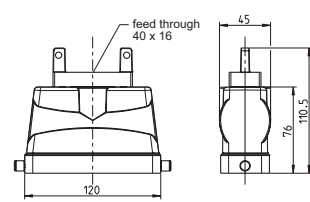

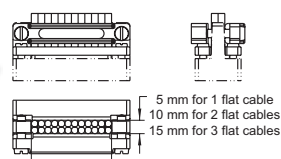
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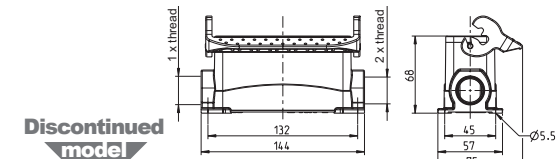
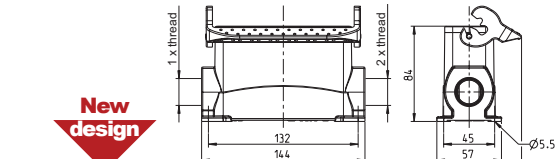
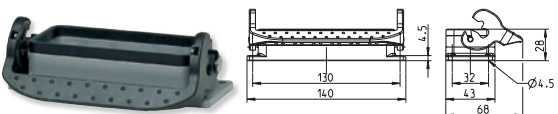
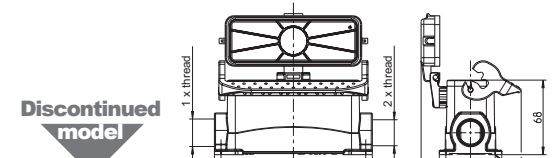
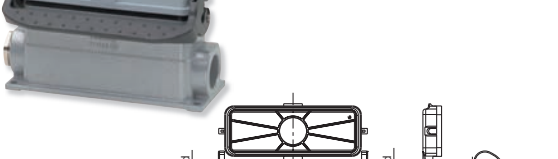

SK = self-closing, plastic

AL = Aluminium

SA = self-closing, aluminium

(For wall mount and panel housings)

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 24, BB 46, D 64, DD 108, MOB 24	 old / new
Housings: central locking system				New Design  	10 - / 448 - / 475
Wall mount housings, height 84 mm for central locking system					
with collar with cable gland	- / -	P 770 658 MS P 770 658 MV	1 x M 32		
Panel housing, height 28 mm for central locking system				 	10 140 / -
Panel cut out 112 x 35 mm					
	770 659	- / -			
Hoods, height 76 mm with central locking system, top cable entry				New Design  	10 - / 384 - / 417 - / 445
with threaded hole with collar with cable gland	- / - - / - - / -	P 770 660 P 770 660 MS P 770 660 MV	M 32		
Hoods, height 76 mm with central locking system, side cable entry				 	10 - / 384 - / 417 - / 445
with threaded hole with collar with cable gland	- / - - / - - / -	P 770 661 P 770 661 MS P 770 661 MV	M 32		
Housings: single locking system				New Design  	10 - / 351
Coupler hoods for flat cable, height 80 mm with single locking system					
	- / -	P 719 824			
Hoods for flat cable, height 76 mm for single locking system				New Design  	10 - / 333
	- / -	P 719 624			
Sealing sets with strain relief clamp				 	10 151 156 201
for 1 flat cable	719 601	- / -	40x5mm		
for 2 flat cables	719 602	- / -	40x10mm		
for 3 flat cables	719 603	- / -	40x15mm		

Description	Part no. Discontinued model	Part no. New design	M	Housings for series B 24, BB 46, D 64, DD 108, MOB 24	 old / new
Housings: single locking system					
Wall mount housings, height 68 mm with single locking system					
with collar with cable gland	711 424 OV 711 424	P 711 424 MS P 711 424 MV	1 x M 25	<div>Discontinued model</div> 	<div>10</div> 437/386 459/405
with collar with cable gland	711 524 OV 711 524	P 711 524 MS P 711 524 MV	2 x M 25		
Wall mount housings, height 84 mm with single locking system					
with collar with cable gland	757 408 OV 757 408	P 757 408 MS P 757 408 MV	1 x M 32	<div>New design</div> 	<div>10</div> 595/474 636/501
with collar with cable gland	757 508 OV 757 508	P 757 508 MS P 757 508 MV	2 x M 32		
with collar with cable gland	757 408 40 OV 757 408 40	P 757 408 40 MS P 757 408 40 MV	1 x M 40		
with collar with cable gland	757 508 40 OV 757 508 40	P 757 508 40 MS P 757 508 40 MV	2 x M 40		
Panel housing, height 28 mm with single locking system					
Panel cut out 112 x 35 mm	714 324	- / -			<div>10</div> 171 / -
Wall mount housings, height 68 mm with single locking system, with hinged lid					
with collar with cable gland	*711 624 OV *711 624	*P 711 624 MS *P 711 624 MV	1 x M 25	<div>Discontinued model</div> 	<div>10</div> 460/436 480/455
with collar with cable gland	*711 724 OV *711 724	*P 711 724 MS *P 711 724 MV	2 x M 25		
Wall mount housings, height 84 mm with single locking system, with hinged lid					
with collar with cable gland	*757 608 OV *757 608	*P 757 608 MS *P 757 608 MV	1 x M 32	<div>New design</div> 	<div>10</div> 632/524 673/551
with collar with cable gland	*757 708 OV *757 708	*P 757 708 MS *P 757 708 MV	2 x M 32		
with collar with cable gland	*757 608 40 OV *757 608 40	*P 757 608 40 MS *P 757 608 40 MV	1 x M 40		
with collar with cable gland	*757 708 40 OV *757 708 40	*P 757 708 40 MS *P 757 708 40 MV	2 x M 40		
Panel housing, height 28 mm with single locking system, with hinged lid					
Panel cut out 112 x 35 mm	*714 424	- / -			<div>10</div> 208 / -



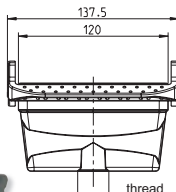
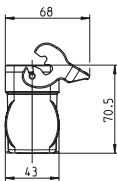

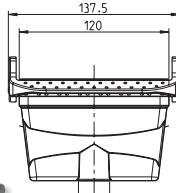
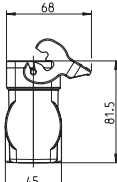

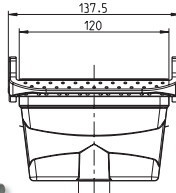
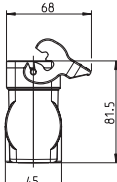

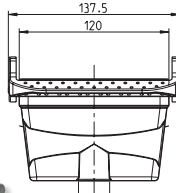
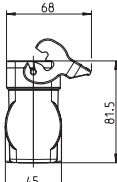

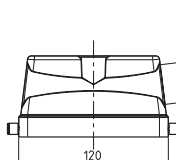
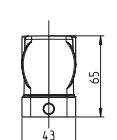

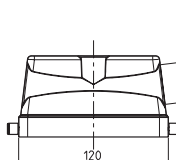
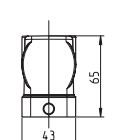

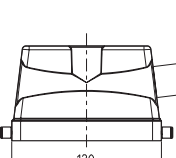
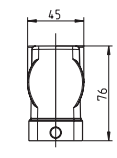

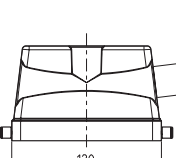
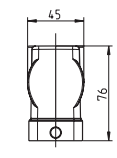

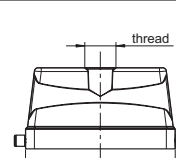
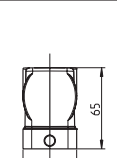

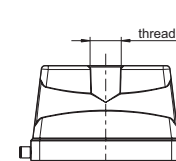
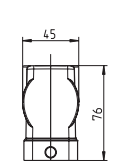

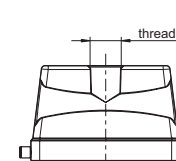
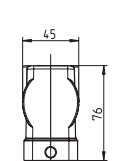
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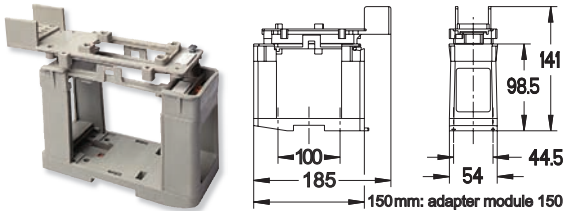

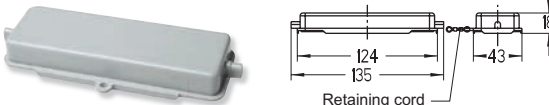
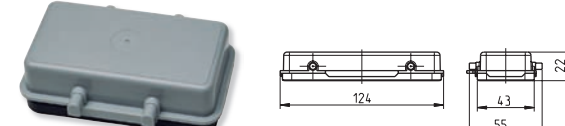

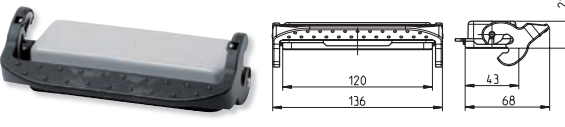
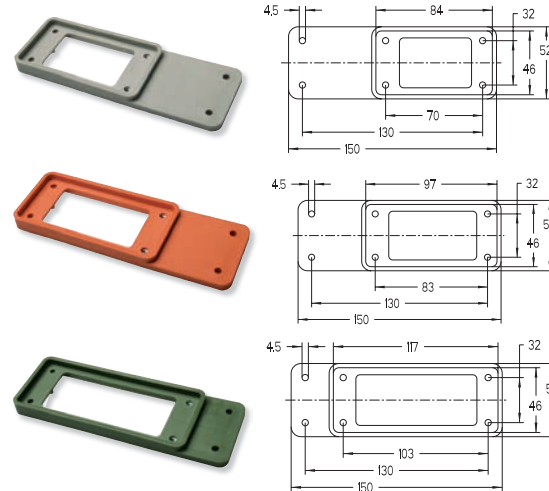
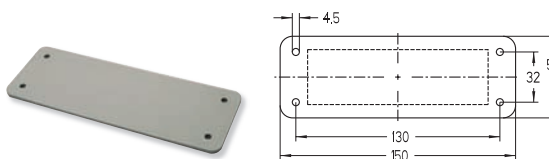
SK = self-closing, plastic

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(For wall mount and panel housings)

Description	Part no.	Part no.	M	Housings for series B 24, BB 46, D 64, DD 108, MOB 24	 old / new
	Discontinued model	New design			
Housings: single locking system					
Coupler hoods, height 70.5 mm with single locking system, top cable entry					
with threaded hole	- / -	P 753 808	1 x M 25	  	10 - /240 - /262 - /281
with collar	- / -	P 753 808 MS			
with cable gland	- / -	P 753 808 MV			
with threaded hole	- / -	P 753 908	1 x M 32	  	- /237 - /270 - /298
with collar	- / -	P 753 908 MS			
with cable gland	- / -	P 753 908 MV			
Coupler hoods, height 81.5 mm with single locking system, top cable entry					
with threaded hole	713 924 OS	P 713 924	1 x M 32	  	10 390/263 424/296 460/324
with collar	713 924 OV	P 713 924 MS			
with cable gland	713 924	P 713 924 MV			
with threaded hole	713 924 40 OS	P 713 924 40	1 x M 40	  	415/258 460/302 470/344
with collar	713 924 40 OV	P 713 924 40 MS			
with cable gland	713 924 40	P 713 924 40 MV			
Hoods, height 65 mm for single locking system, side cable entry					
with threaded hole	- / -	P 712 624	1 x M 25	  	10 - /209 193/231 215/250
with collar	712 624 OV	P 712 624 MS			
with cable gland	712 624	P 712 624 MV			
with threaded hole	- / -	P 712 724	1 x M 32	  	- /204 187/237 224/265
with collar	712 724 OV	P 712 724 MS			
with cable gland	712 724	P 712 724 MV			
Hoods, height 76 mm for single locking system, side cable entry					
with threaded hole	718 724 OS	P 718 724	1 x M 32	  	10 286/234 320/267 355/295
with collar	718 724 OV	P 718 724 MS			
with cable gland	718 724	P 718 724 MV			
with threaded hole	718 724 40 OS	P 718 724 40	1 x M 40	  	270/226 315/270 365/312
with collar	718 724 40 OV	P 718 724 40 MS			
with cable gland	718 724 40	P 718 724 40 MV			
Hoods, height 65 mm for single locking system, top cable entry					
with threaded hole	- / -	P 712 824	1 x M 25	  	10 - /210 180/232 201/251
with collar	712 824 OV	P 712 824 MS			
with cable gland	712 824	P 712 824 MV			
Hoods, height 76 mm for single locking system, top cable entry					
with threaded hole	718 924 OS	P 718 924	1 x M 32	  	10 313/235 347/268 368/296
with collar	718 924 OV	P 718 924 MS			
with cable gland	718 924	P 718 924 MV			
with threaded hole	718 924 40 OS	P 718 924 40	1 x M 40	  	270/192 315/236 365/278
with collar	718 924 40 OV	P 718 924 40 MS			
with cable gland	718 924 40	P 718 924 40 MV			


















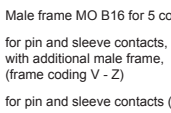
Description	Part no.	M	Housings for series B 24, BB 46, D 64, DD 108, MOB 24	
Snap-on mounting adapters Snap-on mounting adapters, swing-type adapter module 150 mountable on DIN rails, top can be screwed together with bottom	760 124			5 197
Protective covers Protective covers with retaining cord for housings with double locking system Plastic Aluminium	710 628 710 628 AL			10 24 83
Protective covers with retaining cord for housings with single locking system Plastic Aluminium	710 636 710 636 AL			10 23 77
Protective covers with seal and retaining cord for hoods with double locking system Plastic Aluminium	710 758 710 758 AL			10 31 90
Protective covers with seal and retaining cord for hoods with latch pins for double locking system Plastic Aluminium	710 761 710 761 AL			10 91 150
Protective covers with seal and retaining cord for hoods with latch pins for single locking system Plastic Aluminium	710 765 710 765 AL			10 105 166
Adapter plates for switch cabinets Panel housing B 24 on B 6 grey orange green Panel housing B 24 on B 10 grey orange green Panel housing B 24 on B 16 grey orange green	720 650 720 653 720 656 720 651 720 654 720 657 720 652 720 655 720 658			10 37 37 37 35 35 35 33 33 33
Cover plates for switch cabinets Cover plate for panel housing B 24 grey orange green	720 641 720 645 720 649			10 27 27 27

Specifications of „size 9” housings and short overview of installation possibilities for series B 32, BA 12, BB 64, D 80, DD 144, 2xMOB 16 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Zinc-plated steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)


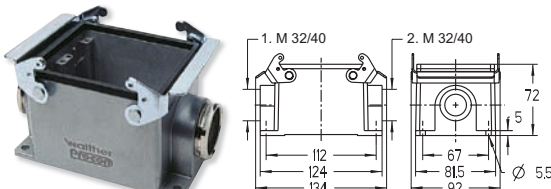
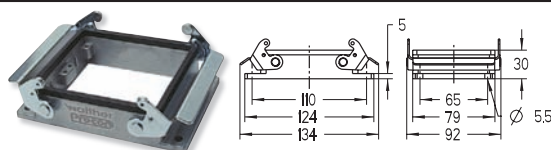
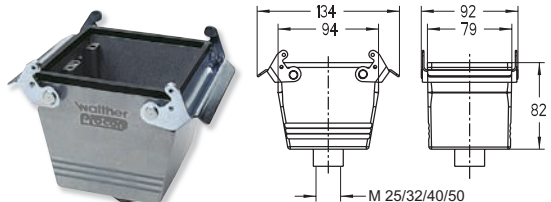
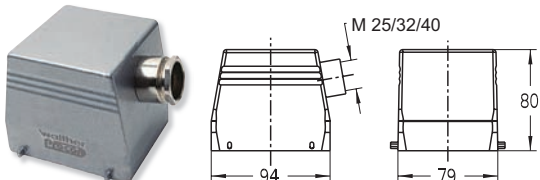
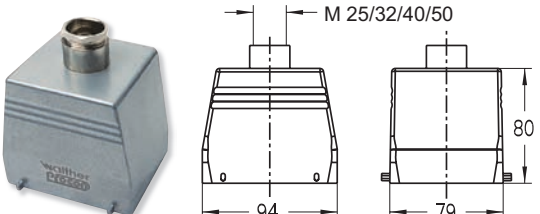
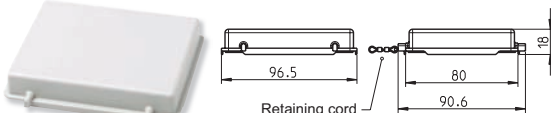
The housings shown on the following pages can be equipped with the inserts listed below:


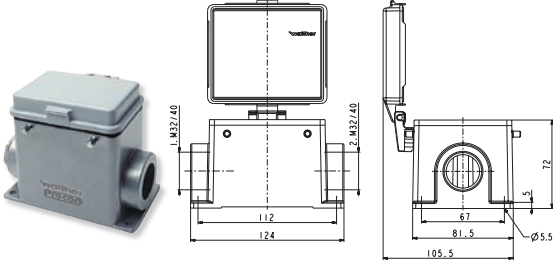
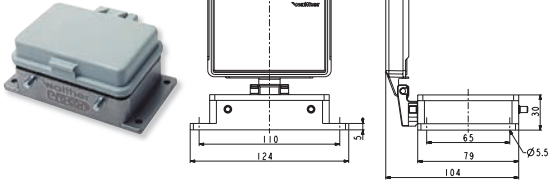
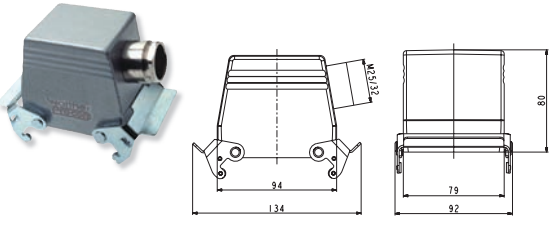
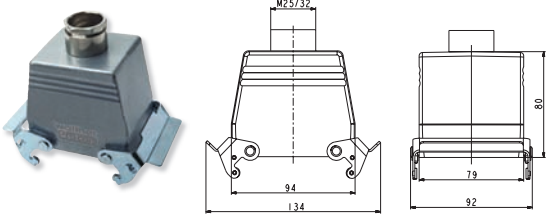
	Screw terminal inserts				Crimp contact carriers		IDC inserts		Push-in inserts	
B 32	Female insert, screw terminal, wire protection 1-16 Part 710 116	Female insert, screw terminal, w/o wire protection Part 710 771	Male insert, screw terminal, wire protection 1-16 Part 710 216	Male insert, screw terminal, w/o wire protection, Part 710 775	Crimp contact carrier f. sleeve contacts 1-16 Part 710 316	Crimp contact carrier, f. pin contacts 1-16 Part 710 416	Female insert, IDC terminal 1-16 Part 710 116 01	Male insert, IDC terminal 1-16 Part 710 216 01	Female insert, push-in terminal 1-16 Part 710 116 04	Male insert, push-in terminal 1-16 Part 710 216 04
4 p. 30										
	wire protection 17-32 Part no. 710 132	w/o wire protection Part no. 710 859	wire protection 17-32 Part no. 710 232	w/o wire protection Part no. 710 860	f. sleeve contacts 17-32 Part no. 710 332	for pin contacts 17-32 Part no. 710 432	IDC terminal 17-32 Part 710 132 01	IDC terminal 17-32 Part 710 232 01	push-in terminal 17-32 Part 710 132 04	push in terminal 17-32 Part 710 232 04
BB 64					Crimp contact carrier f. sleeve contacts 1-32 Part no. 710 333	Crimp contact carrier for pin contacts 1-32 Part no. 710 433				
4 p. 31										
					f. sleeve contacts 33-64 Part no. 710 364	for pin contacts 33-64 Part no. 710 464				
BA 12	Female insert, screw terminal, wire protection, 1-6, part 710 620	Male insert, screw terminal, wire protection, 1-6, part 710 621								
4 p. 37										
	Female insert, screw terminal, wire protection, 7-12, part 710 692	Male insert, screw terminal, wire protection, 7-12, part 710 693								
D 80					Crimp contact carrier f. sleeve contacts Part no. 720 340 (2x)	Crimp contact carrier for pin contacts Part no. 720 440 (2x)				
4 p. 51										
DD 144					Crimp contact carrier f. sleeve contacts 1-72 Part no. 750 172	Crimp contact carrier for pin contacts 1-72 Part no. 750 272				
4 p. 64										
					f. sleeve contacts 73-144 Part no. 750 144	for pin contacts 73-144 Part no. 750 244				
2xMOB16	Female frame MO B16, for 5 contact carriers				Male frame MO B16 for 5 contact carriers					
4 p. 71	for pin and sleeve contacts, with additional female frame (frame coding V- Z)		Part no. 770 216				for pin and sleeve contacts, with additional male frame, (frame coding V - Z)		Part no. 770 316	
	for pin and sleeve contacts (2 x PE)		Part no. 770 616				for pin and sleeve contacts (2 x PE)		Part no. 770 716	

4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

B 32:	page 31
BB 64:	
D 80:	page 52
DD 144:	page 65
MO:	page 73, 75, 77, 79, 81, 83 and 85

Description		Previous part number	New part number	M	Housings for series B 32, BA 12, BB 64, D 80, DD 144, 2 x MOB 16	
Housings: double locking system						10 497 532 477 550 532 532 477 550
Wall mount housings, height 72 mm with double locking system						
with collar	711 032 OV	T 711 032 MS	1 x M 32			
with cable gland	711 032	T 711 032 MV				
with collar	711 132 OV	T 711 132 MS	2 x M 32			
with cable gland	711 132	T 711 132 MV				
with collar	711 032 40 OV	T 711 032 40 MS	1 x M 40			
with cable gland	711 032 40	T 711 032 40 MV				
with collar	711 132 40 OV	T 711 132 40 MS	2 x M 40			
with cable gland	711 132 40	T 711 132 40 MV				
Panel housing, height 30 mm with double locking system						10 224
Panel cut out 84 x 70 mm	714 132					
Coupler hoods, height 82 mm with double locking system, top cable entry						10 438 462 484 431 465 501 452 497 554 465 522 618
with threaded hole	713 632 OS	T 713 632	1 x M 25			
with collar	713 632 OV	T 713 632 MS				
with cable gland	713 632	T 713 632 MV				
with threaded hole	713 732 OS	T 713 732	1 x M 32			
with collar	713 732 OV	T 713 732 MS				
with cable gland	713 732	T 713 732 MV				
with threaded hole	750 664 OS	T 750 664	1 x M 40			
with collar	750 664 OV	T 750 664 MS				
with cable gland	750 664	T 750 664 MV				
with threaded hole	750 669 OS	T 750 669	1 x M 50			
with collar	750 669 OV	T 750 669 MS				
with cable gland	750 669	T 750 669 MV				
Hoods, height 80 mm for double locking system, side cable entry						10 353 377 399 349 383 418 369 414 471
with threaded hole	718 032 OS	T 718 032	1 x M 25			
with collar	718 032 OV	T 718 032 MS				
with cable gland	718 032	T 718 032 MV				
with threaded hole	718 132 OS	T 718 132	1 x M 32			
with collar	718 132 OV	T 718 132 MS				
with cable gland	718 132	T 718 132 MV				
with threaded hole	750 670 OS	T 750 670	1 x M 40			
with collar	750 670 OV	T 750 670 MS				
with cable gland	750 670	T 750 670 MV				
Hoods, height 80 mm for double locking system, top cable entry						10 353 377 399 356 390 425 369 414 471 382 439 535
with threaded hole	718 232 OS	T 718 232	1 x M 25			
with collar	718 232 OV	T 718 232 MS				
with cable gland	718 232	T 718 232 MV				
with threaded hole	718 332 OS	T 718 332	1 x M 32			
with collar	718 332 OV	T 718 332 MS				
with cable gland	718 332	T 718 332 MV				
with threaded hole	750 663 OS	T 750 663	1 x M 40			
with collar	750 663 OV	T 750 663 MS				
with cable gland	750 663	T 750 663 MV				
with threaded hole	750 671 OS	T 750 671	1 x M 50			
with collar	750 671 OV	T 750 671 MS				
with cable gland	750 671	T 750 671 MV				
Protective cover: plastic						10 34
Protective cover for housings with double locking system, with retaining cord 710 911						

Description	Previous part number	New part number	M	Housings for series B 32, BA 12, BB 64, D 80, DD 144, 2 x MOB 16	
Housings: double locking system					
Wall mount housings, height 72 mm for double locking system, with hinged lid					
with collar with cable gland	711 232 OV 711 232	T 711 232 MS T 711 232 MV	1 x M 32		10 490 550 486 610 450 560 450 630
with collar with cable gland	711 332 OV 711 332	T 711 332 MS T 711 332 MV	2 x M 32		
with collar with cable gland	711 232 40 OV 711 232 40	T 711 232 40 MS T 711 232 40 MV	1 x M 40		
with collar with cable gland	711 332 40 OV 711 332 40	T 711 332 40 MS T 711 332 40 MV	2 x M 40		
Panel housing, height 30 mm for double locking system, with hinged lid					
Panel cut out 84 x 70 mm		714 232			10 184
Hoods, height 80 mm with double locking system, side cable entry					
with threaded hole with collar with cable gland	713 032 OS 713 032 OV 713 032	T 713 032 T 713 032 MS T 713 032 MV	1 x M 25		10 446 470 512 426 460 518
with threaded hole with collar with cable gland	713 132 OS 713 132 OV 713 132	T 713 132 T 713 132 MS T 713 132 MV	1 x M 32		
Hoods, height 80 mm with double locking system, top cable entry					
with threaded hole with collar with cable gland	713 232 OS 713 232 OV 713 232	T 713 232 T 713 232 MS T 713 232 MV	1 x M 25		10 446 470 512 426 460 518
with threaded hole with collar with cable gland	713 332 OS 713 332 OV 713 332	T 713 332 T 713 332 MS T 713 332 MV	1 x M 32		















Specifications of „size 10” housings and short overview of installation possibilities for series B 48, BB 92, D 128, DD 216, 2xMOB 24 inserts

Housings

Material:	Aluminium die casting
Surface:	Powder coated
Locking levers:	Zinc-plated steel
Housing seal:	NBR
Temperature range:	- 40 °C to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)



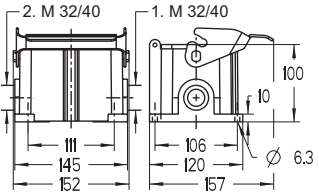

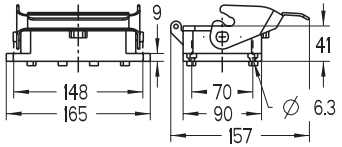

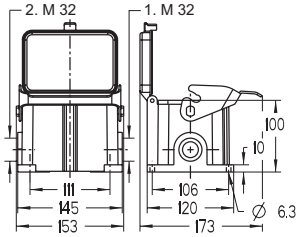

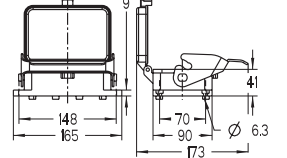

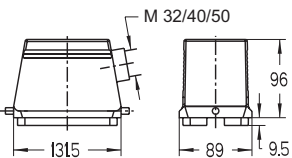

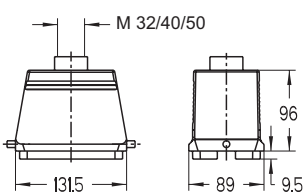
The housings shown on the following pages can be equipped with the inserts listed below:

	Screw terminal inserts				Crimp contact carriers		IDC inserts		Push-in inserts	
B 48	Female insert, screw terminal, with wire protection 1-24 Part no. 710 124	Female insert, screw terminal, w/o wire protection Part no. 710 772	Male insert, screw terminal, wire protection 1-24 Part no. 710 224	Male insert, screw terminal, w/o wire protection Part no. 710 776	Crimp contact carrier, f. sleeve contacts 1-24 Part no. 710 324	Crimp contact carrier, f. pin contacts 1-24 Part no. 710 424	Female insert, IDC terminal, 1-24 Part 710 124 01	Male insert, IDC terminal 1-24 Part 710 224 01	Female insert, push-in terminal, 1-24 Part no. 710 124 04	Male insert, push-in terminal, 1-24 Part no. 710 224 04
4 p. 32										
	with wire protection 25-48 Part no. 710 148	without wire protection Part no. 710 861	with wire protection 25-48 Part no. 710 248	without wire protection Part no. 710 862	for sleeve contacts 25-48 Part no. 710 348	for pin contacts 25-48 Part no. 710 448	IDC terminal, 25-48 Part 710 148 01	IDC terminal, 25-48 Part 710 248 01	push-in terminal 25-48 Part no. 710 148 04	push-in terminal 25-48 Part no. 710 248 04
BB 92					Crimp contact carrier, f. sleeve contacts 1-46 Part no. 710 346	Crimp contact carrier, f. pin contacts 1-46 Part no. 710 446				
4 p. 33										
					f. sleeve contacts 47-92 Part no. 710 392	for pin contacts 47-92 Part no. 710 492				
D 128					Crimp contact carrier, f. sleeve contacts Part no. 720 364 (2x)	Crimp contact carrier, f. pin contacts Part no. 720 464 (2x)				
4 p. 53										
DD 216					Crimp contact carrier, f. sleeve contacts 1-108 Part no. 750 108	Crimp contact carrier, f. pin contacts 1-108 Part no. 750 208				
4 p. 66										
					for sleeve contacts 109-216 Part no. 750 116	for pin contacts 109-216 Part no. 750 216				
2xMOB24	Female frame MO B24 for 7 contact carriers				Male frame MO B24 for 7 contact carriers					
4 p. 71	for pin and sleeve contacts, with additional female frame (frame coding T - Z) Part no. 770 224				for pin and sleeve contacts, with additional male frame (frame coding T - Z) Part no. 770 324					
	for pin and sleeve contacts (2 x PE) Part no. 770 624				for pin and sleeve contacts (2 x PE) Part no. 770 724					

4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

B 48:	page 33
BB 92:	
D 128:	page 54
DD 216:	page 67
MO:	page 73, 75, 77, 79, 81, 83 and 85

Description		Previous part number	New part number	M	Housings for series B 48, BB 92, BV 20, BV 26, BV 32, D 128, DD 216, 2 x MOB 24	
Housings: single locking system						
Wall mount housings, height 100 mm with single locking system						
with collar with cable gland	711 448 OV 711 448	T 711 448 MS T 711 448 MV	1 x M 32			1 1169 1205
with collar with cable gland	711 548 OV 711 548	T 711 548 MS T 711 548 MV	2 x M 32			1133 1204
with collar with cable gland	711 448 40 OV 711 448 40	T 711 448 40 MS T 711 448 40 MV	1 x M 40			1169 1205
with collar with cable gland	711 548 40 OV 711 548 40	T 711 548 40 MS T 711 548 40 MV	2 x M 40			1204 1204
Panel housing, height 41 mm with single locking system						
Panel cut out 120 x 82 mm	714 348					1 546
Wall mount housings, height 100 mm with single locking system, with hinged lid						
with collar with cable gland	711 648 OV 711 648	T 711 648 MS T 711 648 MV	1 x M 32			1 1262 1292
with collar with cable gland	711 748 OV 711 748	T 711 748 MS T 711 748 MV	2 x M 32			1219 1291
with collar with cable gland	711 648 40 OV 711 648 40	T 711 648 40 MS T 711 648 40 MV	1 x M 40			1262 1262
with collar with cable gland	711 748 40 OV 711 748 40	T 711 748 40 MS T 711 748 40 MV	2 x M 40			1219 1219
Panel housing, height 41 mm with single locking system, with hinged lid						
Panel cut out 120 x 82 mm	714 448					1 632
Hoods, height 96 mm for single locking system, side cable entry						
with threaded hole with collar with cable gland	712 648 OS 712 648 OV 712 648	T 712 648 T 712 648 MS T 712 648 MV	1 x M 32			1 553 587 623
with threaded hole with collar with cable gland	712 748 OS 712 748 OV 712 748	T 712 748 T 712 748 MS T 712 748 MV	1 x M 40			561 606 668
with threaded hole with collar with cable gland	710 653 OS 710 653 OV 710 653	T 710 653 T 710 653 MS T 710 653 MV	1 x M 50			574 631 732
Hoods, height 96 mm for single locking system, top cable entry						
with threaded hole with collar with cable gland	712 848 OS 712 848 OV 712 848	T 712 848 T 712 848 MS T 712 848 MV	1 x M 32			1 565 599 634
with threaded hole with collar with cable gland	712 948 OS 712 948 OV 712 948	T 712 948 T 712 948 MS T 712 948 MV	1 x M 40			584 629 690
with threaded hole with collar with cable gland	720 712 OS 720 712 OV 720 712	T 720 712 T 720 712 MS T 720 712 MV	1 x M 50			574 631 732

Screw-mountable hoods and hoods with bayonet lock

You save ...

the panel housing

additional stock types

costs



The hoods are available in four sizes ...



B 6

B 10

B 16

B 24

... and for three application areas:

Standard
grey colour

for harsh environmental requirements
colour black

for EMC (electromagnetic compatibility)
colour silver

Your advantages:

High protection degree:
IP 67 / IP 68

High housing size:
100 mm

Large cable entry:
M 40 already possible with B 6

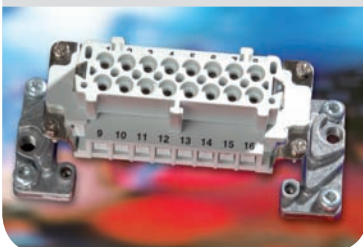
High vibration/impact resistance:
due to screw locking

Mounting flange set

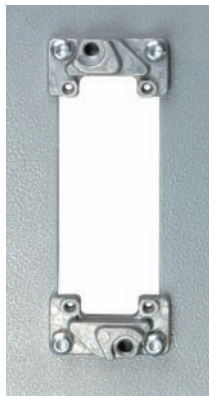
Consisting of 2 flanges, 4 self-tapping screws (M 4) and 4 lock washers.



On standard switch cabinet cut-outs the two flanges are fixed with metric screws M 4 or M 5 and matching nuts.



Standard switch cabinet cut-out with **mounted flange**:



... for screw-mountable hoods



... for hoods with **bayonet lock**

Hoods:



... screw mountable hoods
= protection degree IP 68



... hoods with bayonet lock
= protection degree IP 67

Protective caps:



... for screw-mountable hoods



... for hoods with **bayonet lock**

Screw-mountable hoods / hoods with bayonet lock

Specifications

Regulations: DIN VDE 0627, DIN VDE 0110, DIN EN 61 984

Approvals: UR, CSA, SEV, MEIE, EZÜ

Number of poles: 6 - 108 + PE

Electrical data:

See individual series.

Housings grey, standard:

Material: Aluminium die casting
Surface: Powder coated
Housing seal: NBR
Temperature range: - 40 °C up to + 125 °C
Protection degree acc. to DIN EN 60 529
• in screwed condition: IP 68
• in locked condition (bayonet): IP 67

Housings silver, electromagnetic compatibility (EMC):

Material: aluminium die casting
Surface: powder coated
Housing seal: NBR conductive
Temperature range: - 40 °C up to + 125 °C

Protection degree acc. to DIN EN 60 529

- in screwed condition IP 68
- in locked condition (bayonet): IP 67

Housings black, for harsh environmental requirements:

Material: Aluminium die casting
Surface: Powder coated
Housing seal: Viton
Temperature range: - 40 °C up to + 200 °C
Protection degree acc. to DIN EN 60 529
• in screwed condition: IP 68
• in locked condition (bayonet): IP 67

For all three housings types (grey, silver, black) applies:

Locking screws: stainless steel
Bayonet lock: metal V2
gasket viton
plastic V0

Application hint:

Heavy duty connectors are electrical devices which must not be inserted or separated under load!



Bayonet lock (quick lock).
The material is the same
for all three housing versions.

Page

Screw-mountable hoods and hoods with bayonet lock

B 6, BB 10, BHT 6,
DD 24, MOB 6

145



Screw-mountable hoods and hoods with bayonet lock

B 10, BB 18, BHT 10,
DD 42, MOB 10

147



Screw-mountable hoods and hoods with bayonet lock

B 16, BB 32, BHT 16,
BA 6, D 40,
DD 72, MOB 16

149



Screw-mountable hoods and hoods with bayonet lock

B 24, BB 46, BHT 24,
D 64, DD 108,
MOB 24

151



Flange sets

144, 146,
148, 150





















Protective caps

145, 147,
149, 151



Short overview of installation possibilities for series A 10 and D 15 inserts in screw-mountable hoods and hoods with bayonet lock

The housings shown on the following pages can be equipped with the inserts listed below:

	Screw terminal inserts		Crimp contact carriers		IDC inserts		Push-in inserts		Wiring adapters for panel housings	
B 6 4p. 22	Female insert, screw terminal, with wire protection, Part no. 710 106  Female insert, screw terminal, w/o wire protection, Part no. 710 769	Male insert, screw terminal, with wire protection, Part no. 710 206  Male insert, screw terminal, w/o wire protection, Part no. 710 773	Crimp contact carrier for sleeve contacts Part no. 710 306  Crimp contact carrier for pin contacts Part no. 710 406 	Female insert, IDC terminal Part no. 710 106 01  Male insert, IDC terminal Part no. 710 206 01 	Female insert, push-in terminal Part 710 106 04  Male insert, push-in terminal Part 710 206 04 	Wiring adapter, female insert, earth pin o.t. right: Part no. 710 657  earth pin o.t. left: Part no. 710 661	Wiring adapter, male insert, earth pin o.t. right: Part no. 710 665  earth pin o.t. left: Part no. 710 669			
BB 10 4p. 23			Crimp contact carrier for sleeve contacts Part no. 710 311  Crimp contact carrier for pin contacts Part no. 710 411 							
BHT 6 4p. 154	Female insert, screw terminal, with wire protection, Part no. 710 106 HT  Male insert, screw terminal, with wire protection, Part no. 710 206 HT 									
DD 24 4 p. 58			Crimp contact carrier for sleeve contacts Part no. 750 124  Crimp contact carrier for pin contacts Part no. 750 224 							
MOB 6 4 p. 71	Female frame MO B6 for 2 contact carriers for pin and sleeve contacts (frame coding A-B) Part no. 770 006 for pin and sleeve contacts (2 x PE) Part no. 770 406 		Male frame MO B6 for 2 contact carriers for pin and sleeve contacts (frame coding A-B) Part no. 770 106 for pin and sleeve contacts (2 x PE) Part no. 770 506 							

4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

- B 6: page 22
- DD 24: page 58
- MO: page 73, 75, 77, 79, 81, 83 and 85

Accessories for hoods (screw-mountable / with bayonet lock)



Flange sets

for screw-mountable hoods

with 2 flanges, 4 screws, 4 lock washers.
Female or male insert is mounted directly on the flanges - saves the panel housing!

717 000 FS



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25



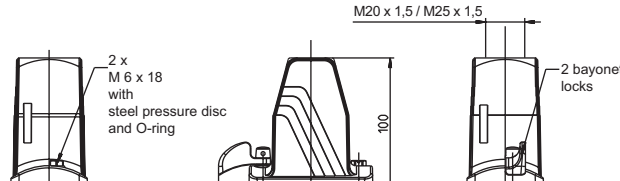
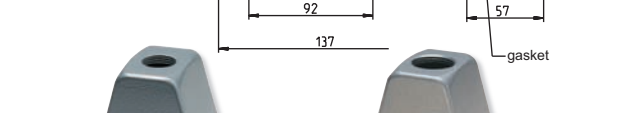

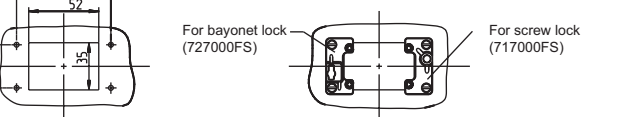
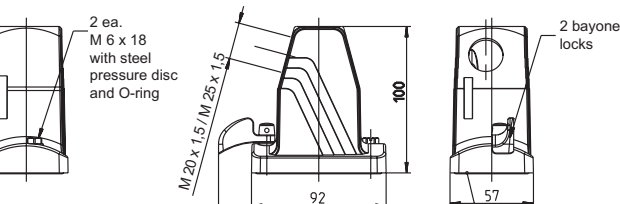
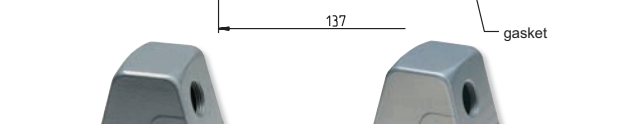

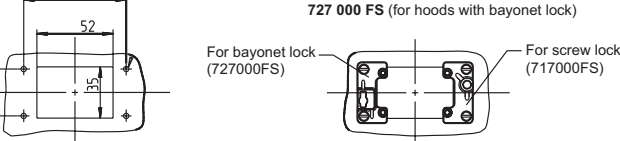

for hoods with bayonet lock

with 2 flanges, 4 screws, 4 lock washers.
Female or male insert is mounted directly on the flanges - saves the panel housing!

727 000 FS



1
25

Description	Part no.	M	Hoods (screw-mountable / with bayonet lock, for series B 6, BB 10, BHT 6, DD 24, MOB 6)	 
Screw-mountable hoods Height 100 mm, <u>top cable entry</u> grey ¹⁾ 717 106 OV 1 x M 20 silver ²⁾ 717 106 OVEM 1 x M 20 black ³⁾ 717 106 OVSP 1 x M 20				10 284 284 284
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 717 206 OV 1 x M 25 silver ²⁾ 717 206 OVEM 1 x M 25 black ³⁾ 717 206 OVSP 1 x M 25				10 278 278 278
Hoods with bayonet lock Height 100 mm, <u>top cable entry</u> grey ¹⁾ 727 106 OV 1 x M 20 silver ²⁾ 727 106 OVEM 1 x M 20 black ³⁾ 727 106 OVSP 1 x M 20				10 299 299 299
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 727 206 OV 1 x M 25 silver ²⁾ 727 206 OVEM 1 x M 25 black ³⁾ 727 206 OVSP 1 x M 25				10 293 293 293
Screw-mountable hoods Height 100 mm, <u>side cable entry</u> grey ¹⁾ 717 506 OV 1 x M 20 silver ²⁾ 717 506 OVEM 1 x M 20 black ³⁾ 717 506 OVSP 1 x M 20				10 284 284 284
Height 100 mm, <u>side cable entry</u> <i>Thread M 32 or M 40 on request</i> grey ¹⁾ 717 606 OV 1 x M 25 silver ²⁾ 717 606 OVEM 1 x M 25 black ³⁾ 717 606 OVSP 1 x M 25				10 278 278 278
Hoods with bayonet lock Height 100 mm, <u>side cable entry</u> grey ¹⁾ 727 506 OV 1 x M 20 silver ²⁾ 727 506 OVEM 1 x M 20 black ³⁾ 727 506 OVSP 1 x M 20				10 299 299 299
Height 100 mm, <u>side cable entry</u> <i>Thread M 32 or M 40 on request</i> grey ¹⁾ 727 606 OV 1 x M 25 silver ²⁾ 727 606 OVEM 1 x M 25 black ³⁾ 727 606 OVSP 1 x M 25				10 293 293 293
Protective caps for screw-mountable hoods for mounting side and hood, for snapping on, with retaining cord, IP 50 717 698 for mounting side, with screw lock, with retaining cord, IP 65 717 702 for hoods with bayonet lock for mounting side, with bayonet lock, with retaining cord, IP 65 727 624				10 26 41 56

¹⁾ grey = Standard

²⁾ silver = EMC (electromagnetic compatibility)

³⁾ black = harsh environmental requirements

Short overview of installation possibilities for series B 10, BB 18, BHT 10, DD 42 and MOB 10 inserts in screw-mountable hoods and hoods with bayonet lock





The housings shown on the following pages can be equipped with the inserts listed below:



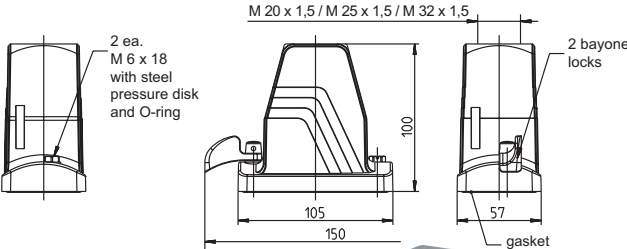

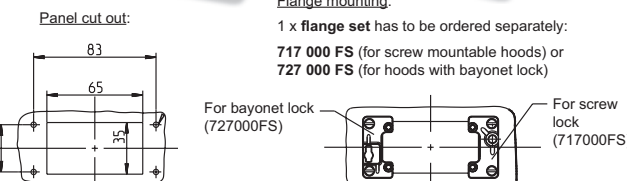
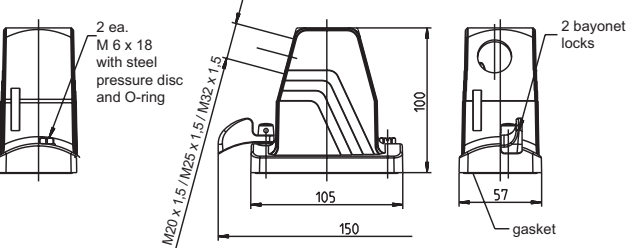

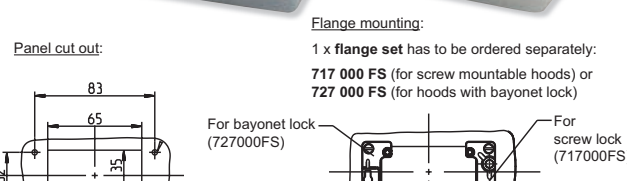

	Screw terminal inserts	Crimp contact carriers	IDC inserts	Push-in inserts	Wiring adapters for panel housings
B 10 4 p. 24 to 25	Female insert, screw terminal, with wire protection, Part no. 710 110 Female insert, screw terminal, w/o wire protection, Part no. 710 770 	Crimp contact carrier for sleeve contacts Part no. 710 310 Crimp contact carrier for pin contacts Part no. 710 410 	Female insert, IDC terminal Part 710 110 01 Male insert, IDC terminal Part 710 210 01 	Female insert, push-in terminal Part no. 710 110 04 Male insert, push-in terminal Part no. 710 210 04 	Wiring adapter, female insert, earth pin o.t. right: Part no. 710 658 Wiring adapter, male insert, earth pin o.t. right: Part no. 710 666 earth pin o.t. left: Part no. 710 662 earth pin o.t. left: Part no. 710 670
BB 18 4 p. 25		Crimp contact carrier for sleeve contacts Part no. 710 318 Crimp contact carrier for pin contacts Part no. 710 418 			
BHT 10 4p. 156	Female insert, screw terminal, with wire protection, Part no. 710 110 HT Male insert, screw terminal, with wire protection, Part no. 710 210 HT 				
DD 42 4 p. 59		Crimp contact carrier for sleeve contacts Part no. 750 142 Crimp contact carrier for pin contacts Part no. 750 242 			
MOB 10 4 p. 71	Female frame MO B10 for 3 contact carriers for pin and sleeve contacts (frame coding A-C) Part no. 770 010 for pin and sleeve contacts (2 x PE) Part no. 770 410 		Male frame MO B10 for 3 contact carriers for pin and sleeve contacts (frame coding A-C) Part no. 770 110 for pin and sleeve contacts (2 x PE) Part no. 770 510 		

4 4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series ...

- B 10: page 24
 DD 42: page 59
 MO: page 73, 75, 77, 79, 81, 83 and 85

17	Description	Part no.	Accessories for hoods (screw-mountable / with bayonet lock)	 
	Flange sets			
	for screw-mountable hoods			
	with 2 flanges, 4 screws, 4 lock washers. Female or male insert is mounted directly on the flanges - saves the panel housing!	717 000 FS		1 25
	for hoods with bayonet lock			
	with 2 flanges, 4 screws, 4 lock washers. Female or male insert is mounted directly on the flanges - saves the panel housing!	727 000 FS		1 25

Description	Part no.	M	Hoods (screw-mountable / with bayonet lock, for series B 10, BB 18, BHT 10, DD 42 and MOB 10)	 
Screw-mountable hoods Height 100 mm, <u>top cable entry</u> grey ¹⁾ 717 110 OV 1 x M 20 silver ²⁾ 717 110 OVEM 1 x M 20 black ³⁾ 717 110 OVSP 1 x M 20	Thread M 32 or M 40 on request grey ¹⁾ 717 210 OV 1 x M 25 silver ²⁾ 717 210 OVEM 1 x M 25 black ³⁾ 717 210 OVSP 1 x M 25		 	10 318 318 318 10 310 310 310
Hoods with bayonet lock Height 100 mm, <u>top cable entry</u> grey ¹⁾ 727 110 OV 1 x M 20 silver ²⁾ 727 110 OVEM 1 x M 20 black ³⁾ 727 110 OVSP 1 x M 20	Thread M 32 or M 40 on request grey ¹⁾ 727 210 OV 1 x M 25 silver ²⁾ 727 210 OVEM 1 x M 25 black ³⁾ 727 210 OVSP 1 x M 25		 Panel cut out: Flange mounting: 1 x flange set has to be ordered separately: 717 000 FS (for screw mountable hoods) or 727 000 FS (for hoods with bayonet lock) For bayonet lock (727000FS) For screw lock (717000FS)	10 333 333 333 10 325 325 325
Screw-mountable hoods Height 100 mm, <u>side cable entry</u> grey ¹⁾ 717 510 OV 1 x M 20 silver ²⁾ 717 510 OVEM 1 x M 20 black ³⁾ 717 510 OVSP 1 x M 20	Thread M 32 or M 40 on request grey ¹⁾ 717 610 OV 1 x M 25 silver ²⁾ 717 610 OVEM 1 x M 25 black ³⁾ 717 610 OVSP 1 x M 25		 	10 318 318 318 10 310 310 310
Hoods with bayonet lock Height 100 mm, <u>side cable entry</u> grey ¹⁾ 727 510 OV 1 x M 20 silver ²⁾ 727 510 OVEM 1 x M 20 black ³⁾ 727 510 OVSP 1 x M 20	Thread M 32 or M 40 on request grey ¹⁾ 727 610 OV 1 x M 25 silver ²⁾ 727 610 OVEM 1 x M 25 black ³⁾ 727 610 OVSP 1 x M 25		 Panel cut out: Flange mounting: 1 x flange set has to be ordered separately: 717 000 FS (for screw mountable hoods) or 727 000 FS (for hoods with bayonet lock) For bayonet lock (727000FS) For screw lock (717000FS)	10 333 333 333 10 325 325 325
Protective caps for screw-mountable hoods for mounting side and hood, for snapping on, with retaining cord, IP 50 717 699 for mounting side, with screw lock, with retaining cord, IP 65 717 703 for hoods with bayonet lock for mounting side, with bayonet lock, with retaining cord, IP 65 727 625				1 29 44 59











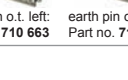
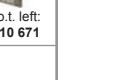



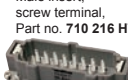









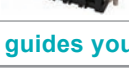


¹⁾ grey = Standard

²⁾ silver = EMC (electromagnetic compatibility)

³⁾ black = harsh environmental requirements





Short overview of installation possibilities for series B 16, BB 32, BHT 16, BA 6, D 40, DD 72 and MOB 16 inserts in screw-mountable hoods and hoods with bayonet lock



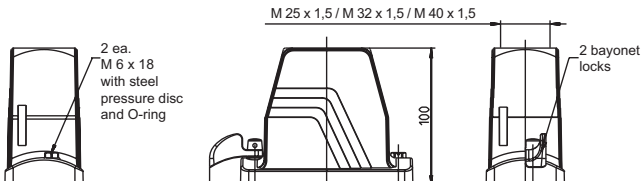
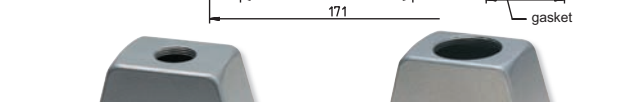

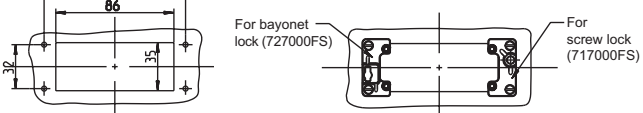
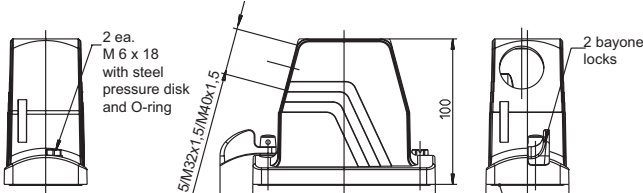
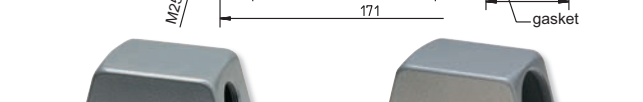

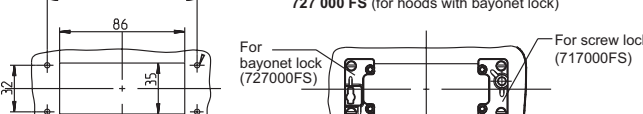

The housings shown on the following pages can be equipped with the inserts listed below:

	Screw terminal inserts	Crimp contact carriers	IDC inserts	Push-in inserts	Wiring adapters for panel housings
B 16 4 p. 26 to 27	Female insert, screw terminal, Part no. 710 116  Male insert, screw terminal, Part no. 710 216 	Crimp contact carrier for sleeve contacts Part no. 710 316  Crimp contact carrier for pin contacts Part no. 710 416 	Female insert, IDC terminal Part no. 710 116 01  Male insert, IDC terminal Part no. 710 216 01 	Female insert, push-in terminal Part 710 116 04  Male insert, push-in terminal Part 710 216 04 	Wiring adapter, female insert, earth pin o.t. right: Part no. 710 659  Wiring adapter, male insert, earth pin o.t. right: Part no. 710 667  earth pin o.t. left: Part no. 710 663  earth pin o.t. left: Part no. 710 671 
BB 32 4 p. 27		Crimp contact carrier for sleeve contacts Part no. 710 333  Crimp contact carrier for pin contacts Part no. 710 433 			
BHT 16 4 p. 158	Female insert, screw terminal, Part no. 710 116 HT  Male insert, screw terminal, Part no. 710 216 HT 				
BA 6 4 p. 36	Female insert, screw terminal, Part no. 710 620  Male insert, screw terminal, Part no. 710 621 				
D 40 4 p. 46 to 47		Crimp contact carrier for sleeve contacts Part no. 720 340  Crimp contact carrier for pin contacts Part no. 720 440 			Wiring adapter, female insert, earth pin o.t. left: Part no. 720 633  Wiring adapter, male insert, earth pin o.t. left: Part no. 720 632 
DD 72 4 p. 60		Crimp contact carrier for sleeve contacts Part no. 750 172  Crimp contact carrier for pin contacts Part no. 750 272 			
MOB 16 4 p. 71	Female frame MO B16 for 5 contact carriers for pin and sleeve contacts (frame coding A - E)  Part no. 770 016 Male frame MO B16 for 5 contact carriers for pin and sleeve contacts (2 x PE)  Part no. 770 416		Male frame MO B16 for 5 contact carriers for pin and sleeve contacts (frame coding A - E)  Part no. 770 116 Male frame MO B16 for 5 contact carriers for pin and sleeve contacts (2 x PE)  Part no. 770 516		

4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series B 16: p. 26 / D 40: p. 47 / DD 72: p. 61 / MO: p. 73, 75, 77, 79, 81, 83 and 85

17	Description	Part no.	Accessories for hoods (screw-mountable / with bayonet lock)	  9
	Flange sets for screw-mountable hoods with 2 flanges, 4 screws, 4 lock washers. Female or male insert is mounted directly on the flanges - saves the panel housing!	717 000 FS		1 25
	for hoods with bayonet lock with 2 flanges, 4 screws, 4 lock washers. Female or male insert is mounted directly on the flanges - saves the panel housing!	727 000 FS		1 25

Description	Part no.	M	Hoods (screw-mountable / with bayonet lock, for series B 16, BB 32, BHT 16, BA 6, D 40, DD 72, MOB 16	 
Screw-mountable hoods Height 100 mm, <u>top cable entry</u> grey ¹⁾ 717 216 OV 1 x M 25 silver ²⁾ 717 216 OVEM 1 x M 25 black ³⁾ 717 216 OVSP 1 x M 25				10 344 344 344
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 717 316 OV 1 x M 32 silver ²⁾ 717 316 OVEM 1 x M 32 black ³⁾ 717 316 OVSP 1 x M 32		Thread M 40 on request		10 336 336 336
Hoods with bayonet lock Height 100 mm, <u>top cable entry</u> grey ¹⁾ 727 216 OV 1 x M 25 silver ²⁾ 727 216 OVEM 1 x M 25 black ³⁾ 727 216 OVSP 1 x M 25			 <p>Flange mounting: 1 x flange set has to be ordered separately: 717 000 FS (for screw mountable hoods) or 727 000 FS (for hoods with bayonet lock)</p>	10 359 359 359
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 727 316 OV 1 x M 32 silver ²⁾ 727 316 OVEM 1 x M 32 black ³⁾ 727 316 OVSP 1 x M 32		Thread M 40 on request	 <p>For bayonet lock (727000FS) For screw lock (717000FS)</p>	10 351 351 351
Screw-mountable hoods Height 100 mm, <u>side cable entry</u> grey ¹⁾ 717 616 OV 1 x M 25 silver ²⁾ 717 616 OVEM 1 x M 25 black ³⁾ 717 616 OVSP 1 x M 25				10 344 344 344
Height 100 mm, <u>side cable entry</u> grey ¹⁾ 717 716 OV 1 x M 32 silver ²⁾ 717 716 OVEM 1 x M 32 black ³⁾ 717 716 OVSP 1 x M 32		Thread M 40 on request		10 336 336 336
Hoods with bayonet lock Height 100 mm, <u>side cable entry</u> grey ¹⁾ 727 616 OV 1 x M 25 silver ²⁾ 727 616 OVEM 1 x M 25 black ³⁾ 727 616 OVSP 1 x M 25			 <p>Flange mounting: 1 x flange set has to be ordered separately: 717 000 FS (for screw mountable hoods) or 727 000 FS (for hoods with bayonet lock)</p>	10 359 359 359
Height 100 mm, <u>side cable entry</u> grey ¹⁾ 727 716 OV 1 x M 32 silver ²⁾ 727 716 OVEM 1 x M 32 black ³⁾ 727 716 OVSP 1 x M 32		Thread M 40 on request	 <p>For bayonet lock (727000FS) For screw lock (717000FS)</p>	10 351 351 351
Protective caps for screw-mountable hoods for mounting side and hood, for snapping on, with retaining cord, IP 50 717 700 for mounting side, with screw lock, with retaining cord, IP 65 717 704 for hoods with bayonet lock for mounting side, with bayonet lock, with retaining cord, IP 65 727 626				10 33 49 64


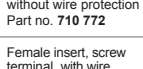















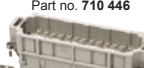










¹⁾ grey = Standard

²⁾ silver = EMC (electromagnetic compatibility)

³⁾ black = harsh environmental requirements




Short overview of installation possibilities for series B24, BB46, BHT24, D64, DD108 and MOB 24 inserts in screw-mountable hoods and hoods with bayonet lock


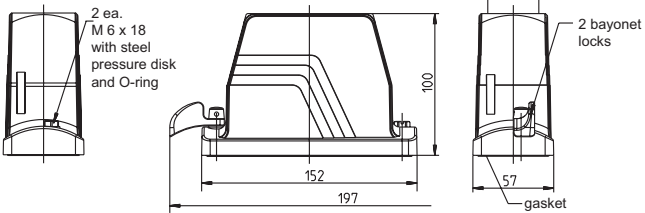

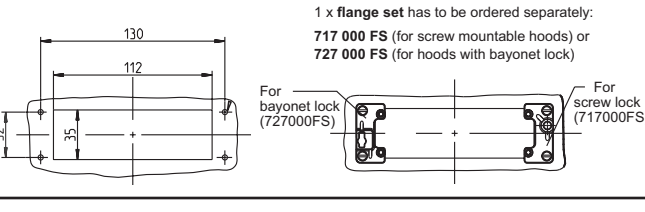
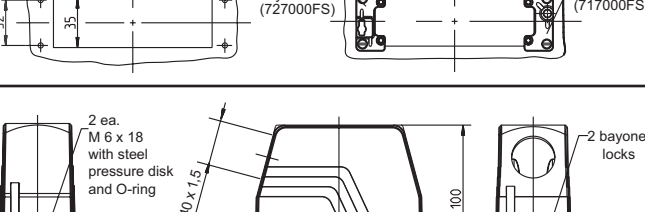
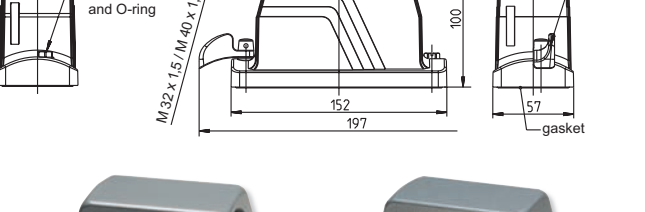

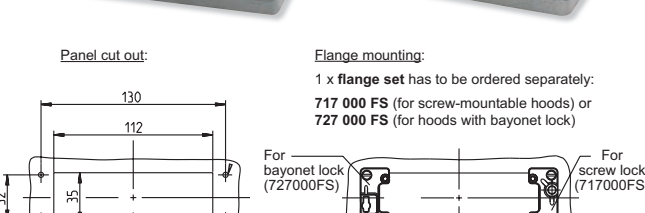
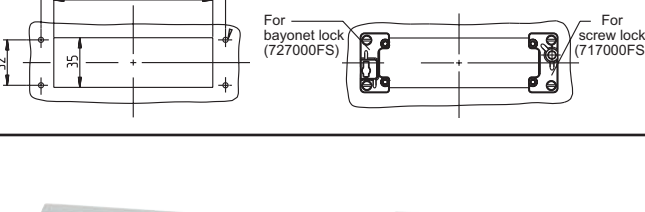


The housings shown on the following pages can be equipped with the inserts listed below:

	Screw terminal inserts	Crimp contact carriers	IDC inserts	Push-in inserts	Wiring adapters for panel housings
B 24 4 p. 28 to 29	Female insert, screw terminal, with wire protection, Part no. 710 124  without wire protection Part no. 710 772  Male insert, screw terminal, with wire protection, Part no. 710 224  without wire protection Part no. 710 776 	Crimp contact carrier for sleeve contacts Part no. 710 324  Crimp contact carrier for pin contacts Part no. 710 424 	Female insert, IDC terminal Part 710 124 01  Male insert, IDC terminal Part 710 224 01 	Female insert, push-in terminal Part 710 124 04  Male insert, push-in terminal Part 710 224 04 	Wiring adapter, female insert, earth pin o.t. right: Part no. 710 660  Wiring adapter, male insert, earth pin o.t. right: Part no. 710 668  earth pin on the left: Part no. 710 664  earth pin on the left: Part no. 710 672 
BHT 24 4 p. 160	Female insert, screw terminal, with wire protection, Part no. 710 124 HT  Male insert, screw terminal, with wire protection, Part no. 710 224 HT 				
BB 46 4 p. 29		Crimp contact carrier for sleeve contacts Part no. 710 346  Crimp contact carrier for pin contacts Part no. 710 446 			
D 64 4 p. 49 to 50		Crimp contact carrier for sleeve contacts Part no. 720 364  Crimp contact carrier for pin contacts Part no. 720 464 			Wiring adapter, female insert, earth pin o.t. left: Part no. 720 635  Wiring adapter, male insert, earth pin o.t. left: Part no. 720 634 
DD 108 4 p. 62		Crimp contact carrier for sleeve contacts Part no. 750 108  Crimp contact carrier for pin contacts Part no. 750 208 			
MOB 24 4 p. 71	Female frame MO B24 for 7 contact carriers for pin and sleeve contacts (frame coding A-G) Part no. 770 024  for pin and sleeve contacts (2 x PE) Part no. 770 424 		Male frame MO B24 for 7 contact carriers for pin and sleeve contacts (frame coding A-G) Part no. 770 124  for pin and sleeve contacts (2 x PE) Part no. 770 324 		

4 The page reference at the left of the table guides you to the detailed overview of inserts.

Contacts for crimp contact carriers of series B 24: p. 28 / D 64: p. 50 / DD 108: p. 63 / MO: p. 73, 75, 77, 79, 81, 83 and 85

17	Description	Part no.	Accessories for hoods (screw-mountable / with bayonet lock)	
	Flange sets for screw-mountable hoods with 2 flanges, 4 screws, 4 lock washers. Female or male insert is mounted directly on the flanges - saves the panel housing!	717 000 FS		1 25
	for hoods with bayonet lock with 2 flanges, 4 screws, 4 lock washers. Female or male insert is mounted directly on the flanges - saves the panel housing!	727 000 FS		1 25

Description	Part no.	M	Hoods (screw-mountable / with bayonet lock, for series B 24, BB 46, BHT 24, D 64, DD 108, MOB 24)	 9
Screw-mountable hoods				
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 717 324 OV 1 x M 32 silver ²⁾ 717 324 OVEM 1 x M 32 black ³⁾ 717 324 OVSP 1 x M 32				10 433 433 433
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 717 424 OV 1 x M 40 silver ²⁾ 717 424 OVEM 1 x M 40 black ³⁾ 717 424 OVSP 1 x M 40				10 428 428 428
Hoods with bayonet lock				
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 727 324 OV 1 x M 32 silver ²⁾ 727 324 OVEM 1 x M 32 black ³⁾ 727 324 OVSP 1 x M 32				10 448 448 448
Height 100 mm, <u>top cable entry</u> grey ¹⁾ 727 424 OV 1 x M 40 silver ²⁾ 727 424 OVEM 1 x M 40 black ³⁾ 727 424 OVSP 1 x M 40				10 443 443 443
Screw-mountable hoods				
Height 100 mm, <u>side cable entry</u> grey ¹⁾ 717 724 OV 1 x M 32 silver ²⁾ 717 724 OVEM 1 x M 32 black ³⁾ 717 724 OVSP 1 x M 32				10 443 443 443
Height 100 mm, <u>side cable entry</u> grey ¹⁾ 717 824 OV 1 x M 40 silver ²⁾ 717 824 OVEM 1 x M 40 black ³⁾ 717 824 OVSP 1 x M 40				10 428 428 428
Hoods with bayonet lock				
Height 100 mm, <u>side cable entry</u> grey ¹⁾ 727 724 OV 1 x M 32 silver ²⁾ 727 724 OVEM 1 x M 32 black ³⁾ 727 724 OVSP 1 x M 32				10 448 448 448
Height 100 mm, <u>side cable entry</u> grey ¹⁾ 727 824 OV 1 x M 40 silver ²⁾ 727 824 OVEM 1 x M 40 black ³⁾ 727 824 OVSP 1 x M 40				10 443 443 443
Protective caps				
for screw-mountable hoods for mounting side and hood, for snapping on, with retaining cord, IP 50 717 701				10 39
for mounting side, with screw lock, with retaining cord, IP 65 717 705				55
for hoods with bayonet lock for mounting side, with bayonet lock, with retaining cord, IP 65 727 627				70

¹⁾ grey = Standard

²⁾ silver = EMC (electromagnetic compatibility)

³⁾ black = harsh environmental requirements

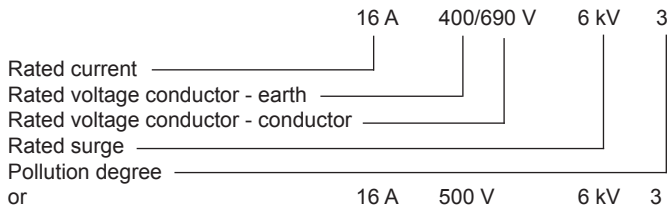


Series BV

Specifications

Regulations:	DIN VDE 0627, DIN VDE 0110, DIN EN 61 984
Approvals:	SEV, MEIE, EZÚ
Number of poles:	3, 6, 10, 16, 20 (2 x 10), 26 (1 x 10 + 1 x 16), 32 (2 x 16) + PE

Electrical data acc. to DIN EN 61 984:



Rated voltage	250 V
Switching contacts:	250 V
Material:	Glass-fibre reinforced polyamide
Temperature range:	- 40 °C up to + 125 °C
Flame class rating acc. to UL 94:	V 0
Mechanical operating life:	≥ 500
Mating cycles:	≥ 500

Contacts

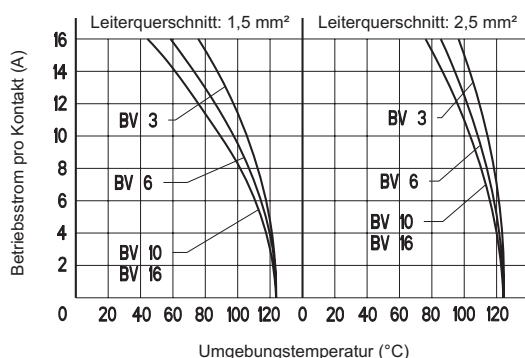
Material:	copper alloy
Surface	- hard silver plated: 3 µm Ag - hard gold plated: 2 µm Au over 3 µm Ni
Contact resistance:	≤ 1 m Ω
Screw terminal with wire protection:	2,5 mm² (14 AWG)
Torque/testing torque:	0,5 Nm
Crimp-type terminal:	0,5 - 4 mm² (20 - 12) AWG
Wire stripping length:	7 mm with screw and crimp contacts

Housings

Material:	Aluminium die cast
Surface:	Powder coated
Locking levers:	Plastic; locking elements made of stainless steel
Housing seal:	NBR
Temperature range:	- 40 °C up to + 125 °C (depending on cable gland)
Protection degree acc. to DIN EN 60 529:	IP 65 (in locked condition)

Application hint: Heavy duty connectors are electrical devices which must not be inserted or separated under load!

The derating diagram (corrected current capacity curve) acc. to DIN IEC 60 512 applies to such kind of current which can - depending on ambient temperature and conductor size) circulate through each contact without exceeding the upper limiting temperature.



Page

Inserts

- BV 3-pole + ⊕
- BV 6-pole + ⊕
- BV 10-pole + ⊕
- BV 16-pole + ⊕
- BV 20-pole + ⊕
- BV 26-pole + ⊕
- BV 32-pole + ⊕



164

Housings

with double locking levers on housing base



165

Housings

with double locking system on housing top



165

Housings

with single locking system on housing base



165

Series BV - short overview

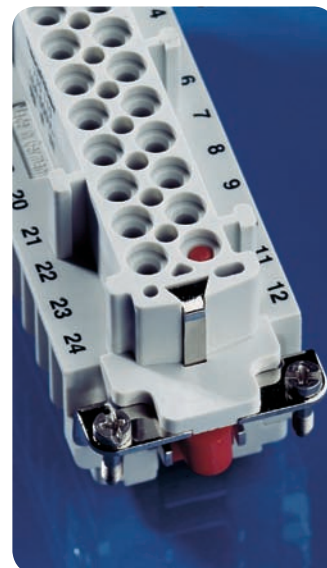


The ribs on the two end walls of the housings have to be removed so that the inserts of series BV (which are provided with a lateral build-in blocking) can be installed.







In addition there are isolating strips at the inner sides of the long housing walls.

Due to the lateral build-in blocking the pin and sleeve inserts cannot be installed in standard housings.

The female inserts are provided with two insertion blockings which prevent them from being used together with male inserts of series B



BV inserts

													
				Screw terminal inserts		Crimp contact carriers		Crimp contacts acc. to cross sections					
Number of poles	Marked inserts	Volt AC	Ampère	Female inserts	Male inserts	for sleeve contacts	for pin contacts	0,14-0,37 mm²	0,5 mm²	0,75-1 mm²	1,5 mm²	2,5 mm²	4 mm²
				with wire protection		Contacts separately							
3		690 V	16 A	730 103	730 203	730 303	730 403	Sleeve: 710 508 Pin: 710 518	Sleeve: 710 504 Pin: 710 514	Sleeve: 710 500 Pin: 710 510 • 710 515 ²⁾	Sleeve: 710 501 Pin: 710 511 • 710 516 ²⁾	Sleeve: 710 502 Pin: 710 512 • 710 517 ²⁾	Sleeve: 710 503 Pin: 710 513
6				730 106	730 206	730 306	730 406						
10				730 110	730 210	730 310	730 410						
16				730 116	730 216								
20	1 - 10			730 110 ¹⁾	730 210 ¹⁾	730 310 ¹⁾	730 410 ¹⁾						
26	1 - 10			730 110	730 210	730 310	730 410						
	1 - 16			730 116	730 216								
32	1 - 16			730 116 ¹⁾	730 216 ¹⁾								

1) always 2 inserts required per housing

2) always two shortened switching contact pins required per housing

Dimensions of BV inserts

of 3-pole inserts:	4 see page 24	(B 10-pole)
of 6-pole inserts:	4 see page 26	(B 16-pole)
of 10/16-pole inserts:	4 see page 28	(B 24-pole)
of 20/26/32-pole inserts:	4 see page 32	(B 48-pole)

Series BV - short overview

Housings with double locking system on the housing base (HB)

Number of poles	Cable entry										
		Discontinued	New design	Discontinued	New design	Discontinued	New design	Discontinued	New design	Discontinued	New design
3	-	-	-	-	-	-	-	-	-	-	-
	1 x M 20 2 x M 20	731 003 731 103 height 52	P 731 003 P 731 103 height 53	734 103 - height 28	- - height 28	733 603 - height 73	P 733 603 - height 61.5	732 003 - height 52	P 732 003 - height 56	732 203 - height 45	P 732 203 - height 56
6	-	-	-	-	-	-	-	-	-	-	-
	1 x M 25 2 x M 25	731 006 731 106 height 68	P 731 006 P 731 106 height 68	734 106 - height 28	- - height 28	733 606 - height 80	P 733 606 - height 70.5	732 006 - height 60	P 732 006 - height 65	732 206 - height 45	P 732 206 - height 65
10/ 16	-	-	-	-	-	-	-	-	-	-	-
	1 x M 25 2 x M 25 1 x M 32	731 010 731 110 height 68	P 731 010 P 731 110 height 68	734 110 - height 28	- - height 28	733 610 - height 80	P 733 610 - height 70.5	732 010 - height 60	P 732 010 - height 65	732 210 - height 56	P 732 210 - height 65

Housings with double locking system on the housing top (HT)

Number of poles	Cable entry								
		Discontinued	New design	Discontinued	New design	Discontinued	New design	Discontinued	New design
3	-	-	-	-	-	-	-	-	-
	1 x M 20 2 x M 20	731 203 731 303 height 52	P 731 203 P 731 303 height 53	734 203 - height 28	- - height 28	733 003 - height 48	P 733 003 - height 56	733 203 - height 48	P 733 203 - height 56
6	-	-	-	-	-	-	-	-	-
	1 x M 25 2 x M 25	731 206 731 306 height 68	P 731 206 P 731 306 height 68	734 206 - height 28	- - height 28	733 006 - height 65	P 733 006 - height 65	733 206 - height 65	P 733 206 - height 65
10/ 16	-	-	-	-	-	-	-	-	-
	1 x M 25 2 x M 25 1 x M 32	731 210 731 310 height 68	P 731 210 P 731 310 height 68	734 210 - height 28	- - height 28	733 010 - height 76	P 733 010 - height 65	733 210 - height 76	P 733 210 - height 65

Housings with single locking system on the housing base (HB)

Number of poles	Cable entry														
		Discontinued	New design	Discontinued	New design	Discontinued	New design	Discontinued	New design	Discontinued	New design	Discontinued	New design	Discontinued	New design
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1 x M 20 2 x M 20	731403 731503 height 52	P731403 P731503 height 53	731603 731703 height 52	P731603 P731703 height 53	734303 - height 28	- - height 28	734403 - height 28	- - height 28	733803 - height 73	P733803 - height 61.5	732603 - height 52	P732603 - height 56	732803 - height 45	P732803 - height 56
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1 x M 25 2 x M 25	731406 731506 height 68	P731406 P731506 height 68	731606 731706 height 68	P731606 P731706 height 68	734306 - height 28	- - height 28	734406 - height 28	- - height 28	733806 - height 80	P733806 - height 70.5	732606 - height 60	P732606 - height 65	732806 - height 45	P732806 - height 65
10 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1 x M 25 2 x M 25 1 x M 32	731410 731510 height 68	P731410 P731510 height 68	731610 731710 height 68	P731610 P731710 height 68	734310 - height 28	- - height 28	734410 - height 28	- - height 28	733810 733910 height 80	P733810 P733910 height 70.5	732610 732710 height 60	P732610 P732710 height 65	732810 - height 56	P732810 - height 65
20 26 32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1 x M 32 2 x M 32 1 x M 40	711448 711548 height 100	- - height 100	711648 711748 height 100	- - height 100	714348 - height 41	- - height 41	714448 - height 41	- - height 41	- - height 41	- - height 41	712648 712748 height 96	- - height 96	712848 712948 height 96	- - height 96

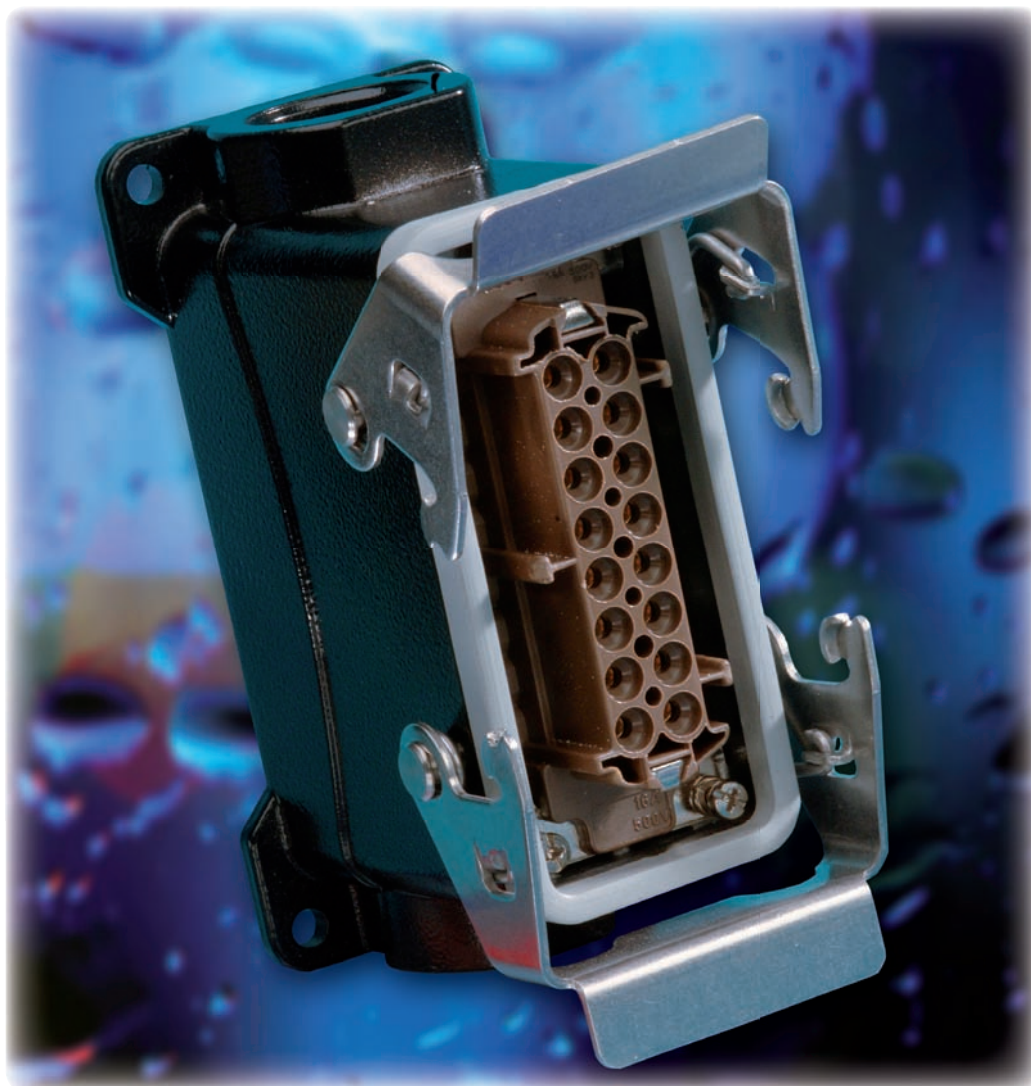
Housing dimensions:

of housings for **3-pole** inserts: 4 see series B 10 (from page 111 onwards)
of housings for **6-pole** inserts: 4 see series B 16 (from page 119 onwards)
of housings for **10/16-pole** inserts: 4 see series B 24 (from page 129 onwards)
of housings for **20/26/32-pole** inserts: 4 see series B 48 (from page 141 onwards)

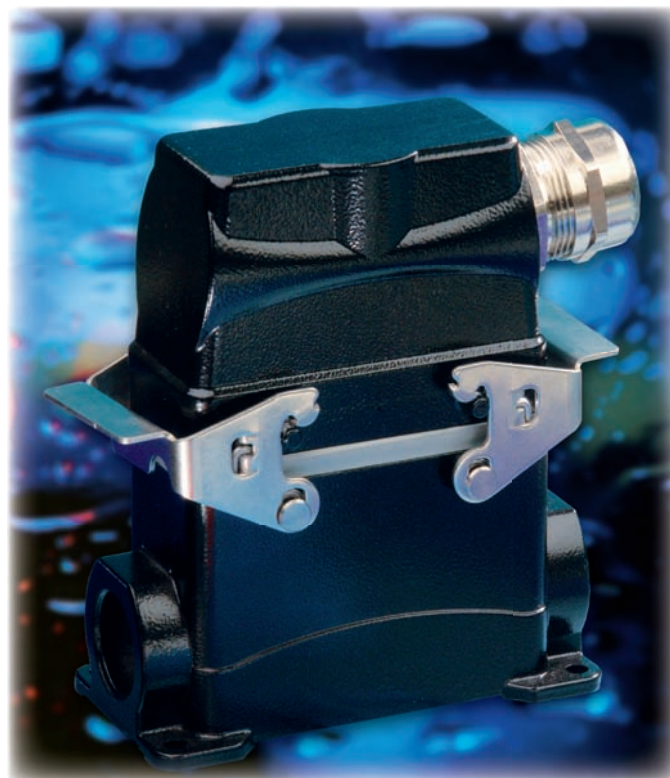
Housings with new design also available with:

- Cable gland (part no. + MV, e.g. P 731 003 MV)
- Collar (part no. + MS, e.g. P 731 003 MS)

Series B HT inserts are made of special high temperature resistant plastic material, suitable for temperatures up to max. 200 °C including self-heating.



The housings of series B HT can also accommodate inserts of other series. This solution is applicable if there are no difficulties with regard to heat but where high quality aluminium die cast has to be used because of the harsh environmental application area.



Series B HT housings are made of sea-water resistant die-cast aluminium alloy. The seals are made of Viton and are temperature resistant up to 200 °C. The locking levers are made of stainless steel.

Series B HT

Specifications

Regulations: DIN VDE 0627, DIN VDE 0110,
DIN EN 61 984

Number of poles: 6, 10, 16, 24 + PE

Electrical data acc. to DIN EN 61 984:

	16 A	500 V	6 kV	3
Rated current	_____	_____	_____	_____
Rated voltage	_____	_____	_____	_____
Rated surge	_____	_____	_____	_____
Pollution degree	_____	_____	_____	_____

Material: High temperature resistant plastic
Temperature range: up to + 200 °C
Mechanical operating life:
Mating cycles: ≥ 500

Contacts

Material: copper alloy
Surface - hard silver plated: 3 μm Ag

Contact resistance: $\leq 1 \text{ m}\Omega$
Screw terminal with wire protection: 2,5 mm² (14 AWG)
Torque/testing torque: 0,5 Nm
Wire stripping length: 7 mm

Housings

Material: Aluminium die cast,
sea water resistant
Surface: powder coated
Double locking levers: stainless steel
Single locking levers: stainless steel
Housing seal: Viton
Temperature range: up to + 200 °C
Protection degree acc. to DIN EN
60 529, in locked condition: IP 65

Page

B HT 6 pole + \oplus

154 - 155



B HT 10 pole + \oplus

156 - 157



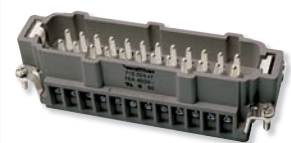
B HT 16 pole + \oplus

158 - 159






B HT 24 pole + \oplus






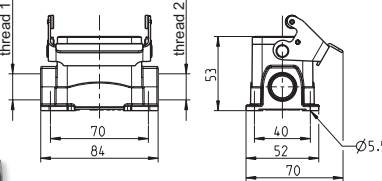


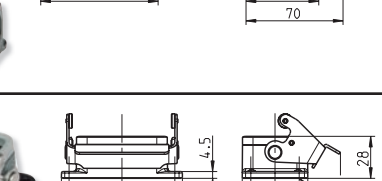


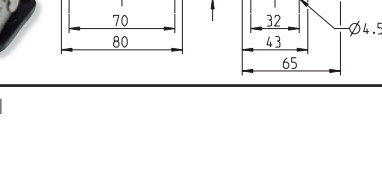


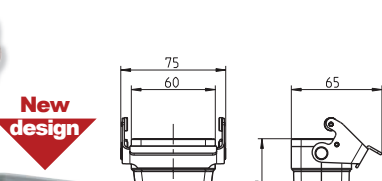


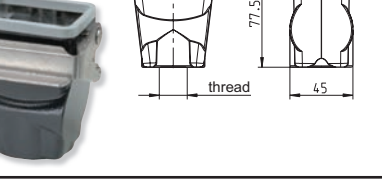
160 - 161







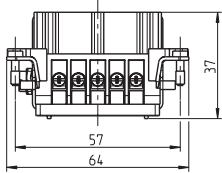
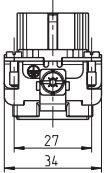

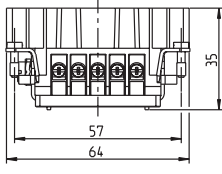
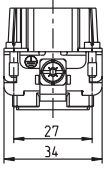
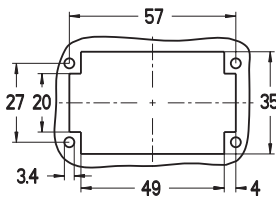
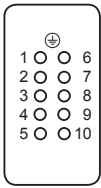
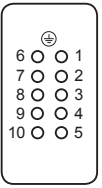
Application hint:




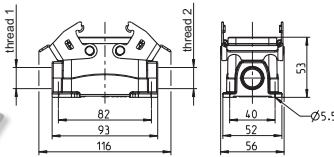

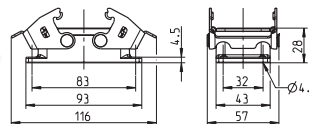


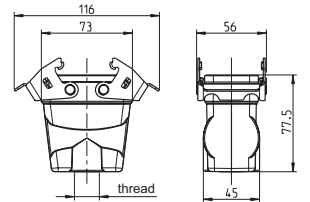


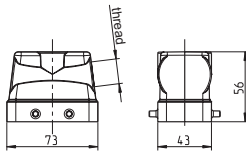


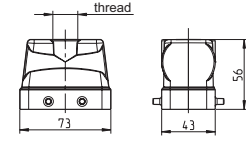
Heavy duty connectors are electrical devices which
must not be inserted or separated under load!

Description	Part no.	Series B HT 6 P +  16 A / 500 V	 
Screw terminal inserts B HT 6 Female insert Screw terminal with wire protection 0,5-2,5 mm ² (20-14 AWG) Male insert Screw terminal with wire protection 0,5-2,5 mm ² (20-14 AWG)	 710 106 HT 710 206 HT	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	 10 54 10 52
Contact arrangement		<div>Panel cut out</div> <div></div> <div>View from termination side</div> <div>Female insert</div> <div></div> <div>Male insert</div> <div></div>	





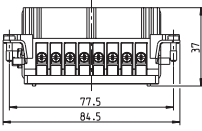
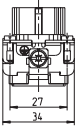

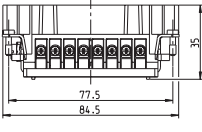
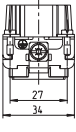
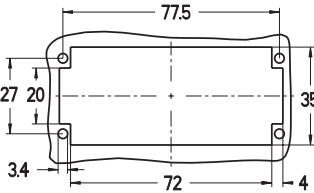
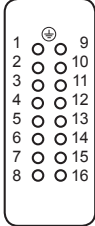
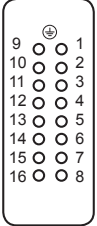
Description	Previous part number	New part number	M	Series B HT 6	 old / new
Housings: single locking system					
Wall mount housings, height 53 mm with single locking system					10 213/226
with collar	741 406 OV	P 741 406 MS	1 x M 20		10 213/226
with collar	741 506 OV	P 741 506 MS	2 x M 20	 	10 213/226
Panel housings, height 28 mm with single locking system					
Panel cut out 52 x 35 mm				 	10 135
Coupler hoods, height 77,5 mm with single locking system, top cable entry					
with threaded hole with collar	- / - 743 806 OV	P 743 806 P 743 806 MS	1 x M 20	 	10 - / 188 260/212
Hoods, height 56 mm for single locking system, side cable entry					
with threaded hole with collar	- / - 742 606 OV	P 742 606 P 742 606 MS	1 x M 20	 	10 - / 110 94 / 125
Hoods, height 56 mm for single locking system, top cable entry					
with threaded hole with collar	- / - 742 806 OV	P 742 806 P 742 806 MS	1 x M 20	 	10 - / 110 86 / 125



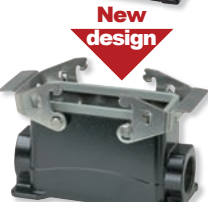
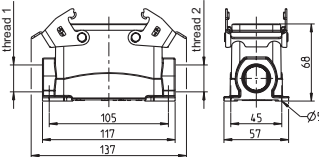

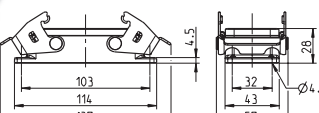


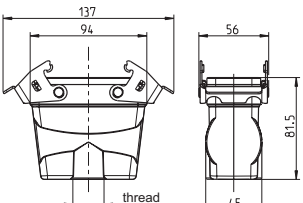


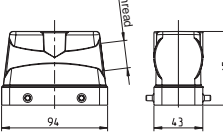


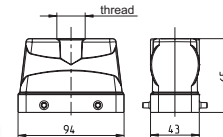
Housings also suitable for inserts / contact carriers of series B 6 and DD 24

Description	Part no.	Series B HT 10 P +  16 A / 500 V	 
Screw terminal inserts B HT 10 Female insert Screw terminal with wire protection 0,5-2,5 mm ² (20-14 AWG)	710 110 HT	  	10 71
Male insert Screw terminal with wire protection 0,5-2,5 mm ² (20-14 AWG)	710 210 HT	  	10 67
Contact arrangement		<div> <div>Panel cut out</div>  </div> <div> <div>View from termination side</div> <div> <div>Female insert</div>  </div> <div> <div>Male insert</div>  </div> </div>	




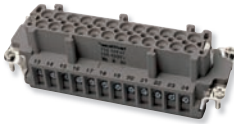
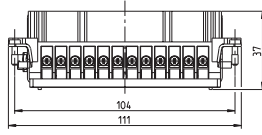
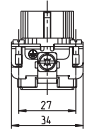
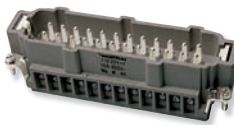
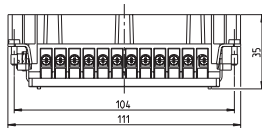
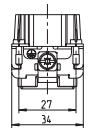
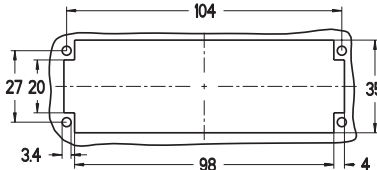
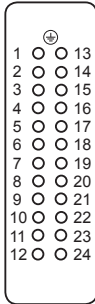
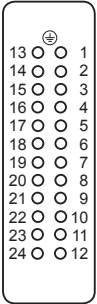
Description	Previous part number	New part number	M	Series B HT 10	 old / new
Housings: double locking system					
Wall mount housings, height 53 mm with double locking system					
with collar	741 010 OV	P 741 010 MS	1 x M 20	  	10 183/260
with collar	741 110 OV	P 741 110 MS	2 x M 20		183/259
Panel housings, height 28 mm with double locking system					
Panel cut out 65 x 35 mm	744 110			 	10 171
Coupler hoods, height 77,5 mm with double locking system, top cable entry					
with threaded hole with collar	- / - 743 610 OV	P 743 610 P 743 610 MS	1 x M 20	  	10 - / 228 290/ 243
Hoods, height 56 mm for double locking system, side cable entry					
with threaded hole with collar	- / - 742 010 OV	P 742 010 P 742 010 MS	1 x M 20	  	10 - / 128 114/143
Hoods, height 56 mm for double locking system, top cable entry					
with threaded hole with collar	- / - 742 210 OV	P 742 210 P 742 210 MS	1 x M 20	  	10 - / 128 107/143




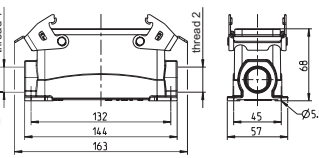

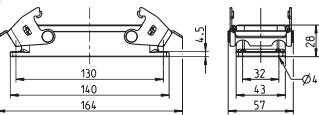


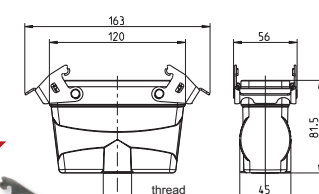


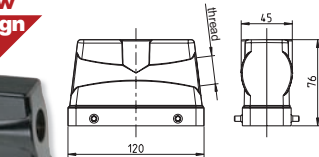


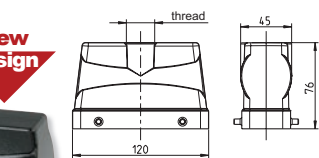
Housings also suitable for inserts / contact carriers of series B 10 and DD 42

Description	Part no.	Series B HT 16 P +  16 A / 400 V	 
Screw terminal inserts B HT 16 Female insert Screw terminal with wire protection 0,5-2,5 mm ² (20-14 AWG)	710 116 HT	  	10 96
Male insert Screw terminal with wire protection 0,5-2,5 mm ² (20-14 AWG)	710 216 HT	  	10 96
Contact arrangement		<div> Panel cut out </div>  <div> View from termination side </div> <div> Female insert </div>  <div> Male insert </div> 	

Description	Previous part number	New part number	M	Series B HT 16	 old / new
Housings: double locking system					
Wall mount housings, height 68 mm with double locking system					
without cable gland	741 016 OV	P 741 016 MS	1 x M 25	  	10 387/370
without cable gland	741 116 OV	P 741 116 MS	2 x M 25		387/368
Panel housings, height 28 mm with double locking system					
with recess for labels (clips) 744 116 Panel cut out 86 x 35 mm				 	10 189
Coupler hoods, height 81,5 mm with double locking system, top cable entry					
with threaded hole with collar	- / - 743 616 OV	P 743 616 P 743 616 MS	1 x M 25	  	10 - /261 370/283
with threaded hole with collar	- / - 743 716 OV	P 743 716 P 743 716 MS	1 x M 32		- /258 386/291
Hoods, height 65 mm for double locking system, side cable entry					
with threaded hole with collar	- / - 748 016 OV	P 748 016 P 748 016 MS	1 x M 25	  	10 - /164 237/186
Hoods, height 65 mm for double locking system, top cable entry					
with threaded hole with collar	- / - 748 216 OV	P 748 216 P 748 216 MS	1 x M 25	  	10 - /165 235/187

Housings also suitable for inserts / contact carriers of series B 16, BA 6, D 40 and DD 72

Description	Part no.	<div> <div>Series B HT</div> <div>24 P + </div> <div>16 A / 400 V</div> </div>	 
Screw terminal inserts B HT 24		<div>    </div> <div>    </div>	<div>10</div> <div>140</div>
Female insert Screw terminal with wire protection 0,5-2,5 mm ² (20-14 AWG)	710 124 HT		<div>10</div> <div>120</div>
Contact arrangement		<div> <div>Panel cut out</div>  </div> <div> <div>View from termination side</div> <div> <div>Female insert</div>  </div> <div> <div>Male insert</div>  </div> </div>	

Description	Previous part number	New part number	M	Series B HT 24	 old / new
Housings: double locking system				 Discontinued model  New design 	10 473/428 461/425
Wall mount housings, height 68 mm with double locking system					
with collar	741 024 OV	P 741 024 MS	1 x M 25		
with collar	741 124 OV	P 741 124 MS	2 x M 25		
Panel housings, height 28 mm with double locking system				 	10 202
with recess for labels (clips)	744 124				
Panel cut out 112 x 35 mm					
Coupler hoods, height 81,5 mm with double locking system, top cable entry				 Discontinued model  New design 	10 - /304 432/326 - /301 454/334
with threaded hole with collar	- / - 743 624 OV	P 743 624 P 743 624 MS	1 x M 25		
with threaded hole with collar	- / - 743 724 OV	P 743 724 P 743 724 MS	1 x M 32		
Hoods, height 76 mm for double locking system, side cable entry				 Discontinued model  New design 	10 - /235 322/257 - /230 334/263
with threaded hole with collar	- / - 748 024 OV	P 748 024 P 748 024 MS	1 x M 25		
with threaded hole with collar	- / - 748 124 OV	P 748 124 P 748 124 MS	1 x M 32		
Hoods, height 76 mm for double locking system, top cable entry				 Discontinued model  New design 	10 - /236 321/258 - /233 317/266
with threaded hole with collar	- / - 748 224 OV	P 748 224 P 748 224 MS	1 x M 25		
with threaded hole with collar	- / - 748 324 OV	P 748 324 P 748 324 MS	1 x M 32		

Housings also suitable for inserts / contact carriers of series B 24, D 64 and DD 108

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WORLDWIDE INTERCHANGEABILITY

Walther's pin & sleeve devices are built to IEC 309-1 and 309-2 specifications and are interchangeable with other manufacturers who conform to these IEC standards and color coding system... anywhere in the world. Manufacturers that do not comply with these standards have their own proprietary configurations and are not plug compatible with other pin & sleeve products. Once you have selected a proprietary configuration you are locked in to a single source. Specifying IEC 309-1 & 309-2 devices provides convenience and flexibility that users have come to accept almost without thinking.

SAFETY

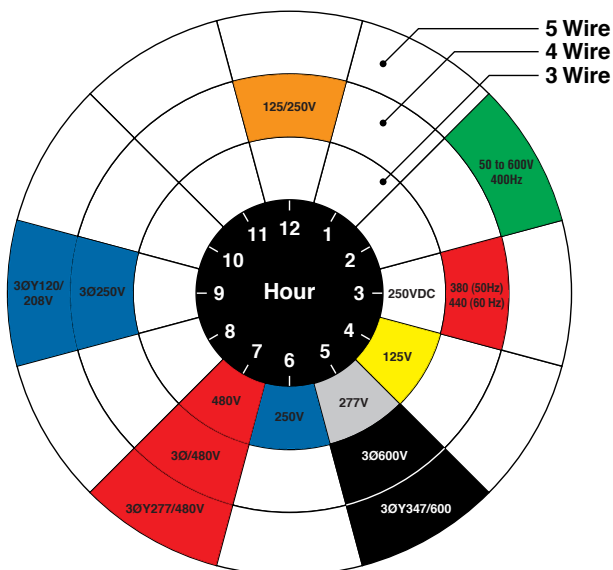
IEC 309-2 configurations for plugs (or inlets) and receptacles (or connectors) are single-rated which assures proper mating of devices with the same voltage and amperage. It is virtually impossible to couple a plug and receptacle of different voltage and /or amperage ratings.

The size of the device is determined by the amperage rating. Plugs and receptacles of different amperage ratings are not compatible because of the size variance.

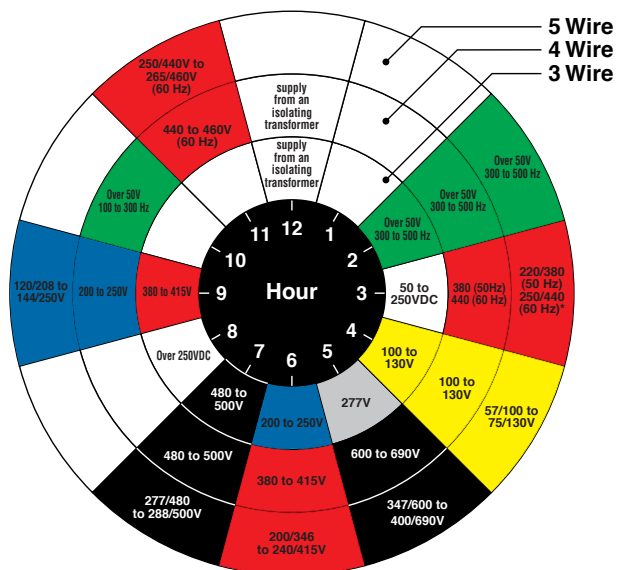
Many proprietary pin & sleeve configurations, that do not conform to the IEC standards, are designed to accommodate multiple voltage systems. A plug wired to a piece of equipment designed to operate at one voltage system could unintentionally be plugged into a receptacle wired with an unlike voltage. Mismatching voltages could cause damage to the equipment or even personal injury and is not considered safe electrical practice.

The voltage, of single rated Pin & Sleeve devices of the IEC 309-2 type, is determined by the location of the oversized female ground contact relative to the key-way located at the bottom of the housing. A clock face is used to represent the location of the ground sleeve for a specific voltage system. For example, a 480 VAC receptacle will have the oversized ground sleeve located in the 7 o'clock position. The corresponding grounding pin location on the plug or inlet is a mirror image of the female device. Devices of mismatched voltage systems simply cannot be mated. Each device is clearly marked with the voltage system for which it is intended to be used. The diagram below shows the keying position and the color coding that is associated with each voltage system.

Walther CEEtyp Female Ground Clockface Positions in Accordance with IEC 309-2 and UL 1686



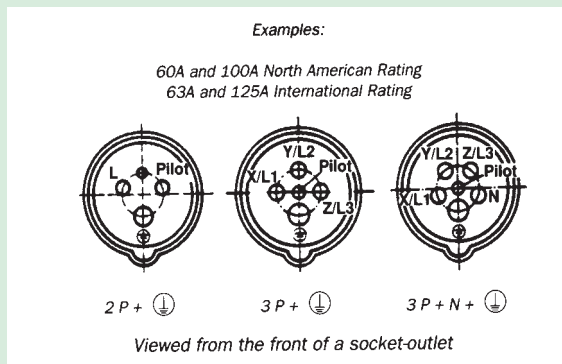
North American Rating
Voltage AC (Except where noted)



International Rating
Voltage AC (Except where noted)

The insulated housing is made from a high impact, nylon material. The nonmetallic device, while abuse and corrosion resistant, is also nonconductive, which enhances the safety of the product.

ELECTRICAL INTERLOCK



Plugs and receptacles rated 60 amps and above, feature an "electrical interlock" by way of a pilot pin on the plug and female sleeve on the receptacle that is shorter than the main pins. The pilot pin and female sleeve make contact last, and break contact first. This sequence turns the power on when the pilot pin and sleeve mate, and turns the power off before the phase contacts are disengaged. This prevents making or breaking the circuit under load.

RELIABILITY

Walther offers the widest variety of plugs, receptacles, connectors and inlets, made of the highest quality and design integrity in both splashproof and watertight versions.

Watertight (IP67) devices are designed for use in the most demanding environments that require safety, ease of use, reliability and durability. These devices can withstand impact and vibration and provide complete protection against dirt, dust, water jets and even temporary flooding. Watertight devices are available in 20, 30, 60 and 100 amp (North American) ratings and 16, 32, 63 and 125 amp (International) ratings.

Splashproof (IP44) devices are suitable and recommended for use in a variety of light industrial environments and provide complete protection against contact with live parts, damaging

deposits of dirt and dust and splashing water. Splashproof devices provide many of the heavy duty construction features found in the watertight products, but at a more economical cost. Splashproof devices are available in 20, 30 and 60 amp (North American) ratings and 16, 32 and 63 amp (International) ratings.




















Watertight and splashproof devices provide exceptional UV stability for superior outdoor performance.

All Walther plugs and connectors are supplied with an internal cord clamp designed to firmly grip not only the outer cable jacket but also the internal conductors. The internal cord clamp eliminates strain on the terminals while providing high pull-out values without external protrusions to snag adjacent wiring or the installer.

In addition to the internal cord clamp, Watertight plugs and connectors are also supplied with an external cable gland. This cable gland serves as a secondary method of eliminating strain on the terminals and conductors while assuring watertight performance. Standard splashproof plugs and connectors are also supplied with the same external gland as the watertight devices. However, a cable sleeve, designed to speedup installation, is provided with a lower cost splashproof alternative.

All Walther plugs and connectors, furnished with either a cable gland or cable sleeve, meet the cord and cable secureness requirements defined in UL 1682, Section 33.

TABLE 1 - CHARACTERISTICS DEFINED BY THE CEI 70-1 - IEC 529 - IEC 144 - UTE C 20-010 - DIN 40050 STANDARDS

First Digit - Protection against persons - touching and ingress of solid foreign objects			Second Digit - Protection against the penetration of liquids								
			IP_0	IP_1	IP_2	IP_3	IP_4	IP_5	IP_6	IP_7	IP_8
											
			Non protected	Protection against vertical falling of water drops	Protection against falling of water drops at an angle up to 15° from the vertical	Protection against spraying water (rain) at an angle up to 60° from the vertical	Protection against splashing water from any direction (360°)	Protection against water jets from any direction (360°)	Protection against heavy seas (waves)	Protection against effects of immersion in water under defined conditions of pressure and time	Protection against continuous submersion in water
											
IP 0_		Without protection	IP 00								
IP 1_		Protection against touching with the hand and solid objects greater than 50mm dia.	IP 10	IP 11	IP 12						
IP 2_		Protection against touching with the finger and solid objects greater than 12mm dia.	IP 20	IP 21	IP 22	IP 23					
IP 3_		Protection against touching with tools, wires, etc. more than 2.5mm thick and solid objects greater than 2.5mm dia.	IP 30	IP 31	IP 32	IP 33	IP 34				
IP 4_		Protection against touching with tools, wires, etc. more than 1mm thick and solid objects greater than 1mm dia.	IP 40	IP 41	IP 42	IP 43	IP 44				
IP 5_		Unlimited protection against contact with live parts and damaging deposits of dust	IP 50				IP 54	IP 55			
IP 6_		Unlimited protection against contact with live parts and any penetration of dust	IP 60					IP 65	IP 66	IP 67	IP 68

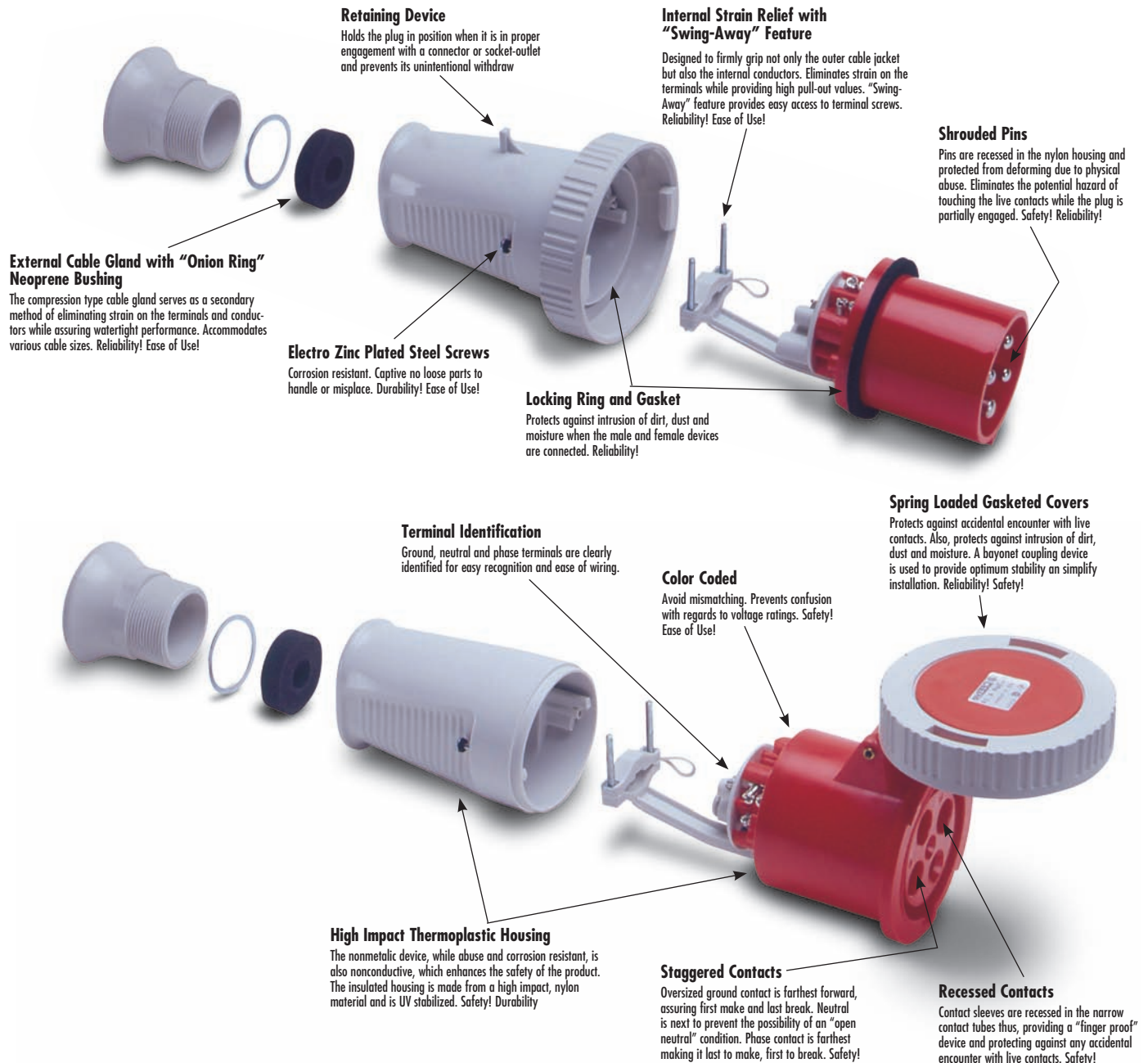
In some countries a third digit (for mechanical security) is added.

TABLE 2

Designation	Intended Use and Description	Construction Requirements
3	Outdoor use primarily to provide a degree of protection against rain, sleet, windblown dust and damage from external ice formation.	Splashproof (IP44)
4	Indoor and outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, hose-directed water and damage from external ice formation.	Watertight (IP67)
4X	Indoor and outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, hose-directed water and damage from external ice formation.	Watertight (IP67)
6	Indoor and outdoor use primarily to provide a degree of protection against hose-directed water, and the entry of water during occasional temporary submersion at a limited depth and damage from external ice formation.	Watertight (IP67)
12, 12K	Indoor use primarily to provide a degree of protection against circulating dust, falling dirt, and dripping non-corrosive liquids.	Splashproof (IP44)

This information is provided only as a general guide. No specific recommendation is intended. As each application may vary, testing should be conducted by the user in the intended environment.

IEC 309 PIN AND SLEEVE DEVICES



Retaining Device

Walther pin & sleeve devices are provided with a mechanical arrangement which holds a plug or connector in position when it is in proper engagement, and prevents its unintentional withdraw.



Double Terminal Screws

Maximum clamping pressure without damaging strands. Double terminal screws create a large area of safe and secure contact between conductor and terminal. Screws are captive, easily accessible and supplied in the open position. Reliability! Safety!

Solid Brass Pins

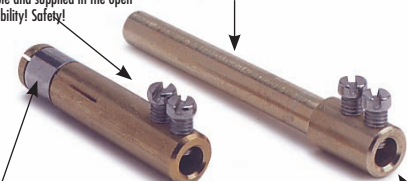
Low contact resistance and high conductivity. Long lasting, reliable electrical contact. Reliability!

Split Contact Sleeve with Nickel Plated Steel Springs

Provides optimum insertion/withdraw force and constant contact pressure Reliability!

Chamfered Terminals

Funnel Entry. Guides and captures all wire strands. Ease of Use! Reliability!



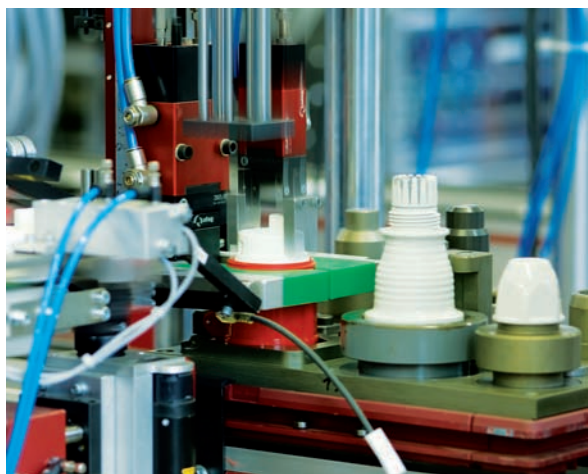
PLUG

Assembly Screws*	Steel, Electro Zinc Plated
Friction Ring*	Steel, Electro Zinc Plated
Gland Cap	Polycarbonate Blend
Grommet	Solid Neoprene
Housing (Front and Back)	Type 6 Nylon
Internal Cord Clamp	Type 6 Nylon
Locking Ring	Type 6 Nylon
Pins (Watertight)	Brass, Nickel Plated
Pins (Splashproof)	Brass
Sealing Gasket	Neoprene
Terminal Screws	Steel, Nickel Plated

INLET

Housing	Type 6 Nylon
Locking Ring	Type 6 Nylon
Mounting Flange	Type 6 Nylon
Pins (Watertight)	Brass, Nickel Plated
Pins (Splashproof)	Brass
Sealing Gasket	Neoprene
Terminal Screws	Steel, Nickel Plated

* Stainless steel available upon request



CONNECTOR

Assembly Screws*	Steel, Electro Zinc Plated
Cover	Type 6 Nylon
Cover Fastener	Nickel Plated Brass, Brass or Macrolon
Cover Spring	Stainless Steel (A2)
Friction Ring*	Steel, Electro Zinc Plated
Gland Cap	Polycarbonate Blend
Grommet	Solid Neoprene
Housing (Front and Back)	Type 6 Nylon
Internal Cord Clamp	Type 6 Nylon
Sealing Gasket	Neoprene
Sleeve Spring	Steel, Nickel Plated
Sleeves (Watertight)	Brass, Nickel Plated
Sleeves (Splashproof)	Brass
Terminal Screws	Steel, Nickel Plated

RECEPTACLE

Cover	Type 6 Nylon
Cover Fastener	Nickel Plated Brass, Brass or Macrolon
Cover Spring	Stainless Steel (A2)
Housing	Type 6 Nylon
Mounting Flange	Type 6 Nylon
Sealing Gasket	Neoprene
Sleeve Spring	Steel, Nickel Plated
Sleeves (Watertight)	Brass, Nickel Plated
Sleeves (Splashproof)	Brass
Terminal Screws	Steel, Nickel Plated

Manufacturing pin & sleeve devices, of superior quality, can only be accomplished through the use of high grade materials. That is an important part of the Walther Pin & Sleeve system — quality products you can depend on.

Male pins and female sleeves are made of high conductivity brass. Contacts used with watertight devices are nickel plated to prevent corrosion. The insulated housing is made from a high impact, nylon material. The nonmetallic device, while resistant to most solvents, chemicals and salt water, is also non-conductive, which enhances the safety of the product.

All extracts from manufacturing, test standard or independent agency approvals is for informational purposes only and are not intended to be, should not be used as, nor considered to be a complete description of such. Contact customer service for a more complete version of the test standard or agency approval in question.

Walther reserves the right to make technical descriptive and dimensional changes due to product changes and/or improvements.

ELECTRICAL

Insulation Resistance	500V for 1 min. Resistance $\geq 5M \Omega$
Dielectric Voltage Withstand	3000V for 1 min.
Ground Path Current	See Table 1
Endurance, Connect and Disconnect Cycles	See Table 2
Current Interrupting	Certified for current interrupting at full rated current and voltage.
Overload Test (Power factor 0.75 - 0.80)	Tested for current interrupting at 150% of the rated current and 100% of the rated voltage for 50 cycles.
Temperature Rise	Maximum 30° C rise at full rated current (after overload).
Resistance to Arcing	Continuation of overload test for an additional 200 cycles.

MECHANICAL

Mold Stress Relief	70°C (158°F) for 7 hours.
Humidity	32°C (89.6°F), 93% humidity for 7 days (168 hours).
Cable Secureness	See Table 3
Impact	A device is wired with a 90" (2300mm) length of flexible cord and dropped from 30" (760mm) 8 times. The device is then conditioned for 6 hours at -25°C and immediately subjected to a repeated impact test.
Crushing	250 lbs for 1 minute. The device is then conditioned for 6 hours at -25°C and immediately subjected to a repeated crushing test.
Withdrawal Force	See Table 4
Strength of Insulating Base and Support	110% of specified tightening torque on terminal screws.
Polarization Integrity	Matching devices will not mate so that the ground is energized, even when polarization feature is removed and 40 lb (180 N) insertion force is applied.

ENVIRONMENTAL

Flammability	V-2 or better per UL 94 or CSA 22.2 No. 0.6
Ambient Temperature Range	Minimum: -25°C (-13°F) with impact Maximum: 90°C (194°F)
Resistance to Corrosion	Ferrous parts immersed for 10 min. in a 10% solution of ammonium chloride at a temperature of 20°C.
Moisture Resistance	Watertight (IP67): Device immersed for 24 hours in water at a temp. of 25°C, the highest point of the device being 2" (5cm) below the water level. Splashproof (IP44): Device is sprayed with water for 10 minutes and immediately afterwards subjected to splashing water in all directions (360°).
UV Resistance	Exposed plastic materials are UV stabilized.

Minimum test requirements

TABLE 1

Ground Path Current Test				
Device Rating Amperes	Minimum Size Grounding Conductor		Time, Seconds	Test Current, Amperes
	AWG	mm ²		
20	12	3.3	4	470
30	10	5.3	4	750
60	10	5.3	4	750
100	8	8.4	4	1180

A test current that far exceeds the device rating, is passed through the mating devices and grounding wires.

TABLE 2

Endurance Test			
Device Rating Amperes	Cycles with Load at Rated Current and Voltage	No-Load Cycles	Sequence
20	5000	0	-
30	1000	1000	Alternating
60	1000	1000	Alternating
100	250	250	Alternating

The test sequence is conducted by using a no-load, followed by a load sequence. The power factor of the load is 0.75 to 0.80.

TABLE 3

Cable Secureness Test						
Device Rating Amperes	Force		Torque		Maximum Displacement	
	lb.	N	ft-lb.	N•m	Inches	mm
20	30	133	0.4	0.54	3/32	2.38
30	75	333	0.5	0.68	3/32	2.38
60	150	667	1.0	1.4	3/32	2.38
100	150	667	2.0	2.7	3/32	2.38

The flexible cord or cable is simultaneously twisted and pulled. Values for the applied twisting torque and force of pull are shown in Table 3. In all cases the cord displacement is less than 3/32 inches.

TABLE 4

Withdrawal Forces Test			
Device Rating Amperes	Minimum Withdrawal Force		
	lb.	N	Time, Minutes
20	5	22	1
30	6	27	1
60	15	67	1
100	20	89	1

The pressure exerted by mating contacts of a plug and connector must be sufficient to prevent unintentional withdrawal during normal use. During the test, any locking rings or retaining means are not to be engaged.



These products are Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc. UL 1682 UL 1686



MALE PLUGS

UL LISTED **CS** Certified

				WATERTIGHT (IP67)	SPLASHPROOF (IP44)		
					Standard Version (with cable gland)	Economical Version (with cable sleeve)	Low Profile Angled 90°
	Poles and Wires	Voltage AC (Except where noted)	Clock Position of Ground Contact				
3	2P + G	250 DC	3	219315	211315	210315	216315
	1P + N + G	125	4	219316	211316	210316	216316
	2P + G	250	6	219306	211306	210306	216306
	1P + N + G	277	5	219317	211317	210317	216317
	2P + G	480	7	219319	211319	210319	216319
4	2P + N + G	125/250	12	218424	212424	210424	216424
	3P + G	3Ø250	9	218409	212409	210409	216409
	3P + G	3Ø480	7	218419	212419	210419	216419
	3P + G	3Ø600	5	218405	212405	210405	216405
5	3P + N + G	Barge Overflow	1	218501BL			
	3P + N + G	3ØY120/208	9	218509	212509	210509	216509
	3P + N + G	3ØY277/480	7	218519	212519	210519	216519
	3P + N + G	3ØY347/600	5	218505	212505	210505	216505
7	6P + G	250	9		212709	210709	
	6P + G	480	7		212719	210719	







FEMALE CONNECTORS

UL LISTED **CS** Certified

				WATERTIGHT (IP67)	SPLASHPROOF (IP44)		
					Standard Version (with cable gland)	Economical Version (with cable sleeve)	Low Profile Angled 90°
	Poles and Wires	Voltage AC (Except where noted)	Clock Position of Ground Contact				
3	2P + G	250 DC	3	319315	311315	310315	316315
	1P + N + G	125	4	319316	311316	310316	316316
	2P + G	250	6	319306	311306	310306	316306
	1P + N + G	277	5	319317	311317	310317	316317
	2P + G	480	7	319319	311319	310319	316319
4	2P + N + G	125/250	12	318424	312424	310424	
	3P + G	3Ø250	9	318409	312409	310409	
	3P + G	3Ø480	7	318419	312419	310419	
	3P + G	3Ø600	5	318405	312405	310405	
5	3P + N + G	Barge Overflow	1	318501BL			
	3P + N + G	3ØY120/208	9	318509	312509	310509	
	3P + N + G	3ØY277/480	7	318519	312519	310519	
	3P + N + G	3ØY347/600	5	318505	312505	310505	
7	6P + G	250	9		312709	310709	
	6P + G	480	7		312719	310719	






BL devices are US Coast Guard required as per 46CFR Ch.1, 39.20-9.

FEMALE RECEPTACLES**UL LISTED** **SF** Certified

FEMALE RECEPTACLES				WATERTIGHT (IP67)			SPLASHPROOF (IP44)		
UL LISTED SF Certified				Straight	Angled 15°	Angled 80°	Straight	Angled 15°	Angled 80°
	Poles and Wires	Voltage AC (Except where noted)	Clock Position of Ground Contact						
3	2P + G	250 DC	3	419315	519315	518315	410315	510315	514315
	1P + N + G	125	4	419316	519316	518316	410316	510316	514316
	2P + G	250	6	419306	519306	518306	410306	510306	514306
	1P + N + G	277	5	419317	519317	518317	410317	510317	514317
	2P + G	480	7	419319	519319	518319	410319	510319	514319
4	2P + N + G	125/250	12	419424	519424	518424	410424	510424	514424
	3P + G	3Ø250	9	419409	519409	518409	410409	510409	514409
	3P + G	3Ø480	7	419419	519419	518419	410419	510419	514419
	3P + G	3Ø600	5	419405	519405	518405	410405	510405	514405
5	3P + N + G	Barge Overflow	1	419501BL	519501BL	518501BL			
	3P + N + G	3ØY120/208	9	419509	519509	518509	410509	510509	514509
	3P + N + G	3ØY277/480	7	419519	519519	518519	410519	510519	514519
	3P + N + G	3ØY347/600	5	419505	519505	518505	410505	510505	514505
7	6P + G	250	9				411709		514709
	6P + G	480	7				411719		514719

Note: See pages 16 and 17 for surface mount receptacles and back boxes.





MALE INLETS**UL LISTED** **SF** Certified

MALE INLETS			WATERTIGHT (IP67)		SPLASHPROOF (IP44)			
			Angled 80°	Surface Mount*	Straight	Angled 80°	Surface Mount*	
UL LISTED	CS Certified							
Poles and Wires	Voltage AC (Except where noted)	Clock Position of Ground Contact						
3	2P + G	250 DC	3	619315	618315	615315	611315	
	1P + N + G	125	4	619316	618316	615316	611316	
	2P + G	250	6	619306	618306	615306	611306	
	1P + N + G	277	5	619317	618317	615317	611317	
	2P + G	480	7	619319	618319	615319	611319	
4	2P + N + G	125/250	12	619424	618424	615424	611424	616424
	3P + G	3Ø250	9	619409	618409	615409	611409	616409
	3P + G	3Ø480	7	619419	618419	615419	611419	616419
	3P + G	3Ø600	5	619405	618405	615405	611405	616405
5	3P + N + G	Barge Overflow	1	619501BL	618501BL			
	3P + N + G	3ØY120/208	9	619509	618509	615509	611509	616509
	3P + N + G	3ØY277/480	7	619519	618519	615519	611519	616519
	3P + N + G	3ØY347/600	5	619505	618505	615505	611505	616505
7	6P + G	250	9			615709	611709	616709
	6P + G	480	7			615719	611719	616719

BL devices are US Coast Guard required as per 46CFR Ch.1, 39.20-9.




MALE PLUGS

 **LISTED**  **Certified**

				WATERTIGHT (IP67)	SPLASHPROOF (IP44)		
					Standard Version (with cable gland)	Economical Version (with cable sleeve)	Low Profile Angled 90°
	Poles and Wires	Voltage AC (Except where noted)	Clock Position of Ground Contact				
3	2P + G	250 DC	3	239315	231315	230315	236315
	1P + N + G	125	4	239316	231316	230316	236316
	2P + G	250	6	239306	231306	230306	236306
	1P + N + G	277	5	239317	231317	230317	236317
	2P + G	480	7	239319	231319	230319	236319
4	2P + N + G	125/250	12	238424	232424	230424	236424
	3P + G	3Ø250	9	238409	232409	230409	236409
	3P + G	380/440*	3	238403*			
	3P + G	3Ø480	7	238419	232419	230419	236419
	3P + G	3Ø600	5	238405	232405	230405	236405
5	3P + N + G	50-600 400Hz	2	238502	232502	230502	236502
	3P + N + G	3ØY120/208	9	238509	232509	230509	236509
	3P + N + G	3ØY277/480	7	238519	232519	230519	236519
	3P + N + G	3ØY347/600	5	238505	232505	230505	236505
7	6P + G	250	9		232709	230709	
	6P + G	480	7		232719	230719	

FEMALE CONNECTORS







 **LISTED**  **Certified**

				WATERTIGHT (IP67)	SPLASHPROOF (IP44)	
					Standard Version (with cable gland)	Economical Version (with cable sleeve)
	Poles and Wires	Voltage AC (Except where noted)	Clock Position of Ground Contact			
3	2P + G	250 DC	3	339315	331315	330315
	1P + N + G	125	4	339316	331316	330316
	2P + G	250	6	339306	331306	330306
	1P + N + G	277	5	339317	331317	330317
	2P + G	480	7	339319	331319	330319
4	2P + N + G	125/250	12	338424	332424	330424
	3P + G	3Ø250	9	338409	332409	330409
	3P + G	380/440*	3	338403*		
	3P + G	3Ø480	7	338419	332419	330419
	3P + G	3Ø600	5	338405	332405	330405
5	3P + N + G	50-600 400Hz	2	338502	332502	330502
	3P + N + G	3ØY120/208	9	338509	332509	330509
	3P + N + G	3ØY277/480	7	338519	332519	330519
	3P + N + G	3ØY347/600	5	338505	332505	330505
7	6P + G	250	9		332709	330709
	6P + G	480	7		332719	330719

* Only for refrigerated containers. Supplied with stainless steel assembly screws and friction ring.

FEMALE RECEPTACLES






UL LISTED **CS Certified**

				WATERTIGHT (IP67)			SPLASHPROOF (IP44)		
				Straight	Angled 15°	Angled 80°	Straight	Angled 15°	Angled 80°
									
3	2P + G	250 DC	3	439315	539315	538315	430315	530315	534315
	1P + N + G	125	4	439316	539316	538316	430316	530316	534316
	2P + G	250	6	439306	539306	538306	430306	530306	534306
	1P + N + G	277	5	439317	539317	538317	430317	530317	534317
	2P + G	480	7	439319	539319	538319	430319	530319	534319
4	2P + N + G	125/250	12	439424	539424	538424	430424	530424	534424
	3P + G	30250	9	439409	539409	538409	430409	530409	534409
	3P + G	380/440*	3	439403*					
	3P + G	30480	7	439419	539419	538419	430419	530419	534419
	3P + G	30600	5	439405	539405	538405	430405	530405	534405
5	3P + N + G	50-600 400Hz	2	439502	539502	538502	430502	530502	534502
	3P + N + G	30Y120/208	9	439509	539509	538509	430509	530509	534509
	3P + N + G	30Y277/480	7	439519	539519	538519	430519	530519	534519
	3P + N + G	30Y347/600	5	439505	539505	538505	430505	530505	534505
7	6P + G	250	9				431709		534709
	6P + G	480	7				431719		534719

Note: See pages 16 and 17 for surface mount receptacles and back boxes.

MALE INLETS




UL LISTED **CS Certified**

				WATERTIGHT (IP67)		SPLASHPROOF (IP44)		
				Angled 80°	Surface Mount**	Straight	Angled 80°	Surface Mount**
								
3	2P + G	250 DC	3	639315	638315	635315	631315	636315
	1P + N + G	125	4	639316	638316	635316	631316	636316
	2P + G	250	6	639306	638306	635306	631306	636306
	1P + N + G	277	5	639317	638317	635317	631317	636317
	2P + G	480	7	639319	638319	635319	631319	636319
4	2P + N + G	125/250	12	639424	638424	635424	631424	636424
	3P + G	30250	9	639409	638409	635409	631409	636409
	3P + G	380/440*	3	639403*	638403*			
	3P + G	30480	7	639419	638419	635419	631419	636419
	3P + G	30600	5	639405	638405	635405	631405	636405
5	3P + N + G	50-600 400Hz	2	639502	638502	635502	631502	636502
	3P + N + G	30Y120/208	9	639509	638509	635509	631509	636509
	3P + N + G	30Y277/480	7	639519	638519	635519	631519	636519
	3P + N + G	30Y347/600	5	639505	638505	635505	631505	636505
7	6P + G	250	9			635709	631709	636709
	6P + G	480	7			635719	631719	636719

* Only for refrigerated containers.




MALE PLUGS

 **LISTED**  **Certified**

MALE PLUGS				WATERTIGHT (IP67)	SPLASHPROOF (IP44)		
			Standard Version (with cable gland)		Economical Version (with cable sleeve)		
UL LISTED SF Certified		Poles and Wires (With pilot)	Voltage AC (Except where noted)	Clock Position of Ground Contact			
3	2P + G	250 DC	3	269315	261315	260315	
	1P + N + G	125	4	269316	261316	260316	
	2P + G	250	6	269306	261306	260306	
	1P + N + G	277	5	269317	261317	260317	
	2P + G	480	7	269319	261319	260319	
4	2P + N + G	125/250	12	269424	261424	260424	
	3P + G	3Ø250	9	269409	261409	260409	
	3P + G	3Ø480	7	269419	261419	260419	
	3P + G	3Ø600	5	269405	261405	260405	
5	3P + N + G	50-600 400Hz	2	269502	261502	260502	
	3P + N + G	3ØY120/208	9	269509	261509	260509	
	3P + N + G	3ØY277/480	7	269519	261519	260519	
	3P + N + G	3ØY347/600	5	269505	261505	260505	







FEMALE CONNECTORS

 **LISTED**  **Certified**

FEMALE CONNECTORS				WATERTIGHT (IP67)	SPLASHPROOF (IP44)	
					Standard Version (with cable gland)	Economical Version (with cable sleeve)
Poles and Wires (With pilot)		Voltage AC (Except where noted)	Clock Position of Ground Contact			
3	2P + G	250 DC	3	369315	361315	360315
	1P + N + G	125	4	369316	361316	360316
	2P + G	250	6	369306	361306	360306
	1P + N + G	277	5	369317	361317	360317
	2P + G	480	7	369319	361319	360319
4	2P + N + G	125/250	12	369424	361424	360424
	3P + G	3Ø250	9	369409	361409	360409
	3P + G	3Ø480	7	369419	361419	360419
	3P + G	3Ø600	5	369405	361405	360405
5	3P + N + G	50-600 400Hz	2	369502	361502	360502
	3P + N + G	3ØY120/208	9	369509	361509	360509
	3P + N + G	3ØY277/480	7	369519	361519	360519
	3P + N + G	3ØY347/600	5	369505	361505	360505

FEMALE RECEPTACLES





UL LISTED **SP** Certified

FEMALE RECEPTACLES				WATERTIGHT (IP67)			SPLASHPROOF (IP44)		
				Straight	Angled 15°	Angled 80°	Straight	Angled 15°	Angled 80°
									
Poles and Wires (With pilot)		Voltage AC (Except where noted)	Clock Position of Ground Contact						
3	2P + G	250 DC	3	469315	569315	568315	460315	560315	564315
	1P + N + G	125	4	469316	569316	568316	460316	560316	564316
	2P + G	250	6	469306	569306	568306	460306	560306	564306
	1P + N + G	277	5	469317	569317	568317	460317	560317	564317
	2P + G	480	7	469319	569319	568319	460319	560319	564319
4	2P + N + G	125/250	12	469424	569424	568424	460424	560424	564424
	3P + G	3Ø250	9	469409	569409	568409	460409	560409	564409
	3P + G	3Ø480	7	469419	569419	568419	460419	560419	564419
	3P + G	3Ø600	5	469405	569405	568405	460405	560405	564405
5	3P + N + G	50-600 400Hz	2	469502	569502	568502	460502	560502	564502
	3P + N + G	3ØY120/208	9	469509	569509	568509	460509	560509	564509
	3P + N + G	3ØY277/480	7	469519	569519	568519	460519	560519	564519
	3P + N + G	3ØY347/600	5	469505	569505	568505	460505	560505	564505

Note: See pages 16 and 17 for surface mount receptacles and back boxes.

MALE INLETS

UL LISTED **SP** Certified

			WATERTIGHT (IP67)		SPLASHPROOF (IP44)	
			Angled 80°	Surface Mount*	Straight	Angled 80°
Poles and Wires (With pilot)	Voltage AC (Except where noted)	Clock Position of Ground Contact				
3	2P + G	250 DC	3	669315	668315	661315
	1P + N + G	125	4	669316	668316	661316
	2P + G	250	6	669306	668306	661306
	1P + N + G	277	5	669317	668317	661317
	2P + G	480	7	669319	668319	661319
4	2P + N + G	125/250	12	669424	668424	661424
	3P + G	3Ø250	9	669409	668409	661409
	3P + G	3Ø480	7	669419	668419	661419
	3P + G	3Ø600	5	669405	668405	661405
5	3P + N + G	50-600 400Hz	2	669502	668502	665502
	3P + N + G	3ØY120/208	9	669509	668509	665509
	3P + N + G	3ØY277/480	7	669519	668519	665519
	3P + N + G	3ØY347/600	5	669505	668505	665505

MALE PLUGS

UL LISTED **SP Certified**

WATERTIGHT (IP67)



	Poles and Wires (With pilot)	Voltage AC (Except where noted)	Clock Position of Ground Contact	
3	2P + G	250 DC	3	279315
	1P + N + G	125	4	279316
	2P + G	250	6	279318
	1P + N + G	277	5	279317
	2P + G	480	7	279319
4	2P + N + G	125/250	12	279424
	3P + G	3Ø250	9	279421
	3P + G	3Ø480	7	279419
	3P + G	3Ø600	5	279417
5	3P + N + G	3ØY120/208	9	279521
	3P + N + G	3ØY277/480	7	279519
	3P + N + G	3ØY347/600	5	279517

FEMALE CONNECTORS

UL LISTED **SP Certified**

WATERTIGHT (IP67)





	Poles and Wires (With pilot)	Voltage AC (Except where noted)	Clock Position of Ground Contact	
3	2P + G	250 DC	3	379315
	1P + N + G	125	4	379316
	2P + G	250	6	379318
	1P + N + G	277	5	379317
	2P + G	480	7	379319
4	2P + N + G	125/250	12	379424
	3P + G	3Ø250	9	379421
	3P + G	3Ø480	7	379419
	3P + G	3Ø600	5	379417
5	3P + N + G	3ØY120/208	9	379521
	3P + N + G	3ØY277/480	7	379519
	3P + N + G	3ØY347/600	5	379517

Note: 100-Amp devices are only available in IP67-Watertight configuration.

FEMALE RECEPTACLES





UL LISTED **SF** Certified

FEMALE RECEPTACLES				WATERTIGHT (IP67)	
UL LISTED SP Certified				Straight	Angled 15°
Poles and Wires (With pilot)		Voltage AC (Except where noted)	Clock Position of Ground Contact		
3	2P + G	250 DC	3	479315	579315
	1P + N + G	125	4	479316	579316
	2P + G	250	6	479318	579318
	1P + N + G	277	5	479317	579317
	2P + G	480	7	479319	579319
4	2P + N + G	125/250	12	479424	579424
	3P + G	3Ø250	9	479421	579421
	3P + G	3Ø480	7	479419	579419
	3P + G	3Ø600	5	479417	579417
5	3P + N + G	3ØY120/208	9	479521	579521
	3P + N + G	3ØY277/480	7	479519	579519
	3P + N + G	3ØY347/600	5	479517	579517

Note: See pages 16 and 17 for surface mount receptacles and back boxes.

MALE INLETS

UL LISTED **SF** Certified

MALE INLETS				WATERTIGHT (IP67)	
 LISTED  Certified					
Poles and Wires (With pilot)		Voltage AC (Except where noted)	Clock Position of Ground Contact	Straight	Surface Mount*
					
3	2P + G	250 DC	3	679315	678315
	1P + N + G	125	4	679316	678316
	2P + G	250	6	679318	678318
	1P + N + G	277	5	679317	678317
	2P + G	480	7	679319	678319
4	2P + N + G	125/250	12	679424	678424
	3P + G	3Ø250	9	679421	678421
	3P + G	3Ø480	7	679419	678419
	3P + G	3Ø600	5	679417	678417
5	3P + N + G	3ØY120/208	9	679521	678521
	3P + N + G	3ØY277/480	7	679519	678519
	3P + N + G	3ØY347/600	5	679517	678517

SURFACE MOUNT RECEPTACLES



			WATERTIGHT (IP67)				SPLASHPROOF (IP44)		
			20 Amps	30 Amps	60 Amps	100 Amps	20 Amps	30 Amps	60 Amps
No. of Wires	Voltage AC	Clock Position of Ground Contact							
3	2P + G	250 DC	3	119315	139315		179315	111315	131315
	1P + N + G	125	4	119316	139316		179316	111316	131316
	2P + G	250	6	119306	139306		179318	111306	131306
	1P + N + G	277	5	119317	139317		179317	111317	131317
	2P + G	480	7	119319	139319		179319	111319	131319
4	2P + N + G	125/250	12	119424	139424	169424	179424	111424	131424
	3P + G	3Ø250	9	119409	139409	169409	179421	111409	131409
	3P + G	380/440**	3		139403*				
	3P + G	3Ø480	7	119419	139419	169419	179419	111419	131419
	3P + G	3Ø600	5	119405	139405	169405	179417	111405	131405
5	3P + N + G	Barge Overflow	1	119501BL					
	3P + N + G	3ØY120/208	9	119509	139509	169509	179521	111509	131509
	3P + N + G	3ØY277/480	7	119519	139519	169519	179519	111519	131519
	3P + N + G	3ØY347/600	5	119505	139505	169505	179517	111505	131505
7	6P + G	250	9					111709	131709
	6P + G	480	7					111719	131719

* Only for refrigerated containers. **Surface mount receptacles combine a back box and receptacle into one compact device.



CEEtYP - TEST PLUGS



Phase sequence control plugs quickly allow for inspection of phase rotational direction within seconds. The devices are provided with two LEDs:

- **GREEN** lamp lights:
phase sequence is correct.....
- **RED** lamp lights:
phase sequence is wrong.....
- **GREEN & RED** lamps light:
one phase is missing.....

ORDERING INFORMATION

				Male Plug
Amps	No. of Wires	RANGE Voltage AC	Clock Position of Ground Contact	
16	3P + G	110V - 690V	6	210406DF
16	3P + N + G	110V - 690V	6	210DF
32	3P + G	110V - 690V	6	230406DF
32	3P + N + G	110V - 690V	6	230DF
63	3P + G	110V - 690V	6	260406DF
63	3P + N + G	110V - 690V	6	260DF

CEEtYP- Phase Inverters



Phase inverters: Incorrectly installed rotating fields can easily be set right by quickly changing the polarity of the motor without having to rewire the phasing. Three-steps, three-minutes or less, job complete!

- Step 1 - Turn the power off
- Step 2 - Rotate the phase pins
- Step 3 - Turn the power on

Questions regarding the Phase Inverter? Call us today!

ORDERING INFORMATION

				Male Plug
Amps	No. of Wires	Voltage AC	Clock Position of Ground Contact	
16	3P + N + G	400	6	210PH
32	3P + N + G	400	6	230PH

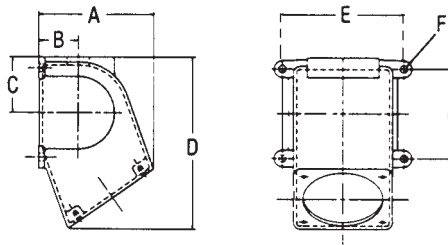
BACK BOXES for use with Walther straight watertight and splashproof receptacles.



Cat. No.	Description	Hub Size	Dimensions (inches)							Cubic Inch Capacity
			A	B	C	D	E	F	G	
BE3-B75	20° angle for 20A, 4 and 5 wire recepts. and all 30A recepts.	3/4"	3.34	0.97	1.12	4.12	4.00	0.25		20.4
BE3-B100		1"								
BE6-B125	20° angle for all 60A receptacles	1 1/4"	4.41	1.41	2.09	5.63	5.00	0.28	3.00	59.7
BE6-B150		1 1/2"								
BE10-B150	20° angle for all 100A receptacles	1 1/2"								96.6
BE10-B200		2"	5.18	1.78	2.50	7.71	5.50	.34	4.00	

Cast Aluminum Junction Boxes for Straight Watertight and Splashproof Female Receptacles

Epoxy-coated junction boxes are corrosion resistant and designed to pass the 500-hour salt spray test, the UL hosedown and external icing tests.



BACK BOX ADAPTER PLATES for use with Hubbell back boxes.



Cat. No.	Walther Receptacle	For use with Hubbell Back Box
BB20-3W	20A, 3 Wire	BB201W, BB301W, FT202W or FT302W
BB20-345W	20A, 4 & 5 Wire 30A, 3, 4 & 5 Wire	BB201W, BB301W, FT202W or FT302W
BB60-345W	60A, 3, 4 & 5 Wire	BB601W, BB602W or FW60/100
BB100-345W	100A, 3, 4 & 5 Wire	BB1001W, BB1002W or FW60/100



Can your current device withstand this type of abuse?



Built tough for the most demanding use!



Oil-Grime-Water-we can take it all!

PG THREAD TO NPT THREAD ADAPTERS



Cat. No.	Description	Std. Pkg.
PG11-38	PG11 to 3/8" NPT Adapter	25
PG11-50	PG11 to 1/2" NPT Adapter	25
PG135-50	PG13,5 to 1/2" NPT Adapter	25
PG16-50	PG16 to 1/2" NPT Adapter	25
PG21-75	PG21 to 3/4" NPT Adapter	25
PG29-100	PG29 to 1" NPT Adapter	10
PG29-125	PG29 to 1 1/4" NPT Adapter	5
PG36-125	PG36 to 1 1/4" NPT Adapter	5

For PG thread sizes to NPT thread sizes not shown, consult technical service for price, delivery and minimum order quantities.

WATERTIGHT CLOSURE CAPS for use with watertight male plugs and inlets



Cat. No.	Poles and Wires	Amperage Rating	Std. Pkg Quantity
613300	3 Wire	20	5
633400		30	5
663500		60	2
673500		100	2
613400	4 Wire	20	5
633400		30	5
663500		60	2
673500		100	2
613500	5 Wire	20	5
633500		30	5
663500		60	2
673500		100	2

SPLASHPROOF CLOSURE CAPS for use with splashproof male plugs and inlets



Cat. No.	Poles and Wires	Amperage Rating	Std. Pkg Quantity
614300	3 Wire	20	5
634400		30	5
664500		60	2
614400	4 Wire	20	5
634400		30	5
664500		60	2
614500	5 Wire	20	5
634500		30	5
664500		60	2

PRE-INSTALLED CLOSURE CAPS



Closure caps provide watertight or splashproof protection to disconnected plugs and inlets. The possibility of removing or misplacing the cap can be eliminated by securing the chain or nylon strap to the inlet flange. If the closure cap will be fastened to a plug, Walther can pre-install the cap on the device. This factory installation assures safe and reliable utilization of the two components. Contact customer service for ordering information.

ELECTRICAL

Insulation Resistance Per IEC 309-1, Clause 19	500V for 1 min. Resistance $\geq 5M \Omega$
Dielectric Strength Per IEC 309-1, Clause 19	3000V for 1 min.
Norm. Operation, Connect & Disconnect Cycles Per IEC 309-1, Clause 21	See Table 1
Breaking Capacity Per IEC 309-1, Clause 20	Tested at 110 % of the rated operating voltage and 125% of the rated current.
Temperature Rise Per IEC 309-1, Clause 22	Maximum 50 K rise at full rated current.

MECHANICAL

Cable Secureness Per IEC 309, Clause 23	See Table 2
Impact Per IEC 309, Clause 24	A device is wired with a 2.25m length of flexible cord and dropped from a height of 75 cm, 8 times. The device is then tested for applicable degrees of protection against moisture.

ENVIRONMENTAL

Flammability	Self-extinguishing Per IEC 309-1, Clause 27
Ambient Temperature Range	Minimum: -25°C with impact Maximum: 90°C
Moisture Resistance	Watertight (IP67): Device immersed for 24 hours in water at a temp. of 25°C, the highest point of the device being 5cm (2") below the water level. Splashproof (IP44): Device is sprayed with water for 10 minutes and immediately afterwards subjected to splashing water in all directions (360°).
UV Resistance	Exposed plastic materials are UV stabilized.



DECLARATION OF CONFORMITY

WALTHER WERKE, Ferdinand Walther GmbH
Ramsener Strasse 6
67304 Eisenberg

We declare, under our sole responsibility, the conformity of the following products and standards:

Plugs and Sockets (Pin and Sleeve devices)
DIN EN 60 309, T. 1
DIN EN 60 309, T. 2

This declaration of conformity is according to the EC regulations 73/23, 91/368 and 89/336 (Low Voltage Directive), module A, in consideration of DIN EN 45 014.

Minimum test requirements

TABLE 1

Connect and Disconnect Cycles			
Device Rating Amperes	Cycles with Load at Rated Current and Voltage	No-Load Cycles	Sequence
16	5000 p.f of 0.6	0	-
32	1000 p.f of 0.6	1000	Alternating
63	1000 p.f of 0.6	1000	Alternating
125	250 p.f of 0.7	250	Alternating

The test sequence is conducted by using a no-load, followed by a load sequence.

TABLE 2

Cable Secureness Test			
Device Rating Amperes	Force	Torque	Maximum Displacement
	N	N•m	mm
16	80	0.350	2
32	100	0.425	2
63	120	0.8	2
125	200	1.5	2

The flexible cord or cable is twisted and pulled. Values for the applied twisting torque and force of pull are shown in Table 2. In all cases the cord displacement is less than 2mm.



Norway



Germany



Finland



Switzerland



Austria



Sweden



Belgium



Denmark



Italy



Netherlands



Czechoslovakia



Hungary



Russia



For all plugs,
sockets &
receptacles



United States



Canada







China
*part specific

DIN EN ISO 9001 Certificate Registration No. 4678-01







MALE PLUGS

 LISTED

MALE PLUGS				WATERTIGHT (IP67)	SPLASHPROOF (IP44)		
UL LISTED					with cable gland	with cable sleeve	Angled 90°
	No. of Wires	Voltage AC	Clock Position of Ground Contact				
3	2P + G	110	4	219304	211304	210304	216304
		230	6	219306	211306	210306	216306
		400	9	219309	211309	210309	216309
4	3P + G	110	4	219404	211404	210404	216404
		230	9	219409	211409	210409	216409
		400	6	219406	211406	210406	216406
		440	11	219411	211411	210411	216411
		500	7	219407	211407	210407	216407
		>50 (100-300Hz)	10	219410	211410	210410	216410
		>50 (300-500Hz)	2	219402	211402	210402	216402
5	3P + N + G	110	4	219504	211504	210504	216504
		230	9	219509	211509	210509	216509
		400	6	219	211	210	216
		440	11	219511	211511	210511	216511
7	6P + G	400	6		211706	210706	







FEMALE CONNECTORS (Couplers)

 LISTED

FEMALE CONNECTORS (Couplers)			WATERTIGHT (IP67)	SPLASHPROOF (IP44)			
UL LISTED				with cable gland	with cable sleeve	Angled 90°	
	No. of Wires	Voltage AC	Clock Position of Ground Contact				
3	2P + G	110	4	319304	311304	310304	316304
		230	6	319306	311306	310306	316306
		400	9	319309	311309	310309	316309
4	3P + G	110	4	319404	311404	310404	
		230	9	319409	311409	310409	
		400	6	319406	311406	310406	
		440	11	319411	311411	310411	
		500	7	319407	311407	310407	
		>50 (100-300Hz)	10	319410	311410	310410	
		>50 (300-500Hz)	2	319402	311402	310402	
5	3P + N + G	110	4	319504	311504	310504	
		230	9	319509	311509	310509	
		400	6	319	311	310	
		440	11	319511	311511	310511	
7	6P + G	400	6		311706	310706	

FEMALE PANEL MOUNTED SOCKET-OUTLET









				WATERTIGHT (IP67)			SPLASHPROOF (IP44)		
				Straight	Angled 15°	Angled 80°	Straight	Angled 15°	Angled 80°
No. of Wires	Voltage AC	Clock Position of Ground Contact							
3	2P + G	110	4	419304	519304	518304	410304	510304	514304
		230	6	419306	519306	518306	410306	510306	514306
		400	9	419309	519309	518309	410309	510309	514309
4	3P + G	110	4	419404	519404	518404	410404	510404	514404
		230	9	419409	519409	518409	410409	510409	514409
		400	6	419406	519406	518406	410406	510406	514406
		440	11	419411	519411	518411	410411	510411	514411
		500	7	419407	519407	518407	410407	510407	514407
		>50 (100-300Hz)	10	419410	519410	518410	410410	510410	514410
		>50 (300-500Hz)	2	419402	519402	518402	410402	510402	514402
5	3P + N + G	110	4	419504	519504	518504	410504	510504	514504
		230	9	419509	519509	518509	410509	510509	514509
		400	6	419	519	518	410	510	514
		440	11	419511	519511	518511	410511	510511	514511
7	6P + G	400	6				411706		514706

Note: See page 28 for surface mount socket-outlets.





MALE APPLIANCE PLUG (Inlet)



				WATERTIGHT (IP67)		SPLASHPROOF (IP44)			
				Angled 80°	Surface Mount	Straight	Angled 80°	Surface Mount External Mounting	Surface Mount Internal Mounting
No. of Wires	Voltage AC	Clock Position of Ground Contact							
3	2P + G	110	4	619304	618304	615304	611304	610304	
		230	6	619306	618306	615306	611306	610306	
		400	9	619309	618309	615309	611309	610309	
4	3P + G	110	4	619404	618404	615404	611404	610404	616404
		230	9	619409	618409	615409	611409	610409	616409
		400	6	619406	618406	615406	611406	610406	616406
		440	11	619411	618411	615411	611411	610411	616411
		500	7	619407	618407	615407	611407	610407	616407
		>50 (100-300Hz)	10	619410	618410	615410	611410	610410	616410
		>50 (300-500Hz)	2	619402	618402	615402	611402	610402	616402
5	3P + N + G	110	4	619504	618504	615504	611504	610504	616504
		230	9	619509	618509	615509	611509	610509	616509
		400	6	619	618	615	611	610	616
		440	11	619511	618511	615511	611511	610511	616511
7	6P + G	400	6			615706	611706	610706	616706





MALE PLUGS

 LISTED

MALE PLUGS				WATERTIGHT (IP67)	SPLASHPROOF (IP44)		
UL LISTED					with cable gland	with cable sleeve	Angled 90°
No. of Wires		Voltage AC	Clock Position of Ground Contact				
3	2P + G	110	4	239304	231304	230304	236304
		230	6	239306	231306	230306	236306
		400	9	239309	231309	230309	236309
4	3P + G	110	4	239404	231404	230404	236404
		230	9	239409	231409	230409	236409
		400	6	239406	231406	230406	236406
		380/440*	3	239403*			
		440	11	239411	231411	230411	236411
		500	7	239407	231407	230407	236407
		>50 (100-300Hz)	10	239410	231410	230410	236410
		>50 (300-500Hz)	2	239402	231402	230402	236402
5	3P + N + G	110	4	239504	231504	230504	236504
		230	9	239509	231509	230509	236509
		400	6	239	231	230	236
		440	11	239511	231511	230511	236511
7	6P + G	400	6		231706	230706	

FEMALE CONNECTORS (Couplers)








 LISTED

FEMALE CONNECTORS (Couplers)				WATERTIGHT (IP67)	SPLASHPROOF (IP44)	
 LISTED					with cable gland	with cable sleeve
No. of Wires		Voltage AC	Clock Position of Ground Contact			
3	2P + G	110	4	339304	331304	330304
		230	6	339306	331306	330306
		400	9	339309	331309	330309
4	3P + G	110	4	339404	331404	330404
		230	9	339409	331409	330409
		400	6	339406	331406	330406
		380/440*	3	339403*		
		440	11	339411	331411	330411
		500	7	339407	331407	330407
		>50 (100/300Hz)	10	339410	331410	330410
		>50 (300/500Hz)	2	339402	331402	330402
5	3P + N + G	110	4	339504	331504	330504
		230	9	339509	331509	330509
		400	6	339	331	330
		440	11	339511	331511	330511
7	6P + G	400	6		331706	330706

* Only for refrigerated containers.

FEMALE PANEL MOUNTED SOCKET-OUTLET







UL LISTED

FEMALE PANEL MOUNTED SOCKET-OUTLET <div> LISTED</div>				WATERTIGHT (IP67)			SPLASHPROOF (IP44)		
				Straight	Angled 15°	Angled 80°	Straight	Angled 15°	Angled 80°
No. of Wires		Voltage AC	Clock Position of Ground Contact						
3	2P + G	110	4	439304	539304	538304	430304	530304	534304
		230	6	439306	539306	538306	430306	530306	534306
		400	9	439309	539309	538309	430309	530309	534309
4	3P + G	110	4	439404	539404	538404	430404	530404	534404
		230	9	439409	539409	538409	430409	530409	534409
		400	6	439406	539406	538406	430406	530406	534406
		380/440*	3	439403*					
		440	11	439411	539411	538411	430411	530411	534411
		500	7	439407	539407	538407	430407	530407	534407
		>50 (100-300Hz)	10	439410	539410	538410	430410	530410	534410
		>50 (300-500Hz)	2	439402	539402	538402	430402	530402	534402
5	3P + N + G	110	4	439504	539504	538504	430504	530504	534504
		230	9	439509	539509	538509	430509	530509	534509
		400	6	439	539	538	430	530	534
		440	11	439511	539511	538511	430511	530511	534511
7	6P + G	400	6				431706		534706

Note: See page 28 for surface mount socket-outlets.

MALE APPLIANCE PLUG (Inlet)




UL LISTED

MALE APPLIANCE PLUG (Inlet)				WATERTIGHT (IP67)		SPLASHPROOF (IP44)			
UL LISTED				Angled 80°	Surface Mount	Straight	Angled 80°	Surface Mount External Mounting	Surface Mount Internal Mounting
No. of Wires		Voltage AC	Clock Position of Ground Contact						
3	2P + G	110	4	639304	638304	635304	631304	630304	636304
		230	6	639306	638306	635306	631306	630306	636306
		400	9	639309	638309	635309	631309	630309	636309
4	3P + G	110	4	639404	638404	635404	631404	630404	636404
		230	9	639409	638409	635409	631409	630409	636409
		400	6	639406	638406	635406	631406	630406	636406
		380/440*	3	639403*	638403*				
		440	11	639411	638411	635411	631411	630411	636411
		500	7	639407	638407	635407	631407	630407	636407
		>50 (100-300Hz)	10	639410	638410	635410	631410	630410	636410
		>50 (300-500Hz)	2	639402	638402	635402	631402	630402	636402
5	3P + N + G	110	4	639504	638504	635504	631504	630504	636504
		230	9	639509	638509	635509	631509	630509	636509
		400	6	639	638	635	631	630	636
		440	11	639511	638511	635511	631511	630511	636511
7	6P + G	400	6			635706	631706	630706	636706

* Only for refrigerated containers.




MALE PLUGS

 LISTED

MALE PLUGS			WATERTIGHT (IP67)	SPLASHPROOF (IP44)	
UL LISTED				with cable gland	with cable sleeve
No. of Wires	Voltage AC	Clock Position of Ground Contact			
3	2P + G	110	4	269304	261304
		230	6	269306	261306
		400	9	269309	261309
4	3P + G	110	4	269404	261404
		230	9	269409	261409
		400	6	269406	261406
		440	11	269411	261411
		500	7	269407	261407
5	3P + N + G	110	4	269504	261504
		230	9	269509	261509
		400	6	269	261
		440	11	269511	261511







FEMALE CONNECTORS (Couplers)

 LISTED

FEMALE CONNECTORS (Couplers)			WATERTIGHT (IP67)	SPLASHPROOF (IP44)	
UL LISTED				with cable gland	with cable sleeve
No. of Wires	Voltage AC	Clock Position of Ground Contact			
3	2P + G	110	4	369304	361304
		230	6	369306	361306
		400	9	369309	361309
4	3P + G	110	4	369404	361404
		230	9	369409	361409
		400	6	369406	361406
		440	11	369411	361411
		500	7	369407	361407
5	3P + N + G	110	4	369504	361504
		230	9	369509	361509
		400	6	369	361
		440	11	369511	361511

FEMALE PANEL MOUNTED SOCKET-OUTLET





UL LISTED

				WATERTIGHT (IP67)			SPLASHPROOF (IP44)		
				Straight	Angled 15°	Angled 80°	Straight	Angled 15°	Angled 80°
3	2P + G	110	4						
		230	6	469306	569306	568306	460306	560306	564306
		400	9	469309	569309	568309	460309	560309	564309
4	3P + G	110	4	469404	569404	568404	460404	560404	564404
		230	9	469409	569409	568409	460409	560409	564409
		400	6	469406	569406	568406	460406	560406	564406
		440	11	469411	569411	568411	460411	560411	564411
		500	7	469407	569407	568407	460407	560407	564407
5	3P + N + G	110	4	469504	569504	568504	460504	560504	564504
		230	9	469509	569509	568509	460509	560509	564509
		400	6	469	569	568	460	560	564
		440	11	469511	569511	568511	460511	560511	564511

Note: See page 28 for surface mount receptacles.

MALE APPLIANCE PLUG (Inlet)

UL LISTED

				WATERTIGHT (IP67)		SPLASHPROOF (IP44)	
				Angled 80°	Surface Mount	Straight	Angled 80°
3	2P + G	110	4				
		230	6	669306	668306		661306
		400	9	669309	668309		661309
4	3P + G	110	4	669404	668404		661404
		230	9	669409	668409		661409
		400	6	669406	668406		661406
		440	11	669411	668411		661411
		500	7	669407	668407		661407
5	3P + N + G	110	4	669504	668504	665504	661504
		230	9	669509	668509	665509	661509
		400	6	669	668	665	661
		440	11	669511	668511	665511	661511

MALE PLUGS

UL LISTED

WATERTIGHT (IP67)



No. of Wires	Voltage AC	Clock Position of Ground Contact	
3	2P + G	110	4
	230	6	
	400	9	
4	3P + G	110	4
	230	9	
	400	6	
	440	11	
	500	7	
5	3P + N + G	110	4
	230	9	
	400	6	
	440	11	

FEMALE CONNECTORS (Couplers)

UL LISTED

WATERTIGHT (IP67)





No. of Wires	Voltage AC	Clock Position of Ground Contact	
3	2P + G	110	4
	230	6	
	400	9	
4	3P + G	110	4
	230	9	
	400	6	
	440	11	
	500	7	
5	3P + N + G	110	4
	230	9	
	400	6	
	440	11	

Note: 125-Amp devices are only available in IP67-Watertight configuration.

FEMALE PANEL MOUNTED SOCKET-OUTLET



UL LISTED

FEMALE PANEL MOUNTED SOCKET-OUTLET				WATERTIGHT (IP67)	
UL LISTED				Straight	Angled 15°
	No. of Wires	Voltage AC	Clock Position of Ground Contact		
3	2P + G	110	4	479304	579304
		230	6	479306	579306
		400	9	479309	579309
4	3P + G	110	4	479404	579404
		230	9	479409	579409
		400	6	479406	579406
		440	11	479411	579411
		500	7	479407	579407
5	3P + N + G	110	4	479504	579504
		230	9	479509	579509
		400	6	479	579
		440	11	479511	579511

Note: See page 28 for surface mount receptacles.






MALE APPLIANCE PLUG (Inlet)

UL LISTED

MALE APPLIANCE PLUG (Inlet)				WATERTIGHT (IP67)	
UL LISTED				Straight	Surface Mount
	No. of Wires	Voltage AC	Clock Position of Ground Contact		
3	2P + G	110	4	679304	678304
		230	6	679306	678306
		400	9	679309	678309
4	3P + G	110	4	679404	678404
		230	9	679409	678409
		400	6	679406	678406
		440	11	679411	678411
		500	7	679407	678407
5	3P + N + G	110	4	679504	678504
		230	9	679509	678509
		400	6	679	678
		440	11	679511	678511


SURFACE MOUNT SOCKET-OUTLETS (Internal Mounting)



				WATERTIGHT (IP67)				SPLASHPROOF (IP44)		
				16 Amps	32 Amps	63 Amps	125 Amps	16 Amps	32 Amps	63 Amps
										
No. of Wires	Voltage AC	Clock Position of Ground Contact								
3	2P + G	110	4	119304	139304		179304	111304	131304	
		230	6	119306	139306		179306	111306	131306	
		400	9	119309	139309		179309	111309	131309	
4	3P + G	110	4	119404	139404	169404	179404	111404	131404	161404
		230	9	119409	139409	169409	179409	111409	131409	161409
		400	6	119406	139406	169406	179406	111406	131406	161406
		440	11	119411	139411	169411	179411	111411	131411	161411
		500	7	119407	139407	169407	179407	111407	131407	161407
	>50 (100-300Hz)	10		119410	139410	169410	179410	111410	131410	161410
	>50 (300-500Hz)	2		119402	139402	169402	179402	111402	131402	161402
5	3P + N + G	110	4	119504	139504	169504	179504	111504	131504	161504
		230	9	119509	139509	169509	179509	111509	131509	161509
		400	6	119	139	169	179	111	131	161
		440	11	119511	139511	169511	179511	111511	131511	161511
7	6P + G	400	6					111706	131706	

SURFACE MOUNT SOCKET-OUTLETS (External Mounting)



				SPLASHPROOF (IP44)	
				16 Amps	32 Amps
					
No. of Wires	Voltage AC	Clock Position of Ground Contact			
3	2P + G	110	4	110304	130304
		230	6	110306	130306
		400	9	110309	130309
4	3P + G	110	4	110404	130404
		230	9	110409	130409
		400	6	110406	130406
		440	11	110411	130411
		500	7	110407	130407
	>50 (100-300Hz)	10		110410	130410
	>50 (300-500Hz)	2		110402	130402
5	3P + N + G	110	4	110504	130504
		230	9	110509	130509
		400	6	110	130
		440	11	110511	130511
7	6P + G	400	6	110706	130706

NEW PRODUCT - NEW CEE_{typ} GENERATION

NEW!



Standard screw-terminal version: faster and safer



Cable gland: Automatic strain relief plus sealing all in one go

UL LISTED



Double safety: two contact screws for vibration-proof wiring

Color coding: safe identification of conductors



The standard version: with screw terminals

Doubly safe: with 2 connection screws per terminal

Automatic cable gland: the absolutely safe solution

Example for 6 h types

Former part nos.:	Today's part no.:
210 211 212	210
310 311 312	310
230 231 232	230
330 331 332	330








High technology moulding, a patented WALTHER system for perfect sealing

For expert safety: totally splashproof, including strain relief

Durable locking: Fasten front and back part until audible snap

ORDERING INFORMATION

 3 P + N + E	Ampère	Poles	110 V 50 a. 60 Hz <div>5pole 4h</div>	230 V 50 a. 60 Hz <div>5pole 9h</div>	400 V 50 a. 60 Hz <div>5pole 6h</div>	Conductor cross section	Cable diameter		
Part numbers									
 <i>pic. 210</i>	16	5	210 504	210 509	210	1 - 4 mm ²	7,5 - 19,5 mm	10/60	176
	32	5	230 504	230 509	230	2,5 - 6 mm ²	10 - 24,5 mm	10/60	250
CEE Male Plug ⚠ IP 44, with screw terminals									
 <i>pic. 310</i>	16	5	310 504	310 509	310	1 - 4 mm ²	7,5 - 19,5 mm	10/60	219
	32	5	330 504	330 509	330	2,5 - 6 mm ²	10 - 24,5 mm	10/60	311
CEE Female Connector (coupler) ⚠ IP 44, with screw terminals									

Consult customer service for other amperage and voltage ratings and configurations.



The New Walther Watertight Solution!

The new style Walther IP67 plugs and connectors have improved sealing, fast, safe and tight cable gland. The new Walther IP67 plugs and connectors also offer a provision for a padlock to comply with OSHA Lockout/Tagout requirements.



Double sealing groove:
For a larger sealing surface and thus higher tightness.



Modes of Connection

You can choose between:

■ **screw terminals:**
2 connection screws per contact, already with 16 A - for double safety



■ **screwless version:**
Centrepiece is the distributor ring. When inserting the wires into the slots they are bent by 180°. This serves as anchor. By inserting the distributor ring into the front part and screwing down the back part all wires are contacted in one go.



Protecting cap:

The cap is always at hand since it is undetachably fixed on the bayonet ring

New Product Features

- Pleasing product design
- Cable gland for better strain relief and tightness.
- Opened hinged lid snaps automatically into closed position when let loose. Thereby increased contact protection even when lid is not yet screwed down.
- Unlimited strain relief with the screwless version - nobody will be able to pull this cable out anymore.
- Padlockable - as protection against unauthorized disconnection from the circuit
- Double sealing groove for more tightness
- Captive protecting cap

Padlockable:

Protection against unauthorized disconnection from the electric circuit. Stay OSHA Compliant!





Assembly

- Just screw front and back part together - ready.
- Only screw down cable gland - quick and easy.
- To attach the padlock simply insert its shackle into the hole on the bayonet ring
- Plug and socket, 16 A and 32 A
- Protecting cap (accessory)
- padlock (accessory)



CEEtyp Plugs and Sockets

Range of products

<div><div>3</div><div>4</div><div>5</div></div> <div>2P+E 3P+E 3P+N+E</div>			Ampère	Poles	<div>110 V</div> <div>50 a. 60 Hz</div> <div>3pole 4pole 5pole 4h 4h 4h</div>	<div>230 V</div> <div>50 a. 60 Hz</div> <div>3pole 4pole 5pole 6h 9h 9h</div>	<div>400 V</div> <div>50 a. 60 Hz</div> <div>3pole 4pole 5pole 9h 6h 6h</div>	Conductor cross section	Cable diameter		
Part Numbers											
	16	4	219 404	219 409	219 406	1 - 2,5 mm ²	7,5 - 18,5 mm	10	212		
	16	5	219 504	219 509	219			10	236		
	32	3	239 304	239 306	239 309	2,5 - 6 mm ²	10 - 22,5 mm	10	290		
	32	4	239 404	239 409	239 406			10	300		
	32	5	239 504	239 509	239			10	340		
	16	4	219 404 SL	219 409 SL	219 406 SL	1 - 2,5 mm ²	7,5 - 18,5 mm	10	212		
	16	5	219 504 SL	219 509 SL	219 SL			10	236		
	32	3	239 304 SL	239 306 SL	239 309 SL	2,5 - 6 mm ²	10 - 22,5 mm	10	290		
	32	4	239 404 SL	239 409 SL	239 406 SL			10	300		
	32	5	239 504 SL	239 509 SL	239 SL			10	340		
Fig. 219 CEE Plug IP 67, with screw terminals											
	16	4	319 404	319 409	319 406	1 - 2,5 mm ²	7,5 - 18,5 mm	10	268		
	16	5	319 504	319 509	319			10	298		
	32	3	339 304	339 306	339 309	2,5 - 6 mm ²	10 - 22,5 mm	10	351		
	32	4	339 404	339 409	339 406			10	369		
	32	5	339 504	339 509	339			10	415		
	16	4	319 404 SL	319 409 SL	319 406 SL	1 - 2,5 mm ²	7,5 - 18,5 mm	10	268		
	16	5	319 504 SL	319 509 SL	319 SL			10	298		
	32	3	339 304 SL	339 306 SL	339 309 SL	2,5 - 6 mm ²	10 - 22,5 mm	10	351		
	32	4	339 404 SL	339 409 SL	339 406 SL			10	369		
	32	5	339 504 SL	339 509 SL	339 SL			10	415		
Fig. 319 CEE Couplers IP 67, with screw terminals											

Consult customer service for other amperage and voltage ratings and configurations.

* "SL" UL Listing Pending



IEC 309 PIN & SLEEVE DEVICES • LIGHT & STAGE DEVICES



Well hidden from View!

It is necessary that electrical installations on stages function without interruption and not be a distraction to the viewers.

The Walther Electric Solution:

Black devices which prevent bothersome light reflections and thus make the electrical installation on stages almost "invisible"!

Standard Style

New Light & Stage Style















Now You See It

-

Now You Don't

Male Plugs IP 44 for Light & Stage Applications

IEC/EN 60 309

 2 P + E	 3 P + E	 3 P + N + E	Amperage	Poles	110 V 50 a. 60 Hz <small>3pole 4pole 5pole 4h 4h 4h</small>	230 V 50 a. 60 Hz <small>3pole 4pole 5pole 6h 9h 9h</small>	400 V 50 a. 60 Hz <small>3pole 4pole 5pole 9h 6h 6h</small>	500 V 50 a. 60 Hz <small>3pole 4pole 5pole 7h 7h 7h</small>		
Part numbers										
	16	3				211 306 SW			10	112
	16	4					211 406 SW		10	154
	16	5					211 SW		10	170
	32	3				231 306 SW			10	211
	32	4					231 406 SW		10	217
	32	5					231 SW		10	240
	63	3				261 306 SW			5	475
	63	4					261 406 SW		5	566
	63	5					261 SW		5	613
	125	3				279 306 SW¹⁾			2	1185
	125	4					279 406 SW¹⁾		2	1329
	125	5					279 SW¹⁾		2	1473
231SW	Plugs with gland entry, in 16 - 63 A = IP 44 , in 125 A = IP 67  ¹⁾									
	16	3	215 304 SW			215 306 SW			10	101
215306SW	Plugs IP 44  with inverted cable entry									
	16	5					210 SW		10/60	176
	32	5					230 SW		10/60	250
230SW	Plugs IP 44 , with cable gland									

Consult customer service for other amperage and voltage ratings and configurations.

Female Connectors & Socket-Outlets IP 44 for Light & Stage Applications IEC/EN 60 309

 2 P + E  3 P + E  3 P + N + E	Amperage	Poles	110 V 50 a. 60 Hz <small>3pole 4pole 5pole</small> <small>4h 4h 4h</small>	230 V 50 a. 60 Hz <small>3pole 4pole 5pole</small> <small>6h 9h 9h</small>	400 V 50 a. 60 Hz <small>3pole 4pole 5pole</small> <small>9h 6h 6h</small>	500 V 50 a. 60 Hz <small>3pole 4pole 5pole</small> <small>7h 7h 7h</small>		
Part numbers								
	16	3		311 306 SW			10	147
	16	4			311 406 SW		10	197
	16	5			311 SW		10	214
	32	3		331 306 SW			10	265
	32	4			331 406 SW		10	278
	32	5			331 SW		10	300
	63	3		361 306 SW			5	656
	63	4			361 406 SW		5	771
	63	5			361 SW		5	787
	125	3		379 306 SW²⁾			2	1362
	125	4			379 406 SW²⁾		2	1536
	125	5			379 SW²⁾		2	1710
331306SW	Couplers with gland entry, 16 - 63 A = IP 44 , 125 A = IP 67  ²⁾							
	16	3	315 304 SW	315 306 SW			10	140
315306SW	Couplers IP 44 , with inverted cable entry							
	16	5			310 SW		10/60	219
	32	5			330 SW		10/60	311
310SW	Couplers IP 44 , with cable gland							
	16	3	410 304 SW	410 306 SW			10	128
	16	4			410 406 SW		10	106
	16	5			410 SW		10	165
	32	3		430 306 SW			10	208
	32	4			430 406 SW		10	215
	32	5			430 SW		10	226
	63	3		460 306 SW			5	586
	63	4			460 406 SW		5	645
	63	5			460 SW		5	776
	125	3		479 306 SW³⁾			2	990
	125	4			479 406 SW³⁾		2	1155
	125	5			479 SW³⁾		2	1319
430SW	Panel sockets, straight, 16 - 63 A = IP 44 , 125 A = IP 67  ³⁾, fingerproof acc. to BGV A2							

Consult customer service for other amperage and voltage ratings and configurations.



SCREW-LESS IDC PLUGS AND CONNECTORS... ...BROUGHT TO YOU BY WALTHER ELECTRIC

CEEtyp™

CEEtyp plugs and connectors, with insulation displacement technology, are designed to increase productivity and lower the installed cost of wire termination. Utilization of the quick connection system for all wiring jobs, large and small, will speed and improve wire terminations while saving you money. Time and labor savings can be up to 60% when compared to other connection systems.



No wire stripping — the installation is fast and easy. The usual stripping procedure is not required. Simply remove outer cable jacket to length, fold over and position the conductors in the piercing pockets, and the connection is complete.

The Walther quick connection system provides an optimum electrical bond between the conductor and the piercing metal. Once the threaded grip ring is fastened onto the strain relief, the proper amount of force has been applied providing a uniform and controlled connection.

The insulation displacement connections are designed for wire sizes 18 — 14 AWG (1 — 2.5 mm²) for the 16-Amp versions and 14 — 10 AWG (2.5 mm² — 6 mm²) for the 32-Amp versions and are suitable for use under extreme conditions such as heavy vibration.



ORDERING INFORMATION

				Male Plug	Female Connector
Amps	No. of Wires	Voltage AC	Clock Position of Ground Contact		
16	3P + N + G	400	6	210SL	310SL
32	3P + N + G	400	6	230SL	330SL

Consult customer service for other amperage and voltage ratings and configurations.



Remove approx. 35 - 40 mm of the sheathing from the cable (with 6 mm² 45 mm) and feed it through the back part from behind. Cut off the non-conductive core.



Then lead all five conductors through the distributor ring. Draw one after the other conductor sideways into the marked connection chambers. No stripping required.



Fit distributor ring onto front part. **Important:** Aligning nose provides for correct position when inserted in guide groove.



Fit back part onto front part and turn until parts lock in place automatically.



Finally tighten the cable gland (torque at least 4 Nm) - ready.



To disassemble first unscrew the cable gland (a). Then press the screwdriver (blade width 3.0 mm) deeply into the opening slot of the back part. Turn screwdriver clockwise to unlock the parts again.

POWER plus CONTROL = **CEEpro**

Walther's advanced series of CEEpro connectors combine both power and control, monitoring and sensing contacts in one plug and socket system.



For more information call customer service at **(800) 925-8437**

Example: Part Number 269419

2	6	9	4	19
Device Type 1st Digit	Amperage Rating 2nd Digit	Versions (Environmental) 3rd Digit	Poles and Wires 4th Digit	Clock Position 5th & 6th Digit
1= Female Socket-Outlet (Surface (Mount))	1= 20A North American 16A International	0= One top entry (splashproof) 1= Three entries (splashproof) 9=Three entries (Watertight)	3= 2 Pole + G or 1 Pole + N + G	1 Hour = 01 2 Hour = 02 3 Hour = 03 4 Hour = 04 5 Hour = 05 6 Hour = 06
2= Male Plug	3= 30A North American 32A International	0= With cable entry boot (splashproof) 1= With strain relief conn. (splashproof) 9= With strain relief conn. (Watertight)	4= 3 Pole + G or 2 Pole + N + G	7 Hour = 07 8 Hour = 08 9 Hour = 09 10 Hour = 10 11 Hour = 11 12 Hour = 12
3= Female Connector	6= 60A North American 63A International	0= Various mounting and 1= Flange sizes 2= (splashproof)	5= 3 Pole + N + G	1 Hour = 13 2 Hour = 14 3 Hour = 15 4 Hour = 16 5 Hour = 17 6 Hour = 18
4= Female Receptacle Socket-Outlet (Panel Mount Striaght)	7= 100A North American 125A International	4= Two-Piece (spalshproof)	7= 6 Pole + G	7 Hour = 19 8 Hour = 20 9 Hour = 21 10 Hour = 22 11 Hour = 23 12 Hour = 24
5= Female Receptacle Socket-Outlet (Panel Mount Angled)		7= Various mounting and 8= flange sizes 9= (Watertight)		
6= Male Inlet (Appliance Plug)		0= Surface Mount Angled (splashproof) 1= Panel Mount Angled (splashproof) 5= Panel Mount Straight (splashproof) 6= Two-Piece (splashproof) 8= Surface Mount (Watertight) 9= Panel Mount (Watertight)		

TABLE 1 Cable and Conductor Strip Length

Device Rating					
North American		20A	30A	60A	100A
International		16A	32A	63A	125A
Outer Jacket Strip Length	inch	2	2 1/2	3	4
	mm	50	63	76	102
Conductor Strip Length	inch	1/2	1/2	3/4	1 1/8
	mm	12	12	19	28
Pilot Conductor Strip Length	inch			7/16	5/8
	mm			11	16

TABLE 2 Maximum Torque applied to terminal screws

Device Rating					
North American		20A	30A	60A	100A
International		16A	32A	63A	125A
Torque Terminal Screw	lb. - in.	7.1	7.1	17.6	35.3
	N - m	0.8	0.8	2	4
Torque Pilot Screw	lb. - in.			7.1	7.1
	N - m			0.8	0.8

TABLE 4 Metric and AWG/MCM conductor size equivalents

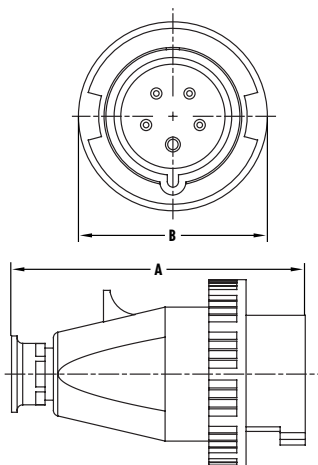
Conductor Size		Test Range (Amperage)
mm²	AWG/MCM	
1,0	18	0-8
1,5	16	8-12
2,5	14	12-15
2,5	12	15-20
4,0	10	20-25
6,0	10	25-32
10	8	32-50
16	6	50-65
25	4	65-85
35	3	85-100
35	2	100-115
50	1	115-130
50	1/0	130-150
70	2/0	150-175
95	3/0	175-200
95	4/0	200-225
120	250	225-250
150	300	250-275
185	350	275-300
185	400	300-350
240	500	350-400

TABLE 3 Cable and Conductor Range

Amps		Poles and Wires	From		To		Cord Grip Range				
								With Cable Gland		With Cable Sleeve	
								North American	International	North American	International
16	20	2P3W	16	S	10	S	inch mm	0.275 - 0.530 7 - 13.5	0.275 - 0.530 7 - 13.5	0.275 - 0.675 7 - 17	0.275 - 0.675 7 - 17
		3P4W	16	S	10	S	inch mm	.395 - .825 10 - 21	0.275 - 0.630 7 - 16	0.315 - 0.800 8 - 20	0.315 - 0.800 8 - 20
		4P5W	16	S	10	S	inch mm	.395 - .825 10 - 21	0.275 - 0.630 7 - 16	0.315 - 0.800 8 - 20	0.315 - 0.800 8 - 20
30	32	2P3W	12	S	8	S	inch mm	.395 - .825 10 - 21	.395 - .825 10 - 21	0.590 - 0.950 15 - 24	0.435 - 0.950 11 - 24
		3P4W	12	S	8	S	inch mm	0.650 - 1.10 16.5 - 28	.395 - .825 10 - 21	0.590 - 0.950 15 - 24	0.435 - 0.950 11 - 24
		4P5W	12	S	8	S	inch mm	0.650 - 1.10 16.5 - 28	.395 - .825 10 - 21	0.590 - 0.950 15 - 24	0.435 - 0.950 11 - 24
60*	63*	2P3W	8	S	4	S or W	inch mm	.650 - 1.50 16.5 - 38	.650 - 1.50 16.5 - 38	0.635 - 1.30 16 - 33	0.600 - 1.30 15 - 33
		3P4W	8	S	4	S or W	inch mm	.650 - 1.50 16.5 - 38	.650 - 1.50 16.5 - 38	0.635 - 1.30 16 - 33	0.600 - 1.30 15 - 33
		4P5W	8	S	4	S or W	inch mm	.650 - 1.50 16.5 - 38	.650 - 1.50 16.5 - 38	0.635 - 1.30 16 - 33	0.600 - 1.30 15 - 33
100*	125*	2P3W	6	S or W	2/0	S or W	inch mm	.950 - 1.90 24 - 48	.950 - 1.90 24 - 48		
		3P4W	6	S or W	2/0	S or W	inch mm	.950 - 1.90 24 - 48	.950 - 1.90 24 - 48		
		4P5W	6	S or W	2/0	S or W	inch mm	.950 - 1.90 24 - 48	.950 - 1.90 24 - 48		

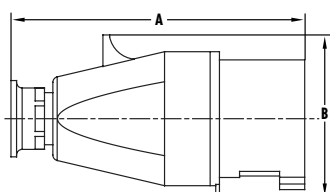
* Pilot conductor 16 to 8 AWG

WATERTIGHT PLUGS (IP67)



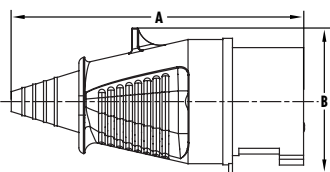
Amps		Type		Dimensions		Cord Grip Range	
N.A.	Intl.			A	B	N. American	International
20	16	3 Wire	inch	4.96	2.83	0.275 - 0.530	0.275 - 0.530
			mm	126	72	7.0 - 13.5	7.0 - 13.5
20	16	4 Wire	inch	5.20	3.19	0.395 - 0.825	0.275 - 0.630
			mm	132	81	10.0 - 21.0	7.0 - 16.0
20	16	5 Wire	inch	5.20	3.46	0.395 - 0.825	0.275 - 0.630
			mm	132	88	10.0 - 21.0	7.0 - 16.0
30	32	3 Wire	inch	6.14	3.78	0.395 - 0.825	0.395 - 0.825
			mm	156	96	10.0 - 21.0	10.0 - 21.0
30	32	4 Wire	inch	6.14	3.78	0.650 - 1.10	0.395 - 0.825
			mm	156	96	16.5 - 28.0	10.0 - 21.0
30	32	5 Wire	inch	6.14	4.06	0.650 - 1.10	0.395 - 0.825
			mm	156	103	16.5 - 28.0	10.0 - 21.0
60	63	3, 4, & 5 Wire	inch	9.57	4.33	0.650 - 1.50	0.650 - 1.50
			mm	243	110	16.5 - 38.0	16.5 - 38.0
100	125	3, 4, & 5 Wire	inch	12.40	5.12	0.950 - 1.90	0.950 - 1.90
			mm	315	130	24.0 - 48.0	24.0 - 48.0

SPLASHPROOF PLUGS (IP44) (with cable gland)



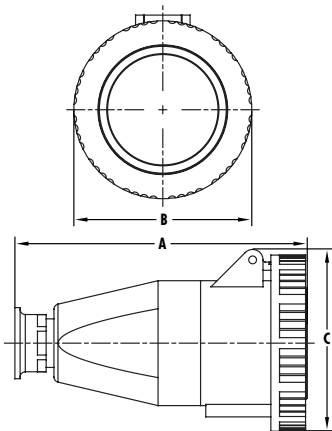
Amps		Type		Dimensions		Cord Grip Range	
N.A.	Intl.			A	B	N. American	International
20	16	3 Wire	inch	4.84	2.36	0.275 - 0.530	0.275 - 0.530
			mm	123	60	7.0 - 13.5	7.0 - 13.5
20	16	4 Wire	inch	5.16	2.68	0.395 - 0.825	0.275 - 0.630
			mm	131	68	10.0 - 21.0	7.0 - 16.0
20	16	5 & 7 Wire	inch	5.16	2.95	0.395 - 0.825	0.275 - 0.630
			mm	131	75	10.0 - 21.0	7.0 - 16.0
30	32	3 Wire	inch	6.10	3.11	0.395 - 0.825	0.395 - 0.825
			mm	155	79	10.0 - 21.0	10.0 - 21.0
30	32	4 Wire	inch	6.10	3.11	0.650 - 1.10	0.395 - 0.825
			mm	155	79	16.5 - 28.0	10.0 - 21.0
30	32	5 & 7 Wire	inch	6.10	3.46	0.650 - 1.10	0.395 - 0.825
			mm	155	88	16.5 - 28.0	10.0 - 21.0
60	63	3, 4, & 5 Wire	inch	9.45	3.82	0.650 - 1.50	0.650 - 1.50
			mm	240	97	16.5 - 38.0	16.5 - 38.0

SPLASHPROOF PLUGS (IP44) (with cable sleeve)



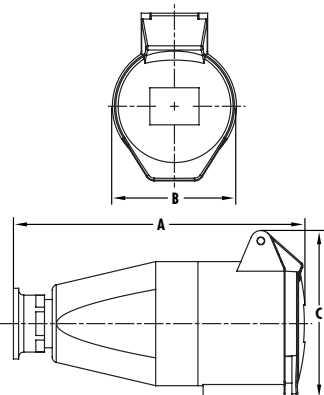
Amps		Type		Dimensions		Cord Grip Range	
N.A.	Intl.			A	B	N. American	International
20	16	3 Wire	inch	5.63	2.36	0.275 - 0.675	0.275 - 0.675
			mm	143	60	7.0 - 17.0	7.0 - 17.0
20	16	4 Wire	inch	5.79	2.68	0.315 - 0.800	0.315 - 0.800
			mm	147	68	8.0 - 20.0	8.0 - 20.0
20	16	5 & 7 Wire	inch	6.02	2.95	0.315 - 0.800	0.315 - 0.800
			mm	153	75	8.0 - 20.0	8.0 - 20.0
30	32	3 Wire	inch	7.13	3.11	0.590 - 0.950	0.435 - 0.950
			mm	181	79	15.0 - 24.0	11.0 - 24.0
30	32	4 Wire	inch	7.13	3.11	0.590 - 0.950	0.435 - 0.95
			mm	181	79	15.0 - 24.0	11.0 - 24.0
30	32	5 & 7 Wire	inch	7.13	3.46	0.590 - 0.950	0.435 - 0.95
			mm	181	88	15.0 - 24.0	11.0 - 24.0
60	63	3, 4, & 5 Wire	inch	9.92	3.82	0.635 - 1.30	0.600 - 1.30
			mm	252	97	16.0 - 33.0	15.0 - 33.0

WATERTIGHT CONNECTORS (IP67)



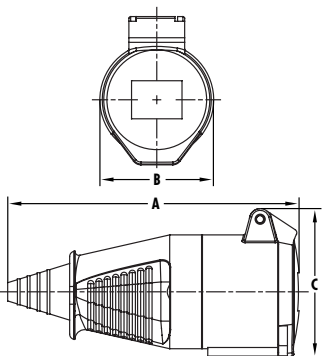
Amps		Type		Dimensions			Cord Grip Range	
N.A.	Intl.			A	B	C	N. American	International
20	16	3 Wire	inch	5.35	2.83	3.07	0.275 - 0.530	0.275 - 0.530
			mm	136	72	78	7.0 - 13.5	7.0 - 13.5
20	16	4 Wire	inch	5.63	3.19	3.35	0.395 - 0.825	0.275 - 0.630
			mm	143	81	85	10.0 - 21.0	7.0 - 16.0
20	16	5 Wire	inch	5.63	3.46	3.58	0.395 - 0.825	0.275 - 0.630
			mm	143	88	91	10.0 - 21.0	7.0 - 16.0
30	32	3 Wire	inch	6.97	3.78	3.78	0.395 - 0.825	0.395 - 0.825
			mm	177	96	96	10.0 - 21.0	10.0 - 21.0
30	32	4 Wire	inch	6.97	3.78	3.78	0.650 - 1.10	0.395 - 0.825
			mm	177	96	96	16.5 - 28.0	10.0 - 21.0
30	32	5 Wire	inch	6.97	4.06	4.13	0.650 - 1.10	0.395 - 0.825
			mm	177	103	105	16.5 - 28.0	10.0 - 21.0
60	63	3, 4, & 5 Wire	inch	10.0	4.33	4.61	0.650 - 1.50	0.650 - 1.50
			mm	255	110	117	16.5 - 38.0	16.5 - 38.0
100	125	3, 4, & 5 Wire	inch	13.1	5.12	5.12	0.950 - 1.90	0.950 - 1.90
			mm	332	130	130	24.0 - 48.0	24.0 - 48.0

SPLASHPROOF CONNECTORS (IP44) (with cable gland)



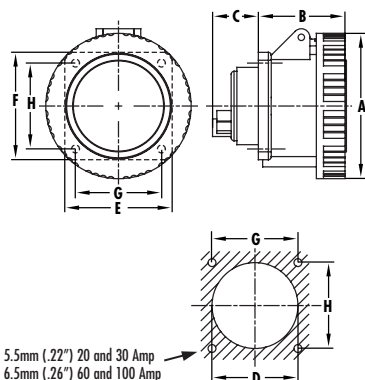
Amps		Type		Dimensions			Cord Grip Range	
N.A.	Intl.			A	B	C	N. American	International
20	16	3 Wire	inch	5.32	2.01	2.68	0.275 - 0.530	0.275 - 0.530
			mm	135	51	68	7.0 - 13.5	7.0 - 13.5
20	16	4 Wire	inch	5.95	2.56	3.35	0.395 - 0.825	0.275 - 0.630
			mm	151	65	85	10.0 - 21.0	7.0 - 16.0
20	16	5 & 7 Wire	inch	5.95	2.56	3.35	0.395 - 0.825	0.275 - 0.630
			mm	151	65	85	10.0 - 21.0	7.0 - 16.0
30	32	3 Wire	inch	6.73	2.83	3.58	0.395 - 0.825	0.395 - 0.825
			mm	171	72	91	10.0 - 21.0	10.0 - 21.0
30	32	4 Wire	inch	6.73	2.83	3.58	0.650 - 1.10	0.395 - 0.825
			mm	171	72	91	16.5 - 28.0	10.0 - 21.0
30	32	5 & 7 Wire	inch	6.73	2.83	3.86	0.650 - 1.10	0.395 - 0.825
			mm	171	72	98	16.5 - 28.0	10.0 - 21.0
60	63	3, 4, & 5 Wire	inch	10.0	3.78	4.49	0.650 - 1.50	0.650 - 1.50
			mm	255	96	114	16.5 - 38.0	16.5 - 38.0

SPLASHPROOF CONNECTORS (IP44) (with cable sleeve)



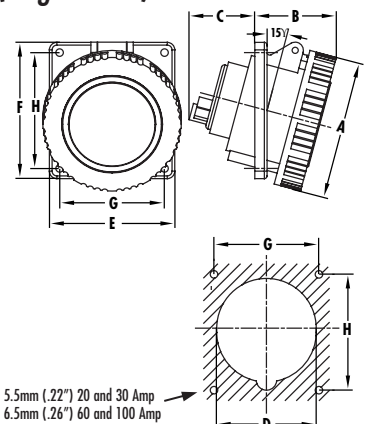
Amps		Type		Dimensions			Cord Grip Range	
N.A.	Intl.			A	B	C	N. American	International
20	16	3 Wire	inch	6.06	2.01	2.69	0.275 - 0.675	0.275 - 0.675
			mm	154	51	68.4	7.0 - 17.0	7.0 - 17.0
20	16	4 Wire	inch	6.54	2.56	2.97	0.315 - 0.800	0.315 - 0.800
			mm	166	65	75.4	8.0 - 20.0	8.0 - 20.0
20	16	5 & 7 Wire	inch	6.54	2.56	3.29	0.315 - 0.800	0.315 - 0.800
			mm	166	65	83.5	8.0 - 20.0	8.0 - 20.0
30	32	3 Wire	inch	7.72	2.83	3.54	0.590 - 0.950	0.435 - 0.950
			mm	196	72	90	15.0 - 24.0	11.0 - 24.0
30	32	4 Wire	inch	7.72	2.83	3.54	0.590 - 0.950	0.435 - 0.95
			mm	196	72	90	15.0 - 24.0	11.0 - 24.0
30	32	5 & 7 Wire	inch	7.72	2.83	3.78	0.590 - 0.950	0.435 - 0.95
			mm	196	72	96	15.0 - 24.0	11.0 - 24.0
60	63	3, 4, & 5 Wire	inch	10.5	3.78	4.41	0.635 - 1.30	0.600 - 1.30
			mm	266	96	112	16.0 - 33.0	15.0 - 33.0

WATERTIGHT RECEPTACLE (IP67) (Straight)



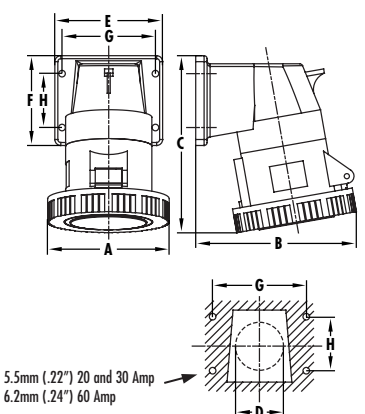
Amps		Type	Dimensions								
N.A.	Intl.			A	B	C	D	E	F	G	H
20	16	3 Wire	inch	2.82	2.05	1.10	1.81	2.44	2.44	1.85	1.85
			mm	71.5	52	28	46	62	62	47	47
20	16	4 Wire	inch	31.9	2.05	1.10	2.36	2.95	2.95	2.36	2.36
			mm	81	52	28	60	75	75	60	60
20	16	5 Wire	inch	3.46	2.05	1.10	2.36	2.95	2.95	2.36	2.36
			mm	88	52	28	60	75	75	60	60
30	32	3 & 4 Wire	inch	3.78	2.56	1.06	2.36	2.95	2.95	2.36	2.36
			mm	96	65	27	60	75	75	60	60
30	32	5 Wire	inch	4.06	2.56	1.06	2.36	2.95	2.95	2.36	2.36
			mm	103	65	27	60	75	75	60	60
60	63	3, 4, & 5 Wire	inch	4.29	3.27	2.05	3.54	3.94	4.21	3.03	3.35
			mm	109	83	52	90	100	107	77	85
100	125	3, 4, & 5 Wire	inch	5.12	3.78	2.52	3.54	4.49	4.49	3.54	3.54
			mm	130	96	64	90	114	114	90	90

WATERTIGHT RECEPTACLE (IP67) (Angled 15°)



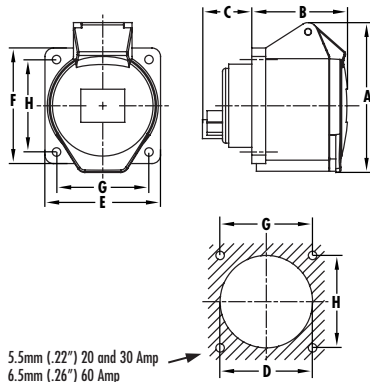
Amps		Type	Dimensions								
N.A.	Intl.			A	B	C	D	E	F	G	H
20	16	3 Wire	inch	2.82	1.93	1.61	2.01	2.44	2.68	1.85	1.85
			mm	71.5	49	41	51	62	68	47	47
20	16	4 Wire	inch	3.19	2.05	1.50	2.87	3.62	3.94	3.03	3.35
			mm	81	52	38	73	92	100	77	85
20	16	5 Wire	inch	3.46	2.05	1.50	2.87	3.62	3.94	3.03	3.35
			mm	88	52	38	73	92	100	77	85
30	32	3 & 4 Wire	inch	3.78	2.20	1.85	2.87	3.62	3.94	3.03	3.35
			mm	96	56	47	73	92	100	77	85
30	32	5 Wire	inch	4.06	2.36	1.85	2.87	3.62	3.94	3.03	3.35
			mm	103	60	47	73	92	100	77	85
60	63	3, 4, & 5 Wire	inch	4.29	3.23	2.52	3.19	3.94	4.21	3.03	3.35
			mm	109	82	64	81	100	107	77	85
100	125	3, 4, & 5 Wire	inch	5.12	3.70	2.95	3.54	4.49	4.49	3.54	3.54
			mm	130	94	75	90	114	114	90	90

WATERTIGHT RECEPTACLE (IP67) (Angled 80°)



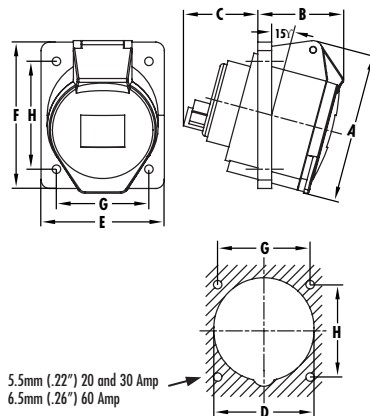
Amps		Type	Dimensions								
N.A.	Intl.			A	B	C	D max	E	F	G	H
20	16	3 Wire	inch	2.83	3.46	4.29	1.18	2.56	2.05	2.17	1.18
			mm	72	88	109	30	65	52	55	30
20	16	4 Wire	inch	3.19	4.25	4.84	1.50	3.15	2.60	2.68	1.57
			mm	81	108	123	38	80	66	68	40
20	16	5 Wire	inch	3.46	4.25	4.84	1.50	3.15	2.60	2.68	1.57
			mm	88	108	123	38	80	66	68	40
30	32	3 & 4 Wire	inch	3.78	4.76	5.71	1.73	3.54	2.95	3.07	1.77
			mm	96	121	145	44	90	75	78	45
30	32	5 Wire	inch	4.06	4.84	5.71	1.73	3.54	2.95	3.07	1.77
			mm	103	123	145	44	90	75	78	45
60	63	3, 4, & 5 Wire	inch	4.33	5.63	7.99	2.20	4.49	4.49	3.54	3.54
			mm	110	143	203	56	114	114	90	90

SPLASHPROOF RECEPTACLES (IP44) (Straight)



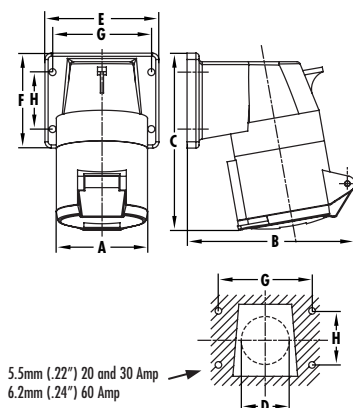
Amps			Dimensions									
N.A.	Intl.	Type		A	B	C	D	E	F	G	H	
20	16	3 Wire	inch	2.68	2.05	1.10	1.81	2.44	2.44	1.85	1.85	
			mm	68	52	28	46	62	62	47	47	
20	16	4 & 5 Wire	inch	3.35	2.09	1.10	2.36	2.95	2.95	2.36	2.36	
			mm	85	53	28	60	75	75	60	60	
20	16	7 Wire	inch	3.35	2.09	1.10	2.36	3.15	3.15	2.36	2.36	
			mm	85	53	28	60	80	80	60	60	
30	32	3 & 4 Wire	inch	3.58	2.56	1.06	2.36	2.95	2.95	2.36	2.36	
			mm	91	65	27	60	75	75	60	60	
30	32	5 Wire	inch	3.86	2.56	1.06	2.36	2.95	2.95	2.36	2.36	
			mm	98	65	27	60	75	75	60	60	
30	32	7 Wire	inch	3.86	2.56	1.06	2.36	3.15	3.15	2.36	2.36	
			mm	98	65	27	60	80	80	60	60	
60	63	3, 4, & 5 Wire	inch	4.49	3.35	2.05	3.54	3.94	4.21	3.03	3.35	
			mm	114	85	52	90	100	107	77	85	

SPLASHPROOF RECEPTACLE (IP44) (Angled 15°)



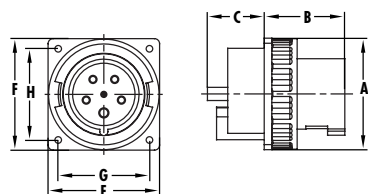
Amps			Dimensions								
N.A.	Intl.	Type		A	B	C	D	E	F	G	H
20	16	3 Wire	inch	2.68	1.77	1.61	2.01	2.44	2.68	1.85	1.85
			mm	68	45	41	51	62	68	47	47
20	16	4 Wire	inch	3.35	2.01	1.50	2.36	2.95	2.95	2.36	2.36
			mm	85	51	38	60	75	75	60	60
20	16	5 Wire	inch	3.35	2.01	1.50	2.56	2.95	3.35	2.36	2.36
			mm	85	51	38	65	75	85	60	60
30	32	3 Wire	inch	3.58	2.05	1.85	2.64	2.95	3.54	2.36	2.36
			mm	91	52	47	67	75	90	60	60
30	32	4 Wire	inch	3.85	2.05	1.85	2.64	2.95	3.54	2.36	2.36
			mm	91	52	47	67	75	90	60	60
30	32	5 Wire	inch	3.86	2.20	1.85	2.70	3.15	3.74	2.36	2.36
			mm	98	56	47	68.5	80	95	60	60
60	63	3, 4, & 5 Wire	inch		3.11	2.52	3.19	3.94	4.21	3.03	3.35
			mm		79	64	81	100	107	77	85

SPLASHPROOF RECEPTACLE (IP44) (Angled 80°)



Amps			Dimensions								
N.A.	Intl.	Type		A	B	C	D max	E	F	G	H
20	16	3 Wire	inch	2.01	3.43	4.57	1.18	2.56	2.05	2.17	1.18
			mm	51	87	116	30	65	52	55	30
20	16	4 Wire	inch	2.56	4.33	4.80	1.50	3.15	2.60	2.68	1.57
			mm	65	110	122	38	80	66	68	40
20	16	5 & 7 Wire	inch	2.56	4.33	4.80	1.50	3.15	2.60	2.68	1.57
			mm	65	110	122	38	80	66	68	40
30	32	3 Wire	inch	2.83	4.72	5.55	1.73	3.54	2.95	3.07	1.77
			mm	72	120	141	44	90	75	78	45
30	32	4 Wire	inch	2.83	4.72	5.55	1.73	3.54	2.95	3.07	1.77
			mm	72	120	141	44	90	75	78	45
30	32	5 & 7 Wire	inch	2.83	4.88	5.59	1.73	3.54	2.95	3.07	1.77
			mm	72	124	142	44	90	75	78	45
60	63	3, 4, & 5 Wire	inch	3.78	5.51	7.64	2.20	4.49	4.49	3.54	3.54
			mm	96	140	194	56	114	114	90	90

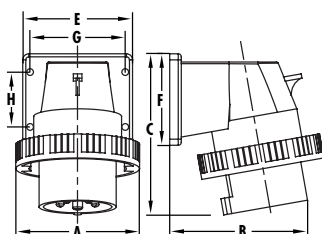
WATERTIGHT INLETS (IP67) (Straight)



6.5mm (.26") 60 and 100 Amp

Amps		Type	Dimensions									
N.A.	Intl.			A	B	C	D	E	F	G	H	
100	125	3 Wire	inch	5.12	3.70	2.20	3.54	5.12	5.12	4.09	4.09	
			mm	130	94	56	90	130	130	104	104	
100	125	4 Wire	inch	5.12	3.70	2.20	3.54	5.12	5.12	4.09	4.09	
			mm	130	94	56	90	130	130	104	104	
100	125	5 Wire	inch	5.12	3.70	2.20	3.54	5.12	5.12	4.09	4.09	
			mm	130	94	56	90	130	130	104	104	

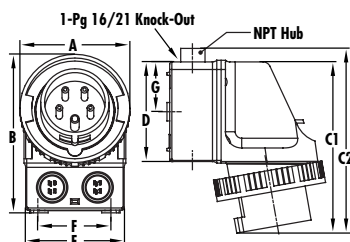
WATERTIGHT INLETS (IP67) (Angled 80°)



5.5mm (.22") 20 and 30 Amp
6.2mm (.24") 60 and 100 Amp

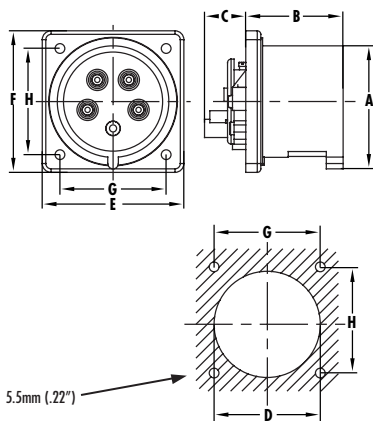
Amps		Type	Dimensions									
N.A.	Intl.			A	B	C	D (max)	E	F	G	H	
20	16	3 Wire	inch	2.83	3.19	3.86	1.18	2.56	2.05	2.17	1.18	
			mm	72	81	98	30	65	52	55	30	
20	16	4 Wire	inch	3.19	3.90	4.33	1.50	3.15	2.60	2.68	1.57	
			mm	81	99	110	38	80	66	68	40	
20	16	5 Wire	inch	3.50	4.06	4.45	1.50	3.15	2.60	2.68	1.57	
			mm	89	103	113	38	80	66	68	40	
30	32	3 Wire	inch	3.78	4.45	5.12	1.73	3.54	2.95	3.07	1.77	
			mm	96	113	130	44	90	75	78	45	
30	32	4 Wire	inch	3.78	4.45	5.12	1.73	3.54	2.95	3.07	1.77	
			mm	96	113	130	44	90	75	78	45	
30	32	5 Wire	inch	4.02	4.61	5.12	1.73	3.54	2.95	3.07	1.77	
			mm	102	117	130	44	90	75	78	45	
60	63	3, 4, & 5 Wire	inch	4.33	5.00	7.20	2.20	4.49	4.49	3.54	3.54	
			mm	110	127	183	56	114	114	90	90	

WATERTIGHT INLETS (IP67) (Surface Mount, Angled 80°)



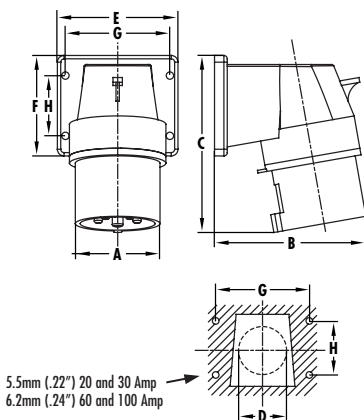
Amps		Type	Dimensions										Hub Size*
N.A.	Intl.			A	B	C ¹	C ²	D	E	F	G		
20	16	3 Wire	inch	2.83	5.51	6.06	6.73	3.78	3.74	2.62	1.87		3/4"
			mm	72	140	154	171	96	95	66.5	47.5		
20	16	4 Wire	inch	3.19	5.51	6.06	6.73	3.78	3.74	2.62	1.87		3/4"
			mm	81	140	154	171	96	95	66.5	47.5		
20	16	5 Wire	inch	3.46	5.51	6.06	6.73	3.78	3.74	2.62	1.87		3/4"
			mm	88	140	154	171	96	95	66.5	47.5		
30	32	3 Wire	inch	3.78	5.79	6.46	7.13	3.78	3.74	2.62	1.87		3/4"
			mm	96	147	164	181	96	95	66.5	47.5		
30	32	4 Wire	inch	3.78	5.79	6.46	7.13	3.78	3.74	2.62	1.87		3/4"
			mm	96	147	164	181	96	95	66.5	47.5		
30	32	5 Wire	inch	4.06	5.91	6.46	7.13	3.78	3.74	2.62	1.87		3/4"
			mm	103	150	164	181	96	95	66.5	47.5		

SPLASHPROOF INLETS (IP44) (Straight)



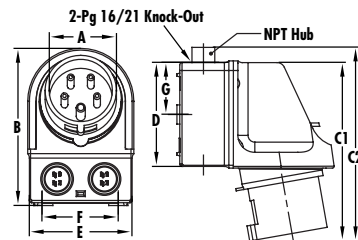
Amps			Dimensions								
N.A.	Intl.	Type		A	B	C	D	E	F	G	H
20	16	3 Wire	inch	1.85	1.85	0.87	1.97	2.44	2.44	1.85	1.85
			mm	47	47	22	50	62	62	47	47
20	16	4 Wire	inch	2.09	1.85	0.87	2.64	3.15	3.15	2.36	2.36
			mm	53	47	22	67	80	80	60	60
20	16	5 & 7 Wire	inch	2.40	1.85	0.87	2.64	3.15	3.15	2.36	2.36
			mm	61	47	22	67	80	80	60	60
30	32	3 Wire	inch	2.48	2.20	0.87	2.80	3.15	3.15	2.36	2.36
			mm	63	56	22	71	80	80	60	60
30	32	4 Wire	inch	2.48	2.20	0.87	2.80	3.15	3.15	2.36	2.36
			mm	63	56	22	71	80	80	60	60
30	32	5 & 7 Wire	inch	2.72	2.20	0.87	2.80	3.15	3.15	2.36	2.36
			mm	69	56	22	71	80	80	60	60
60	63	5 Wire	inch	2.99	3.27	1.14	3.39	4.17	4.33	3.54	3.54
			mm	76	83	29	86	106	110	90	90

SPLASHPROOF INLETS (IP44) (Angled 80°)



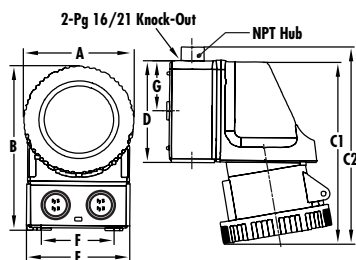
Amps			Dimensions								
N.A.	Intl.	Type		A	B	C	D (max)	E	F	G	H
20	16	3 Wire	inch	1.71	2.83	3.82	1.18	2.56	2.05	2.17	1.18
			mm	43.5	72	97	30	65	52	55	30
20	16	4 Wire	inch	1.97	3.54	4.33	1.50	3.15	2.60	2.68	1.57
			mm	50	90	110	38	80	66	68	40
20	16	5 & 7 Wire	inch	2.20	3.62	4.33	1.50	3.15	2.60	2.68	1.57
			mm	56	92	110	38	80	66	68	40
30	32	3 Wire	inch	2.24	4.06	5.08	1.73	3.54	2.95	3.07	1.77
			mm	57	103	129	44	90	75	78	45
30	32	4 Wire	inch	2.24	4.06	5.08	1.73	3.54	2.95	3.07	1.77
			mm	57	103	129	44	90	75	78	45
30	32	5 & 7 Wire	inch	2.52	4.06	5.08	1.73	3.54	2.95	3.07	1.77
			mm	64	103	129	44	90	75	78	45
60	63	3, 4, & 5 Wire	inch	2.72	4.57	7.28	2.20	4.49	4.49	3.54	3.54
			mm	69	116	185	56	114	114	90	90

SPLASHPROOF INLETS (IP44) (Surface Mount, Angled 80°)



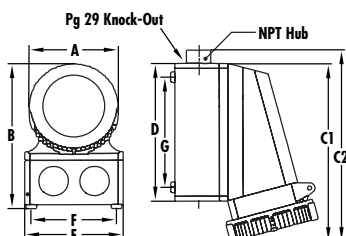
Amps			Dimensions									Hub Size*
N.A.	Intl.	Type		A	B	C ¹	C ²	D	E	F	G	
20	16	4 Wire	inch	1.97	5.51	5.95	6.61	3.78	3.74	2.62	1.87	3/4"
			mm	50	140	151	168	96	95	66.5	47.5	
20	16	5 & 7 Wire	inch	2.20	5.51	5.95	6.61	3.78	3.74	2.62	1.87	3/4"
			mm	56	140	151	168	96	95	66.5	47.5	
30	32	3 Wire	inch	2.24	5.51	6.30	6.97	3.78	3.74	2.62	1.87	3/4"
			mm	57	140	160	177	96	95	66.5	47.5	
30	32	4 Wire	inch	2.24	5.51	6.30	6.97	3.78	3.74	2.62	1.87	3/4"
			mm	57	140	160	177	96	95	66.5	47.5	
30	32	5 & 7 Wire	inch	2.52	5.51	6.30	6.97	3.78	3.74	2.62	1.87	3/4"
			mm	64	140	160	177	96	95	66.5	47.5	

WATERTIGHT RECEPTACLES (IP67) (Surface Mount, Angled 80°)



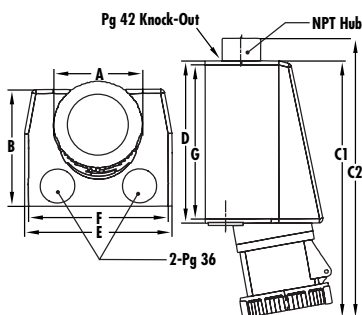
Amps		Type		Dimensions								Hub Size*
N.A.	Intl.			A	B	C ¹	C ²	D	E	F	G	
20	16	3 Wire	inch	2.83	5.51	6.46	7.13	3.78	3.74	2.62	1.87	3/4"
			mm	72	140	164	181	96	95	66.5	47.5	
		4 Wire	inch	3.19	5.67	6.46	7.13	3.78	3.74	2.62	1.87	3/4"
			mm	81	144	164	181	96	95	66.5	47.5	
		5 Wire	inch	3.46	5.79	6.46	7.13	3.78	3.74	2.62	1.87	3/4"
			mm	88	147	164	181	96	95	66.5	47.5	
30	32	3 Wire	inch	3.78	6.06	6.93	7.60	3.78	3.74	2.62	1.87	3/4"
			mm	96	154	176	193	96	95	66.5	47.5	
		4 Wire	inch	3.78	6.06	6.93	7.60	3.78	3.74	2.62	1.87	3/4"
			mm	96	154	176	193	96	95	66.5	47.5	
		5 Wire	inch	4.06	6.14	6.93	7.60	3.78	3.74	2.62	1.87	3/4"
			mm	103	156	176	193	96	95	66.5	47.5	

WATERTIGHT RECEPTACLES (IP67) (Surface Mount, Angled 80°)



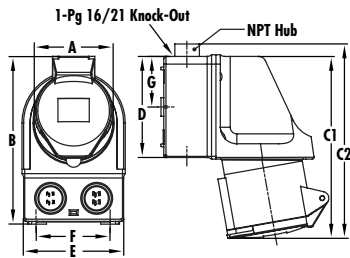
Amps		Type		Dimensions								Hub Size*
N.A.	Intl.			A	B	C ¹	C ²	D	E	F	G	
60	63	4 Wire	inch	4.33	7.01	8.82	9.76	6.77	4.76	4.09	5.35	1 1/4"
			mm	110	178	224	248	172	121	104	136	
		5 Wire	inch	4.33	7.01	8.82	9.76	6.77	4.76	4.09	5.35	1 1/4"
			mm	110	178	224	248	172	121	104	136	

WATERTIGHT RECEPTACLES (IP67) (Surface Mount, Angled 80°)



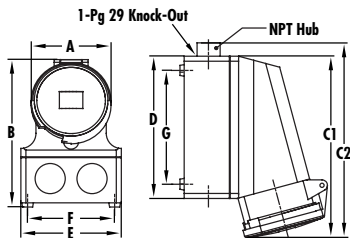
Amps		Type		Dimensions								Hub Size*
N.A.	Intl.			A	B	C ¹	C ²	D	E	F	G	
100	125	3 Wire	inch	5.12	7.48	16.0	16.9	10.4	8.66	7.87	9.45	2"
			mm	130	190	406	430	263	220	200	240	
		4 Wire	inch	5.12	7.48	16.0	16.9	10.4	8.66	7.87	9.45	2"
			mm	130	190	406	430	263	220	200	240	
		5 Wire	inch	5.12	7.48	16.0	16.9	10.4	8.66	7.87	9.45	2"
			mm	130	190	406	430	263	220	200	240	

SPLASHPROOF RECEPTACLES (IP44) (Surface Mount, Angled 80°)



Amps		Type		Dimensions								Hub Size*
N.A.	Intl.			A	B	C ¹	C ²	D	E	F	G	
20	16	3 Wire	inch	2.01	5.51	6.30	6.97	3.78	3.74	2.62	1.87	3/4"
			mm	51	140	160	177	96	95	66.5	47.5	
20	16	4 Wire	inch	2.56	5.63	6.46	7.13	3.78	3.74	2.62	1.87	3/4"
			mm	65	143	164	181	96	95	66.5	47.5	
20	16	5 & 7 Wire	inch	2.56	5.75	6.46	7.13	3.78	3.74	2.62	1.87	3/4"
			mm	65	146	164	181	96	95	66.5	47.5	
30	32	3 Wire	inch	2.83	6.06	6.81	7.48	3.78	3.74	2.62	1.87	3/4"
			mm	72	154	173	190	96	95	66.5	47.5	
30	32	4 Wire	inch	2.83	6.06	6.81	7.48	3.78	3.74	2.62	1.87	3/4"
			mm	72	154	173	190	96	95	66.5	47.5	
30	32	5 & 7 Wire	inch	2.83	6.18	6.81	7.48	3.78	3.74	2.62	1.87	3/4"
			mm	72	157	173	190	96	95	66.5	47.5	

SPLASHPROOF RECEPTACLES (IP44) (Surface Mount, Angled 80°)

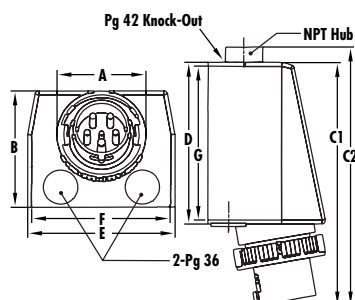


Amps		Type		Dimensions								Hub Size*
N.A.	Intl.			A	B	C ¹	C ²	D	E	F	G	
60	63	4 Wire	inch	3.78	7.01	8.66	9.61	6.77	4.76	4.09	5.35	1 1/4"
			mm	96	178	220	244	172	121	104	136	
60	63	5 Wire	inch	3.78	7.01	8.66	9.61	6.77	4.76	4.09	5.35	1 1/4"
			mm	96	178	220	244	172	121	104	136	



Need a specific print? Call us, we can help!

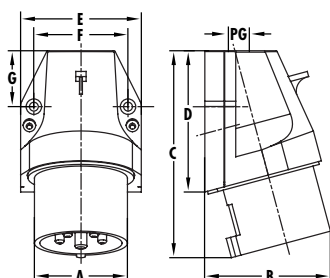
WATERTIGHT INLET (IP67) (Surface Mount, Angled 80°)



Amps		Type		Dimensions								Hub Size*
N.A.	Intl.			A	B	C ¹	C ²	D	E	F	G	
60	63	3 Wire	inch	4.33	4.65	9.13	10.1	5.98	4.65	4.17	4.72	1 1/4"
			mm	110	118	232	256	152	118	106	120	
60	63	4 Wire	inch	4.33	4.65	9.13	10.1	5.98	4.65	4.17	4.72	1 1/4"
			mm	110	118	232	256	152	118	106	120	
60	63	5 Wire	inch	4.33	4.65	9.13	10.1	5.98	4.65	4.17	4.72	1 1/4"
			mm	110	118	232	256	152	118	106	120	
100	125	3 Wire	inch	5.12	6.89	15.4	16.3	10.4	8.66	7.87	9.45	2"
			mm	130	175	390	414	263	220	200	240	
100	125	4 Wire	inch	5.12	6.89	15.4	16.3	10.4	8.66	7.87	9.45	2"
			mm	130	175	390	414	263	220	200	240	
100	125	5 Wire	inch	5.12	6.89	15.4	16.3	10.4	8.66	7.87	9.45	2"
			mm	130	175	390	414	263	220	200	240	

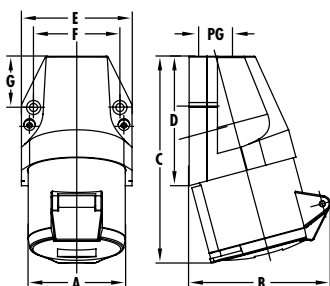
Note: Two (2) PG36 knock-outs are on the bottom of the 100/125 amp device only.

SPLASHPROOF INLET (IP44) (Surface Mount, Angled 80°)



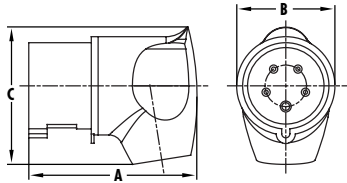
Amps		Type		Dimensions							PG
N.A.	Intl.			A	B	C	D	E	F	G	
16	3 Wire		inch	1.71	2.36	4.33	2.91	2.36	1.79	1.10	
			mm	43.5	60	110	74	60	45.5	28	
16	4 Wire		inch	1.97	2.87	4.61	3.15	2.91	2.36	1.22	
			mm	50	73	117	80	74	60	31	
16	5 & 7 Wire		inch	2.20	2.87	4.61	3.15	2.91	2.36	1.22	
			mm	56	73	117	80	74	60	31	
32	3 Wire		inch	2.24	3.15	5.55	3.82	3.23	2.36	1.77	
			mm	57	80	141	97	82	60	45	
32	4 Wire		inch	2.24	3.15	5.55	3.82	3.23	2.36	1.77	
			mm	57	80	141	97	82	60	45	
32	5 & 7 Wire		inch	2.52	3.39	5.55	3.82	3.23	2.36	1.77	
			mm	64	86	141	97	82	60	45	

SPLASHPROOF RECEPTACLE (IP44) (Surface Mount, Angled 80°)



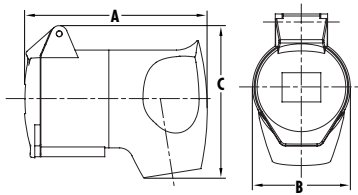
Amps		Type		Dimensions							PG
N.A.	Intl.			A	B	C	D	E	F	G	
16	3 Wire		inch	2.68	2.95	4.72	2.91	2.36	1.79	1.10	
			mm	68	75	120	74	60	45.5	28	
16	4 Wire		inch	3.35	3.39	5.04	3.15	2.91	2.36	1.22	
			mm	85	86	128	80	74	60	31	
16	5 & 7 Wire		inch	3.35	3.54	5.08	3.15	2.91	2.36	1.22	
			mm	85	90	129	80	74	60	31	
32	3 Wire		inch	3.58	4.06	6.06	3.82	3.23	2.36	1.77	
			mm	91	103	154	97	82	60	45	
32	4 Wire		inch	3.58	4.06	6.06	3.82	3.23	2.36	1.77	
			mm	91	103	154	97	82	60	45	
32	5 & 7 Wire		inch	3.86	4.13	6.10	3.82	3.23	2.36	1.77	
			mm	98	105	155	97	82	60	45	

SPLASHPROOF PLUG (IP44) (Angled)



Amps		Type		Dimensions			Cord Grip Range
N.A.	Intl.			A	B	C	
20	16	3 Wire	inch	3.31	1.98	2.66	0.315 - 0.590
			mm	84	50.3	67.5	8.0 - 15.0
20	16	4 Wire	inch	3.98	2.53	3.32	0.395 - 0.650
			mm	101	64.3	84.2	10.0 - 16.5
20	16	5 Wire	inch	3.98	2.53	3.39	0.395 - 0.650
			mm	101	64.3	86	10.0 - 16.5
30	32	3 Wire	inch	4.53	2.83	3.76	0.435 - 0.865
			mm	115	72	95.5	11.0 - 22.0
30	32	4 Wire	inch	4.53	2.83	3.76	0.435 - 0.865
			mm	115	72	95.5	11.0 - 22.0
30	32	5 Wire	inch	4.53	2.83	3.96	0.435 - 0.865
			mm	115	72	100.5	11.0 - 22.0

SPLASHPROOF CONNECTOR (IP44) (Angled)



Amps		Type		Dimensions			Cord Grip Range
N.A.	Intl.			A	B	C	
20	16	3 Wire	inch	3.74	1.98	3.15	0.315 - 0.510
			mm	95	50.3	80	8.0 - 13.0



Precision manufacturing aided by C.N.C. technology.

WORLDWIDE INTERCHANGEABILITY, SAFETY AND RELIABILITY...



SAFETY

Designed to combine a disconnect switch and a receptacle into one compact device. Walther's mechanical interlock receptacles eliminate the possibility of making or breaking the circuit under load or making a haphazard connection.

A mechanism within the enclosure prevents the switch from being turned to the "ON" position until the plug is fully engaged into the receptacle. Once inserted, the plug is locked in place when the switch is turned on and can't be removed until the switch is turned to the "OFF" position. This prevents making or breaking the circuit under load.

The integration of the switch and the receptacle in a single, compact enclosure encourages the safe operating practice of disconnecting at the switch rather than the plug and receptacle.

The nonmetallic enclosure, while abuse and corrosion resistant, is also non conductive, which enhances the safety of the product. The device can be connected to metallic conduit without interfering with the ground continuity. All mechanical interlock receptacles provide lockout protection for greater safety and comply with OSHA Lockout/Tagout requirements.

RELIABILITY

These horsepower rated devices are available in both splashproof and watertight versions.

NEMA 4X Watertight (IP67) devices are designed for the most demanding environments and provide protection against corrosion, dirt, dust, splashing water and hose-directed water.

Splashproof (IP44) devices provide many of the heavy-duty construction features found in the watertight devices, but at a more economical cost. These units are suitable and recommended for use in a variety of light industrial environments and provide protection against damaging deposits of dirt and dust, rain and splashing water.

Watertight and splashproof devices provide exceptional UV stability for superior outdoor performance.

WORLDWIDE INTERCHANGEABILITY

Walther's mechanical interlock receptacles are built to IEC 309-1 and 309-2 specifications and are completely compatible with not only Walther IEC 309-2 plugs, but with any manufacturer's plugs that conform to these IEC standards and color coding system...anywhere in the world.



Walther Mechanical Interlocks, with built-in circuit breakers, incorporate an interlocking receptacle with MCB Type "C" circuit breakers in a non-metallic enclosure that meets Type 4X (Washdown, Corrosion Resistant) requirements.

This new design combines the circuit breakers, switch and receptacle in a single enclosure. The Type "C" circuit breakers are mounted on DIN rail directly above the switch.

Walther CIRCUIT-BREAKER Mechanical Interlocks

The new CIRCUIT-BREAKER Mechanical Interlock integrates a circuit breaker (which takes the place of a switch) and receptacle in a nonmetallic enclosure that meets Type 4X (Washdown, Corrosion Resistant) requirements.

- Switched, Circuit Breaker Interlock Receptacles are available in 20, 30, 60 and 100 Amp (North American Ratings) and 16, 32, 63 and 125 Amp (International Ratings).
- UL489 Listed 22KAIC protection.



IEC 309-1 and 309-2 MECHANICAL INTERLOCKS

Compliance with OSHA Lockout Requirements

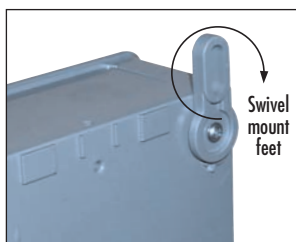
Walther's Mechanical Interlock's bright red handle can be locked in the "OFF" position as a method of compliance with OSHA lockout requirements. The handle can accept up to a 5/16" padlock shaft.

Watertight NEMA 4X, 12K Enclosure

Walther's Mechanical Interlocks are gasketed and rated as a Watertight NEMA 4X, 12K enclosure. The nonmetallic enclosure, while abuse and corrosion resistant, is also non-conductive which enhances the safety of the product.

Grounding Plate

Walther's Mechanical Interlocks are supplied with a free floating grounding plate. Because of this unique method of grounding, conduit entry may be made from the top, bottom or side. No other brand offers this type of installation versatility.



A Pre-Molded Offset Dimple

Walther does not install a hub at the top of our mechanical interlocks, rather a pre-molded offset dimple (drill point) is provided instead of a conduit entry hole. This allows the installer to choose the size of the conduit to be used, and the location where the conduit will be attached to the enclosure (top, bottom or side entry) without the use of knockout plugs and reducers. Arranging the conduit entry hole at the dimple location will prevent condensation from falling directly on the interior electrical components, such as the switch. It will also allow for more room to pull conductors when wiring. Approximately 40% of all entry is from the bottom.

Swivel Mount Feet (135°)

Swivel mount feet can be used for installations where irregular or tight fit applications exist.



Compact Size

All versions and sizes are designed to fit within the web of an 8" column. This compact size allows the use of columns as a mounting location.

Easy Identification

Catalog number, rating and certifications are indicated on the label for easy identification of mating devices.

Color Coded Receptacle Covers

Receptacle covers are color-coded by voltage in accordance with IEC 309 standard.

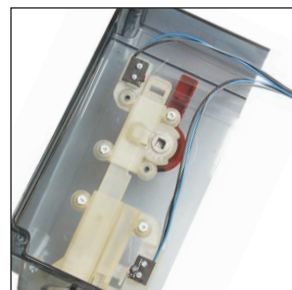
Completely Compatible

Completely compatible with not only Walther IEC 309-1 and 309-2 plugs, but with any manufacturer's plugs that conform to the IEC 309 standards and color coding system...anywhere in the world. When Walther IP67 plugs are used in-conjunction with NEMA 4X rated Walther mechanical interlocks, both devices are NEMA 4X rated.



Micro Switch

Available upon request. May be used to transmit signal when plug is inserted or when switch is turned to the "ON" position. May also be used for indicator light to display and confirm when switch is turned "ON" or "OFF". Consult technical service for price and delivery.





20, 30, 60 Amp
NEMA 4X Watertight (IP67)
Drawing A
(See Drawing on Page 55)



20, 30, 60 Amp
Splashproof (IP44)
Drawing A
(See Drawing on Page 55)

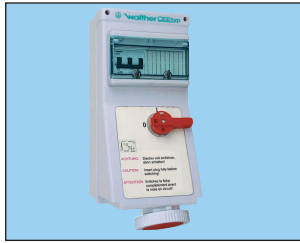
Amps	Poles and Wires	Voltage AC	Clock Position of Ground Contact	Horsepower Ratings	NEMA 4X Watertight (IP67)	Splashproof (IP44)
20	2P3W	120	4	0.75	AE119316	AE110316
		240	6	2	AE119318	AE110318
		480	7	4	AE119319	AE110319
	3P4W	120/240	12	.75 @ 120V 2 @ 240V	AE119424	AE110424
		3Ø240	9	5	AE119421	AE110421
		3Ø480	7	10	AE119419	AE110419
		3Ø600	5	14	AE119417	AE110417
	4P5W	3ØY120/208	9	5	AE119521	AE110521
		3ØY277/480	7	10	AE119519	AE110519
		3ØY347/600	5	14	AE119517	AE110517
30	2P3W	120	4	1.5	AE139316	AE130316
		240	6	3.5	AE139318	AE130318
		480	7	6	AE139319	AE130319
	3P4W	120/240	12	1.5 @ 120 3.5 @ 240	AE139424	AE130424
		3Ø240	9	7.5	AE139421	AE130421
		3Ø480	7	15	AE139419	AE130419
		3Ø600	5	20	AE139417	AE130417
	4P5W	3ØY120/208	9	7.5	AE139521	AE130521
		3ØY277/480	7	15	AE139519	AE130519
		3ØY347/600	5	20	AE139517	AE130517
32*	3P4W	380 50Hz 440 60Hz	3	12	AE139415	
60	2P3W	120	4	3.5	AE169316	AE160316
		240	6	7.5	AE169318	AE160318
		480	7	13.5	AE169319	AE160319
	3P4W	120/240	12	3.5 @ 120 7.5 @ 240	AE169424	AE160424
		3Ø240	9	15	AE169421	AE160421
		3Ø480	7	28	AE169419	AE160419
		3Ø600	5	35	AE169417	AE160417
	4P5W	3ØY120/208	9	15	AE169521	AE160521
		3ØY277/480	7	28	AE169519	AE160419
		3ØY347/600	5	35	AE169517	AE160517

* 32 Amp. Only for Refrigerated Containers.



100 Amp
NEMA 4X Watertight (IP67)
Drawing B
(See Drawing on Page 55)

100	2P3W	120	4	7.5	A0189316	
		240	6	14	A0189318	
		480	7	28	A0189319	
	3P4W	120/240	12	7.5 @ 120 14 @ 240	A0189424	
		3Ø240	9	30	A0189421	
		3Ø480	7	60	A0189419	
		3Ø600	5	75	A0189417	
	4P5W	3ØY120/208	9	30	A0189521	
		3ØY277/480	7	60	A0189519	
		3ØY347/600	5	75	A0189517	



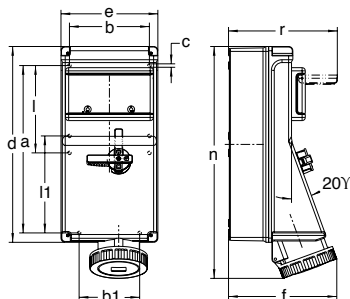
20, 30, 60 Amp
NEMA 4X Watertight (IP67)
Drawing C



20, 30, 60 Amp
Splashproof (IP44)
Drawing C

Amps	Poles and Wires	MCB	Voltage AC	Clock Position of Ground Contact	Horsepower Ratings	NEMA 4X Watertight (IP67)	Splashproof (IP44)
20	2P3W	1 Pole "C"	120	4	0.75	AL119316UD	AL110316UD
			240	6	2	AL119318UD	AL110318UD
			480	7	4	AL119319UD	AL110319UD
	3P4W	3 Pole "C"	120/240	12	.75 @ 120V 2 @ 240V	AL119424SA	AL110424SA
			3Ø240	9	5	AL119421SA	AL110421SA
			3Ø480	7	10	AL119419SA	AL110419SA
			3Ø600	5	14	AL119417SA	AL110417SA
	4P5W	3 Pole "C"	3ØY120/208	9	5	AL119521TA	AL110521TA
			3ØY277/480	7	10	AL119519TA	AL110519TA
			3ØY347/600	5	14	AL119517TA	AL110517TA
30	2P3W	1 Pole "C"	120	4	1.5	AL139316UD	AL130316UD
			240	6	3.5	AL139318UD	AL130318UD
			480	7	6	AL139319UD	AL130319UD
	3P4W	3 Pole "C"	120/240	12	1.5 @ 120 3.5 @ 240	AL139424SA	AL130424SA
			3Ø240	9	7.5	AL139421SA	AL130421SA
			3Ø480	7	15	AL139419SA	AL130419SA
			3Ø600	5	20	AL139417SA	AL130417SA
	4P5W	3 Pole "C"	3ØY120/208	9	7.5	AL139521TA	AL130521TA
			3ØY277/480	7	15	AL139519TA	AL130519TA
			3ØY347/600	5	20	AL139517TA	AL130517TA
32*	3P4W	3 Pole "C"	380 50Hz 440 60Hz	3	12	AL139415SA	
60	2P3W	1 Pole "C"	120	4	3.5	AL169316UD	AL160316UD
			240	6	7.5	AL169318UD	AL160318UD
			480	7	13.5	AL169319UD	AL160319UD
	3P4W	3 Pole "C"	120/240	12	3.5 @ 120 7.5 @ 240	AL169424SA	AL160424SA
			3Ø240	9	15	AL169421SA	AL160421SA
			3Ø480	7	28	AL169419SA	AL160419SA
			3Ø600	5	35	AL169417SA	AL160417SA
	4P5W	3 Pole "C"	3ØY120/208	9	15	AL169521TA	AL160521TA
			3ØY277/480	7	28	AL169519TA	AL160419TA
			3ØY347/600	5	35	AL169517TA	AL160517TA

* 32 Amp. Only for Refrigerated Containers.



Drawing C

Dimensions

Amps		Poles and Wires	Unit of Measure	Dimensions										NEMA 4X		NEMA 4X	
				a	b	b1	c	d	e	IP44 f	IP67 f	l	l1	IP44 n	IP67 n	r	
N.A.	Int'l																
20	16	2P3W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.17	7.60	6.50	7.20	15.79	15.91	8.11	
			mm	316	151	114	6.5	370	183	182	193	165	183	401	404	206	
20	16	3P4W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.36	7.64	6.50	7.20	15.91	15.94	8.11	
			mm	316	151	114	6.5	370	183	187	194	165	183	404	405	206	
20	16	4P5W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.24	7.72	6.50	7.20	15.94	16.14	8.11	
			mm	316	151	114	6.5	370	183	184	196	165	183	405	410	206	
30	32	2P3W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.36	7.91	6.50	7.20	16.34	16.46	8.11	
			mm	316	151	114	6.5	370	183	187	201	165	183	415	418	206	
30	32	3P4W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.36	7.91	6.50	7.20	16.34	16.46	8.11	
			mm	316	151	114	6.5	370	183	187	201	165	183	415	418	206	
30	32	4P5W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.44	7.91	6.50	7.20	16.42	16.46	8.11	
			mm	316	151	114	6.5	370	183	189	201	165	183	417	418	206	
60	63	2P3W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.72	8.23	6.50	7.20	17.01	17.44	8.11	
			mm	316	151	114	6.5	370	183	196	209	165	183	432	443	206	
60	63	3P4W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.72	8.23	6.50	7.20	17.01	17.44	8.11	
			mm	316	151	114	6.5	370	183	196	209	165	183	432	443	206	
60	63	4P5W	inch	12.44	5.94	4.49	0.26	14.57	7.20	7.72	8.23	6.50	7.20	17.01	17.44	8.11	
			mm	316	151	114	6.5	370	183	196	209	165	183	432	443	206	



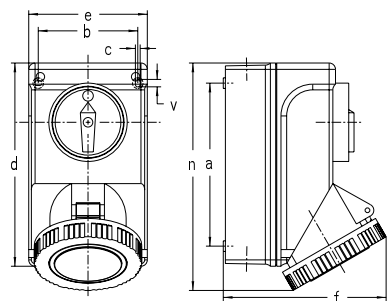
20, 30 Amp
NEMA 4X Watertight (IP67)
Drawing D



20, 30 Amp
Splashproof (IP44)
Drawing D

Amps	Poles and Wires	Voltage AC	Clock Position of Ground Contact	Horsepower Ratings	NEMA 4X Watertight (IP67)	Splashproof (IP44)
20	2P3W	120	4	0.75	AT119316	AT110316
		240	6	2	AT119318	AT110318
		480	7	4	AT119319	AT110319
	3P4W	120/240	12	.75 @ 120V 2 @ 240V	AT119424	AT110424
		3Ø240	9	5	AT119421	AT110421
		3Ø480	7	10	AT119419	AT110419
		3Ø600	5	14	AT119417	AT110417
	4P5W	3ØY120/208	9	5	AT119521	AT110521
		3ØY277/480	7	10	AT119519	AT110519
		3ØY347/600	5	14	AT119517	AT110517
30	2P3W	120	4	1.5	AT139316	AT130316
		240	6	3.5	AT139318	AT130318
		480	7	6	AT139319	AT130319
	3P4W	120/240	12	1.5 @ 120 3.5 @ 240	AT139424	AT130424
		3Ø240	9	7.5	AT139421	AT130421
		3Ø480	7	15	AT139419	AT130419
		3Ø600	5	20	AT139417	AT130417
	4P5W	3ØY120/208	9	7.5	AT139521	AT130521
		3ØY277/480	7	15	AT139519	AT130519
		3ØY347/600	5	20	AT139517	AT130517
32*	3P4W	380 50Hz 440 60Hz	3	12	AT139415	

* 32 Amp. Only for Refrigerated Containers.



Drawing D

Dimensions

Amps		Poles and Wires	Unit of Measure	Dimensions									
N.A.	Int'l			a	b	c	d	e	IP44 f	NEMA 4X IP67 f	IP44 n	NEMA 4X IP67 n	v
20	16	2P3W	inch	5.00	3.07	0.18	6.54	3.82	4.57	4.72	7.28	7.28	0.28
			mm	127	78	4.5	166	97	116	120	185	185	7
20	16	3P4W	inch	5.00	3.07	0.18	6.54	3.82	4.72	4.92	7.28	7.28	0.28
			mm	127	78	4.5	166	97	120	125	185	185	7
20	16	4P5W	inch	5.00	3.07	0.18	6.54	3.82	4.92	5.20	7.28	7.28	0.28
			mm	127	78	4.5	166	97	125	132	185	185	7
30	32	2P3W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	8.46	8.46	0.28
			mm	154	94	4.5	193	113	145	154	215	215	7
30	32	3P4W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	8.46	8.46	0.28
			mm	154	94	4.5	193	113	145	154	215	215	7
30	32	4P5W	inch	6.06	3.70	0.18	7.60	4.45	5.83	6.06	8.46	8.46	0.28
			mm	154	94	4.5	193	113	148	154	215	215	7



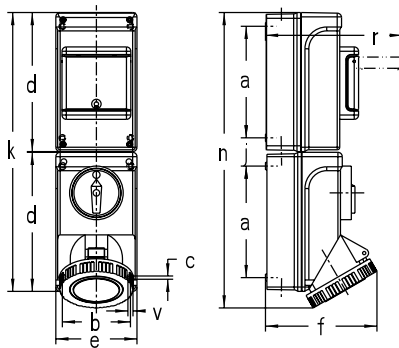
20, 30 Amp
NEMA 4X Watertight (IP67)
Drawing E



20, 30 Amp
Splashproof (IP44)
Drawing E

Amps	Poles and Wires	MCB	Voltage AC	Clock Position of Ground Contact	Horsepower Ratings	NEMA 4X Watertight (IP67)	Splashproof (IP44)
20	2P3W	1 Pole "C"	120	4	0.75	AU119316UD	AU110316UD
			240	6	2	AU119318UD	AU110318UD
			480	7	6	AU119319UD	AU110319UD
	3P4W	3 Pole "C"	120/240	12	.75 @ 120V 2 @ 240V	AU119424SA	AU110424SA
			3Ø240	9	5	AU119421SA	AU110421SA
			3Ø480	7	10	AU119419SA	AU810419SA
			3Ø600	5	14	AU119417SA	AU110417SA
	4P5W	3 Pole "C"	3ØY120/208	9	5	AU119521TA	AU110521TA
			3ØY277/480	7	10	AU119519TA	AU110519TA
			3ØY347/600	5	14	AU119517TA	AU110517TA
30	2P3W	1 Pole "C"	120	4	1.5	AU139316UD	AU130316UD
			240	6	3.5	AU139318UD	AU130318UD
			480	7	6	AU139319UD	AU130319UD
	3P4W	3 Pole "C"	120/240	12	1.5 @ 120 3.5 @ 240	AU139424SA	AU130424SA
			3Ø240	9	7.5	AU139421SA	AU130421SA
			3Ø480	7	15	AU139419SA	AU130419SA
			3Ø600	5	20	AU139417SA	AU130417SA
	4P5W	3 Pole "C"	3ØY120/208	9	7.5	AU139521TA	AU130521TA
			3ØY277/480	7	15	AU139519TA	AU130519TA
			3ØY347/600	5	20	AU139517TA	AU130517TA
32*	3P4W	3 Pole "C"	380 50Hz 440 60Hz	3	12	AU139415SA	

* 32 Amp. Only for Refrigerated Containers.



Drawing E

Dimensions																
Amps		Poles and Wires	Unit of Measure	a	b	c	d	e	IP44 f	NEMA 4X IP67 f	i	k	IP44 n	NEMA 4X IP67 n	r	v
N.A.	Int'l															
20	16	2P3W	inch	5.00	3.07	0.18	6.54	3.82	4.57	4.72	1.54	13.11	13.86	13.86	6.97	0.28
			mm	127	78	4.5	166	97	116	120	39	333	352	352	177	7
20	16	3P4W	inch	5.00	3.07	0.18	6.54	3.82	4.72	4.92	1.54	13.11	13.86	13.86	6.97	0.28
			mm	127	78	4.5	166	97	120	125	39	333	352	352	177	7
20	16	4P5W	inch	5.00	3.07	0.18	6.54	3.82	4.92	5.20	1.54	13.11	13.86	13.86	6.97	0.28
			mm	127	78	4.5	166	97	125	132	39	333	352	352	177	7
30	32	2P3W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	1.54	15.24	16.10	16.10	7.52	0.28
			mm	154	94	4.5	193	113	145	154	39	387	409	409	191	7
30	32	3P4W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	1.54	15.24	16.10	16.10	7.52	0.28
			mm	154	94	4.5	193	113	145	154	39	387	409	409	191	7
30	32	4P5W	inch	6.06	3.70	0.18	7.60	4.45	5.83	6.06	1.54	15.24	16.10	16.10	7.52	0.28
			mm	154	94	4.5	193	113	148	154	39	387	409	409	191	7



20, 30, 60, 100 Amp
NEMA 4X Watertight (IP67)
Drawing B
(See Drawing on Page 55)



20, 30, 60 Amp
Splashproof (IP44)
Drawing A
(See Drawing on Page 55)

Amps	Poles and Wires	Voltage AC	Clock Position of Ground Contact	NEMA 4X Watertight (IP67)	Splashproof (IP44)
20	2P3W	120	4	AJ119316SH	AJ110316SH
		240	6	AJ119318SH	AJ110318SH
		480	7	AJ119319SH	AJ110319SH
	3P4W	120/240	12	AJ119424SH	AJ110424SH
		3Ø240	9	AJ119421SH	AJ110421SH
		3Ø480	7	AJ119419SH	AJ110419SH
	4P5W	3ØY120/208	9	AJ119521SH	AJ110521SH
		3ØY277/480	7	AJ119519SH	AJ110519SH
30	2P3W	120	4	AJ139316SH	AJ130316SH
		240	6	AJ139318SH	AJ130318SH
		480	7	AJ139319SH	AJ130319SH
	3P4W	120/240	12	AJ139424SH	AJ130424SH
		3Ø240	9	AJ139421SH	AJ130421SH
		3Ø480	7	AJ139419SH	AJ130419SH
	4P5W	3ØY120/208	9	AJ139521SH	AJ130521SH
		3ØY277/480	7	AJ139519SH	AJ130519SH
32*	3P4W	380 50Hz 440 60Hz	3	AJ139415SH	
60	2P3W	120	4	AJ169316SH	AJ160316SH
		240	6	AJ169318SH	AJ160318SH
		480	7	AJ169319SH	AJ160319SH
	3P4W	120/240	12	AJ169424SH	AJ160424SH
		3Ø240	9	AJ169421SH	AJ160421SH
		3Ø480	7	AJ169419SH	AJ160419SH
	4P5W	3ØY120/208	9	AJ169521SH	AJ160521SH
		3ØY277/480	7	AJ169519SH	AJ160519SH
100	2P3W	120	4	A0189316SH	
		240	6	A0189318SH	
		480	7	A0189319SH	
	3P4W	120/240	12	A0189424SH	
		3Ø240	9	A0189421SH	
		3Ø480	7	A0189419SH	
	4P5W	3ØY120/208	9	A0189521SH	
		3ØY277/480	7	A0189519SH	

* 32 Amp. Only for Refrigerated Containers.



IEC 309
CIRCUIT BREAKER VERSION

ELECTRICAL

Dielectric Voltage Withstand	3,000 Volts
Maximum Working Voltage	600 Volts RMS (switch version) 480 Volts RMS (circuit breaker version)
Current Interrupting	Certified for current interrupting at full rated current and voltage.
Short Circuit Withstand Rating	Suitable for use on a circuit capable of delivering not more than 10,000 RMS symmetrical amperes at the voltage rating of the receptacle.
Operations	Mechanical: 10,000 cycles Electrical: 6,000 cycles

MECHANICAL

Impact Resistance	In accordance with UL 746C
Terminal Identification	In accordance with UL, CSA and international conventions.
Product Identification	Identification, ratings and color code in accordance with UL, CSA and IEC requirements.
Lockout/Tagout	"ON" and "OFF" lockout/tagout capability at switch handle. Complies with OSHA Reg. 29CFR 1910.147
Mounting	
Switch Version	Internal or external adjustable mounting feet
Compact Version	Internal mounting
Circuit Breaker Version	Internal or external adjustable mounting feet

ENVIRONMENTAL**Minimum test requirements**

Moisture Resistance	Watertight IP67 (Washdown) - UL Type 4X Splashproof IP44
Flammability	UL94-5VA & V0 Classifications
Operating Temperatures	Maximum Continuous: 60°C (140°F) Minimum Continuous: -40°C (-40°F)
UV Resistance	UV stabilized material
Chemicals	Resists most standard industrial hydrocarbons, acids, bases and solvents.

MATERIALS

Enclosure (all exterior components)	UL94-5VA/V0, UV stabilized, impact modified Valox®.
Contact Carrier	Molded arc resistant UL94-V0 thermoplastic
Gaskets	Neoprene or EPDM
Contacts (NEMA 4X, Watertight IP67)	Brass, Nickel Plated
Contacts (Splashproof (IP44))	Brass
Hardware (screws & springs)	Steel with zinc-plated blue chromate or nickel plating.

APPROVALS & COMPLIANCES

UL 508 (switch version) Motor Disconnect

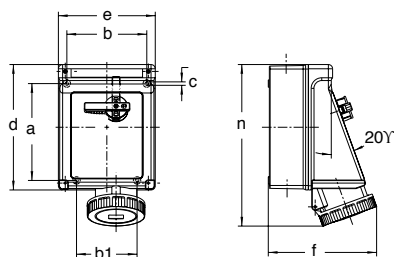
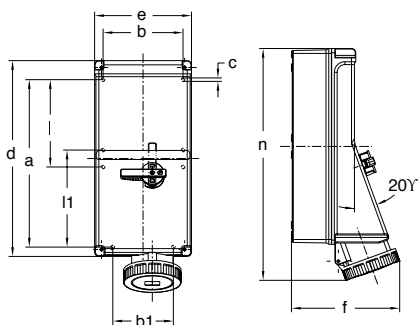
UL 508 (compact version) Manual Motor Controller

UL 231 & UL 489 (circuit breaker version)

UL1682 & 1686

CSA C22.2 No. 14, 182.1

IEC 309-1 & IEC 309-2

**Drawing A****Drawing B****Drawing A**

Amps		Poles and Wires	Unit of Measure	Dimensions									
				a	b	b1	c	d	e	f	f	n	n
20	16	2P3W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.17	7.60	10.55	10.63
			mm	183	151	114	6.5	237	183	182	193	268	270
20	16	3P4W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.36	7.64	10.63	10.71
			mm	183	151	114	6.5	237	183	187	194	270	272
20	16	4P5W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.24	7.72	10.75	10.91
			mm	183	151	114	6.5	237	183	184	196	273	277
30	32	2P3W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.36	7.91	11.10	11.22
			mm	183	151	114	6.5	237	183	187	201	282	285
30	32	3P4W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.36	7.91	11.10	11.22
			mm	183	151	114	6.5	237	183	189	201	284	289
30	32	4P5W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.44	7.91	11.18	11.38
			mm	183	151	114	6.5	237	183	189	201	284	289
60	63	2P3W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.72	8.23	11.89	12.17
			mm	183	151	114	6.5	237	183	196	209	302	309
60	63	3P4W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.72	8.23	11.89	12.17
			mm	183	151	114	6.5	237	183	196	209	302	309
60	63	4P5W	inch	7.20	5.94	4.49	0.26	9.33	7.20	7.72	8.23	11.89	12.17
			mm	183	151	114	6.5	237	183	196	209	302	309

Drawing B

Amps		Poles and Wires	Unit of Measure	Dimensions									
				a	b	b1	c	d	e	f	f	n	n
100	125	2P3W	inch	12.44	5.94	4.96	0.26	14.57	7.20	9.57	17.72		
			mm	316	151	126	6.5	370	183	243	450		
100	125	3P4W	inch	12.44	5.94	4.96	0.26	14.57	7.20	9.57	17.72		
			mm	316	151	126	6.5	370	183	243	450		
100	125	4P5W	inch	12.44	5.94	4.96	0.26	14.57	7.20	9.57	17.72		
			mm	316	151	126	6.5	370	183	243	450		



16, 32, 63 Amp
Watertight (IP67)
Drawing A
(See Drawing on Page 55)



16, 32, 63 Amp
Splashproof (IP44)
Drawing A
(See Drawing on Page 55)

Amps	Poles and Wires	Voltage AC	Clock Position of Ground Contact	NEMA 4X Watertight (IP67)	Splashproof (IP44)
16	2P3W	110	4	AE119304	AE110304
		230	6	AE119306	AE110306
		400	9	AE119309	AE110309
	3P4W	110	4	AE119404	AE110404
		230	9	AE119409	AE110409
		400	6	AE119406	AE110406
		500	7	AE119407	AE110407
	4P5W	110	4	AE119504	AE110504
		230	9	AE119509	AE110509
		400	6	AE119	AE110
32	2P3W	110	4	AE139304	AE130304
		230	6	AE139306	AE130306
		400	9	AE139309	AE130309
	3P4W	110	4	AE139404	AE130404
		230	9	AE139409	AE130409
		400	6	AE139406	AE130406
		500	7	AE139407	AE130407
	4P5W	110	4	AE139504	AE130504
		230	9	AE139509	AE130509
		400	6	AE139	AE130
32*	3P4W	380 50Hz 440 60Hz	3	AE139403	
63	2P3W	110	4	AE169304	AE160304
		230	6	AE169306	AE160306
		400	9	AE169309	AE160309
	3P4W	110	4	AE169404	AE160404
		230	9	AE169409	AE160409
		400	6	AE169406	AE160406
		500	7	AE169407	AE160407
	4P5W	110	4	AE169504	AE160504
		230	9	AE169509	AE160509
		400	6	AE169	AE160

* 32 Amp. Only for Refrigerated Containers.



125 Amp
Watertight (IP67)
Drawing B
(See Drawing on Page 55)

125	2P3W	110	4	A0179304	
		230	6	A0179306	
		400	9	A0179309	
	3P4W	110	4	A0179404	
		230	9	A0179409	
		400	6	A0179406	
		500	7	A0179407	
	4P5W	110	4	A0179504	
		230	9	A0179509	
		400	6	A0179	



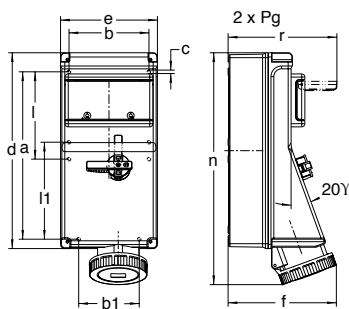
16, 32, 63 Amp
Watertight (IP67)
Drawing C



16, 32, 63 Amp
Splashproof (IP44)
Drawing C

Amps	Poles and Wires	MCB	Voltage AC	Clock Position of Ground Contact	NEMA 4X Watertight (IP67)	Splashproof (IP44)
16	2P3W	1 Pole "C"	110	4	AL119304UD	AL110304UD
			230	6	AL119306UD	AL110306UD
			400	9	AL119309UD	AL110309UD
	3P4W	3 Pole "C"	110	4	AL119404SA	AL110404SA
			230	9	AL119409SA	AL110409SA
			400	6	AL119406SA	AL110406SA
			500	7	AL119407SA	AL110407SA
	4P5W	3 Pole "C"	110	4	AL119504TA	AL110504TA
			230	9	AL119509TA	AL110509TA
			400	6	AL119TA	AL110TA
32	2P3W	1 Pole "C"	110	4	AL139304UD	AL130304UD
			230	6	AL139306UD	AL130306UD
			400	9	AL139309UD	AL130309UD
	3P4W	3 Pole "C"	110	4	AL139404SA	AL130404SA
			230	9	AL139409SA	AL130409SA
			400	6	AL139406SA	AL130406SA
			500	7	AL139407SA	AL130407SA
	4P5W	3 Pole "C"	110	4	AL139504TA	AL130504TA
			230	9	AL139509TA	AL130509TA
			400	6	AL139TA	AL130TA
32*	3P4W	3 Pole "C"	380 50Hz 440 60Hz	3	AL139403SA	
63	2P3W	1 Pole "C"	110	4	AL169304UD	AL160304UD
			230	6	AL169306UD	AL160306UD
			400	9	AL169309UD	AL160309UD
	3P4W	3 Pole "C"	110	4	AL169404SA	AL160404SA
			230	9	AL169409SA	AL160409SA
			400	6	AL169406SA	AL160406SA
			500	7	AL169407SA	AL160407SA
	4P5W	3 Pole "C"	110	4	AL169504TA	AL160504TA
			230	9	AL169509TA	AL160509TA
			400	6	AL169TA	AL160TA

* 32 Amp. Only for Refrigerated Containers.



Drawing C

Dimensions																	
Amps		Poles and Wires	Unit of Measure	a	b	b1	c	d	e	IP44	NEMA 4X IP67	f	l	l1	IP44	NEMA 4X IP67	r
N.A.	Int'l																
20	16	2P3W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.17 182	7.60 193	6.50 165	7.20 183	15.79 401	15.91 404	8.11 206	
20	16	3P4W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.36 187	7.64 194	6.50 165	7.20 183	15.91 404	15.94 405	8.11 206	
20	16	4P5W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.24 184	7.72 196	6.50 165	7.20 183	15.94 405	16.14 410	8.11 206	
30	32	2P3W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.36 187	7.91 201	6.50 165	7.20 183	16.34 415	16.46 418	8.11 206	
30	32	3P4W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.36 187	7.91 201	6.50 165	7.20 183	16.34 415	16.46 418	8.11 206	
30	32	4P5W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.44 189	7.91 201	6.50 165	7.20 183	16.42 417	16.46 418	8.11 206	
60	63	2P3W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.72 196	8.23 209	6.50 165	7.20 183	17.01 432	17.44 443	8.11 206	
60	63	3P4W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.72 196	8.23 209	6.50 165	7.20 183	17.01 432	17.44 443	8.11 206	
60	63	4P5W	inch mm	12.44 316	5.94 151	4.49 114	0.26 6.5	14.57 370	7.20 183	7.72 196	8.23 209	6.50 165	7.20 183	17.01 432	17.44 443	8.11 206	



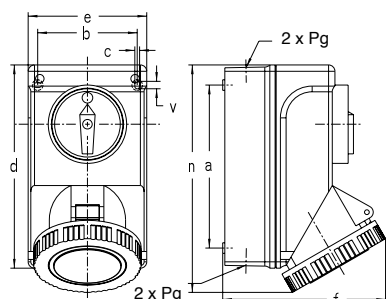
16, 32 Amp
Watertight (IP67)
Drawing D



16, 32 Amp
Splashproof (IP44)
Drawing D

Amps	Poles and Wires	Voltage AC	Position of Ground Contact	NEMA 4X Watertight (IP67)	Clock Splashproof (IP44)
16	2P3W	110	4	AT119304	AT110304
		230	6	AT119306	AT110306
		400	9	AT119309	AT110309
	3P4W	110	4	AT119404	AT110404
		230	9	AT119409	AT110409
		400	6	AT119406	AT110406
		500	7	AT119407	AT110407
	4P5W	110	4	AT119504	AT110504
		230	9	AT119509	AT110509
		400	6	AT119	AT110
	2P3W	110	4	AT139304	AT130304
		230	6	AT139306	AT130306
		400	9	AT139309	AT130309
32	3P4W	110	4	AT139404	AT130404
		230	9	AT139409	AT130409
		400	6	AT139406	AT130406
		500	7	AT139407	AT130407
	4P5W	110	4	AT139504	AT130504
		230	9	AT139509	AT130509
		400	6	AT139	AT130
	2P3W	110	4	AT139304	AT130304
		230	6	AT139306	AT130306
		400	9	AT139309	AT130309
	3P4W	110	4	AT139404	AT130404
		230	9	AT139409	AT130409
		400	6	AT139	AT130
32*	3P4W	380 50Hz 440 60Hz	3	AT139403	

* 32 Amp. Only for Refrigerated Containers.



Drawing D

Dimensions

Amps		Poles and Wires	Unit of Measure	Dimensions														
N.A.	Int'l			a	b	c	d	e	f	IP44	NEMA 4X IP67	IP44	NEMA 4X IP67	n	v			
20	16	2P3W	inch	5.00	3.07	0.18	6.54	3.82	4.57	4.72	7.28	7.28	7.28	0.28				
			mm	127	78	4.5	166	97	116	120	185	185	185	7				
20	16	3P4W	inch	5.00	3.07	0.18	6.54	3.82	4.72	4.92	7.28	7.28	7.28	0.28				
			mm	127	78	4.5	166	97	120	125	185	185	185	7				
20	16	4P5W	inch	5.00	3.07	0.18	6.54	3.82	4.92	5.20	7.28	7.28	7.28	0.28				
			mm	127	78	4.5	166	97	125	132	185	185	185	7				
30	32	2P3W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	8.46	8.46	8.46	0.28				
			mm	154	94	4.5	193	113	145	154	215	215	215	7				
30	32	3P4W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	8.46	8.46	8.46	0.28				
			mm	154	94	4.5	193	113	145	154	215	215	215	7				
30	32	4P5W	inch	6.06	3.70	0.18	7.60	4.45	5.83	6.06	8.46	8.46	8.46	0.28				
			mm	154	94	4.5	193	113	148	154	215	215	215	7				



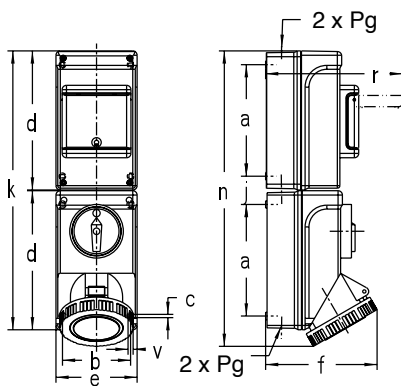
16, 32 Amp
Watertight (IP67)
Drawing E



16, 32 Amp
Splashproof (IP44)
Drawing E

Amps	Poles and Wires	MCB	Voltage AC	Clock Position of Ground Contact	NEMA 4X Watertight (IP67)	Splashproof (IP44)
16	2P3W	1 Pole "C"	110	4	AU119304UD	AU110304UD
			230	6	AU119306UD	AU110306UD
			400	9	AU119309UD	AU110309UD
	3P4W	3 Pole "C"	110	4	AU119404SA	AU110404SA
			230	6	AU119406SA	AU110406SA
			400	9	AU119409SA	AU810409SA
			500	7	AU119407SA	AU110407SA
	4P5W	3 Pole "C"	110	4	AU119504TA	AU110504TA
			230	9	AU119509TA	AU110509TA
			400	6	AU119TA	AU110TA
32	2P3W	1 Pole "C"	110	4	AU139304UD	AU130304UD
			230	6	AU139306UD	AU130306UD
			400	9	AU139309UD	AU130309UD
	3P4W	3 Pole "C"	110	4	AU139404SA	AU130404SA
			230	9	AU139409SA	AU130409SA
			400	6	AU139406SA	AU130406SA
			500	7	AU139407SA	AU130407SA
	4P5W	3 Pole "C"	110	4	AU139504TA	AU130504TA
			230	9	AU139509TA	AU130509TA
			400	6	AU139TA	AU130TA
32*	3P4W	3 Pole "C"	380 50Hz 440 60Hz	3	AU139403SA	

* 32 Amp. Only for Refrigerated Containers.



Drawing E

Amps		Poles and Wires	Unit of Measure	Dimensions															
				N.A.	Int'l	a	b	c	d	e	f	IP44	NEMA 4X IP67	i	k	IP44	NEMA 4X IP67	r	v
20	16	2P3W	inch	5.00	3.07	0.18	6.54	3.82	4.57	4.72	1.54	13.11	13.86	13.86	6.97	0.28			
			mm	127	78	4.5	166	97	116	120	39	333	352	352	177	7			
20	16	3P4W	inch	5.00	3.07	0.18	6.54	3.82	4.72	4.92	1.54	13.11	13.86	13.86	6.97	0.28			
			mm	127	78	4.5	166	97	120	125	39	333	352	352	177	7			
20	16	4P5W	inch	5.00	3.07	0.18	6.54	3.82	4.92	5.20	1.54	13.11	13.86	13.86	6.97	0.28			
			mm	127	78	4.5	166	97	125	132	39	333	352	352	177	7			
30	32	2P3W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	1.54	15.24	16.10	16.10	7.52	0.28			
			mm	154	94	4.5	193	113	145	154	39	387	409	409	191	7			
30	32	3P4W	inch	6.06	3.70	0.18	7.60	4.45	5.71	6.06	1.54	15.24	16.10	16.10	7.52	0.28			
			mm	154	94	4.5	193	113	145	154	39	387	409	409	191	7			
30	32	4P5W	inch	6.06	3.70	0.18	7.60	4.45	5.83	6.06	1.54	15.24	16.10	16.10	7.52	0.28			
			mm	154	94	4.5	193	113	148	154	39	387	409	409	191	7			



16, 32, 63, 125 Amp
Watertight (IP67)
Drawing B
(See Drawing on Page 49)



16, 32, 63, 125 Amp
Splashproof (IP44)
Drawing B
(See Drawing on Page 49)

Amps	Poles and Wires	Voltage AC	Clock Position of Ground Contact	NEMA 4X Watertight (IP67)	Splashproof (IP44)
16	2P3W	110	4	AJ119304SH	AJ110304SH
		230	6	AJ119306SH	AJ110306SH
		400	9	AJ119309SH	AJ110309SH
	3P4W	110	4	AJ119404SH	AJ110404SH
		230	9	AJ119409SH	AJ110409SH
		400	6	AJ119406SH	AJ110406SH
	4P5W	110	4	AJ119504SH	AJ110504SH
		230	9	AJ119509SH	AJ110509SH
		400	6	AJ1195SH	AJ1105SH
	2P3W	110	4	AJ139304SH	AJ130304SH
		230	6	AJ139306SH	AJ130306SH
		400	9	AJ139309SH	AJ130309SH
32	3P4W	110	4	AJ139404SH	AJ130404SH
		230	9	AJ139409SH	AJ130409SH
		400	6	AJ139406SH	AJ130406SH
	4P5W	110	4	AJ139504SH	AJ130504SH
		230	9	AJ139509SH	AJ130509SH
		400	6	AJ1395SH	AJ1305SH
	3P4W	380 50Hz 440 60Hz	3	AJ139403SH	
63	2P3W	110	4	AJ169304SH	AJ160304SH
		230	6	AJ169306SH	AJ160306SH
		400	9	AJ169309SH	AJ160309SH
	3P4W	110	4	AJ169404SH	AJ160404SH
		230	9	AJ169409SH	AJ160409SH
		400	6	AJ169406SH	AJ160406SH
	4P5W	110	4	AJ169504SH	AJ160504SH
		230	9	AJ169509SH	AJ160509SH
		400	6	AJ1695SH	AJ1605SH
125	2P3W	110	4	AO179304SH	
		230	6	AO179306SH	
		400	9	AO179309SH	
	3P4W	110	4	AO179404SH	
		230	9	AO179409SH	
		400	6	AO179406SH	
	4P5W	110	4	AO179504SH	
		230	9	AO179509SH	
		400	6	AO1795SH	

* 32 Amp. Only for Refrigerated Containers.

MANUAL DISCONNECT SWITCH



The Buzzie™ Switch Guard. Protect your Walther switches from possible damage from lift trucks and other workplace mishaps. (shown with KEM325UL-Y/R). Consult customer service for more information.



SAFETY

Walther's Manual Disconnect Switch combines a horsepower rated switch in a tough, impervious NEMA 4X enclosure for safe motor load disconnect. The bright yellow and red padlock handle provides lockout protection, in the "OFF" position, to comply with OSHA Lockout/Tagout regulations. In addition, the enclosure cover cannot be removed from the body until the switch is turned to the "OFF" position.

The nonmetallic enclosure, while abuse and corrosion resistant, is also non conductive, which enhances the safety of the product. The device can be connected to metallic conduit without interfering with the ground continuity.

RELIABILITY

Walther horsepower rated switches are available with ratings from 20 to 150amps. Type NEMA 4X enclosures are designed for the most demanding environments and provide excellent protection against corrosion, dirt, dust splashing water and hose directed water spray. Walther Type 4X inclosures provide exceptional UV Stability, excellent insulating properties and are made of a material that is self-extinguishing. (Flame retarded UL94 V0)

NEC ARTICLE 430

Walther's Disconnect Switch is designed to meet National Electric Code, Article 430-102, requiring a disconnecting means, located within sight, from the motor location and the driven machinery location.

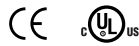
APPROVALS & COMPLIANCES

UL 508 Motor Disconnect



MANUAL DISCONNECT SWITCH

Enclosed Motor Disconnect Switch



Catalog Number

Black Handle	KEM325UL	KEM340UL	KEM360UL	KEM380UL
Yellow/ Red Handle	KEM325UL Y/R	KEM340UL Y/R	KEM360UL Y/R	KEM380UL Y/R
No. of Poles	3*	3*	3*	3*
General Purpose Current	25A	40A	60A	80A
Maximum Voltage	600V AC	600V AC	600V AC	600V AC
Motor FLA @ 480V AC	17.5A	28A	34A	—
Motor FLA @ 600V AC	11A	18A	27A	47A

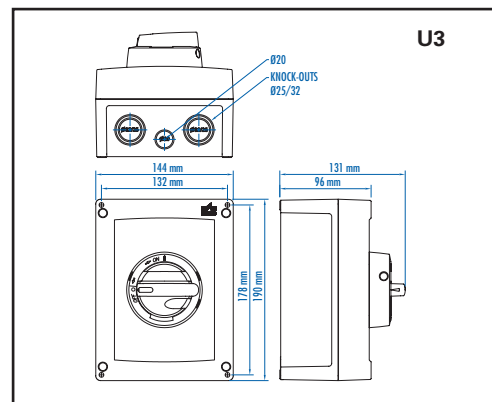
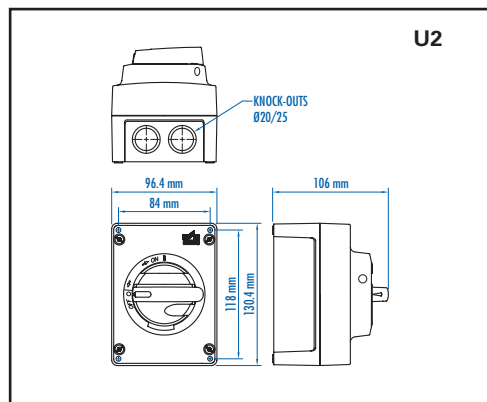
Horsepower Rating /HP	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase
110-120V AC	1	2	2	3	3	5	3	7.5
200V AC	2	5	3	7.5	5	10	7.5	10
208V AC	2	5	3	7.5	5	10	7.5	15
220-240V AC	3	7.5	5	10	5	10	7.5	15
265V AC	3	7.5	5	10	5	10	10	20
277V AC	3	7.5	5	10	7.5	10	10	20
380-415V AC	5	10	7.5	15	10	20	15	25
440-480V AC	7.5	15	10	20	15	25	20	30
550-600V AC	5	10	7.5	15	15	25	25	40

Short Circuit Withstand Rating at 600 V with Max. Fuse Size/Class:	10kA	10kA	10kA	10kA
K5	50A	50A	60A	150A
RK5	50A	50A	60A (80A @ 480V AC)	150A
RK1	80A	80A	100A	—
J	80A	80A	100A	200A

Terminal Size Acceptability (Cu Conductors only, 75°C)	14-8AWG	14-8AWG	12-4AWG	4-1/0AWG
Terminal Torque	16 lb. in.	16 lb. in.	16 lb. in.	50 lb. in.
Environmental Rating	NEMA Type 4X	NEMA Type 4X	NEMA Type 4X	NEMA Type 4X
Enclosure Type Used	U2	U3	U3	U3

Dimensions

(to convert to inches multiply by 0.03937)



Weight	0.49kg (1 lb.-1.3 oz.)	0.72kg (1 lb.-9.6 oz.)	0.773kg (1 lb.-11.2 oz.)	1.021kg (2 lb.-4.0 oz.)
--------	------------------------	------------------------	--------------------------	-------------------------

Suitable Accessories

Auxiliary Contacts	KU1.V, KU2.V	KU1.V, KU2.V	KU1.V, KU2.V	VKA1.V, VKA2.V
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*Also available in 4 pole models.

MANUAL DISCONNECT SWITCH

Enclosed Motor Disconnect Switch



KEM3100L
KEM3100L Y/R

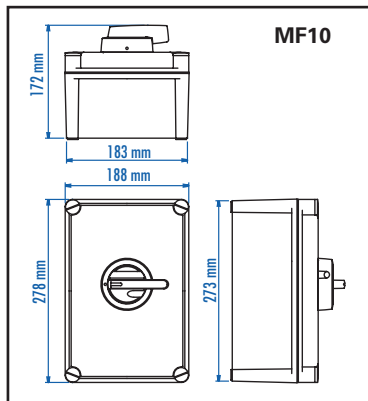
3*
100A
600V AC
—
54A

1 Phase	3 Phase
3	7.5
7.5	15
7.5	15
10	20
10	20
10	20
15	30
20	40
30	50

10kA
150A
150A
—
200A

4-1/0AWG

50 lb. in.
NEMA Type 4X
MF10



1.9051kg (4 lb. 3.2 oz.)

VKA1.V, VKA2.V



KEM3125L
KEM3125L Y/R

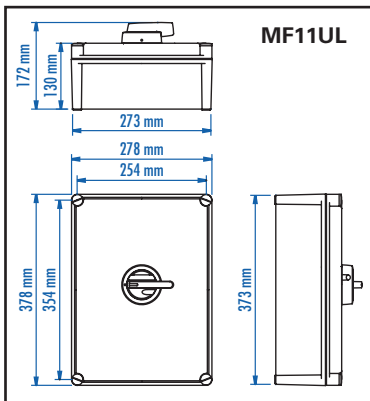
3*
125A
600V AC
—
68A

1 Phase	3 Phase
5	10
10	20
10	20
15	25
15	25
15	30
20	40
30	50
30	60

10kA
150A
150A
—
200A

4-1/0AWG

50 lb. in.
NEMA Type 4X
MF10



1.9051kg (4 lb. 3.2 oz.)

VKA1.V, VKA2.V



KEM3150L
KEM3150L Y/R

3*
150A
600V AC
—
83A

1 Phase	3 Phase
7.5	10
10	25
10	25
15	30
20	30
20	30
25	50
30	60
40	75

10kA
150A
150A
—
200A

4-1/0AWG

50 lb. in.
NEMA Type 4X
MF11UL

FUSED



KKVM332, KKVM332CC
KKVM332 Y/R, KKVM332CC Y/R

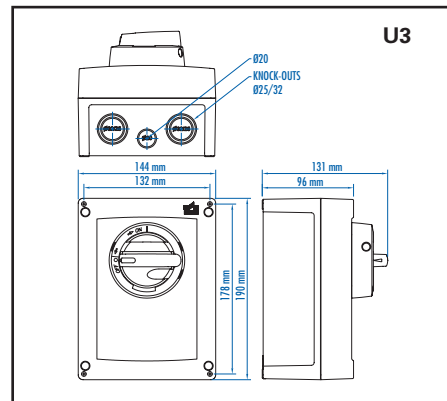
3
30A
600V AC

Cat. No.	Fuse Type
KKVM 332 (Y/R)	10x38, Midget
KKVM 332CC (Y/R)	Class CC

100kA
—
—

14-8AWG

16 lb. in.
NEMA Type 4X
U3



0.998kg (2 lb.-3.2oz.)

KU1.V, KU2.V

MANUAL DISCONNECT SWITCH

Extended/Direct Handle Motor Disconnect Switch



The KU/VKA...N series can be used with extended and direct handles (see page 8-9 for details).



Catalog Number

	KU325N	KU340N	KU363N
No. of Poles	3 (4 pole - KU425N)	3 (4 pole - KU440N)	3 (4 pole - KU463N)
General Purpose Current	25A	40A	60A
Maximum Voltage	600V AC	600V AC	600V AC
Motor FLA @ 480V AC	17.5A	28A	34A
Motor FLA @ 600V AC	11A	18A	27A

Horsepower Rating /HP

	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase
110-120V AC	1	2	2	3	3	5
200V AC	2	5	3	7.5	5	10
208V AC	2	5	3	7.5	5	10
220-240V AC	3	7.5	5	10	5	10
265V AC	3	7.5	5	10	5	10
277V AC	3	7.5	5	10	7.5	10
380-415V AC	5	10	7.5	15	10	20
440-480V AC	7.5	15	10	20	15	25
550-600V AC	5	10	7.5	15	15	25

Short Circuit Withstand Rating at 600 V with Max. Fuse Size/Class:

	10kA	10kA	10kA
K5	50A	50A	60A
RK5	50A	50A	60A (80A@480V AC)
RK1	80A	80A	100A
J	80A	80A	100A

Terminal Size

Acceptability

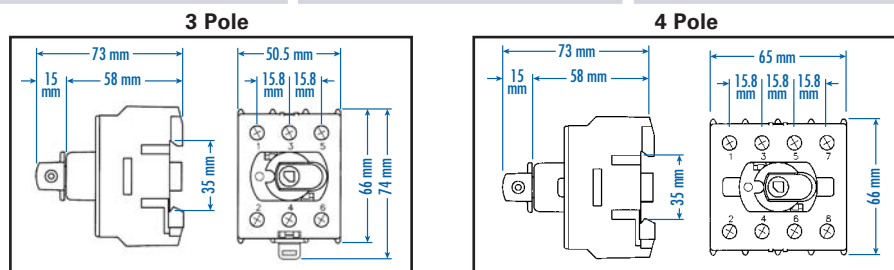
(Cu Conductors only, 75°C)

Terminal Torque

	14-8AWG	14-8AWG	12-4AWG
	16 lb. in.	16 lb. in.	16 lb. in.

Dimensions

(to convert to inches multiply by 0.03937)



Weight

	0.172Kg (0.379lb.) (3 pole) 0.215Kg (0.474lb.) (4 pole)	0.172Kg (0.379lb.) (3 pole) 0.215Kg (0.474lb.) (4 pole)	0.172Kg (0.379lb.) (3 pole) 0.215Kg (0.474lb.) (4 pole)
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Suitable Accessories

Extended Handle Version/ Door Interlock Mechanism

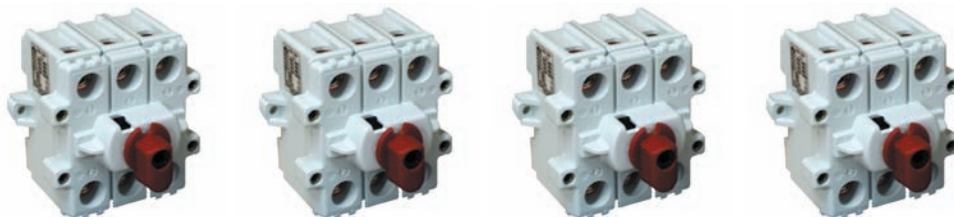
	L1(2,3)00AD11-ST	L1(2,3)00AD11-ST	L1(2,3)00AD11-ST
Shaft	LK10 (Y/R) UL, LK11 (Y/R) U	LK10 (Y/R) UL, LK11 (Y/R) U	LK10 (Y/R) UL, LK11 (Y/R) U
Handles	KU1.V, KU2.V	KU1.V, KU2.V	KU1.V, KU2.V
Auxiliary Switch	-	KV 10x38, KV 10x38 CC	-
Fuse Holder	-	-	-

Direct Handle Version

	K/KU3P (Y/R)	K/KU3P (Y/R)	K/KU3P (Y/R)
Handle for 3 Pole	K/KU4P (Y/R)	K/KU4P (Y/R)	K/KU4P (Y/R)
Handle for 4 Pole	OKA0.V (Y/R), OKA/KU LK10 (Y/R)	OKA0.V (Y/R), OKA/KU LK10 (Y/R)	OKA0.V (Y/R), OKA/KU LK10 (Y/R)
Door Mounting Kits	-	-	-

MANUAL DISCONNECT SWITCH

Extended/Direct Handle Motor Disconnect Switch



Catalog Number	VKA380N	VKA3100N	VKA3125N	VKA3160N
No. of Poles	3 (4 pole - VKA480N)	3 (4 pole - VKA4100N)	3 (4 pole - VKA4125N)	3 (4 pole - VKA4160N)
General Purpose Current	80A	100A	125A	150A
Maximum Voltage	600V AC	600V AC	600V AC	600V AC
Motor FLA @ 480V AC	—	—	—	—
Motor FLA @ 600V AC	47A	54A	68A	83A

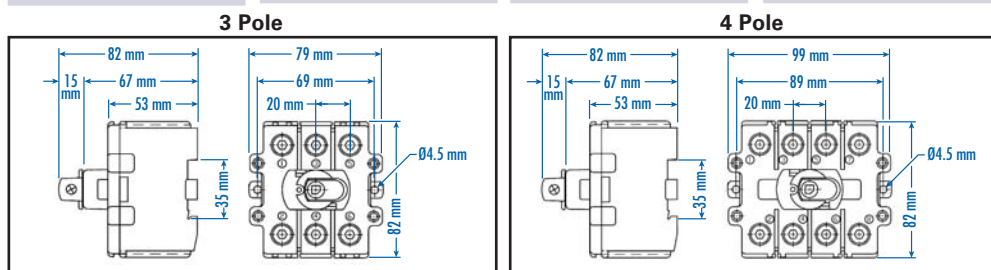
Horsepower Rating /HP	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase	1 Phase	3 Phase
110-120V AC	3	7.5	3	7.5	5	10	7.5	10
200V AC	7.5	10	7.5	15	10	20	10	25
208V AC	7.5	15	7.5	15	10	20	10	25
220-240V AC	7.5	15	10	20	15	25	15	30
265V AC	10	20	10	20	15	25	20	30
277V AC	10	20	10	20	15	30	20	30
380-415V AC	15	25	15	30	20	40	25	50
440-480V AC	20	30	20	40	25	50	30	60
550-600V AC	25	40	30	50	30	60	40	75

Short Circuit Withstand Rating at 600 V with Max. Fuse Size/Class:	10kA	10kA	10kA	10kA
K5	150A	150A	150A	150A
RK5	150A	150A	150A	150A
RK1	—	—	—	—
J	200A	200A	200A	200A

Terminal Size Acceptability (Cu Conductors only, 75°C)	4-1/0AWG	4-1/0AWG	4-1/0AWG	4-1/0AWG
Terminal Torque	50 lb. in.	50 lb. in.	50 lb. in.	50 lb. in.

Dimensions

(to convert to inches
multiply by 0.03937)



Weight	0.480Kg (1.058lb.) (3pole) 0.620Kg (1.367lb.) (4pole)	0.480Kg (1.058lb.) (3pole) 0.620Kg (1.367lb.) (4pole)	0.480Kg (1.058lb.) (3pole) 0.620Kg (1.367lb.) (4pole)	0.480Kg (1.058lb.) (3pole) 0.620Kg (1.367lb.) (4pole)
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Suitable Accessories

Extended Handle Version/ Door Interlock Mechanism

Shaft	L1(2.3)00AD11-ST	L1(2.3)00AD11-ST	L1(2.3)00AD11-ST	L1(2.3)00AD11-ST
Handles	LK10 (Y/R) UL, LK11 (Y/R) U	LK10 (Y/R) UL, LK11 (Y/R) U	LK10 (Y/R) UL, LK11 (Y/R) U	LK10 (Y/R) UL, LK11 (Y/R) U
Auxiliary Switch	VKA1.V, VKA2.V	VKA1.V, VKA2.V	VKA1.V, VKA2.V	VKA1.V, VKA2.V
Fuse Holder	—	—	—	—

Direct Handle Version

Handle for 3 & 4 Pole	K/VKA3-4P (Y/R)	K/VKA3-4P (Y/R)	K/VKA3-4P (Y/R)	K/VKA3-4P (Y/R)
Door Mounting Kit	OKA/V LK11 (Y/R)	OKA/V LK11 (Y/R)	OKA/V LK11 (Y/R)	OKA/V LK11 (Y/R)



Extended Handle Accessories

DOOR INTERLOCK HANDLES

LK10 (Y/R) UL:

- Single hole mounting (22.5mm)
- Defeatable (built-in mechanism)



LK10 UL



LK11 UL

LK11 (Y/R) U:

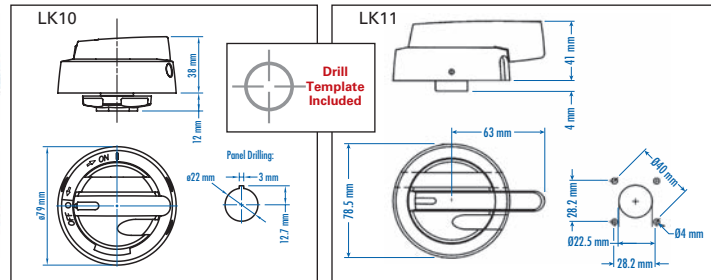
- Retention mechanism (only rotates 90° from off to on, keeps handle in off position while cabinet door is open)
- Defeatable (looses NEMA rating)



LK10 Y/R UL



LK11 Y/R UL



Cat. No.

LK10 UL

LK10 Y/R UL

LK11 U

LK11 Y/R U

Environmental Rating

NEMA Type 4X, IP66

NEMA Type 4X, IP66

NEMA Type 4X, IP67

NEMA Type 4X, IP67

Color

Black

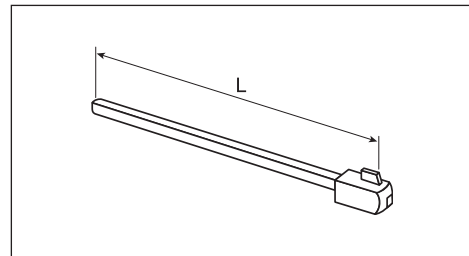
Yellow/Red

Black

Yellow/Red

DOOR INTERLOCK SHAFT

The steel shaft ensures reliable operation even in the toughest conditions.



Cat. No.

L100AD11-ST

L200AD11-ST

L300AD11-ST

Length (L)

100mm

200mm

300mm

Material

Steel

Steel

Steel

AUXILIARY SWITCHES

The auxiliary switches are the snap-on type and can be retrofitted.



Cat. No.

KU1.V

KU2.V

VKA1.V

VKA2.V

Electrical Rating

10A/1/2HP/125-250V AC

10A/1/2HP/125-250V AC

10A/1/2HP/125-250V AC

10A/1/2HP/125-250V AC

No. of contacts

1n.o./1n.c.

2n.o./2n.c.

1n.o./1n.c.

2n.o./2n.c.

For Use With

KU models

KU models

VKA models

VKA models

FUSE HOLDER

This fuseholder can be retrofitted with the KU340N. Therefore design changes can be incorporated with ease to allow a fusible disconnect.



Shown with extended handle switch.



Cat. No.

KV 10x38

KV 10x38 CC

Electrical Rating

30A/600V AC

30A/600V AC

Fuse Type

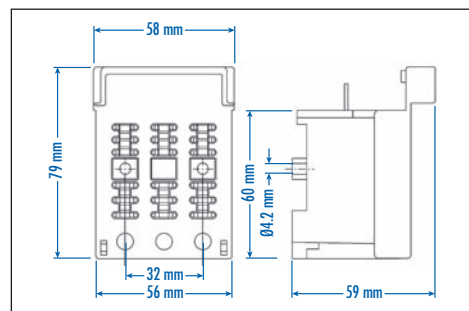
10x38, Midget

Class CC

For Use With

KU340N

KU340N



Dimensions (to convert to inches multiply by 0.03937)

Direct Handle Accessories

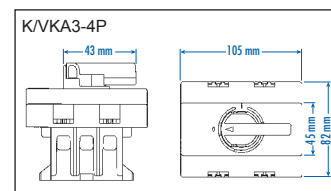
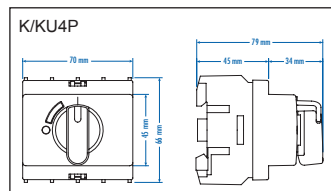
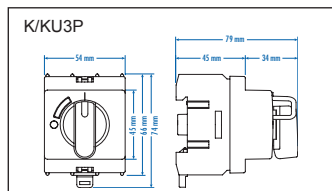
DIRECT HANDLES

Improved design with metal shaft. Use for all your "inside the panel" applications.



Cat. No.	K/KU3P	K/KU3P Y/R	K/KU4P	K/KU4P Y/R	K/VKA3-4P	K/VKA3-4P Y/R
Color	Black	Yellow/Red	Black	Yellow/Red	Black	Yellow/Red
For use with	KU models (3P)	KU models (3P)	KU models (4P)	KU models (4P)	VKA models (3/4P)	VKA models (3/4P)

Dimensions

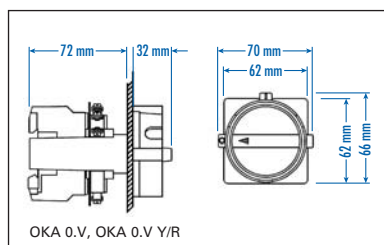


DOOR MOUNTING KITS

Designed for fast and easy assembly.



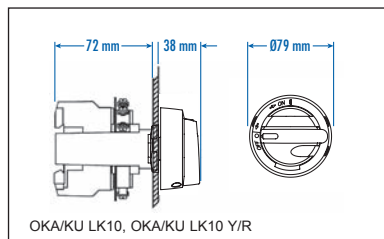
Shown with switch and display plate. (sold separately)



Cat. No.	OKA 0.V	OKA 0.V Y/R
Environmental Rating	IP65	IP65
Color	Black	Yellow/Red
For use with	KU models (3P)	KU models (3P)



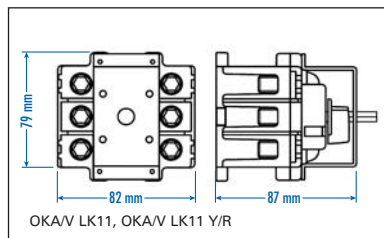
Shown with switch and display plate. (sold separately)



Cat. No.	OKA/KU LK10	OKA/KU LK10 Y/R
Environmental Rating	NEMA Type 4X, IP66	NEMA Type 4X, IP66
Color	Black	Yellow/Red
For use with	KU models (3P)	KU models (3P)



Shown with switch. (sold separately)



Cat. No.	OKA/V LK11	OKA/V LK11 Y/R
Environmental Rating	NEMA Type 4X, IP67	NEMA Type 4X, IP67
Color	Black	Yellow/Red
For use with	VKA models (3P)	VKA models (3P)

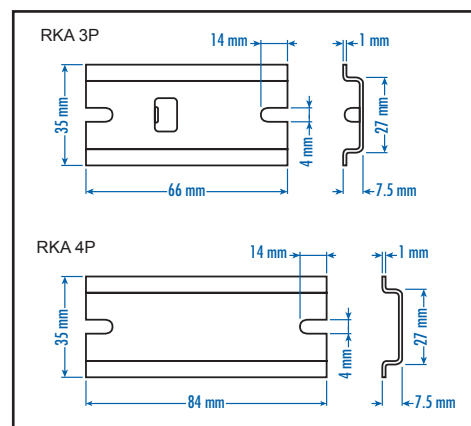
MOUNTING ALTERNATIVES

- ALUMINUM DIN RAIL

Panel mount option for small Disconnect Switches.



Cat. No.	RKA 3P	RKA 4P
For Use With	KU325/40/63N	KU425/40/63N



NOTE:

In the rare case that your mounting hardware (screws) for DIN Rail interfere with the enforcement studs in the back of the Motor Disconnect Switch please use smaller (2M3 or equivalent) flathead screws or change your DIN Rail to the 15mm high version.

Dimensions (to convert to inches multiply by 0.03937)

Stainless Steel Enclosed Motor Disconnect Switch



The enclosures are designed for use where chemical solutions are used for wash-down maintenance as in food processing and breweries. They are also suitable for use in salt air and spray environments both shore-side and shipboard. The Stainless Steel construction of the enclosure is extremely resistant to corrosion and is IP66 rated.



Catalog Number

Black Handle

Yellow/ Red Handle

No. of Poles
General Purpose Current
Maximum Voltage
Motor FLA @ 480V AC
Motor FLA @ 600V AC

KER325UL
KER325UL Y/R

3*
25A
600V AC
17.5A
11A

KER340UL
KER340UL Y/R

3*
40A
600V AC
28A
18A

Horsepower Rating /HP

110-120V AC
200V AC
208V AC
220-240V AC
265V AC
277V AC
380-415V AC
440-480V AC
550-600V AC

1 Phase	3 Phase
1	2
2	5
2	5
3	7.5
3	7.5
3	7.5
5	10
7.5	15
5	10

1 Phase	3 Phase
2	3
3	7.5
3	7.5
5	10
5	10
5	10
7.5	15
10	20
7.5	15

Short Circuit Withstand Rating at 600 V with Max. Fuse Size/Class:

K5
RK5
RK1
J

10kA
50A
50A
80A
80A

10kA
50A
50A
80A
80A

Terminal Size Acceptability

(Cu Conductors only, 75°C)

Terminal Torque
Environmental Rating
Enclosure Type Used

14-8AWG

14-8AWG

16 lb. in.

NEMA Type 4X

H23

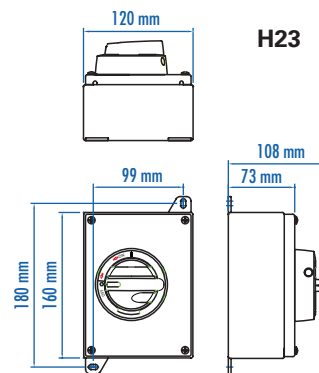
16 lb. in.

NEMA Type 4X

H23

Dimensions

(to convert to inches
multiply by 0.03937)



Weight

1.35kg (2.98 lb.)

1.35kg (2.98 lb.)

Suitable Accessories

Auxiliary Contacts

KU1.V, KU2.V

KU1.V, KU2.V

*Also available in 4 pole models.

MANUAL DISCONNECT SWITCH

Stainless Steel Enclosed Motor Disconnect Switch



KER360UL
KER360UL Y/R

3*
60A
600V AC
34A
27A

1 Phase	3 Phase
3	5
5	10
5	10
5	10
5	10
7.5	10
10	20
15	25
15	25

10kA
60A
60A (80A @ 480V AC)
100A
100A

12-4AWG
16 lb. in.
NEMA Type 4X
H32



KER380UL
KER380UL Y/R

3*
80A
600V AC
—
47A

1 Phase	3 Phase
3	7.5
7.5	10
7.5	15
7.5	15
10	20
10	20
15	25
20	30
25	40

10kA
150A
150A
—
200A

4-1/0AWG
50 lb. in.
NEMA Type 4X
H32



KER3100UL
KER3100UL Y/R

3*
100A
600V AC
—
54A

1 Phase	3 Phase
3	7.5
7.5	15
7.5	15
10	20
10	20
10	20
15	30
20	40
30	50

10kA
150A
150A
—
200A

4-1/0AWG
50 lb. in.
NEMA Type 4X
H32



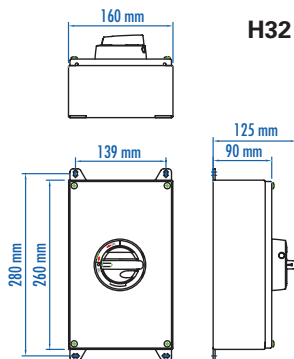
KER3125UL
KER3125UL Y/R

3*
125A
600V AC
—
68A

1 Phase	3 Phase
5	10
10	20
10	20
15	25
15	25
15	30
20	40
30	50
30	60

10kA
150A
150A
—
200A

4-1/0AWG
50 lb. in.
NEMA Type 4X
H32



2.66kg (5.87 lb.)

2.66kg (5.87 lb.)

2.66kg (5.87 lb.)

2.66kg (5.87 lb.)

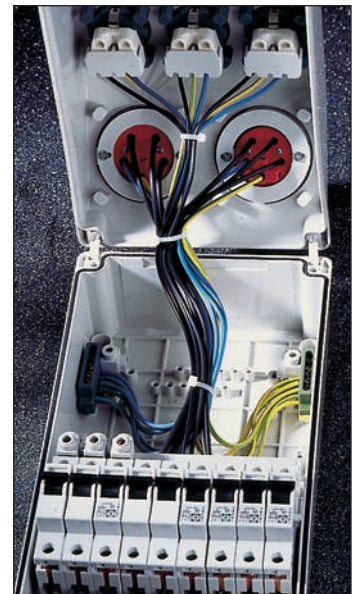
KU1.V, KU2.V

VKA1.V, VKA2.V

VKA1.V, VKA2.V

VKA1.V, VKA2.V





Combination Outlets Save 50 — 75% in Time and Material Costs

Walther Electric introduces a custom-built power distribution system, made up of multiple variations of receptacles, that we call "Combination Outlets".

Combination outlets combine multiple receptacles or an assortment of receptacles into one compact enclosure. By combining numerous receptacles within one electrical enclosure, multiple conduit runs with individual branch circuit wiring can be eliminated; as a result, significantly reducing material costs. These combination outlets are supplied complete with all internal wiring and in most cases only require one connection to the incoming electrical supply conduit.

The Walther combination outlet system utilizes standard NEMA wiring devices, IEC309 pin and sleeve connectors, or practically any type of connection that meets your specific requirements (European "Schuko", French, United Kingdom, Australian, Italian, Swiss, Israeli, Danish, Japanese, etc.).

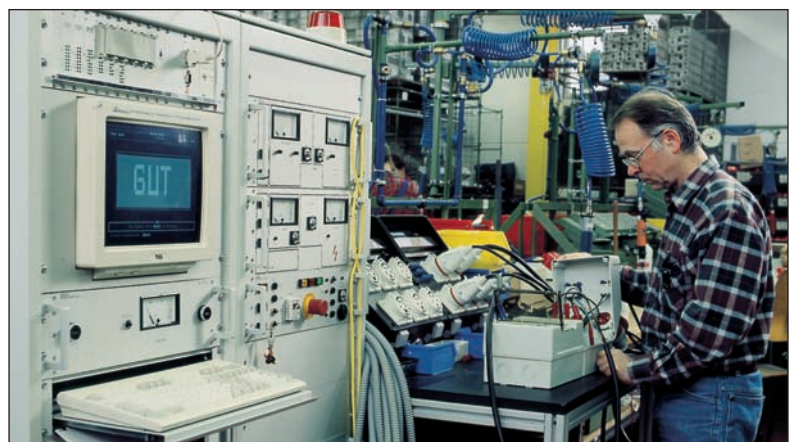
Because of the compact size of these combinations, installation of multiple receptacles in tight or limited space is normally not a problem. In fact, many of the enclosures are designed to fit within the web of an 8" column allowing the use of columns as a mounting location.

Best of all, overload protection is typically provided with built-in circuit breakers within the enclosure, which are easily accessible by opening the see-through cover. This cover can be secured by a choice of methods ranging from a simple thumbscrew to lockout protection for greater safety and compliance with OSHA Lockout/Tagout regulations. The Walther combination outlet system also utilizes fuses, RCD's, GFCI breakers or practically any type of overload protection that meets your specific requirements.

The high impact thermoplastic and solid rubber enclosures, while abuse and corrosion resistant, are also non conductive, which enhances the safety of the product (consult technical service for stainless steel enclosures).

Each combination is checked in accordance with EN 60 439-1; 1994 table 7 and test certificates are provided with each unit. This test data is saved and can be retrieved at any time.

Walther Electric welcomes the opportunity to manufacture custom combinations of receptacles and inlets built to your specific needs and requirements. The examples shown in this section represent only a small fraction of the possible combinations available. Our application engineers are at your service to help plan and construct combination units according to your specific requirements. Simply call 1-800-WALTHER.



COMBINATION OUTLETS



PEDESTALS AND FRAMES



HANGING COMBINATIONS



Walther Electric welcomes the opportunity to manufacture custom combinations of receptacles and inlets built to your specific needs and requirements. The examples shown in this section represent only a small fraction of the possible combinations available. Our application engineers are at your service to help plan and construct combination units according to your specific requirements. Simply call 1-800-WALTHER.



Part No: 64929DD
 Enclosure: Solid Rubber P/N 6499901, UL Type 3R
 Input: 50 Amp, 120/240V Inlet
 Output: Three (3) 20 Amp, GFCI Duplex Receptacles, 125V, NEMA 5-20R with cover
 One (1) 50 Amp Receptacle 125/250V with cover

Overload Protection: Three (3) 20 Amp, UL Type C, 1-Pole Circuit Breakers
 One (1) 50 Amp, UL Type C, 2-Pole Circuit Breakers

Dimensions: 10.6" x 10.8" x 12.2" H
 Including Handle (270mm x 275mm x 310mm H)

Weight: 18 lbs.
 Application: Shipyards, Industrial, Construction, Etc.



Part No: 64829AR
 Enclosure: Solid Rubber P/N 6489901, UL Type 1
 (With 4 External Mounting Brackets & Handle)
 Input: 50 Amp, 120/240V Inlet
 Output: Six (6) 20 Amp, GFCI Duplex Receptacles, 125V, NEMA 5-20R with cover
 One (1) 50 Amp Receptacle 125/250V with cover

Overload Protection: Two (2) 20 Amp, UL Type C, 1-Pole Circuit Breakers

Dimensions: 16.5" x 13.6" x 8.4" D
 Not Including Handle (420mm x 345mm x 213mm D)

Weight: 33 lbs.
 Application: Shipyards



Plug (Input)	(Output)		Overload Protection
	No.	Receptacles	
NEMA L21-30P 30A 3ØY120/208 VAC	3	NEMA 5-20R 20A 125VAC	3 MCB's 1 Pole 20A>>C<<



Plug (Input)	(Output)		Overload Protection
	No.	Receptacles	
Customer Supplied Cable	2	NEMA 5-20R 20A 125VAC-Quad Plex	2 MCB's 1 Pole 20A>>C<<



Plug (Input)	(Output)		Overload Protection
	No.	Receptacles	
IEC309-1 and 309-2 5 Wire, 32 Amp	3	IEC309-1 and 309-2 5 Wire, 32 Amp	1 MCB's 3 Pole 32A>>C<<
	1	IEC309-1 and 309-2 5 Wire, 16 Amp	1 MCB's 3 Pole 16A>>C<<
	3	Schuko Socket Outlets	3 MCB's 1 Pole 16A>>B<<



Plug (Input)	(Output)		Overload Protection
	No.	Receptacles	
IEC309-1 and 309-2 5 Wire, 63 Amp	2	IEC309-1 and 309-2 5 Wire, 32 Amp	2 MCB's 3 Pole 32A>>C<<
	2	IEC309-1 and 309-2 5 Wire, 16 Amp	2 MCB's 3 Pole 16A>>C<<
	8	Schuko Socket Outlets	4 MCB's 1 Pole 16A>>B<<



Plug (Input)	(Output)		Overload Protection
	No.	Receptacles	
Stage Pin 60 AMP	3	NEMA 5-20R 20A 125VAC	3 MCB's 1 Pole 20A>>C<<



Plug (Input)	(Output)		Overload Protection
	No.	Receptacles	
IEC309-1 and 309-2 60A 3ØY120/208 VAC	9	NEMA 5-20R 20A 125VAC	9 MCB's 1 Pole 20A>>C<<



Plug (Input)	(Output)		Overload Protection
	No.	Receptacles	
Cam Connectors 400 Amp	15	NEMA 5-20R 20A 125VAC	15 MCB's 1 Pole 20A>>C<<

Walther Electric welcomes the opportunity to manufacture custom combinations of receptacles and inlets built to your specific needs and requirements. The examples shown in this section represent only a small fraction of the possible combinations available. Our application engineers are at your service to help plan and construct combination units according to your specific requirements. Simply call 1-800-WALTHER.



Part No: 6WE2000
 Enclosure: Solid Rubber, Type 6419901, UL Type 3R
 Input: NEMA L21-30P with 2-meter supply cable
 Output: Three (3), NEMA 5-20R, RED / BLACK / BLUE, each circuit with an indicator light
 Power Feed-Through Cable: NEMA L21-30R with 2-meter supply cable
 Overload
 Protection: Three (3), MCB, 20-Amp, 1-Phase
 Dimensions: L17.56" x B4.53" x H4.34"
 (446mm x 115mm x 110mm)
 Weight: 6 lbs.
 Application: Entertainment: Convention Halls



Part No: 64917AL
 Enclosure: Solid Rubber P/N 6499901, UL Type 3R
 Input: 60 Amp Male Plug, 3 Pole, 4 Wire Grounding, 3 Phase 480 VAC IEC309-1 and 309-2
 6.5' (2 Meters) Supply Cable
 Output: Three (3) Amp, Receptacles, 3 Pole, 4 Wire Grounding, 3 Phase 480 VAC, IEC309-1 and 309-2
 Overload Three (3) 32 Amp, UL Type C,
 Protection: 3-Pole Circuit Breakers
 Dimensions: 10.6" x 10.8" x 12.2" H
 Including Handle (270mm x 275mm x 310mm H)
 Weight: 26 lbs.
 Application: Shipyards



Part No: 64829AW
 Enclosure: Solid Rubber Type 648 (x3), Wall Mount, UL Type 1
 Input: Hardwire
 Output: Three (3) Rows, CAM-LOK, E16, Female, (3P+G), with protective covers.
 One (1) 50 Amp Receptacle, 125/250V, CS6369, with Weatherproof Plate.
 Two (2), CEETyp, 60-Amp, Female Receptacles, 5W (3P+N+G), 569509.
 One (1), 50-Amp, 2P open terminal block for future expansion with breaker.
 Overload Three (3) 40 Amp, UL Type C, 3-Pole Circuit Breakers (CAMs)
 Protection: Two (2) 50 Amp, UL Type C, 3-Pole Circuit Breaker
 Two (2) 60 Amp, UL Type C, 3-Pole Circuit Breaker (CEETyp)
 Dimensions: 14.6" x 40.7" x 4.5"
 (H=370mm x L=1035mm x W=115mm)
 Weight: 60 lbs.
 Application: GENSET PDU



Part No: 64829AW
 Enclosure: Solid Rubber P/N 6489901, UL Type 1
 Input: Hardwire With Main On/Off Switch
 Output: Four (4) CEETyp, Female Receptacles, 60/63-Amp, 5-Wire (3P+N+G), Walther no. 569509
 One (1) 50 Amp Receptacle, 125/250V, CS6369 with cover
 Overload Four (4) 63 Amp, UL Type C,
 Protection: 3-Pole Circuit Breakers
 One (1) 50 Amp, UL Type C,
 2-Pole Circuit Breaker
 Dimensions: 31.1" x 13.6" x 4.5"
 (H=790mm x L=345mm x W=115mm)
 Weight: 60 lbs.
 Application: GENSET PDU



Part No: 64829AY
 Enclosure: Two (2) Solid Rubber P/N 6489901
 UL Type 1
 Input: CEETyp, IEC309-1/-2, 100-Amp, Male Inlet, 3-Phase Y120/208V, 5-Wire, Walther no. 679521
 With 100-Amp Main On/Off Switch
 Output: Six (6) NEMA 5-20R, 20-Amp, Female Receptacles, 3-Wire (1P+N+G) with covers
 Five (5) CAM-LOK Connectors, E16, (Black, Red, Blue, White, Green) with covers
 One (1) NEMA 18-50R, 50-Amp, Female Receptacle, 4-Wire (3P+G) with cover
 Overload Six (6) 20 Amp, UL Type C,
 Protection: 1-Pole Circuit Breakers
 One (1) 50 Amp, UL Type C,
 3-Pole Circuit Breaker
 Dimensions: 17" x 14" x 14"
 (H x L x W)
 Weight: 62 lbs.
 Application: GENSET PDU



OTHER INDUSTRIES AND APPLICATIONS

Amusement Parks and Attractions
 Convention Centers, Trade Fairs and Exhibitions
 Fairgrounds, Flea Markets and Bazaars
 Indoor/Outdoor Concerts and Performances
 Military
 Temporary Lighting Systems
 Wherever portable and/or temporary power distribution is required

NEW!

**PORTABLE
POWER**







NEW!



Safety
Durability
Versatility



				Brief profile Product development Quality management	Company profile		1
				Equipment possibilities at a glance	E-Mobility icons	   	2
				Application examples Charging infrastructure	E-Mobility scenarios		3
			   	Ecolectra product line Voltanea product line Amperea product line Operation and communication	Product range charging stations / E-Station		4
				Industry-Line product line Design-Line product line Robust-Line product line Slim-Line product line Special solutions (trolley, suspension-type combination, portable solid rubber distributor)	Product range Wallbox / E-BoxX		5
					Product range charging possibilities for e-Bikes		6
					Marketing / added-value services for charging infrastructure products	 	7
				Overview of electric cars and necessary charging cable Mode 2 and mode 3 charging cables Charging sockets and vehicle inlets Charging plugs and vehicle connectors Accessories: EV-tester, charge controller	Product range charging cables, charging connections and accessories		8
					Basic knowledge in the area of electric mobility		9
					Training opportunities for installers, wholesalers and customers		10
					Contacts at Walther	   	11
					Foldout page E-Mobility icons		

-  Plugs and Sockets
-  Industrial Connectors
-  E-Mobility
-  Power Distributors for Outside Areas

E-Mobility 2013

Operator scenarios
Products and icons





Walther's headquarters, Eisenberg



Bosecker subsidiary, Zittau

Brief profile

Walther-Werke was founded back in 1897 in Grimma, near to Leipzig. Today, the owner-operated company has its headquarters in Eisenberg (Rhineland Palatinate), between Mannheim and Kaiserslautern, and is thus located centrally in Germany and Europe. More than 350 people work in the entire Walther Group worldwide, and are involved in development, production and sales of industrial connectors, CEE plugs and sockets, power distributors and transformer stations. For more than 75 years now, the subsidiary, Bosecker Verteilerbau, has been successfully producing power distributors and transformer stations. In addition, there are sales partnerships in more than 60 countries. In this way, we can guarantee optimum service for our customers on the spot at all times.

Core business of Walther for 115 years...



... leads to comprehensive E-Mobility expertise



Walther has held leading positions on all relevant standardisation committees since day one:



Product development

Our developers have extensive expertise in all relevant product and production requirements. In this way, we are able to work out solutions which will withstand the future challenges of electric mobility in the long term. Our significant production depth and broad product range mean that we can deliver a system solution comprising ideally matching components.



Project management

Each project starts with an idea. The project managers at Walther-Werke always provide our customers with advice and support that is up-to-date and at the appropriate level. Constructive exchange, extensive skills and experience combined with communication and transparency are our guidelines for shared success in a project.



Quality management

We aim to offer the highest level of quality consistently. For us, quality starts with product development (FMEA, AQPQ, etc.) and extends throughout the entire lifecycle of the product. In order to meet our customers' exacting requirements in full, we are currently expanding our ISO 9001 certification to the automobile standard, ISO TS 16949.




Success for our customers and partners

The combination of many years of product experience and cutting-edge specialist knowledge of methodology makes us the ideal partner for putting your ideas into practice. In addition to cooperating with various national and international automobile manufacturers, power utilities and other pioneers in electric mobility, we are already working successfully in the German market on E-Mobility projects with our traditional partners: the electrical wholesale trade and electricians.




Walther E-Mobility icons: Equipment features at a glance

Charging point




Type 1

Vehicle connector type 1 (vehicle side) acc. to IEC62196-2 for 16 A or 32 A, for single-phase charging. The vehicle connector is fixed to the charging device or charging cable.




Type 2

Charging plug type 2 (infrastructure side) acc. to IEC62196-2 for 16 A, 32 A or 63 A, for single-phase or three-phase charging. The charging plug is fixed to the charging cable.




Type 2

Vehicle connector type 2 (vehicle side) acc. to IEC62196-2 for 16 A, 32 A or 63 A, for single-phase or three-phase charging. The vehicle connector is fixed to the charging device or charging cable.




Type 2

Charging socket type 2 (infrastructure side) acc. to IEC62196-2 for 16 A, 32 A or 63 A, for single-phase or three-phase charging. As variants with/without lid and electromechanical interlock for installation in charging devices.




Type 3

Charging socket type 3 (infrastructure side) acc. to IEC62196-2 for 16 A or 32 A, for single-phase or three-phase charging. With lid and electromechanical interlock for installation in charging devices.




Schuko

Schuko socket (infrastructure side) for max. 16 A, for single-phase charging. With lid and proximity detector for installation in charging devices.




CEE

CEE socket (infrastructure side) for 16 A or 32 A, for single-phase or three-phase charging. With lid and proximity detector for installation in charging devices.




Spiral cable with corresponding conductor cross-section in charging cable or fixed connection to the charging device.

Charging power




3,7 kW

The charging device or charging cable is designed for a max. charging power of 3.7 kW according to a charging current of 16 A (single-phase).




7 kW

The charging device or charging cable is designed for a max. charging power of 7 kW according to a charging current of 32 A (single-phase).




11 kW

The charging device or charging cable is designed for a max. charging power of 11 kW according to a charging current of 16 A (three-phase).



22 kW


The charging device or charging cable is designed for a max. charging power of 22 kW according to a charging current of 32 A (three-phase).



44 kW

The charging device or charging cable is designed for a max. charging power of 44 kW according to a charging current of 63 A (three-phase).

Technology




DJB

A complete connection acc. to the special requirements of the energy supplier (DJB, meter enclosure, SLS switch, empty enclosure, etc.) is provided at the supply point of the charging device.



RCD A

A type A RCD (residual current device) is provided for each charging point. Type A does not take account of any DC fault currents > 6 mA from the electric vehicle.



RCD B

A type B RCD (residual current device) is provided for each charging point. Type B (AC/DC sensitive) takes account of DC fault currents > 6 mA from the electric vehicle.



external RCD

A type B RCD (residual current device) is provided for each charging point. Type B (AC/DC sensitive) takes account of DC fault currents > 6 mA from the electric vehicle.




IP 44

The product has the IP rating IP 44.



ABS

The enclosure of the charging device is configured as a plastic enclosure.




Stainless Steel

The enclosure of the charging device is configured as a stainless steel enclosure.




Alu

The enclosure of the charging device is configured as an aluminium enclosure.




6.9 kWh int.meter

Energy meters (single-phase or three-phase) are provided in the charging device for occasional reading, in order to measure the energy consumed.



6.9 kWh meter


Energy meters (single-phase or three-phase) are provided for direct reading, in order to measure the energy consumed.




6.9 kWh → data

Energy meters (single-phase or three-phase) are provided on each charging unit for measuring the energy consumed. The consumption values are available as data via an interface.


Identification and operation (see chap. 4)




The identification and release of each charging point is performed using key-operated switches (which can be removed in the on and off positions, allocation to the charging point according to the labelling).




The identification and release of each charging point is performed using knob switches (on and off position, and allocation to the charging point according to the labelling).




Signalling and operating indicator of the charging device by means of light-emitting diodes (LEDs) in the operating area (charging green, malfunction red, etc.).




Operating indicator and communication between the operator and the charging device via multi-line display in the operating area.




Operating indicator and communication between the operator and the charging device via touchscreen monitor. Inputs via onscreen keypad or buttons. Display of publicity information (slideshow) as added-value service.



With a localPIN, the operator enters his/her personal PIN on the monitor. This is verified against the internal local list, and the charging point is released if the check proves positive.




In a localTAN, the operator is displayed a TAN on the monitor. The operator sends this localTAN as an SMS to the indicated mobile phone number, and the charging point is released.




In an extendedTAN, the operator is displayed a TAN on the monitor. The operator (registered customer, e.g. with mobile phone ticket) transfers this extendedTAN via SMS to the provider, and receives a TAN in return. After inputting this on the monitor, the charging point is released.


Data communication




The charging energy is paid for using tokens. The operator defines the price per kWh (with consumption measurement) or a flat-rate price per unit of time (with time recording).




Identification is by means of an RFID medium. After verification against the internal local list, the charging point is released, and the consumption data is allocated to the RFID.




Identification is by means of an RFID medium. Following verification by the provider (e.g. charging network), the charging point is released and the consumption data allocated to the RFID.



Communication (authentication or data transfer) with the charging device takes place via mobile phone.




Communication between the charging device and backend takes place via the OCPP protocol (e.g. charging network as operator).




Communication with the charging device (permanent or periodic) takes place via TCP/IP..


Added-value services and CI livery (see chap. 7)




The enclosure of the charging device can be used as a publicity surface or CI measure by means of foils.




Illuminated publicity surfaces are available as a top unit for the charging device.




Display of marketing messages (slideshow) as added-value service on the integrated touchscreen monitor.




The enclosure of the charging device is painted in RAL 9010 (pure white) as the standard colour.



The enclosure of the charging device is painted in RAL 9005 (jet black) and RAL 9006 (white aluminium).



At the customer's request, the enclosure of the charging device can be painted in one colour (selected from the RAL swatch).



At the customer's request, the enclosure of the charging device can be painted in two colours (selected from the RAL swatch).

Walther E-Mobility icons represent the extensive properties, possibilities and variants of the product and solutions at a glance, and are structured into the following groups: charging point, charging power, technology, identification and operation, data communication, added-value services and CI livery.

Private

Operator



Garage

Carport / street

- Robust solution for the outside area
- Solar carport with charging point
- Entry-level solution for charging in the private garage

Pages 8 - 13



Research & development

- Outside system for charging tests and data recording
- Mobile charging solution in the trolley case
- Varied solutions for charging in laboratory equipment

Pages 14 - 19



Fleet

- Complete system for charging large company fleets
- "Express" charging system by colour coding
- Satellite system with data transfer for fleet management requirements
- Connection of charging stations to alternative sources of energy
- Representative charging systems, taking the example of a car dealership
- Charging the company's own electric car and visitors' vehicles
- Equipping a modern, comprehensive housing project with charging points

Pages 20 - 33



Marketing

- Charging station on customer's car park as a marketing instrument with additional benefit
- Free charging possibility on customers' car parks, taking the example of the electrical wholesale trade
- Charging possibility for electric bikes, taking the example of restaurants/hotels
- Employees' car park with E-BoxX units on a post system

Pages 34 - 41



Business model

- Flexible, decentralised settlement solution for utilities (own fleet and customers)
- Central settlement solution via online IT system with secure protocol (OCPP)
- LocalTAN process via SMS communication with the charging station
- ExtendedTAN process via SMS communication with the provider
- Access-free charging system in multi-storey car parks
- Connection of charging stations to existing parking ticket vending machines
- Charging station reservation and charging timing for airports and railway stations
- Coin payment system with receipt delivery
- Car sharing with online availability requests (charging station and vehicle)

Pages 42 - 59



Electrical trade

/ Installer

• Test equipment for installation and maintenance activities ("e-check")

Pages 60 - 61

Walther application scenarios:

A tool for turning your E-Mobility ideas into reality!

The Walther application scenarios described over the following pages are intended to assist you as the reader in turning your own ideas into reality based on the project outlines described. Over recent years at Walther, we have discussed hundreds of project ideas in the area of electric mobility with

our customers and project partners in Germany and abroad, many of which have been put into practice. In doing so, we gained valuable practical experience above all else. On the basis of this experience, we have now attempted to categorise the main user groups. We have then described some typical examples for each user group, in accordance with the requirements that we have become familiar with over recent years. In doing this, it is important to provide not only a general description of the scenario, but also to give an opinion regarding the underlying technical challenges of implementation – because

theoretical concepts of E-Mobility are one thing, whereas installing a functioning and stable system is quite a different kettle of fish. One of the main things we have noticed is that despite each customer project being basically similar, they do have highly individual characteristics. As a result, we have attempted in each scenario to offer sensible product variants as well as additional options in order to indicate further configuration options for you. In this way, we intend to give you the opportunity to select a scenario as the basis for discussion in a project meeting with our project managers, and then introduce individual adaptations on this basis. We hope that over

the following pages we will be able to provide you with ideas so that your E-Mobility project can soon become reality. We look forward to helping you with this!

Another tip: The best way of reading the scenarios is in conjunction with our E-Mobility icon list. To do this, simply fold out the last page of the catalogue when you are looking at the scenarios.

Private:
Robust solution for the outside area

Private:
Robust solution for the outside area

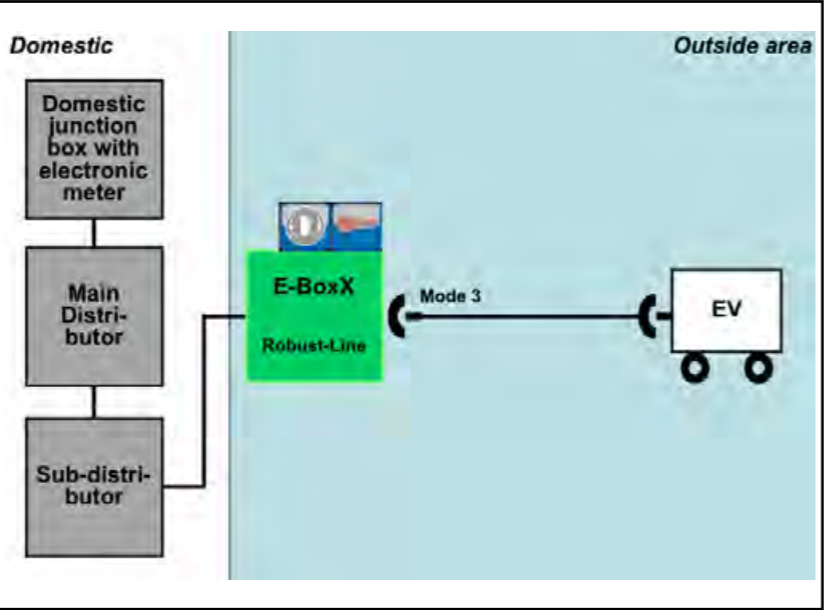
Situation:

Private individuals who want to purchase an electric vehicle are always immediately faced with the question of how and where their electric car should be charged. Not all users have their own garage, therefore it may be necessary to install a charging point on the outside of the house or in the garden. This public access means that protection against vandalism must be provided, and the enclosure must offer the corresponding level of stability. Furthermore, the installation location (private premises or public road; wall mounting or in the open) is important in planning the charging facility. This brings up issues such as possibilities for routing the electric feeder cable, energy metering and security, as well as the type of installation. On the one hand, it could be a wall installation, or on the other hand an E-BoxX could be installed in the open on a post or a charging station.

Solution:

Walther offers a sturdy and visually appealing solution made from high-quality stainless steel to meet this scenario with the Robust-Line E-BoxX series. Behind a lockable door, there is a knob switch that is used for starting the charging procedure. The Robust-Line also offers sufficient space for security elements such as the RCBO and optional meters. As an upgrade,

it is also possible to equip the Robust-Line with a fixed charging cable. This increases convenience in everyday charging. As a downgrade, the Industry-Line E-BoxX represents an alternative. This lower-cost solution can also be equipped with a key-operated switch.



Description of function:

The driver inserts the charging plug into the corresponding charging socket. The door of the E-BoxX is opened using a key, thus providing access to the safety elements, meter and, above all, the knob switch that allows the charging procedure to be started and completed. When the charging procedure starts, the connector in the charging socket is mechanically locked. This ensures that no unauthorised persons disconnect the charging plug, or are able to use the charging point in general, without the owner's permission.

Interesting features:

Walther solutions always offer the option of equipping the charging device with a charging cable in a fixed connection, and the corresponding vehicle connector. This is possible both for type 1 and type 2 plugs and sockets. This charging cable can be locked behind a door in some variants of the Robust-Line series in order to prevent misuse.


In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

upgrade



downgrade

Product from scenario

	Robust-Line Type 2, Schuko, 3,7 kW, 22 kW, LED, RCBO, IP 44, RAL, RAL 9010, RAL 9005 98300107, see page 78
	Robust-Line Type 2, 11 kW, LED, RCBO, IP 44, RAL, RAL 9010, RAL 9005 98300104, see page 79
	Industry-Line Type 2, 11 kW, LED, RCBO, IP 44, ABS, RAL 9010, RAL 9005 98100112, see page 75

Optional products and configuration possibilities

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Private: Solar carport with charging point

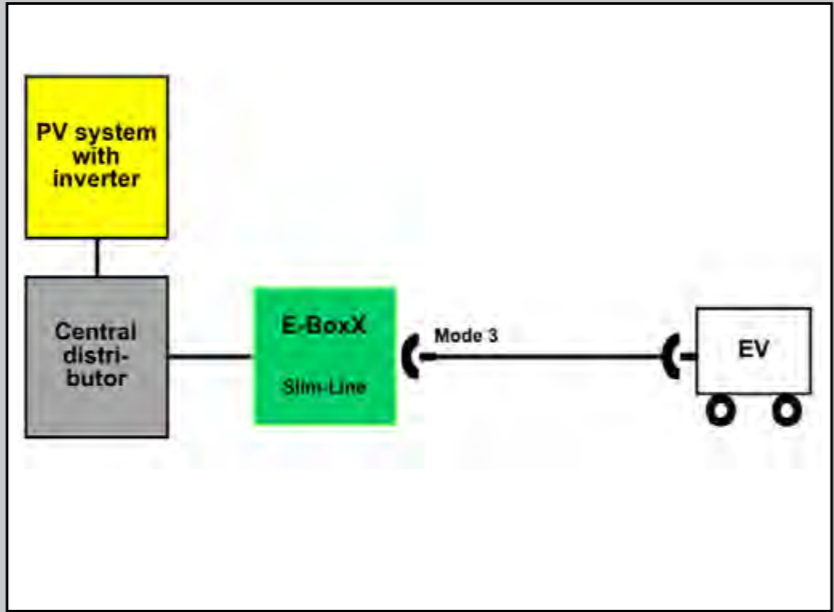
Situation:

Basically, electric mobility only really makes sense if the charging current used is drawn from alternative sources of energy such as solar, wind or water. In the private sphere too, many users of electric vehicles want to set an example. One such example involves using an existing or newly installed solar installation as the source of energy, and connecting the charging facility here, depending on the type of energy use (feeding into the public grid, own use). This solar installation can be fitted both on the roof of a house or on a carport. Assuming a battery charge of 15 kWh, a solar installation with 3 kWhp would require approx. 5 hours to completely charge the vehicle.

Solution:

The solar installation is connected to the mains in the usual way via an inverter. An E-BoxX of the Slim-Line product line is connected to the PV installation via a combined distributor. The E-BoxX can be equipped with a fixed cable, thus allowing the vehicle to be connected easily. As an alternative and as a downgrade, it is possible to use a Robust-Line E-BoxX. In this case, access can be restricted by

means of a lockable door, meaning that only authorised people are able to use the charging point. One possible upgrade would be a VOLTANEA product line charging station, which allows the inverters to be integrated here. In this case too, it is possible to restrict access by means of key-operated switches.



Description of function:

If the customer chooses an E-BoxX from the Slim-Line product line without access restriction, the procedure would be as follows: The customer connects his/her vehicle and the charging procedure starts immediately (type 1 plug) or after activating the knob switch (type 2 plugs and sockets). The charging process is terminated by disconnecting the plug (type 1 plug) or by switching off and then disconnecting the plug (type 2 plugs and sockets).

Interesting features:

Intelligent charging systems represent a sensible way of adapting the own-generated proportion of energy generated by PV installations. Simple control models allow for dynamic load management under optimum customer conditions. It is also a good idea to input the available charging time window here.

In future, external accumulator solutions will permit more independent electricity supply for charging electric vehicles.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Private:
Solar carport with charging point

Product from scenario

VOLTANEA

Type 2, Schuko, 22 kW, LED, RCD B, IP 44

M 68K0 10E00 60
see page 66

Slim-Line

Type 2, 22 kW, LED, RCD B, IP 44, RAL 9010

98200105, see page 81

Robust-Line

Type 2, 11 kW, LED, RCD B, IP 44, RAL 9010

98300103, see page 78

Optional products and configuration possibilities

page 92

page 92

page 92

page 93

Private:
Entry-level solution for charging
in a private garage

Situation:

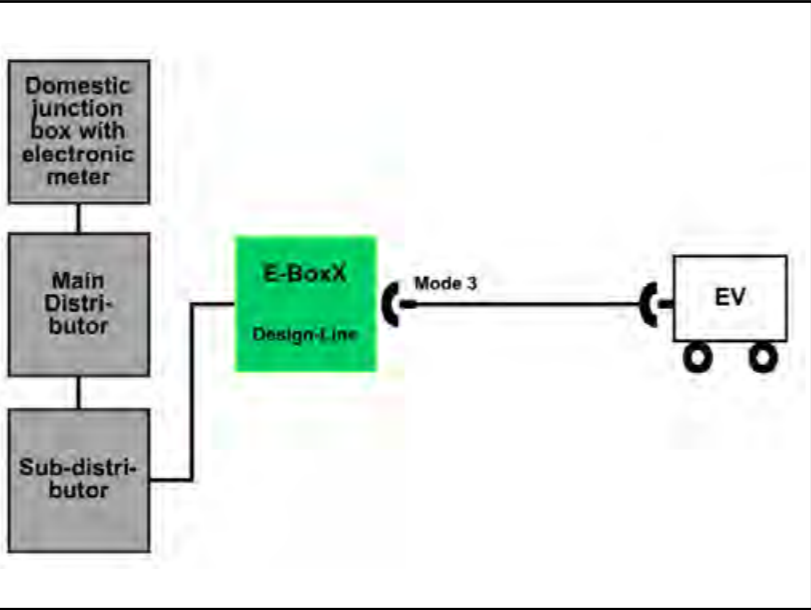
After having bought an electric vehicle, its owner would like to charge the vehicle in his/her garage. After having checked the electrical installation, the electrician will decide whether an existing supply cable is sufficient, or if a new one will have to be installed. This also concerns the necessary safety precautions which are provided in the existing distribution system. Furthermore, the user can freely decide whether to install an elegant design solution, or to concentrate on the cost aspect – with regard to the installation equipment that must be fitted in the E-BoxX on the basis of the electrician's analysis. Also, the space available in the garage should be considered, because E-BoxX units are available with different construction depths depending on the conditions. Furthermore, it is necessary to decide whether the space available means that the charging point should be accessible from the front or the side.

Solution:

In most current cases, an E-BoxX from the Design-Line product line meets the requirements described in this situation. The E-BoxX can be equipped either with a fixed charging cable or, as a downgrade, with a charging socket for accommodating a pluggable cable. The Design-Line product line is limited to a maximum charging power of 16 A. However, this does meet the usual current power ranges of batteries used in the electric vehicles available on the market. Anyone who wants to be prepared for the future already can select an E-BoxX from the Industry-Line product line as an upgrade. In this case, charging powers up to 32 A (three-phase) are possible.

Description of function:

The customer plugs in his/her vehicle and the charging procedure starts immediately (type 1 plug) or after pressing a switch (type 2 plugs and sockets). The charging process is terminated by disconnecting the plug (type 1 plug) or by switching off and then disconnecting the plug (type 2 plugs and sockets).



Interesting features:

If a meter is required, this should be placed in the upstream installation when using Design-Line equipment. Alternatively, the meter is directly installed in the E-BoxX enclosure when the Industry-Line product line is used.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Private:
Entry-level solution for charging
in a private garage

Product from scenario

	Industry-Line Type 2 11 kW LED RCD B IP 44 ABS Max. 30m 98100112, see page 75
	Design-Line Type 2 3,7 kW LED RCD A IP 44 ABS 98100103, see page 76
	Design-Line Type 2 3,7 kW LED RCD A IP 44 ABS 98100106, see page 77

Optional products and configuration possibilities

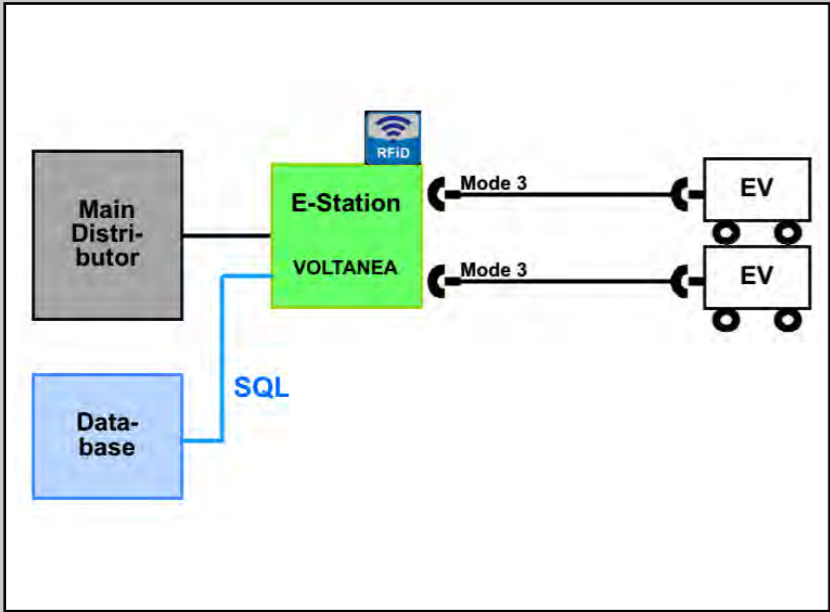
		
page 92	page 92	page 80
		
page 92	page 93	page 78

Operator (research & development):
Outside system for charging tests
and data recording

Operator (research & development):
Outside system for charging tests
and data recording

Situation:
Research-oriented companies such as automobile manufacturers, universities or institutes with their own development departments and workshops are required to maintain accurate documentation of the data relating to the charging process, whether this is for simulation, research or quality assurance purposes, or else for fault analysis. This also includes accurate documentation of the general data from the test environments such as driver's name, vehicle and mileage, as well as charging-related information such as the starting and finishing times, and charging energy.

Solution:
Walther offers individual or several stand-alone stations for this purpose, preferably the VOLTANEA 600 product line, which is precisely tailored to the needs of data recording by users. Complex data recording systems can summarise both the physical data (charged kWh, time sequences, temperature, etc.) and user inputs in data records, then place these in a ring buffer in the integrated controller. The data can be called up from here at any time. Authorisation by RFID. As an upgrade, the VOLTANEA can also be equipped to be SQL-capable. As a downgrade, ECOLECTRA with touchscreen.



Description of function:
Generally, the user identifies himself/herself using an RFID medium or a PIN, thus creating the decisive differentiating feature in the data record. After this, it is possible for various items of data to be required in order to start the charging procedure, or to stop it subsequently.

The type of plugs and sockets used for the charging process can be configured according to the customer's requirements.



upgrade



downgrade

Product from scenario

	VOLTANEA Type 2 Schuko 22 kW OCPP RFID 6.9m -data IP 44 MySQL M 6821 13C20 60 see page 67
	VOLTANEA Type 2 Schuko 22 kW TCP/IP RFID 6.9m L PIN -data M 6821 13520 60 see page 66
	ECOLECTRA Type 2 Schuko 22 kW TCP/IP RFID 6.9m L PIN -data M 1521 13530 60 see page 64

Interesting features:

The resulting charging data records can be processed further either directly in an SQL server, for example, or read out periodically. An extremely wide range of functions is available for this – from the network connection through to various Internet or mail functions.

If required, the charge controllers can be used for limiting the maximum charging current, or for specifying this current dynamically and adapting it.

Optional products and configuration possibilities

 page 98	 page 98	 page 99
 page 82	 page 92	 Training, see page 102

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

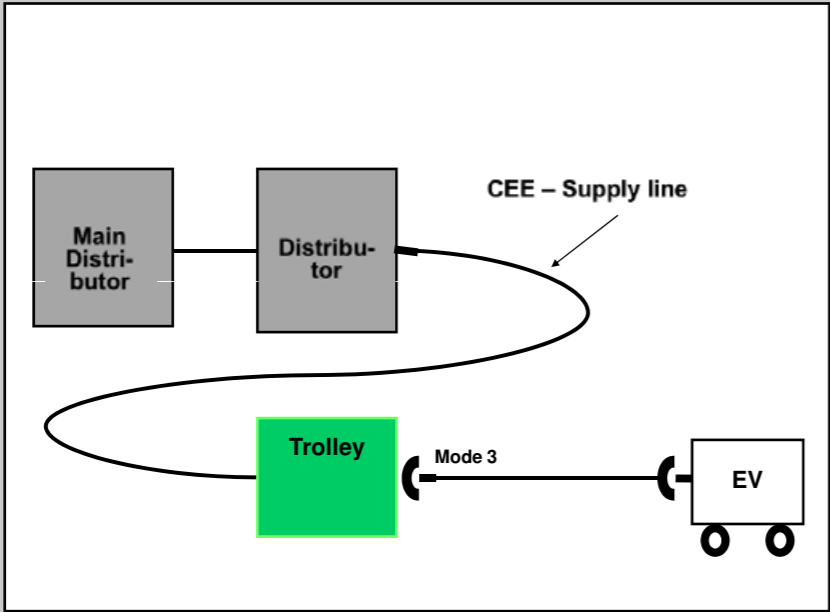
Operator (research & development):
Mobile charging solution in trolley case

Operator (research & development):
Mobile charging solution in trolley case

Product from scenario

Situation:
During development projects, a mobile and flexible use of charging possibilities is often required, especially in locations where there is a supply system with CEE sockets. This allows flexible charging at various locations without having to install a new, elaborate charging infrastructure. This situation is used, for example, in car despatch warehouses, on forecourts in front of workshops, on construction sites or in event locations.

Solution:
A complete Walther E-BoxX is integrated in a sturdy trolley case on wheels. It contains protection elements and the entire charging electronics, i.e. a Walther charge controller and type 2 charging socket. As an upgrade, it is possible for a BCD selector switch to be integrated (refer to the description under "Interesting features"). As a downgrade, Walther offers portable socket combinations made of rubber. This is a particularly compact and robust solution.



Description of function:
The trolley contains a supply cable on which a CEE plug is generally provided. The case contains electrical and electronic systems in order to carry out a complete charging procedure on the vehicle. The entire charging process is controlled by a Walther charge controller. The trolley case has a compact design, meaning that it can be transported in the luggage compartment of any vehicle.

Interesting features:
The supply cable can be adapted to an extremely wide range of plugs and sockets, as well as power supply systems. Optionally, a BCD (binary coded decimal) selector switch can be used with the charge controller to adapt the charging current individually to the local electrical power supply and to the vehicle which is to be charged. The charging current can be set on the following levels: 10 A, 12 A, 13 A, 16 A, 20 A, 25 A, 32 A. In addition, the consumption can be measured using an optional energy meter.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

upgrade

downgrade



Trolley
Type 2 32 kW
LED RCD A meter
98400103, see page 82



Trolley
Type 2 32 kW
LED RCD A
98400101, see page 82



Solid rubber distributor
Type 2 11 kW
LED RCD A
98500100, see page 83

Optional products and configuration possibilities



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page 98



page 99



page 92



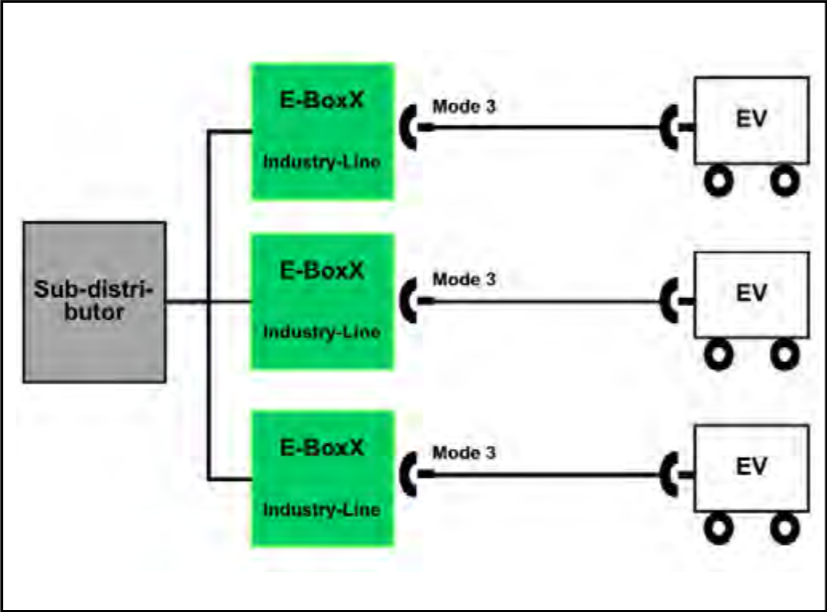
page 93

Operator (research & development):
Various solutions for charging
at laboratory facilities

Operator (research & development):
Various solutions for charging
at laboratory facilities

Situation:
Frequently, individual charging points are required in workshops, laboratory halls or assembly halls in order to charge vehicles used for test purposes or belonging to customers. In this case, it is most important to have a pragmatic, easily accessible charging option. Identifications and data recordings are not taken into account in this scenario as a result. Occasionally, it is a good idea to use suspension-type combinations in order to make optimum use of limited space. In addition, the charging point should be as close as possible to the vehicle in order to avoid trip hazards due to the charging cables.

Solution:
Individual E-BoxX units from the Industry-Line represent a solution, since they are available in an extremely wide range of variants with regard to socket type, fixed spiral charging cable or socket as well as a very wide range of devices for DIN-rail mounting. As an upgrade, the E-BoxX in Industry-Line can be equipped with a BCD selector switch (see Interesting features in the „Mobile charging solutions in the trolley case“ scenario). Alternatively, suspension-type combinations are possible (downgrade). In this case, the protection elements are usually accommodated in the upstream installation, in order to keep the dimensions of the system as small as possible. A suspension-type combination is a space-



saving power supply unit for ceiling mounting. It can even include a compressed air line with quick coupling, as well as Schuko or CEE sockets.

Description of function:

The functions of the individual charging sockets are safeguarded by the Walther charge controller with the help of PWM communication – irrespective of whether type 1 or type 2 – (see chapter 8 „Accessories“). This means all commonly used electric vehicles can be charged in the AC area.

All E-BoxX units with type 1 or type 2 plugs and sockets have a switch for terminating the charging procedure, even from outside the vehicle.

Interesting features:
The E-BoxX units can be equipped with a range of additional devices according to the customer's preference – from energy meter to BCD selector switch for specifying the maximum charging current using the Walther charge controller

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

upgrade

downgrade

Optional products and configuration possibilities



Product from scenario

BCD

Charging station for electric vehicles

Industry-Line

Type 2 22 kW
LED
RCD B
IP 44

98100115BCD
see page 75

Charging station for electric vehicles

Industry-Line

Type 2 22 kW
LED
RCD B
IP 44

98100113, see page 75

Charging station for electric vehicles

Suspension-type combination

Type 2 22 kW
LED
RCD B
IP 44

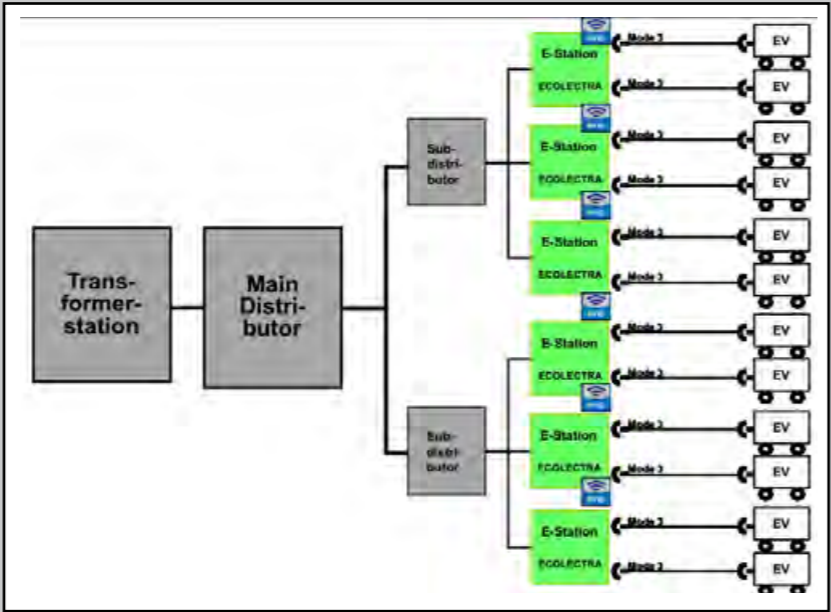
98100116, see page 83

Operator (fleet):
Complete system for charging large
company fleets

Operator (fleet):
Complete system for charging large
company fleets

Situation:
Companies today have the option of switching over their field force and company vehicles to electric cars. In the short to medium term, those that do this are predominantly companies with vehicles that are driven over distances which can be covered by available electric cars (charity organisations, postal service, courier services, etc.). The scenario described here is aimed at the application involving a large fleet (> 20 vehicles). This usually requires the revision of the existing energy supply infrastructure. A charging infrastructure project thus starts with planning the energy to be provided and examining the question of when which loads occur. Once these preconditions have been clarified, it is possible to formulate the requirements on the charging infrastructure and the necessary energy management.

Solution:
Walther offers a complete solution for projects of this kind, from the transformer station and low voltage distributor (main and subdistributor) through to the charging station or E-BoxX. Walther is the only manufacturer on the market capable of supplying all the necessary products from a single source, meaning that they are optimally adapted to one another and your specific requirements. In the scenario described here, charging stations from the ECOLECTRA product line are used, and the access release for both type 2 charging sockets is performed via RFID. As an upgrade, it is also possible to integrate a touchscreen for user interaction. The down-grade option involves an E-BoxX from the Slim-Line. In this case, the charging point is released using knob switches.



Description of function:
Employees are identified at the charging station using existing RFID cards already held by employees, (e.g. time clock cards). This allows access authorization to be controlled in a straightforward and inexpensive way. In addition, access rights can be used for restricting the access to stations to selected employees such as the Board of Management or field force employees who have charging priority, for example. In this case, the energy management system will provide a higher charging current. The charging procedure is started following identification, at the push of a button.

Interesting features:
Due to Walther's many years of experience, we are able to plan and deliver not only complete systems but also parts of systems according to customers' wishes. At the same time, our customers receive optimum support in planning and a system that is tailored to their requirements, leading to a cost-effective overall package in every case. We have already implemented customers' systems with nominal current ratings up to 1000 A.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.



upgrade



downgrade

Product from scenario

	ECOLECTRA Type 2 22 kW TCP/IP RFID L PIN 6.9m RCD B data M 1121 13530 60 see page 65
	ECOLECTRA Type 2 22 kW LED RFID 0 is play RCD B 6.9m data M 11L1 12110 60 see page 65
	Slim-Line Type 2 22 kW LED RCD B 6.9m RAL 98200106, see page 81

Optional products and configuration possibilities

		 page 5
		 page 5

Operator (fleet):
“express” charging system by colour coding

Operator (fleet):
“express” charging system by colour coding

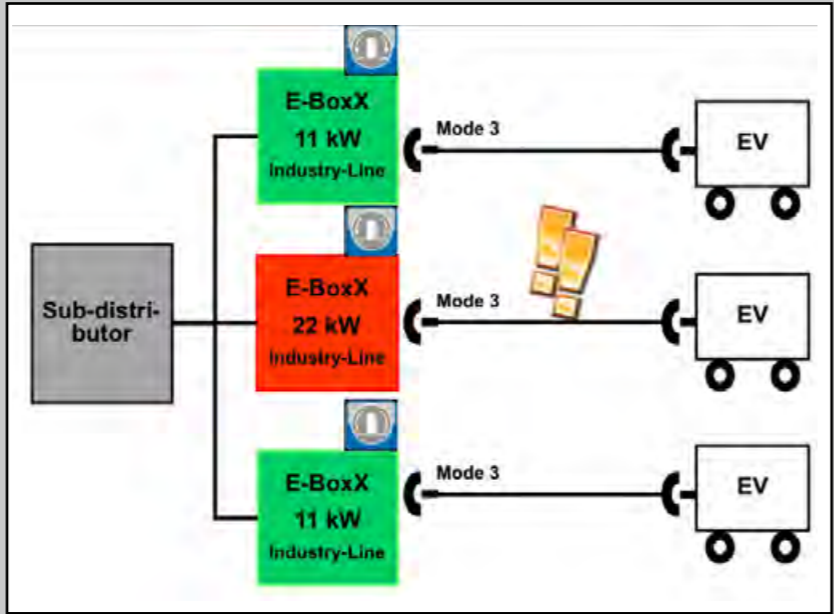
Situation:

Especially for initial and pilot projects, there is often an adequate cost-benefit ratio required in order to promote a first entry into the field of electric mobility. Nevertheless, functions that are relevant for the application and pragmatically important, such as charging priorities, should not fall by the wayside due to this cost aspect. A small fleet, for example consisting of service vehicles or vehicles for municipal authorities and pizza delivery services, etc., do not need an extensive identification and communication process. In such cases, the emphasis is placed on a simple charging procedure, because the vehicles are in some cases used several times a day, and thus have to be charged at varying speeds according to the individual situation.

Solution:

To support projects of this kind, Walther offers a very straightforward solution at optimal cost: E-BoxX units from the Industry-Line which offer different charging currents distinguished by colour. For example, a red „express“ E-BoxX can be marked for urgent, short-notice charging requirements whereas the remaining E-BoxX units can have a different colour and be supplied with a lower charging power (simplified energy management).

Charging is started using a knob switch. As an upgrade, the E-BoxX units can be equipped with a meter. The alternative downgrade involves a fixed cable, and thus relies on upstream protection in the subdistributor. However, this scenario can basically be implemented with all E-BoxX units from Walther.



Description of function:

There is no need for employees to identify themselves at the charging stations in this semi-public area, so that individual E-BoxX units with different configurations are sufficient. On request, the most straightforward access authorization can be provided by key-operated switches, for example.

Interesting features:

Access rights for selected employees such as the Board of Management or field force employees can be granted different charging priorities. In this case, a higher charging current can be provided by the energy management.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Product from scenario

upgrade



downgrade

	Industry-Line Type 2 22 kW LED RCD B IP 44 ABS meter RAL meter 98100115, see page 75
	Industry-Line Type 2 11 kW LED RCD B IP 44 ABS meter RAL meter 98100112, see page 75
	Industry-Line Type 1 3,7 kW LED RCD-absent IP 44 ABS meter RAL meter 98100109, see page 74

Optional products and configuration possibilities

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page 92	page 93	page 80

Operator (fleet):
Satellite system with data transfer for
fleet management requirements

Operator (fleet):
Satellite system with data transfer for
fleet management requirements

Product from scenario



upgrade



downgrade



ECOLECTRA
Type 2 Schuko 3,7 kW
22 kW
LED
M 15J0 10E00 60
see page 64



Slim-Line
Type 2 22 kW
LED
98200105, see page 81



Industry-Line
Type 2 22 kW
LED
98100113, see page 75

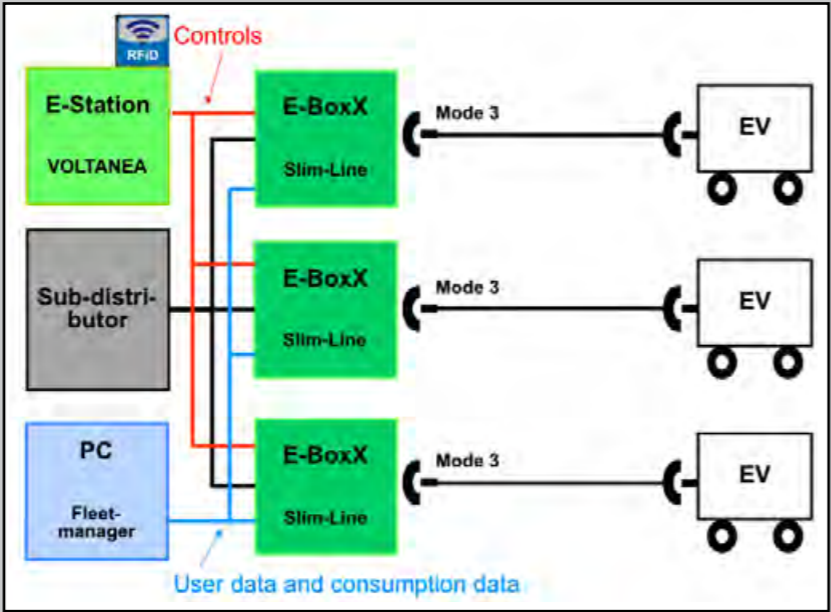
Situation:

Companies with larger fleets generally operate a fleet management system. This is a matter of monitoring and controlling costs and usage. As a result, data generation and data processing with the highest possible level of transparency represent basic prerequisites for the fleet manager. In addition, identification processes are required in order to allocate the data to the users as well. Furthermore, there are frequently also requirements for interaction between the charging system and driver. For example, the driver may wish to make an input for his/her vehicle to be recharged by a particular time. Central monitoring and control of energy and signals are thus essential.

Solution:

In order to achieve this complex scenario, it is recommended for a so-called satellite system to be installed. In this case, a central station from the VOLTANEA 600 product line is used, with a touch-screen for identification and communication processes. The E-BoxX units in the Slim-Line series at the parking spaces are connected to this central unit, and are controlled from there. The central

unit should be positioned so that it is within sight of the E-BoxX units, thus making it possible to select the charging point (e.g. parking space no. 5). Depending on the type of configuration, the satellites can also take the form of ECOLECTRA charging stations (upgrade) or E-BoxX units from the Industry-Line product line (downgrade).



Description of function:

The users identify themselves at the central charging station by means of RFID. Following identification, the charging point is selected and any charging parameters are defined (when the vehicle will be required again, etc.). Consumption meters, date stamps and employee IDs now allow the data to be generated for the fleet manager and transferred via radio or data cable. In this case, the data format can be defined in advance by consultation so that it is provided in the necessary form for data processing in the fleet management system.

Interesting features:

Systems which monitor the corresponding parking space represent an interesting supplement, since they ensure that no vehicle will occupy a reserved parking space. To allow energy management to be implemented in larger systems, it is not just necessary to reduce the individual charging

powers if necessary, but also to shift the charging time if possible in order to adapt it to the current energy availability. For this purpose, however, it is necessary to input the required amount and the new starting time.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Optional products and configuration possibilities



page 5



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page 4



page 92



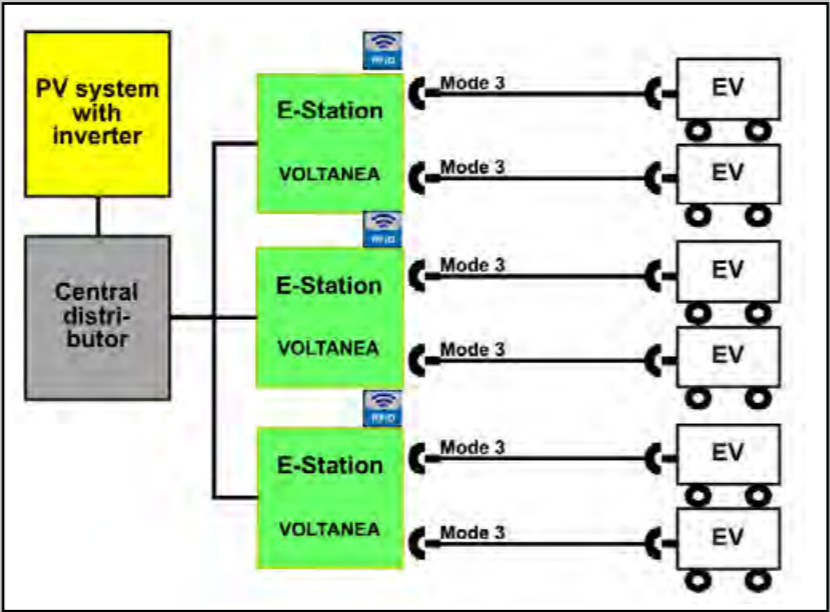
Operator (fleet):
Connection of charging stations to
alternative sources of energy

Operator (fleet):
Connection of charging stations to
alternative sources of energy

Situation:
Basically, electric mobility only really makes sense if the charging current used is drawn from alternative sources of energy such as solar, wind or water. Aware of corporate social responsibility (CSR) and sustainability aspects, many companies feel a certain responsibility to make a contribution to reducing consumption of energy resources. It is possible to set an example using electric mobility. Projects that are motivated by this philosophy are often implemented with small fleets (1-5 vehicles). For example, an existing or newly installed solar installation is used as the energy source, and the requirement is for a charging facility to be connected.



Solution:
A central distribution cabinet from the assortment of Walther power distributors for outside areas provides the connection to the alternative power source. It is even possible to accommodate the necessary inverters here if required. A charging station from the VOLTANEA product line permits activation of both charging points using RFID. As an upgrade, it is also possible to have a touchscreen for communication with the driver. This allows the charging parameters (required charging current, charging duration, etc.) to be requested, and thus energy management can be implemented. As a downgrade, it would be possible to use an ECOLECTRA with key-operated switch. Also, two charging points can be offered per station here.



Description of function:
Employees identify themselves at the charging station using their RFID cards. Depending on the expansion stage of the charging station, the charging is now started directly or the request for charging parameters commences (upgrade, touchscreen required). Drivers who wish to collect their vehicles again must identify themselves at the charging station once again, and the charging plug that has been locked for the charging is then unlocked again, allowing the driver to pull it out.

Interesting features:
The intelligent charging systems described represent a reasonable way of adapting the private contribution to energy generation by PV installations. Simple control models can be used for undertaking dynamic load management under optimum customer conditions. Here too, it is also a good idea to enter the available charging time window.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

upgrade



downgrade

Product from scenario

	VOLTANEA Type 2 Schuko 22 kW TCP/IP RFID 6.9 kW -data M 6811 13B20 60 see page 67
	VOLTANEA Type 2 Schuko 22 kW TCP/IP RFID 6.9 kW -data M 68M1 12110 60 see page 66
	ECOLECTRA Type 2 22 kW RFID IP 44 M 11J0 10E00 60 see page 65

Optional products and configuration possibilities

		
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Operator (fleet): Representative charging systems, taking the example of a car dealership

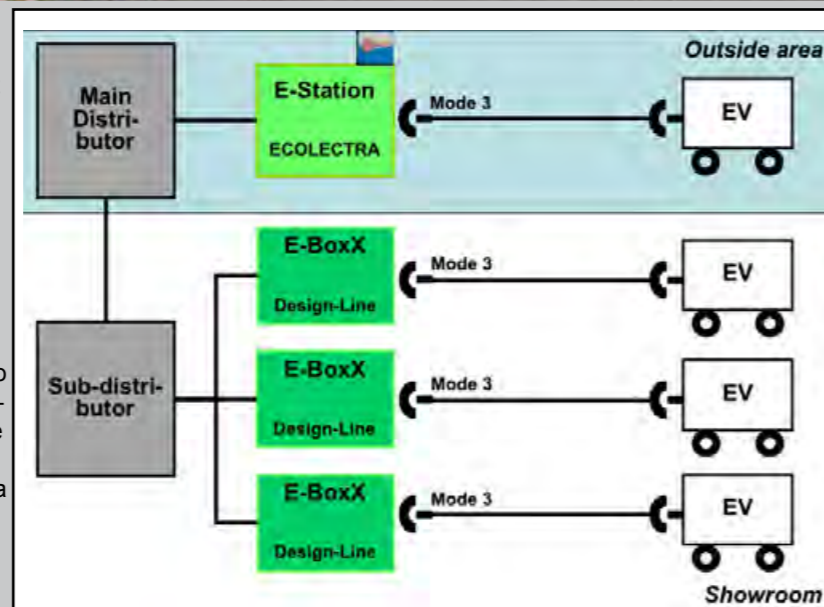
Situation:

The car dealership requires an easily accessible charging infrastructure for charging its electric vehicles / demonstrators. For this purpose, it is necessary to have charging points in the showroom and on the forecourt. The forecourt should be accessible to visitors, especially in the evening and on weekends, therefore it is recommended to control the access to the charging station by a key-operated switch. This means the operator has total control over when to allow access to the charging station.

Solution:

For the outside area, Walther recommends using a charging station from the ECOLECTRA product line with a touchscreen. This solution has a representative appearance, and can be designed according to the dealership's CI. Using the touchscreen, the dealership can show product presentations, event dates or other customer information. As an upgrade, a VOLTANEA charging station with RFID identification and TCP/IP can be used for network connection, also containing two Schuko sockets as well as the two type 2 charging sockets. As a downgrade, it would

be possible to use an ECOLECTRA with key-operated switches without touchscreen. The charging points in the showroom can be implemented as cost-effective Industry-Line or Design-Line units, depending on what the dealership's objective is (simple charging vs. product presentation via E-BoxX to customers). A further alternative would be a portable rubber combination that can be used for charging a vehicle as required.



Description of function:

The charging station is activated by touchscreen and localPIN. This allows the dealership's demonstrators and service vehicles to be charged during the day. As the outside area should occasionally be accessible to visitors on the weekend, the access can thus be controlled easily. In most cases, there is no need for identification, communication and data management, although they are basically feasible at any time. The charging station in the outside area can be equipped with a display, for example, allowing slideshows or presentations (campaigns, product presentations, etc.) by the dealership to be displayed on the weekend. Refer to chapter 7 „Marketing / added-value services“ for more information.



upgrade ↑



downgrade ↓

Product from scenario

VOLTANEA
Type 2 Schuko 22 kW
TCP/IP RFID
M 6821 13520 60
see page 66

ECOLECTRA
Type 2 Schuko 22 kW
L PIN IP 44
M 1511 13A30 60
see page 64

ECOLECTRA
Type 2 Schuko 22 kW
Schuko RCD B IP 44
M 15J0 10E00 60
see page 64

Interesting features:

It is also possible to operate the station with coins or tokens, in which case already existing tokens can be used, such as those for operating high-pressure washers or vacuum cleaners. The workshop and the installer can decide whether the required RCD (residual current device) or the circuit breaker will be installed in the charging

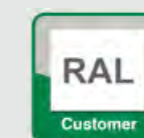
device, or whether they can be accommodated in the upstream installation.

Before the charging devices are installed, it is essential for the electrical installation to be thoroughly checked by the installer. This avoids problems in the overall installation, e.g. due to "AC/DC sensitive" RCDs (residual current devices).

Optional products and configuration possibilities



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In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Operator (fleet): Charging the company's own electric car and visitors' vehicles

Situation:

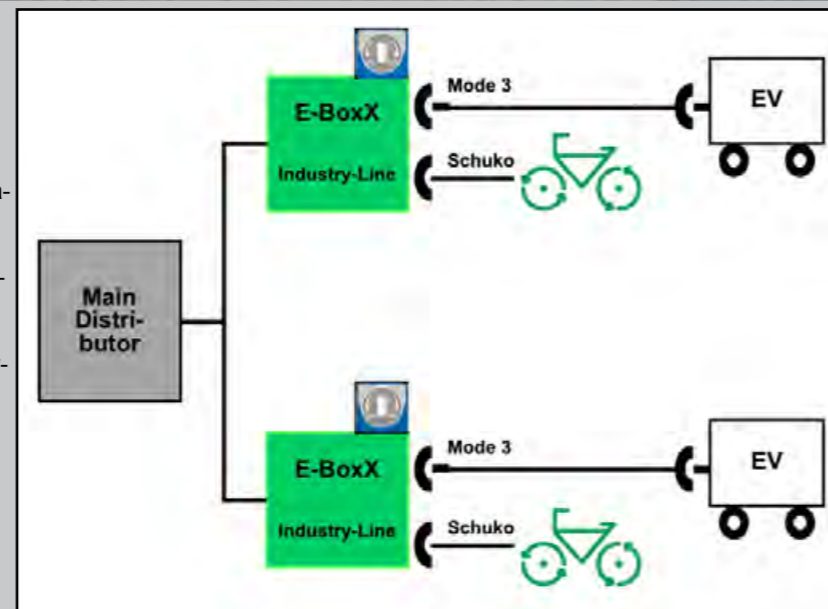
If a company is planning to purchase only one or a few electric vehicles for its own purposes (e.g. small business trips in the immediate vicinity, visits to customers, delivering packages, etc.) or wants to provide a charging possibility for customers and visitors, it is recommended for an E-BoxX with simple release by key-operated switch to be installed. Depending on the space available, the E-BoxX must be mounted on a wall or set up in the open area.



Solution:

In this scenario, it is assumed that the E-BoxX is going to be set up in the open area. Therefore, it is recommended that an E-BoxX from the Industry-Line product line should be used, and be mounted on a painted stainless steel post. The charging point is released using a key-operated or knob switch. The E-BoxX is equipped with a type 2 socket and, as an alternative, also a Schuko socket for charging according to mode 2. In addition to electric cars, it is also possible to recharge scooters, e-Bikes or pedelecs using the Schuko socket.

The upgrade in this case represents a charging station in the ECOLECTRA product line with identical functions, but a more representative appearance. The downgrade is an E-BoxX from the Industry-Line product line without a stainless steel post, for wall mounting.



Description of function:

The required socket or charging point is switched as required using a key-operated switch or knob switch. The key can be withdrawn from the key-operated switch in both positions (on and off), allowing it to be kept at the reception for customers' use, for example. This avoids misuse.

Interesting features:

If the charging facility should be made more representative or equipped with more extensive identification processes, it is generally necessary to use a charging station instead.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Operator (fleet):
Charging the company's own electric car and visitors' vehicles

Product from scenario

upgrade ↑



downgrade ↓

	ECOLECTRA M 15J0 10E00 60, see page 64
	Industry-Line 98100113 + 620 WL82ET see page 75
	Industry-Line 98100113, see page 75

Optional products and configuration possibilities



page 5



page 4



page 5



page 78



page 80

Operator (fleet):
Equipping a modern, comprehensive housing project with charging points

Operator (fleet):
Equipping a modern, comprehensive housing project with charging points

Product from scenario



upgrade



downgrade



ECOLECTRA
Type 2 Schuko 22 kW
RFID
IP 44
M 1521 13530 60
see page 64



ECOLECTRA
Type 2 22 kW RFID
IP 44
M 11L1 12110 60
see page 65



ECOLECTRA
Type 2 22 kW LED
IP 44
M 11J0 10E00 60
see page 65

Situation:

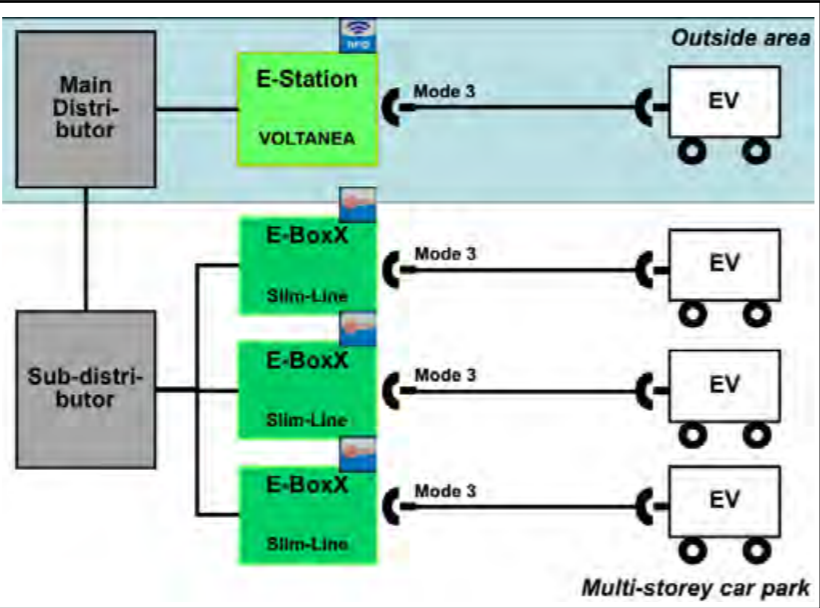
Many new building projects, especially involving larger residential buildings, currently consider integrating charging possibilities for electric vehicles. In this way, the building owners are facing up to future requirements and developments by offering comprehensive dwelling and mobility concepts. Most of these projects pursue futuristic design approaches, as a result of which corresponding levels of design and equipment are required in the charging facilities offered. The charging points are predominantly installed in underground garages. Frequently, additional charging facilities are provided in the outside area, with restricted access.

Solution:

A charging station from the ECOLECTRA product line can be used in the outside area. This offers adequate space for identification and communication functions. The charging station has an RFID card reader for identification and thus release of the two type 2 charging sockets. As an upgrade, the charging station can also be equipped with a touchscreen for requesting charging parameters (charging current, charging time, etc.). In the downgrade, activation of the charging socket is handled using a key-operated switch.

The slender and robust design of the Slim-Line (aluminium enclosure) means that this E-BoxX

is ideally suited for installation in an underground garage. Identification and communication can be organised on a centralised or decentralised basis, depending on the particular requirements for authorisation and energy settlement. For example, the E-BoxX can be connected directly to the meters of the corresponding tenants. In this case, it makes sense for the charging socket to be activated using key-operated switches. Alternatively, identification and settlement is also possible using a central station (VOLTANEA 600) with a satellite system comprising E-BoxX units.



Description of function:

In the outside area, the driver activates the charging station using an RFID chip or key-operated switch, depending on the configuration of the charging station. The release in the underground garage is performed using a key-operated switch on the E-BoxX in the decentralised solution. As soon as the charging cable is plugged in, the charging procedure is started with a key. This key can then be withdrawn again immediately. In a central solution, identification and release are handled on a touchscreen of a VOLTANEA 600.

Interesting features:

It is also possible for charging stations from the ECOLECTRA 320 plus series to be used for service vehicles of the operators or for a separate group of users at special, additional parking spaces. This reduces the walking distances for users. Also, a Schuko socket can be integrated into the charging station, for example to

operate implements such as blower vacs, high-pressure washers, etc. Furthermore, E-BoxX units from the Design-Line with fixed cables can be used for improving utilisation convenience further, especially in representative structures.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Optional products and configuration possibilities



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Operator (marketing):
Charging station on customer's car park as a marketing instrument with additional benefit

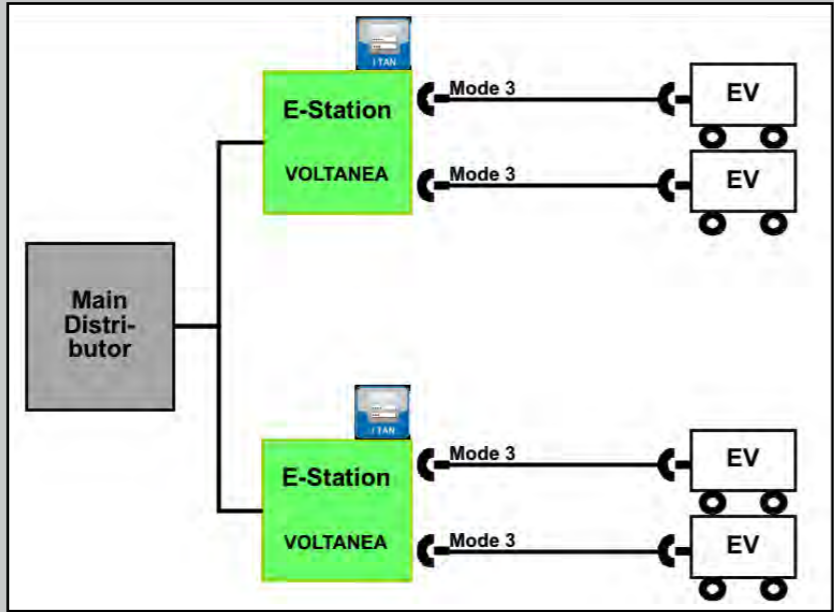
Situation:

The E-Mobility application area offers companies an interesting possibility of undertaking their own image marketing. "Green" companies and appropriately perceived activities are increasingly playing a part in purchase decisions and the associated brand loyalty. The provision of charging facilities in customer car parks indicates that companies are committed to sustainability issues. In addition, these charging stations can also generate a second benefit by publicity surfaces and integrated, interactive screens. The company can show small publicity slideshows here, or present product information.

Solution:

The combination of marketing and second benefit as described in this scenario can be achieved with a VOLTANEA 600 charging station. Appealing foil stickers on the charging station as well as integration of a touchscreen monitor (5.7 inch) can generate an optimum level of attention (eye-catcher) amongst end-users. Optionally, it is also possible to place an illuminated sign on the roof of the charging station. If a larger touchscreen should be used, it is possible to move up to a charging station in

the AMPERA 800 product line (upgrade). This allows the product information and publicity films of the operator to be presented even more effectively. An ECOLECTRA can be used as a downgrade. Here too, it is possible to integrate a touchscreen. However, the station is somewhat less obtrusive, because of its smaller size.



Description of function:

The charging points can be released in several ways. For example, a TAN code can be generated for the release whilst shopping at the checkout. This can then be used for charging on the customer's next visit, by entering the code to activate the charging socket via the touchscreen.

Interesting features:

If a modern touchscreen monitor is used, it generally has its own operating system (Windows, Linux) and several interfaces. This means – depending on the resolution – it is also possible to play high-quality videos, etc. if required.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Operator (marketing):
Charging station on customer's car park as a marketing instrument with additional benefit

Product from scenario

upgrade



downgrade

	AMPEREA Type 2 Schuko 22 kW RFID L PIN RCD B DAB large screen on request, see page 68
	VOLTANEA Type 2 Schuko 22 kW RFID L PIN RCD B DAB 6.9 meter data M 6821 13520 60 see page 66
	ECOLECTRA Type 2 Schuko 22 kW RFID L PIN RCD B RAL M 1521 13530 60 see page 64

Optional products and configuration possibilities

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Operator (marketing):

Free charging possibility on customers' car parks, taking the example of the electrical wholesale trade

Operator (marketing):

Free charging possibility on customers' car parks, taking the example of the electrical wholesale trade

Situation:

A range of companies with high customer footfall, such as electrical wholesalers, often require straightforward and cost-effective charging station solutions for their own vehicles. The logical next step is to offer the occasional customer who uses an electric vehicle the possibility of charging via a corresponding charging point. Normally, this is motivated by a desire to improve the company's profile and boost customer loyalty, so that no complicated settlement systems are required. In addition, electric mobility represents a very interesting line of business for wholesalers, and one in which companies can present and position themselves right at the outset.



upgrade



downgrade

Product from scenario



ECOLECTRA

Type 2 Schuko 22 kW

RFID

IP 44

M 1521 13530 60

see page 64



ECOLECTRA

Type 2 Schuko 22 kW

L PIN

IP 44

M 1511 13A30 60

see page 64



ECOLECTRA

Type 2 Schuko 22 kW

RFID

IP 44

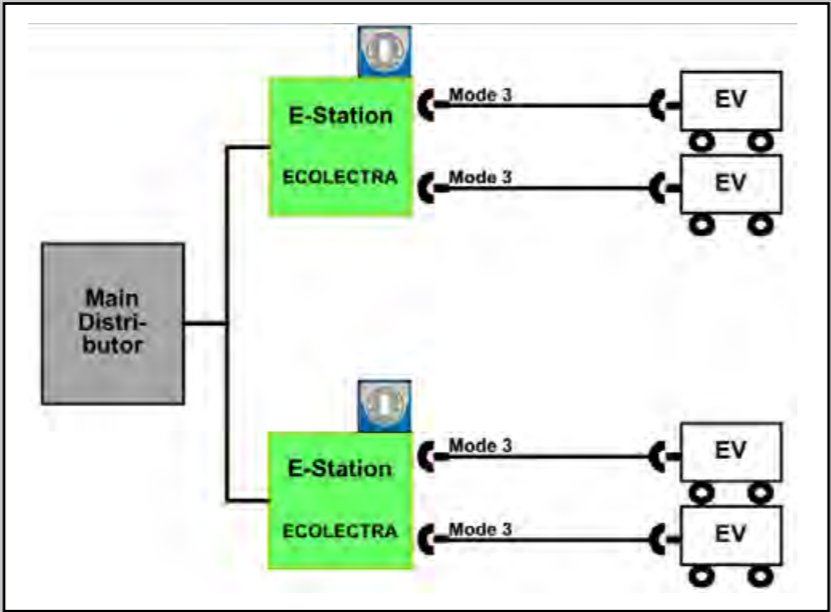
M 15J0 10E00 60

see page 64

Solution:

The charging station recommended here from the ECOLECTRA product line is equipped with a touchscreen. Entering a local PIN releases the charging procedure following a check. As an upgrade, the ECOLECTRA could also be expanded with an RFID reader. In addition, the charging station can accommodate a touchscreen which can be used not only for activating the charging points but also for product and publicity

information by the operator. This delivers multiple benefits from the operator's perspective. As a downgrade, the charging station can be released using a key-operated switch. This allows each user to start charging his/her vehicle directly.



Interesting features:

It would also be simple to implement a solution in which the customer receives a TAN code at the cash desk, thus allowing him/her to activate a charging point for a specific period of time. This could also be done as part of special campaigns for customer loyalty or sales control. This TAN can then be redeemed using the touchscreen during the activation dialogue.

Description of function:

Once the required socket has been selected by the user, it is activated using the key or knob switch, or else via RFID depending on the configuration of the charging station. The key can be withdrawn from the key-operated switch in both positions (on and off). If the charging station is additionally used with a touchscreen, it is possible to upload the files desired for product and publicity information using an SD card reader.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Optional products and configuration possibilities



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page 5



page 5



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Operator (marketing):
Charging possibilities for electric bikes,
taking the example of restaurants/hotels

Operator (marketing):
Charging possibilities for electric bikes,
taking the example of restaurants/hotels

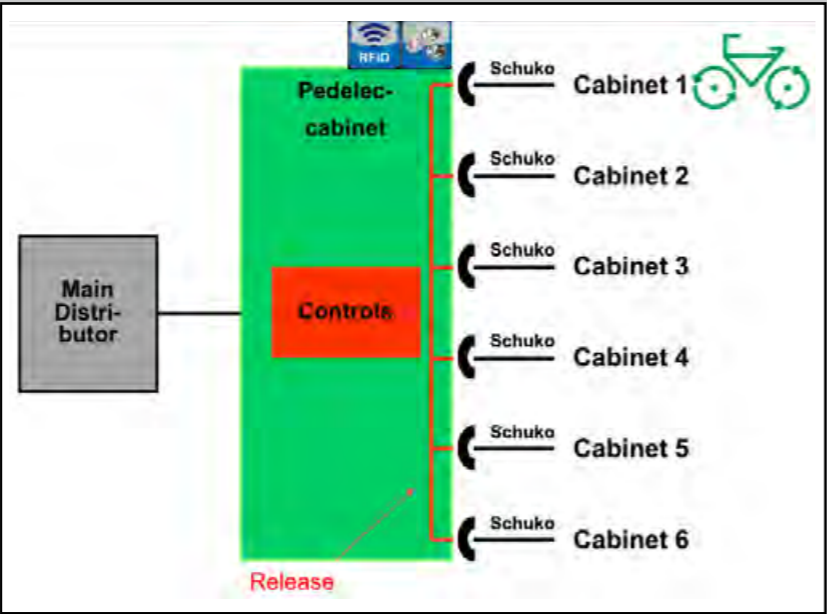
Situation:

The market for electric bicycles has now already become a mass market. Every year, about 500,000 e-Bikes / pedelecs are sold, and the entire market consists of several million bicycles. As well as with older people, e-Bikes are now also increasingly being bought by people in the middle-age. This market offers restaurant owners and hoteliers a good opportunity to present themselves as environmentally friendly and customer-oriented. Whilst customers are enjoying the beer garden or taking lunch in the restaurant, their bicycles' batteries can be charged in enclosures comprising lockable cabinets, referred to as pedelec cabinets. Pedelec cabinets are being used more and more frequently, especially on cycle trails.

Solution:

The pedelec cabinets developed by Walther each have a Schuko socket in each lockable compartment. The compartments can be released or locked using a coin payment system. The upgrade to the quadruple cabinet is a sextuple cabinet, in which authorisation can be performed using RFID. Both variants are also equipped with a so-called DJB (domestic junction box).

socket combinations, thus representing a highly pragmatic solution. These socket strips are standard articles from the Walther CEE socket combination range. If required, simply talk to us or your electrical wholesaler directly.



Description of function:

Pedelec cabinets are designed so that the customers can place their helmets, backpacks and other objects in the compartments, whilst the batteries are being charged at the Schuko sockets. All compartments are individually lockable. The compartments can be locked and the Schuko sockets subsequently released by different methods: deposit tokens / coins, RFID, etc. In this case, the operator has many individual possibilities depending on what form of charging service should be offered to the customers.

Interesting features:

Pedelec cabinets can also be powered from alternative energy sources by installing solar panels or wind turbines on the cabinet roof.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Product from scenario



Sextuple Pedelec cabinet

Schuko RFID LED
RCDA DJB Int.Meter
RAL

M CD90 2290 40
see page 84



Quadruple Pedelec cabinet

Schuko LED
RCDA DJB Int.Meter
RAL

M BEP0 1210 40
see page 84

Optional products and configuration possibilities



page 5



page 5







page 5



page 5

Operator (marketing):
Employees' car park with E-BoxX units on a post system

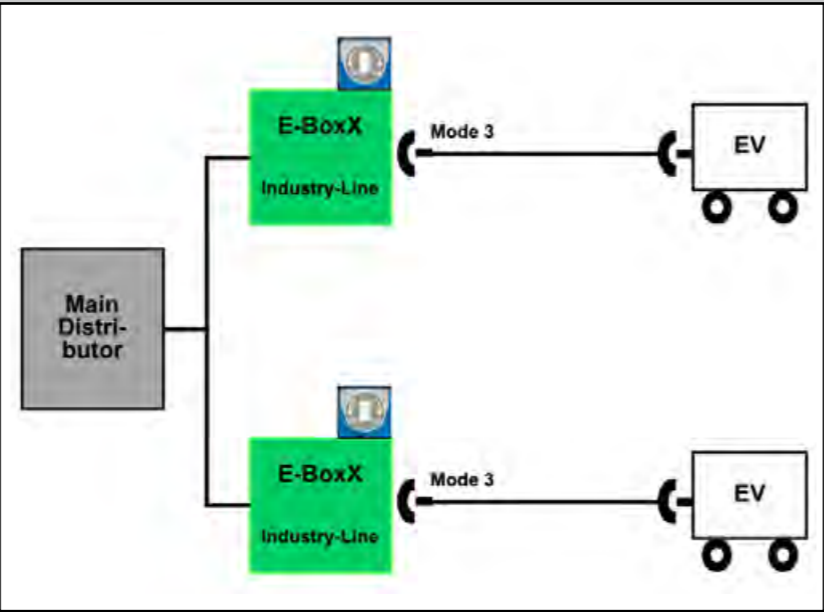
Operator (marketing):
Employees' car park with E-BoxX units on a post system

Situation:

In Germany, there is an ever increasing scarcity of qualified specialists. This means companies are faced with the challenge of increasing their employee marketing. On the one hand, it is important for companies to present themselves as modern and sustainable, whilst on the other hand companies would like to underscore their employee orientation by offering certain services. It is particularly in innovative sectors such as renewable energies, media or IT that employees frequently represent pioneers in the use of technological innovations. It is expected that there will be a tendency towards a higher density of electric vehicles. This scenario describes a simple entry to provision of charging possibilities for a company's own employees.

Solution:

E-BoxX units with toggle or key-operated switches can be used as the most cost-effective and open charging system. In particular, Walther E-BoxX units from the Industry-Line product line are suitable for this, because they can be installed in the outside area on a stainless steel post. An energy management is normally not required, because often only a small number of charging facilities are provided, and the charging of vehicles is usually distributed over the working day without priorities. As an upgrade, it is possible to use an E-BoxX from the Slim-Line product line with key-operated switch. The downgrade is an Industry-Line with knob switch. These two options assume wall mounting.



Description of function:

The employee inserts the vehicle's charging cable into the corresponding charging socket at the start of the working day. Charging is started using a knob switch. When, at the end of the day, the vehicle is required for the journey home, the charging procedure is then terminated by the knob switch and the charging cable can be disconnected. Optionally, it is possible to install meters for consumption recording in each E-BoxX, or in the upstream distribution system.

Interesting features:

Walther also offers suitable installation permits, and the customer requires it, Slim-Line and Industry-Line design, thereby allowing some of the devices to be installed on a concrete area, for example. The IP rating of the E-BoxX units is sufficient for this purpose in any event. If the existing

installation permits, and the customer requires it, the necessary devices for DIN-rail mounting (fuses, circuit breakers, meters, RCDs (residual current devices), etc.) can also be installed in the upstream distribution system.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

upgrade









downgrade

Product from scenario

	Slim-Line Type 2 22 kW LED RCD B 6.9 meter RAL 98200106, see page 81
	Industry-Line Type 2 22 kW LED RCD B IP 44 ABS 98100113 + 620 WL 82 ET see page 75
	Industry-Line Type 2 22 kW LED RCD B IP 44 ABS 98100113, see page 75

Optional products and configuration possibilities

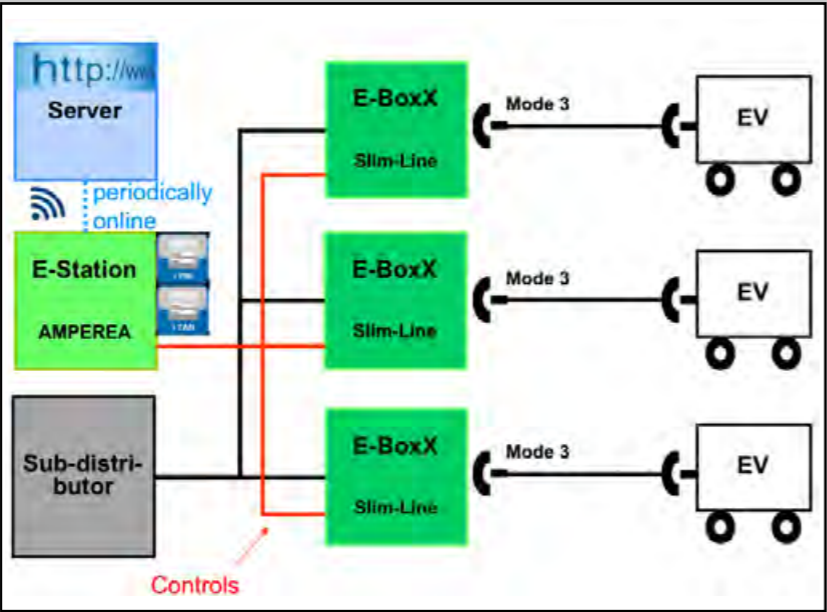
 page 5	 page 5	 page 64
 page 92	 page 93	 page 78

Operator (business model):
Flexible, decentralised billing
solution for utilities (own fleet and
customers)

Situation:
Frequently, decentralised solutions are considered as an alternative to the scenario described on the following page, „Central settlement solution via online IT system with secure protocol (OCPP)“. In this case, all necessary data should be available locally at the charging station, and the user and consumption data will only be transferred periodically to the operator or provider. This reduces the operating costs of the charging station considerably, because it operates predominantly offline rather than online as in the following scenario. In addition, a combination of handling different user groups should be seen as a supplement to this. These are, firstly, the company's own service employees who want to charge their vehicles, and secondly the operator's customers. Access and data recording should be subjected to different rules by means of the identification process.

Solution:
The AMPEREA 800 product line offers a solution to this, establishing the necessary preconditions for the requirements set, above all when a domestic junction box (DJB) is required. If this is not the case, it is recommended for a charging station from the VOLTANEA product line to be used (downgrade). In both cases, these stations can be used both as stand-alone stations or as a central

unit in a satellite system. In a satellite system, additional charging points are connected to the central unit, in this case they are E-BoxX units from the Slim-Line product line. The central unit handles identification and communication with the user, and then controls the E-BoxX units accordingly. The server connection can be hard-wired using TCP/IP or, as an upgrade, wireless, depending on the customer's requirement.



Description of function:
Dialogue with the user is via the touchscreen monitor of the charging station. There is no need for a permanent connection to a central system (backend), the memories for the central communication structures are located in the charging station: authorisation (white list), charging data records, energy management, etc. Periodic or permanent readout of the charging data records takes place via a network connection.
Identification is usually via RFID and/or localTAN. In order to enable a cost-effective customer billing, it is also possible to have a coin payment system.



Interesting features:
Systems also function in regional structures via networks in cooperation with IT systems, e.g. in the form of SQL servers. This means there is no longer any obstacle to processing significant data quantities. They thus represent a mixture of straightforward online and offline systems.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Operator (business model):
Flexible, decentralised billing solution
for utilities (own fleet and customers)

Product from scenario

	AMPEREA Type 2, Schuko, 22 kW, DUB, OCPP, RFID, 6.9 kW, MySQL M 2821 23C20 60 see page 69
	AMPEREA Type 2, Schuko, 22 kW, DUB, TCP/IP, RFID, 6.9 kW, MySQL M 2821 23S20 60 see page 68
	VOLTANEA Type 2, Schuko, 22 kW, DUB, TCP/IP, RFID, 6.9 kW, MySQL M 6821 13S20 60 see page 66

Optional products and configuration possibilities

page 5	page 5	page 5

Operator (business model):
Central billing solution via
online IT system with secure protocol
(OCPP)

Operator (business model):
Central billing solution via online
IT system with secure protocol (OCPP)

Situation:

Specifically utilities, but also other operators of charging stations, wish to charge their customers for the electricity consumed, or else to impose a flat-rate payment for use of their charging infrastructure. There are various basic requirements for this, concerning how the utilisation or consumption should be settled, as well as how the requisite data should be stored and transferred. The scenario described here is intended for charging station operators which use secure data transfer in online mode, and thus wish to manage data centrally and in real time for user groups, authorisation and settlement. One alternative in this case concerns integrating a provider such as a mobile phone operator which invoices customers using existing systems, and passes on the revenues to the charging station operator.

Solution:

The Walther AMPEREA product line is ideal for these demanding requirements due to the large amount of space it offers. For example, the AMPEREA offers space for a connection acc. to the special requirements to the energy supplier with DJB, meter space even for Ferraris meters, SLS switches and the necessary communication system as well as for the large number of electrical and electronic components required.

If no such connection is necessary, it is preferable for a station from the VOLTANEA product line to be used. In the upgrade with an AMPEREA, data transfer can also take place wirelessly via a GSM module.

Description of function:

Dialogue with the user is via the touchscreen monitor of the charging station. A connection to a central IT system (backend) via a secure protocol (OCPP) or VPN is used for data communication. This allows data such as authorisation (white list and black list), settlement (consumption), status handling, reservation, dynamic tariff design and energy management to be managed centrally.

As a result, large quantities of data and high numbers of customers can be processed efficiently, either by the operator or a service provider which can handle the entire settlement procedure with the customers.

Interesting features:

A high level of security in data transmission is achieved by special processes and the corresponding selected hardware (modems, cards, etc.).

A characteristic feature of these processes is the need to remain constantly online with the station. Offline operation only contains auxiliary and shut-down routines, and is not possible over a longer period of time.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Product from scenario



AMPEREA

Type 2 Schuko 22 kW
OCPP e RFID
RCB DJB -data

M 2811 23D20 60
see page 69



AMPEREA

Type 2 Schuko 22 kW
OCPP e RFID
RCB DJB -data

M 2821 23C20 60
see page 69



VOLTANEA

Type 2 Schuko 22 kW
OCPP e RFID
RCB DJB -data

M 6821 13C20 60
see page 67

upgrade

downgrade

Optional products and configuration possibilities



page 5



page 5



page 5

Operator (business model):

LocalTAN process via SMS communi-
cation with the charging station

Operator (business model):

LocalTAN process via SMS communication
with the charging station

Product from scenario

Situation:

A regular topic in planning charging infrastructure products with a business model approach concerns the identification and activation of charging points by mobile phone SMS messages. In this case, the registered user shall communicate directly with the charging station for authorisation, and consumption information shall be sent to the user via SMS, as well as in the form of a processable data record to the operator for billing.

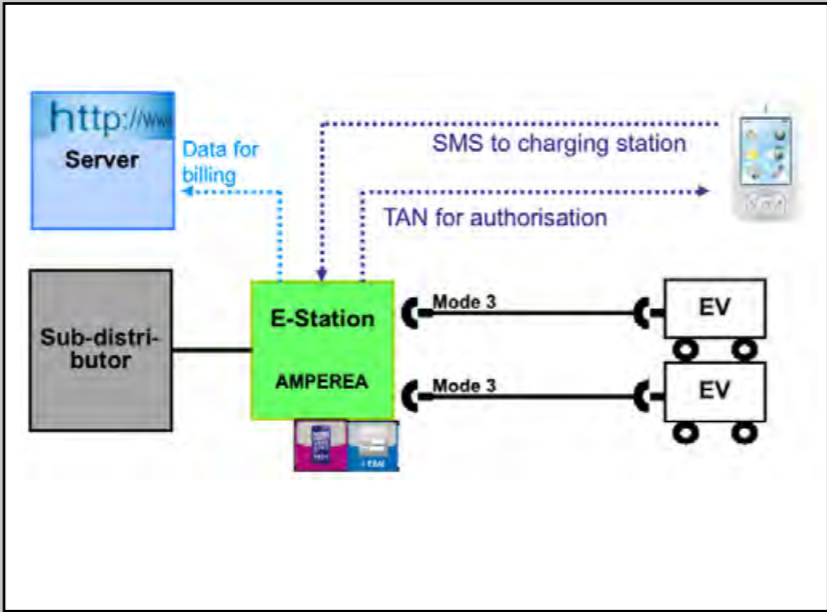
Alternatively to this “localTAN” solution, it is also possible to link up to an existing billing system in order to use the “extendedTAN process via SMS communication with the provider” scenario.



Solution:

The Walther AMPEREA 800 product line is ideal for this multiple requirement because of the high amount of space it offers. For example, the AMPEREA 800 offers space for a connection acc. to the special requirements to the energy supplier with DJB, meter space even for Ferraris meters, SLS switches and the necessary communication system (GSM module), and equally for the large number of electrical and electronic components necessary. If no such connection is required, it is preferable for a station from the VOLTANEA 600 product line to be used (downgrade), which has the same technical configuration.

There is no need for an upgrade as a result of the general conditions described in the situation.



Interesting features:

RFID systems are also popular when it comes to small customer or employee groups, but nevertheless in comparison the localTAN system is frequently revealed to be the better option in spite of the slightly higher operating costs due to the mobile phone card in the charging station. This is because the data records are sent via e-mail, allowing this information to be processed further without difficulty – irrespective of whether the process data is to be used for invoicing or just observed.

It can also be easily combined with other identification systems or payment systems.

Optional products and configuration possibilities



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page 5



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page 5

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Operator (business model):
ExtendedTAN process via SMS
communication with the provider

Operator (business model):
ExtendedTAN process via SMS
communication with the provider

Situation:

Various business models in the area of charging infrastructure are based on the use of pre-existing processes for consumption billing. Preexisting and registered user groups as well as established billing structures should be used, such as in the example of the „Handyticket“ (see note below). The objective in this case is to minimise operating costs of the charging station and the transfer of consumption data from the operator’s perspective, by transferring the transaction costs to the user as far as possible. In this way, billing processes can be made flexible and cost-effective.

As an alternative to this „extendedTAN“ solution, it is also possible to implement a localTAN model. Compare this to the scenario „localTAN process via SMS communication with the charging station“.

Note: Handyticket is a service by means of which registered users can purchase their tickets for regional railway travel conveniently by mobile phone.

Solution:

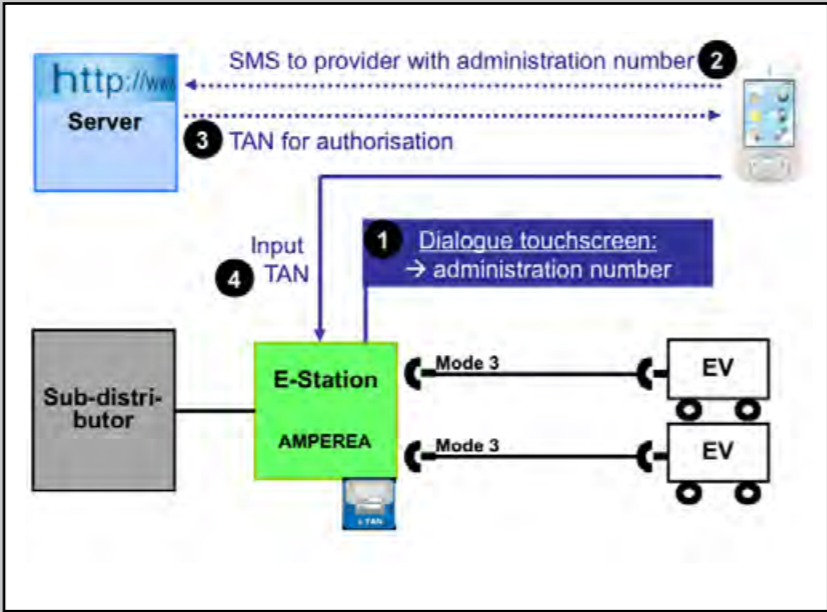
Walther recommends a charging station from the VOLTANEA product line as the solution model for this scenario. In this case too, sufficient space must be provided for the necessary control system and touchscreen for interaction with the user, as well as for the protection elements. The integrated TAN generator supplies the administration



number for authorisation once the charging conditions of the user have been obtained via the touchscreen. Expensive GSM modules are not necessary in this solution. If a domestic junction box is needed due to the connection requirements, it is possible to use an AMPEREA charging station with the same functions as an upgrade. As a downgrade, comparable requirements can also be met using an ECOLECTRA with touchscreen.

Description of function:

In the extendedTAN system, the customer selects the socket and charging time or tariff at the station and, as a result of this dialogue, receives an administration number generated by a “TAN generator” in the charging station, in a procedure which involves a complicated mathematical algorithm. The customer sends this administration number to a provider as an SMS (e.g. as a registered customer with Handyticket), and receives an SMS with a TAN in return following examination. Once this has been entered on the touchscreen monitor, the corresponding socket is released for the required time. At the same time, the customer’s mobile phone account is charged with the corresponding amount.



Interesting features:

It is a feature of this process that the charging station always operates in offline mode. The entire communication with the backend takes place between the customer and provider. This saves significant operating and communication costs for the charging station. The basic system has been functioning highly reliably for a considerable time in many cities for the online

purchase of local public transport tickets. The TAN generator was developed as part of the „SaxMobility II“ project, in conjunction with the issue of utilisation rights for charging infrastructure systems.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Product from scenario

upgrade



downgrade



AMPEREA
Type 2 Schuko 22 kW
eTAN
M 2811 23D20 60
see page 68



VOLTANEA
Type 2 Schuko 22 kW
eTAN
M 6811 13D20 60
see page 66



ECOLECTRA
Type 2 Schuko 22 kW
eTAN
M 1511 11D30 60
see page 64

Optional products and configuration possibilities



page 98



page 5



page 5



page 5



page 5

Operator (business model):
Access-free charging system
in multi-storey car parks

Operator (business model):
Access-free charging system
in multi-storey car parks

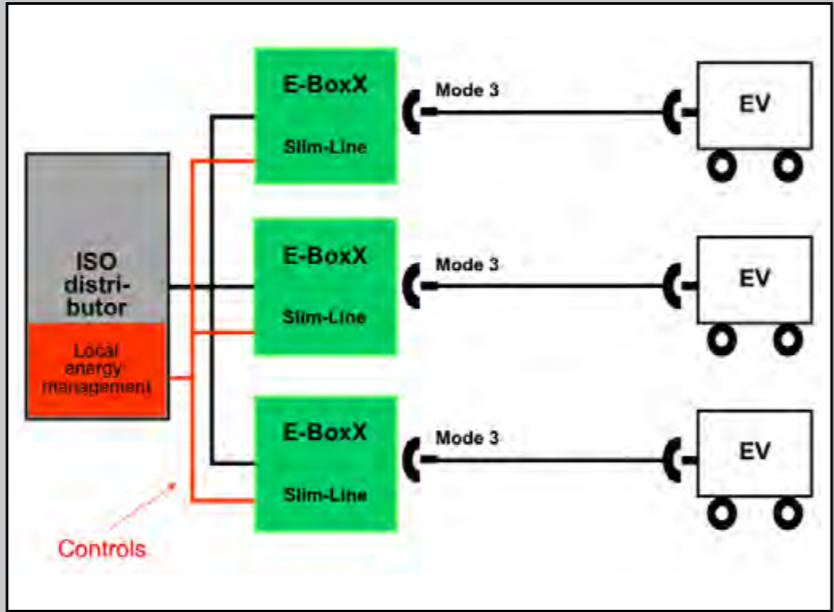
Situation:

More and more often, separate areas are being created in multi-storey car parks, ground-level car parks or underground car parks, for charging electric vehicles in which each parking space has a charging connection. Preferably, these are type 2 charging sockets or charging connections, since these allow all currently available vehicles to be charged directly or using their own charging cables. Customers in this area are drawn either from a particular user group or pay a charging supplement on top of the „normal“ parking charges. This means complicated identifications are unnecessary, as is an expensive, separate billing system. Irrespective of this, the system does face two additional challenges: The existing power supply is not sufficient when all charging points are occupied and charging, and frequently it is necessary to process information from the building management system (fire, peak load times, etc.).

Solution:

A central distributor – which can be a Walther charging station just as much as an ISO distributor or a switch-gear cabinet – supplies and controls several charging points, which generally speaking comprise E-BoxX units from the Slim-Line series. The Walther charge controllers contained in the charging points have the ability to limit the maximum charging

current of the corresponding charging point by means of a specified bit pattern. A controller in the central distributor and an intelligent communication network ensure that the charging current is reduced as the number of users increases (smart mode), and also provide the opportunity for external influencing (central mode). As an upgrade, the E-BoxX can be equipped with a fixed charging cable. The downgrade alternative is a lower-cost E-BoxX from the Industry-Line, also with a fixed cable.



Description of function:

In this scenario, there is no activation of the charging points or any identification process, because the access restriction has already been imposed by the separation of the parking area. Following this, the customer plugs in his/her vehicle and the charging procedure starts immediately (type 1 plug) or after a switch is pressed (type 2 plugs and sockets). The charging process is terminated by disconnecting the plug (type 1 plug) or by switching off, thereby releasing the interlocking, after which the plug can be disconnected (type 2 plugs and sockets).



upgrade



downgrade

Product from scenario

	Slim-Line Type 2 22 kW LED RCD B IP 44 RAL 9010 98200108, see page 80
	Slim-Line Type 2 22 kW LED RCD B IP 44 RAL 9010 98200105, see page 81
	Industry-Line Type 2 11 kW LED RCD B IP 44 RAL 9010 98100111, see page 74

Interesting features:

Suitable charging points include not only the suggested E-BoxX units in the Slim-Line, but also units from the Industry-Line and charging stations. The communication systems that can be used include network connections as well as the classic control cable connections which are currently recommended by Walther; many techniques can be used.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Optional products and configuration possibilities

page 5	page 5	
page 76	page 78	page 64

Operator (business model):
Connection of charging stations
to existing parking ticket vending machines

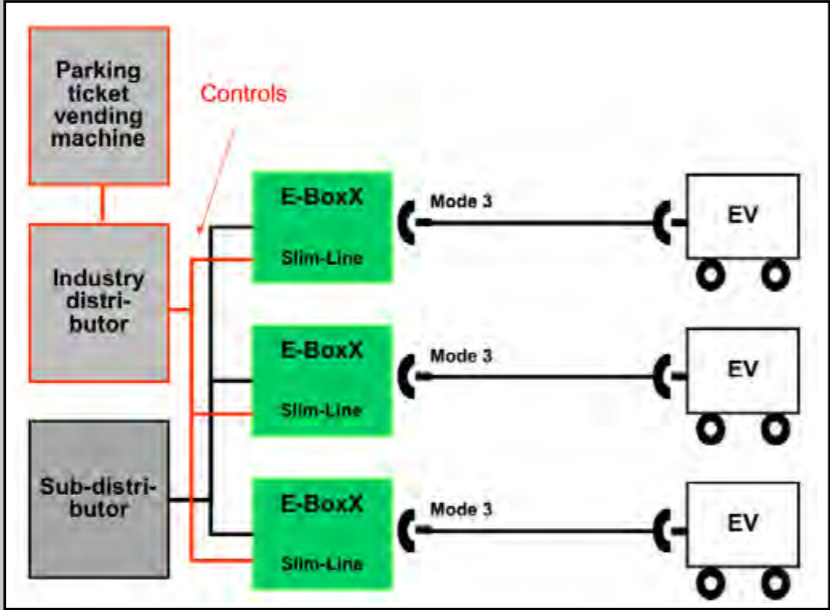
Operator (business model):
Connection of charging stations to existing
parking ticket vending machines

Situation:

Several spaces in a multi-storey car park are to be equipped with a charging connection. These are distributed throughout the facility, i.e. not within one enclosed area with separate cabinets. The existing communication and payment infrastructure will also be used, although must be expanded to take account of the charging function. There is a wide range of solutions available, and differ from one manufacturer of car park electronic systems to another. The existing parking ticket machine should handle activation of the charging sockets as well as billing and management of the electrical current drawn.

Solution:

One industrial sub-distribution board handles the interface function between the parking ticket machine and the charging points. The task of the sub-distribution board in this case is to pass on the authorisation signals from the parking ticket machine to the charging points. The charging points themselves can be housed in an E-BoxX from the Slim-Line product series. This has enough space for charge controllers, fuse elements and any meters. As a downgrade, the Slim-Line can be equipped with a charging socket rather than having a fixed cable. The upgrade involves charging stations from the ECOLECTRA product line with the same functions.



Description of function:

At the entrance barrier to the car park, the driver of the electric vehicle receives a car park token in the usual way. Next, the driver looks for a vacant space with a charging point. Once the vehicle has been connected to the charging point, the driver walks to the parking ticket machine and puts in the token. It is possible to select the additional „Park and Charge“ function on the machine’s touchscreen. The new hourly rate for this is written onto the token. Now the driver can enter the parking space number. The parking ticket machine sends a signal to the industrial sub-distribution board which, in turn, activates the charging procedure at the selected parking space. When the driver returns, he or she pays for the parking at the parking ticket machine in the usual way.

Interesting features:

Usually, billing is not handled according to the amount of energy consumed, but the charging time (= parking time of the vehicle). This permits inexpensive solutions with acceptable investment costs. Usually, Slim-Line E-BoxX units from Walther are

used as a result of the extremely flat design and high mechanical stability they offer, in which case these units can have single or double equipment; alternatively different E-BoxX units and charging stations are suitable for use, e.g. ECOLECTRA 320 plus.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

upgrade



downgrade

Product from scenario

	ECOLECTRA Type 2, Schuko, 22 kW M 15J0 10E00 60 see page 64
	Slim-Line Type 2, LED, RCD B 98200108, see page 80
	Slim-Line Type 2, LED, RCD B 98200105, see page 81

Optional products and configuration possibilities

page 5	page 5	page 98
page 76	page 78	

Operator (business model):
Charging station reservation and charging timing for airports and railway stations

Operator (business model):
Charging station reservation and charging timing for airports and railway stations

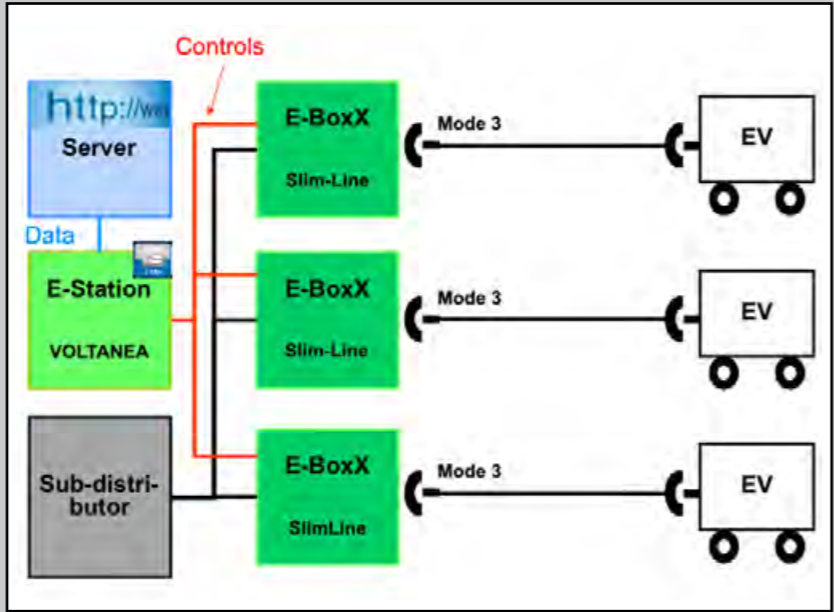
Situation:

Offering charging possibilities at airports or railway stations will become a standard feature in the future. In this regard, from the user's perspective, it is important to clarify the availability of a charging possibility for the electric car, and ideally to make a reservation. In this scenario, energy management is generally required because the vehicles will have to be charged at different times and with different intensities depending on when the owner will return. Of course it is necessary for the user to enter information into the charging system in advance for this purpose. This can be done, for example, when the charging point is booked via the Internet, with the starting and finishing times, or by a communication process at the charging station.

Solution:

The existing scenario requires identification processes, therefore it is sensible to set up a satellite system with a VOLTANEA charging station as the central unit for releasing the charging point using the TAN process, as well as controlling the individual charging operations depending on the collection time. In this case, the VOLTANEA can be controlled via a hard-wired TCP/IP connection or else connected to the necessary server via a wireless upgrade. The

individual charging points can be implemented using various E-BoxX units from the Walther product range, depending on the required installation space, location and other decentralised functions. In multi-storey car parks, however, it is recommended for robust constructions to be used in all cases, in this case E-BoxX units from the Slim-Line series, instead of plastic solutions.



Description of function:

When the charging space is reserved, a PIN and TAN number can be generated. The PIN can be used for a barrier, for example, separating the E-Mobility charging parking spaces from the remaining parking spaces, in order to keep out vehicles which should not be parked there. The driver then uses the TAN at the central charging station in order to redeem the reservation for his/her parking space and to start the charging procedure. In this case, the user enters his/her charging space from the reservation confirmation, as well as the TAN, via a touchscreen monitor.

Interesting features:

Without doubt, in the near future there will be smart-phones available with corresponding apps for the fundamental procedures described here, which will significantly facilitate the entire handling procedure.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.



upgrade



downgrade

Product from scenario

	VOLTANEA Type 2 Schuko 22 kW eTAN RCD B M 6811 13D20 60 see page 67
	VOLTANEA Type 2 Schuko 22 kW eTAN RCD B TCP/IP M 6821 13S20 60 see page 66
	ECOLECTRA Type 2 Schuko 22 kW eTAN RCD B TCP/IP M 1121 13S30 60 see page 65

Optional products and configuration possibilities

page 5	page 5
page 98	page 78
page 74	page 74

Operator (business model):
Coin payment system
with receipt delivery

Operator (business model):
Coin payment system
with receipt delivery

Situation:

A simple and low-cost solution for operators of charging stations with a business model in the background can take the form of a charging station with coin payment system. This means charging current can be purchased by the operator without requiring a complicated and cost-intensive charging infrastructure. In addition, user friendliness is the main feature, because there is no prior user registration required. This form of payment represents a good option for the comprehensive spread of electric mobility, because there are no access restrictions, and thus anyone can charge his/her vehicle without difficulty. The scenario is relevant for hotels, municipal authorities and car park operators, for example.

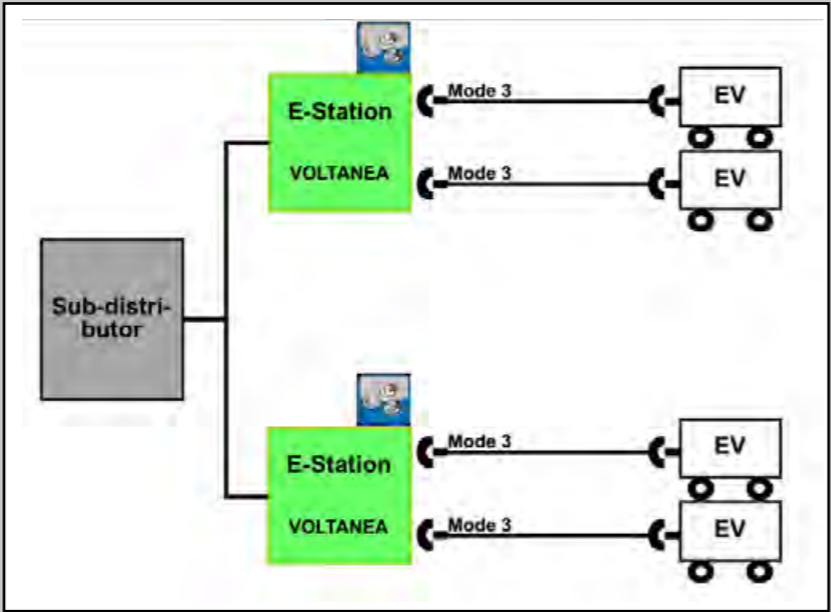
Solution:

Walther recommends using a charging station from the VOLTANEA product line to implement this approach. The coin payment system and the receipt printer are positioned on the front of the charging station. Up to 4 charging points (2x charging type 2, 2x Schuko socket) can be managed jointly using one charging station. As an upgrade, the VOLTANEA can additionally be equipped with a touchscreen. This makes it possible to request and implement charging parameters (charging current, charging time, etc.). In addition, the

touchscreen offers the possibility of showing products, tariffs or other customer information in the form of presentations or small films. As a downgrade, it is possible to use an ECOLECTRA with comparable functions.

Description of function:

The charging socket on the station is selected using buttons. Then, like in the case of a parking ticket vending machine, it is possible to purchase charging times by inserting coins, and for the times to be confirmed on a small text display. Internally, the charging is controlled by a timer. Furthermore, the charging station can be equipped with a receipt printer. This is particularly relevant for businesspeople who wish to reclaim their travel costs. The printer is connected to the controller by means of a corresponding interface. This means an invoice can be created and printed out for the charging fee paid. At the same time, the operator can store a defined set of information (date, time, charging fee, etc.) as print fields.



Interesting features:

If there is a relatively large number of charging points, cost savings can be achieved using a satellite system with E-BoxX units as the charging point, and a VOLTANEA 600 charging station as the central distributor. In that case, an energy management system and/or connection or integration into the building management system may be considered. The latter option makes sense if charging should be terminated and interlocked systems opened in the event of danger.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.



upgrade



downgrade

Product from scenario



VOLTANEA
Type 2 Schuko 22 kW
on request, see page 66



VOLTANEA
Type 2 Schuko 22 kW
on request, see page 66



ECOLECTRA
Type 2 Schuko 22 kW
on request, see page 64

Optional products and configuration possibilities



page 5



page 5



page 5



page 5

Operator (business model):
Car sharing with online availability
requests (charging station and
vehicle)

Operator (business model):
Car sharing with online availability
requests (charging station and vehicle)

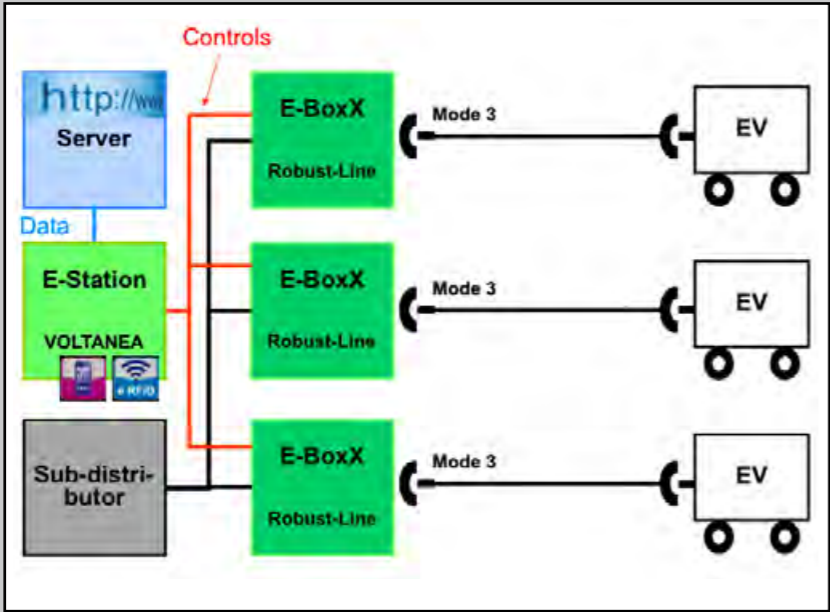
Product from scenario

Situation:

The topic of car sharing is becoming increasingly important due to the growth of cities. Frequently, car sharing models are used by business travellers and private individuals for short journeys. Due to the issue of range, this offers promising prospects for the use of electric vehicles. Today, users principally book their vehicles using web applications. As a result, integrating an availability request for vehicles and vacant charging points is a logical next step. The users are already known to the operator via the registration process, and thus meet the conditions for a settlement process of rental costs and electricity consumption.

Solution:

The scenario can be implemented not only stand-alone but also with a satellite system. The availability requests described here (charging point vacant or which vehicle is at which charging station) require a GSM module for transmitting data from the charging station to the system of the car sharing operator. Walther recommends using a charging station from the VOLTANEA product line for this. E-BoxX units in the Robust-Line product line are suitable for use as satellites, because they offer a high level of vandal protection above all else. The fixed charging cable can be stored away behind the door of the E-BoxX. As the downgrade alternative, it is possible to use a Robust-Line without a fixed cable, i.e. only with a charging socket. As an upgrade, the satellites can also be ECOLECTRA charging stations.



Description of function:

The car sharer checks on the Internet to see where an electrical car is available, and can usually reserve it directly online. The identification (either via RFID, mobile phone or PIN) is undertaken directly at the VOLTANEA station by means of a touchscreen. The E-BoxX units are released by the VOLTANEA. The charging plug can now be disconnected from the vehicle and stored behind the door of the E-BoxX. The VOLTANEA now sends a signal to the server of the car sharing operator that the charging point is once again vacant and can accept a vehicle. If a driver wishes to return a vehicle, he/she can use precisely this information to find

a vacant parking space. Having arrived, he/she identifies himself/herself at the charging station and selects a charging point. The E-BoxX is activated, the driver can connect the vehicle and charging starts. The new condition is transferred to the operator's server via GSM.

Interesting features:

According to requirements, it is also possible for utilisation and settlement data to be transferred directly to the driver's mobile phone. Alternatively, an e-mail can be sent to the driver. There is a wide range of technical configuration options here.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

upgrade



downgrade

	ECOLECTRA Type 2 22 kW RCD B LED M 11J0 10E00 60 see page 65
	Robust-Line Type 2 11 kW RCD B LED 98300103, see page 78
	Robust-Line Type 2 11 kW RCD B LED 98300108, see page 78

Optional products and configuration possibilities

 page 5	 page 5	 page 5
 page 80	 page 68	

Installers:
Test equipment for installation and maintenance activities ("e-check")

Installers:
Test equipment for installation and maintenance activities ("e-check")

Product from scenario



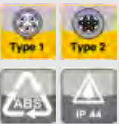
upgrade



downgrade



EV-Tester / Simulator



780121024, see page 99



EV-Tester / Simulator



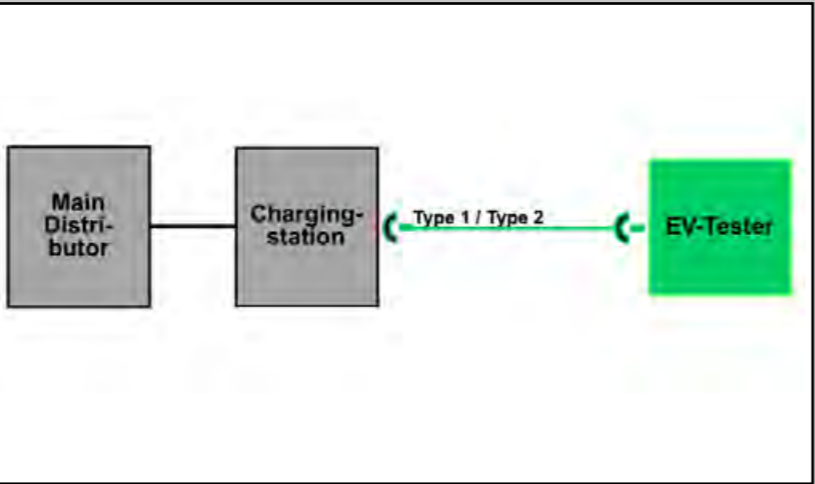
780001503, see page 98



EV-Tester / Simulator



780001501, see page 98



Description of function:

After charging stations and wallboxes have been installed, or when they have to be serviced, it is possible to check they are functioning correctly by simulating an electric vehicle. This also concerns existing charging cables. First, the EV tester/simulator is connected to the charging point (plugging into the charging socket or the fixed charging cable). Built-in toggle switches are used for simulating the coding resistance of the charging cable (13, 16/20, 32 or 63 A in type 2) as well as specifying the vehicle status B, C or D. The charging device responds accordingly, interlocks the plug and switches on the charging voltage (LED displays for switching status). The range of functions is supplemented by a test of the PE connection, BNC output for CP measurement as well as a switchable residual current for targeted FI tripping and load switching.

Interesting features:

Even without an electric vehicle available, it is possible to use the EV tester/simulator to check that all charging devices are functioning correctly, and to repair them rapidly during a service. This means the electrician can work efficiently and display expertise in the new business area.

In order to allow a better understanding of the functions described here, the fold-out page at the back of the catalogue provides corresponding explanations. Detailed product descriptions about charging stations, E-BoxX units, charging cables, etc. can be found in the corresponding chapters over the following pages.

Optional products and configuration possibilities



page 92



page 92



page 82



page 92



page 93



Training, see page 102

Situation:

Electric mobility offers a very interesting and lucrative opportunity for electricians. Current market forecasts assume significant market growth during 2013, since the number of electric cars available then will increase sharply. Each of these cars requires at least one charging point, indeed some studies assume that 2.5 charging points will be required per vehicle. Installing many of these charging points will fall directly within the sphere of expertise of the electrical trade, in particular in the case of private customers and on company car parks. In addition to installing these charging facilities, a maintenance and servicing market („e-check“) will develop for the trade. Carrying out these activities profitably will take know-how and the necessary equipment. Refer to the back of the catalogue for the training that Walther offers, meanwhile the correct test equipment is shown here.

Solution:

Walther is regarded as the inventor of EV-Testers/Simulators. There are various configurations and designs for these. EV-Tester for type 1 plugs, EV-Tester for type 2 plugs and sockets and a combination device (upgrade) that allows the user to test both type 1 and type 2. The latter option thus offers the greatest flexibility. The integrated measuring instruments allow all relevant values to be read

out directly and used for assessing the result. One alternative represents a hand-held device (downgrade) which only checks the condition of the basic functions.

Charging station product range

Charging stations for an extremely wide range of applications as far as satellite systems

Market experience clearly shows that there is no ONE charging station which can cope with the wide variety of different aesthetic, functional and ergonomic requirements. Therefore, it is important to offer a high degree of flexibility in configuration in order to meet the various requirements. Walther offers an assortment of charging stations comprising three product lines for this purpose, by means of which you can implement the majority of current and future requirements already today. Above all, however, you remain flexible for possible changes.

For this reason, Walther has designed charging stations with exchangeable communication interfaces and racks which permit subsequent changes – such as installation of other communication systems or sockets – in all cases. This means you can enter the market at an early stage, whilst keeping control over your investments. All Walther charging stations feature a robust stainless steel enclosure (durability, vandal protection). Powder coating, paintwork without heavy metals, anti-graffiti coating (optional) are configured in accordance with customer's wishes. On the inside, a plastic distribution system of industrial quality offers a high IP rating for all electrical and electronic assemblies.



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in all questions
relating to E-Stations

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ECOLECTRA



ECOLECTRA

...the elegant station with a compact internal structure appeals with an astonishing number of possible variants. With ECOLECTRA, available in various sizes, it is possible to implement not only stand-alone versions but also very complex systems such as satellite systems by combining different sizes.

Expansion possibility



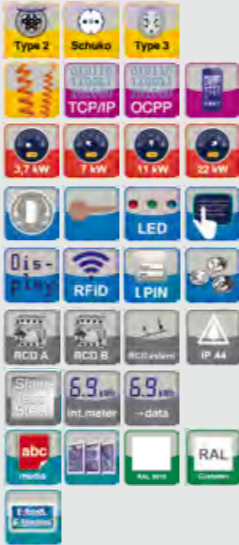
VOLTANEA



VOLTANEA

- The station with the asymmetrical outline can be arranged with several stations next to one another, in a star-shaped configuration or on a wall as required, without sacrificing any of its aesthetic appeal, functions or accessibility. However, even on its own the VOLTANEA looks good, just as when used as a communication centre in a satellite system.

Expansion possibility



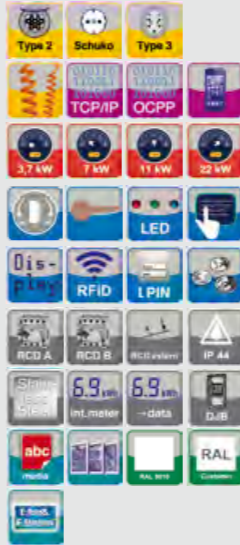
AMPEREA



AMPEREA

- is the product line with the greatest volume. This offers space for a complete connection acc. to the special requirements of the power supplier (also with room for a "large" meter, the 300 mm manoeuvring space under the domestic junction box) and / or several of the customer's own communication systems.

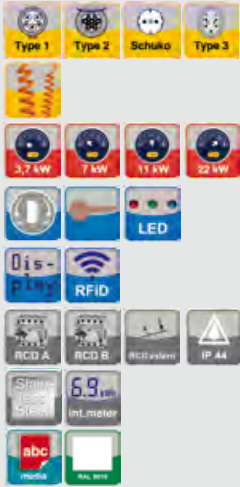
Expansion possibility



Satellite system



Expansion possibility



"All Walther E-BoxX units can be used with the ECOLECTRA, VOLTANEA and AMPEREA charging stations for satellite systems. In each case, depending on the installation location and configuration requirements."

ECOLECTRA 320 plus



ECOLECTRA 320 plus – the virtuoso

The ECOLECTRA 320 plus is the successor of the successful ECOLECTRA 320 and offers not only more space but also improved climate protection for your electrical and electronic components. This means it takes account of current developments and trends as well as the development of E-Mobility standards – in particular DIN EN 61439-7 (Low-voltage switchgear and control gear assemblies for ... charging stations for electric vehicles).

The ECOLECTRA 320 plus is used for connecting to an existing utility connection, and generally offers space for two charging points arranged on the sides.

As is usual with WALTHER, they have a modular structure and offer a range of different possibilities for equipping with different sockets, controllers, identification and communication methods. The equipment variants described below are ideal for the stations to be used in an extremely wide range of applications – from the simplest and most cost-effective basic design for installation in the works yard, for example, through to a solution with highly complex communication, identification and storage systems. Since introduction of the ECOLECTRA 320 plus series, certain standard configurations have largely developed with the following equipment types: “2 x charging with type 2 charging socket “ or “1 x charging with type 2 charging socket and 1 x charging with Schuko socket”. These are used successfully in almost all applications. These solutions can also be found in the six articles below.

If you do not find the configuration you are looking for, we will be happy to advise you.



Art. no.	Enclosure W x H x D (mm)	Charging point	Charging power	Identification and operation	Technical data	Data communi- cation	Added-value services and CI design
M 15J0 10E00 60	320 x 320 x 1400	Type 2 Schuko	3,7 kW 22 kW	LED	RCO II IP 44		abc
M 15L1 12110 60	320 x 320 x 1400	Type 2 Schuko	3,7 kW 22 kW	Dis- LED RFID	RCO II IP 44 6.9 int. meter		abc
M 1521 13530 60	320 x 320 x 1400	Type 2 Schuko	3,7 kW 22 kW	RFID LPIN	RCO II IP 44 6.9 int. meter	TCP/IP	abc

Art. no.	Enclosure W x H x D (mm)	Charging point	Charging power	Identification and operation	Technical data	Data communi- cation	Added-value services and CI design
M 11J0 10E00 60	320 x 320 x 1400	Type 2 Type 2	22 kW 22 kW	LED	RCO II IP 44		abc
M 11L1 12110 60	320 x 320 x 1400	Type 2 Type 2	22 kW 22 kW	Dis- LED RFID	RCO II IP 44 6.9 int. meter		abc
M 1121 13520 60	320 x 320 x 1400	Type 2 Type 2	22 kW 22 kW	RFID LPIN	RCO II IP 44 6.9 int. meter	TCP/IP	abc

Base matching ECOLECTRA 320 plus charging station, art. no. 821 325 95

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.



VOLTANEA 600 – a winner with design and function

The elegant Walther charging stations in the VOLTANEA 600 series are especially suitable for pavements in front of representative buildings or in car parks. In particular the new version, VOLTANEA 601, takes account of current developments and trends as well as the development of E-Mobility standards – in particular DIN EN 61439-7 (Low-voltage switchgear and control gear assemblies for ... charging stations for electric vehicles).

It has a modular structure, as is usual for Walther, and offers a range of different equipment possibilities. As a result of this, all identification, communication and billing systems can be implemented. The integrated controller is responsible for the entire charging procedure, the dialogue with customers and operators as well as the safety-relevant functions in case of a fault or danger. The same applies for the optional storage of consumption data records and the further processing of them. Frequently, a special SD card in the controller makes it straightforward to change the program and parameters subsequently.

The VOLTANEA 600 is prepared for connection to an existing utility connection, and generally offers space for 4 charging points on the front, usually configured for “2 x charging with type 2 charging socket and 2 x charging with Schuko socket”. These solutions can also be found in the six articles below.

Refer to the equipment examples for more details. If you do not find the configuration you want, please contact us for advice.



M 68K0 10E00 60



M 68M1 12110 60



M 6821 13520 60



M 6811 13B20 60



M 6821 13C20 60



M 6811 13D20 60

Art. no.	Enclosure W x H x D (mm)	Charging point	Charging power	Identification and operation	Technical data	Data communi- cation	Added-value services and CI design
M 68K0 10E00 60	603 x 323 x 1603	Type 2 Schuko	22 kW 22 kW	LED	RCO II IP-44		abc media
M 68M1 12110 60	603 x 323 x 1603	Type 2 Schuko	22 kW 22 kW	LED RFID	RCO II IP-44 6.9 int. meter		abc media
M 6821 13520 60	603 x 323 x 1603	Type 2 Schuko	22 kW 22 kW	RFID LPIN	RCO II IP-44 6.9 +Data	OCPP TCP/IP	abc media

Base matching VOLTANEA 600 charging station art. no. 821 600 95

Art. no.	Enclosure W x H x D (mm)	Charging point	Charging power	Identification and operation	Technical data	Data communi- cation	Added-value services and CI design
M 6811 13B20 60	603 x 323 x 1603	Type 2 Schuko	22 kW 22 kW	LTAN	RCO II IP-44 6.9 +Data	TCP/IP	abc media
M 6821 13C20 60	603 x 323 x 1603	Type 2 Schuko	22 kW 22 kW	RFID	RCO II IP-44 6.9 +Data	OCPP	abc media
M 6811 13D20 60	603 x 323 x 1603	Type 2 Schuko	22 kW 22 kW	LTAN	RCO II IP-44 6.9 +Data		abc media

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.

AMPEREA 800



AMPEREA 800 – maximum connection space for your special requirements

The Walther AMPEREA 800 charging station has a modular structure and, due to the size of the enclosure, offers advantages especially where a public connection must be established acc. to the special requirements of the energy supplier. This means the AMPE-REA 800 offers space for a domestic junction box NH00, an SLS 80 A, a meter housing (large and wired up ready for connection) as well as installation space for the customer's tariff control unit. These requirements usually apply in the public sector. The station meets the requirements of all current developments and trends, as well as the development of E-Mobility standards – especially DIN EN 61439-7 (Low-voltage switchgear and control gear assemblies ... for charging stations for electric vehicles).

AMPEREA 800 generally offers space for up to 4 charging points, usually configured for "2 x charging with type 2 charging socket and 2 x charging with Schuko socket". You can also find these solutions in the five articles below. The integrated controller is responsible for the entire charging procedure, the dialogue with customers and operators as well as the safety-relevant functions in case of a fault or danger. The same applies for the optional storage of consumption data records and the further processing of them. Frequently, a special SD card in the controller makes it straightforward to change the program and parameters subsequently.

Refer to the equipment examples for more details. If you do not find the configuration you want, please contact us for advice.



M 28M1 22110 60



M 2821 23520 60



M 2811 23B20 60



M 2821 23C20 60



M 2811 23D20 60

Art. no.	Enclosure W x H x D (mm)	Charging point	Charging power	Identification and operation	Technical data	Data communi- cation	Added-value services and CI design
M 28M1 22110 60	928 x 337 x 1593	Type 2 Schuko	22 kW 22 kW	RFID LED	RCO II IP-44 QJB 6.9 int. meter		abc media
M 2821 23520 60	928 x 337 x 1593	Type 2 Schuko	22 kW 22 kW	RFID LPIN	RCO II IP-44 QJB 6.9 +data	TCP/IP	abc media
M 2811 23B20 60	928 x 337 x 1593	Type 2 Schuko	22 kW 22 kW	LTAN	RCO II IP-44 QJB 6.9 +data	TCP/IP	abc media

Base matching AMPEREA 800 charging station art. no. 821 800 95

Art. no.	Enclosure W x H x D (mm)	Charging point	Charging power	Identification and operation	Technical data	Data communi- cation	Added-value services and CI design
M 2821 23C20 60	928 x 337 x 1593	Type 2 Schuko	22 kW 22 kW	e RFID	RCO II IP-44 QJB 6.9 +data	OCPP	abc media
M 2811 23D20 60	928 x 337 x 1593	Type 2 Schuko	22 kW 22 kW	e TAN	RCO II IP-44 QJB 6.9 +data		abc media

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.

Walther charging stations offer user identification and communication by various processes



A user identification is the basic requirement for consumption billing, charging prioritisation, access limitation or authorisation of the charging socket. Here too, Walther offers a full range of technical solutions for performing this identification.

Key-operated switch

The simplest form of ensuring that only authorised people have access for charging is certainly – specifically in the private or semi-public sphere – to use mechanical keys in the form of key-operated or knob switches. This version is especially suitable for stand-alone versions.

PIN

Another simple form of identification is by using a PIN. The user identifies himself/herself using a number keypad or a touchscreen and the known PIN, thus receiving access to the charging socket. This version is especially suitable for stand-alone versions.

RFID

Identification using an RFID transponder (radio frequency identification) is controlled by a reader on the charging station. It is possible to store a selection of user information on the RFID transponder prior to use, and this can be transferred to the charging station during identification as a means of documentation. The RFID transponder can be fitted in various ways, for example as a chip card, on the vehicle, in the charging plug, etc. This allows identification to be controlled without extra work by the user. This version is suitable both for stand-alone versions (localRFID for small user groups) as well as for a version linked to a backend (extendedRFID). Comparison with the white lists and black lists stored at the backend can take place both using special protocols (such as OCPP) and special connections with additional protection (VPN channel) or networks.

TAN

Various possibilities derive from the use of transaction numbers (TANs). In the localTAN/SMS process, the charging station generates a TAN. The user identifies himself/herself by sending an SMS with this TAN and his/her sender ID to a charging station from a mobile phone. The user can charge providing this data matches the stored data.

In the extendedTAN system, the customer selects the socket and charging time or tariff at the station and, as a result of this dialogue, receives an administration number from a "TAN generator", which is created by a complicated mathematical algorithm. He/she sends this number to a provider as an SMS and, once the message has been checked, receives an SMS back containing a TAN. Once this has been entered via the touchscreen, the corresponding socket is released for the required time. At the same time, the customer's mobile phone account is debited by the corresponding amount. All of these communication processes will be significantly simplified in future through the use of smartphones, QR codes and special apps.



Consumption measurement and billing by "smart" charging stations



Our many years of experience shows that there are different system solutions and versions for charging stations with integrated energy measurement and billing in energy distribution systems and energy billing systems (large leisure systems, yachting marinas, etc.). Walther frequently handles the billing procedure using the following system: The energy drawn from the power system is measured by electronic meters in kWh (single-phase or three-phase smart meters), this measurement is then stored and prepared for data transfer. A complete data record is created and stored for each charging procedure, containing at least the customer identification (from RFID, PIN, mobile phone sender), time stamp and consumption. If required, this data record can also contain a series of additional data derived from a start dialogue. For example, this could include selected tariffs or specifications by the utility about maximum charging current during the charging process.

Alternatively, Walther integrates EDMs (electronic domestic meters) from the responsible utility. Many Walther charging stations offer provision for extensive adaptations to the users' requirements, which can be undertaken using a connected laptop with Ethernet interface and web browser. Sending an SMS to the maintenance service in case of a fault, the appropriate telephone numbers, operating statuses, input of PIN and TAN – many administrator functions can be implemented with ease using an attractive software and user interface.

Tried-and-tested payment methods

Coins or tokens

The charging power is paid for using coins (1 €, 2 €) or tokens. Usually, the energy drawn from the power system is measured using built-in meters, although it is also possible to activate the charging socket for the paid time period – irrespective of the amount of energy. This solution is particularly popular in combination with another billing system.

Central billing systems

The energy drawn from the power system is measured by built-in meters in this case, and this information is stored together with a user identity and the necessary time values in a data record for each individual charging procedure. These data records are transferred immediately or periodically to the central station. The transmission media used in implemented systems include both hard-wired systems (data cables, bus systems such as EIB/KNX, etc.) and wireless data transfers with secure protocols such as OCPP. This involves carrying out a large number of functions and even software updates centrally. This solution is particularly suitable for larger, decentralised applications in public and non-public areas, as well as in distributed complexes. Various processes are available in this case, with both a permanent connection to the backend (online solutions) and intelligent offline solutions in which the user takes over communication with the backend and ultimately pays for this (extendedTAN process, etc.).

For special applications, it is also possible to combine the various billing systems or to integrate the customer's own subsystems into the charging stations for reasons of data supremacy.

Decentralised billing systems

The data records described in the section on central billing systems can also be stored over a defined period of time and read out at intervals in the form of an Excel sheet via a connected laptop. This function is particularly suitable for operators which are only expecting a low user frequency, or which only really require the user data for statistical purposes.



E-BoxX
product range

“All Walther E-BoxX units can be used with the ECOLECTRA, VOLTANEA and AMPEREA charging stations for satellite systems. In each case, depending on the installation location and configuration requirements.”

E-BoxX or wallbox is the name of those power supply units for electric vehicles, which are wall mounted. They are used as domestic charging stations in private garages, carports, public multi-storey car parks, underground garages, reserved charging areas for vehicle fleets, etc.

Walther uses plastic, stainless steel or aluminium as enclosure material depending on the particular requirements with regard to temperature, humidity, stability, etc. The E-BoxX is selected according to the existing or future electric vehicle, and installed by the specialist electrical company. Only the electrical supply cable is required. Basically, the wallboxes are divided into the categories of single-phase and three-phase charging in the power range from 3 kW to 22 kW.

The safety devices used are RCDs (residual current devices), miniature circuit breakers (MCBs) as well as charging sockets. The safety devices can be already installed in the upstream installation in some variants rather than in the E-BoxX

itself, or else be newly installed there. In mode 3, additional safety functions are defined (detection of cable cross section) and communication (specification of the maximum charging current to the electric vehicle as PWM signal).

Walther produces the E-BoxX in versions with a type 2 charging socket or, alternatively, with a fixed cable including the appropriate vehicle connector (type 1 or type 2) to the electric vehicle. On request, it is also possible to provide a Schuko socket for charging according to mode 2, or for charging pedelegs. An integrated meter (optional) makes it possible to read off the “driven” electricity.

The power distribution can be influenced for all supply parameters that do not permit a simultaneity factor of 1, by means of local energy management and internal or external specifications. As a result, controlled charging can be implemented.



Your contact
in all questions
relating to E-BoxX

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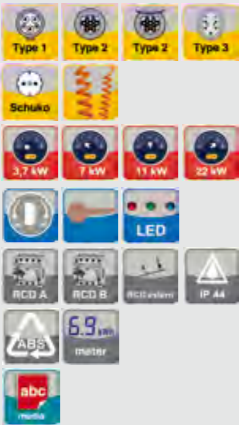
Industry-Line



Industry-Line

Product line from the tried-and-tested enclosure system in a spacious plastic enclosure. Two enclosure sizes for power levels from 3.7 kW to 22 kW.

Expansion possibility



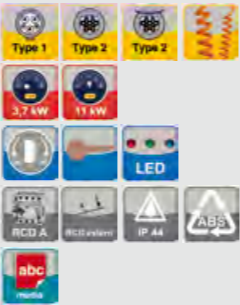
Design-Line



Design-Line

Design-oriented for charging at home, in the compact plastic enclosure. Charging current 16 A, preferably fixed charging cable.

Expansion possibility



Robust-Line



Robust-Line

Stainless steel enclosure, painted, for use in harsh environments. Lockable door prevents misuse.

Expansion possibility



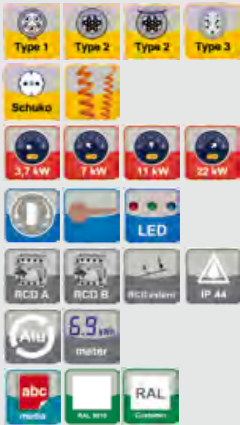
Slim-Line



Slim-Line

Extremely robust enclosure with reduced construction height, made from aluminium. Charging socket or fixed charging cable.

Expansion possibility





Industry-Line

The Industry-Line product line is based on the enclosure system of Walther socket combinations for decentralised energy distribution that has proven its effectiveness over many years. The spacious plastic enclosure provides enough space for the necessary safety devices such as RCD (residual current device), miniature circuit breaker (MCB) as well as the charge controller for communication with the electric vehicle. These devices for DIN-rail mounting can be accessed from the outside, behind a flap, depending on the enclosure design.

The safety devices can also be integrated into the upstream installation as an alternative. This is done by specialist electrical companies in compliance with the manufacturer's specifications and relevant installation regulations.

The Industry-Line enables you to provide single-phase and/or three-phase charging in the power range from 3 kW to 22 kW, depending on configuration. Optionally, it is also possible to provide a Schuko socket for charging according to mode 2, or for charging pedelecs.

Depending on the version, either a type 2 charging socket or a fixed cable (straight or spiral) with the appropriate vehicle connector (type 1 or type 2) for the electric vehicle is provided, with the cable cross section according to the available max. charging power. In the E-BoxX with type 2 charging socket, the electric vehicle is connected using an additional mode 3 charging cable.

Knob switches, key-operated switches and LEDs for signalling are installed, depending on the variant, for operation and/or activation of the charging procedure. Optionally, the E-BoxX units have an integrated meter for reading off the "driven" electricity. Additional mechanical protection is available for the Industry-Line as an option, comprising roofs and side protection. All variants from the Walther range of free standing pillars can be used here.

Application/location of use: Carports, underground garages, multi-storey car parks, optionally in conjunction with local energy management.



Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98100108	183 x 370 x 152 Connection terminals 2 x 5 x 25 mm²	RCBO 16 A 2-pole type A	Type 1 3,7 kW	LED	RCD A IP-44 ABS		abc
98100109	183 x 370 x 152 Connection terminals 2 x 5 x 25 mm²	RCBO 16 A 2-pole type A extern	Type 1 3,7 kW	LED	RCD extern IP-44 ABS		abc
98100110	290 x 404 x 171 Connection terminals 2 x 5 x 25 mm²	RCD 40 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C	Type 2 11 kW	LED	RCD B IP-44 ABS		abc
98100111	183 x 370 x 152 Connection terminals 2 x 5 x 25 mm²	RCD 40 A 4-pole type B AC/DC sensitive extern MCB 16 A 3-pole+N, C	Type 2 11 kW	LED	RCD extern IP-44 ABS		abc

Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98100112	290 x 404 x 171 Connection terminals 2 x 5 x 25 mm²	RCD 40 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C	Type 2 11 kW	LED	RCD B IP-44 ABS		abc
98100113	290 x 404 x 171 Connection terminals 2 x 5 x 25 mm²	RCD 40 A 4-pole type B AC/DC sensitive MCB 32 A 3-pole+N, C	Type 2 22 kW	LED	RCD B IP-44 ABS		abc
98100114	290 x 404 x 171 Connection terminals 2 x 5 x 25 mm²	RCD 40 A 4-pole type B AC/DC sensitive extern MCB 32 A 3-pole+N, C RCBO 16 A 2-pole type A	Type 2 22 kW	LED	RCD extern IP-44 ABS		abc
98100115	290 x 404 x 171 Connection terminals 2 x 5 x 25 mm²	RCD 40 A 4-pole type B AC/DC sensitive MCB 32 A 3-pole+N, C RCBO 16 A 2-pole type A	Type 2 22 kW	LED	RCD B IP-44 ABS 6,9 kWh meter		abc

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.

Design-Line



Design-Line

The Design-Line product line has been specially conceived for charging at home in the garage. Particular emphasis has been placed on a design-oriented and elegant enclosure. The compact plastic enclosure provides space for the necessary safety devices such as RCD (residual current device), miniature circuit breaker (MCB) as well as the charge controller for communication with the electric vehicle.

The safety devices can also be integrated into the upstream installation as an alternative. This is done by specialist electrical companies in compliance with the manufacturer's specifications and relevant installation regulations.

The Design-Line enables you to provide single-phase and/or three-phase charging in the power range from 3 kW to 11 kW for commonly used electric vehicles.

Depending on the variant, either a type 2 charging socket is integrated or a fixed cable with the appropriate vehicle connector (type 1 or type 2) to the electric vehicle. This charging cable can be configured both as a spiral cable and a straight cable with the cable cross section according to the available max. charging power. The vehicle connector is accommodated at the right side of the enclosure by hooking in when not in use. In the E-BoxX with type 2 charging socket, the electric vehicle is connected using an additional mode 3 charging cable.

Depending on the variant, knob switches, key-operated switches as well as LEDs for signalling are installed, for operation and/or activation of the charging procedure.

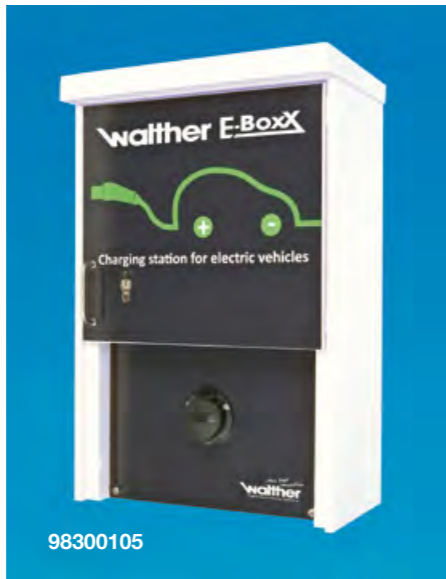
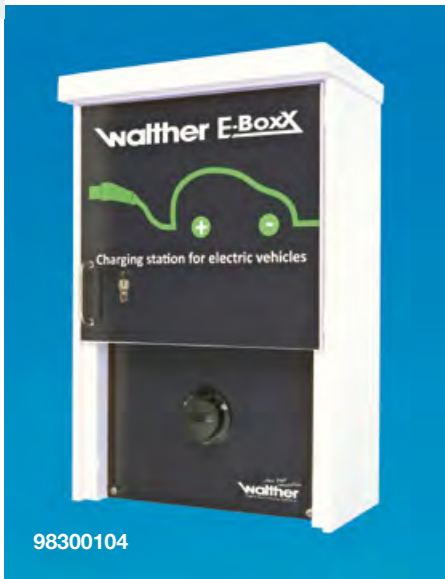
Application/location of use: Private garages, showrooms.



Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98100100	235 x 280 x 125 Connection terminals 3 x 4 mm ²	RCBO 16 A 2-pole- type A	Type 1 3,7 kW	LED	RCD A IP-44 ABS		abc
98100101	235 x 280 x 125 Connection terminals 3 x 4 mm ²	RCBO 16 A 2-pole type A	Type 1 3,7 kW	LED	RCD A IP-44 ABS		abc
98100102	235 x 280 x 125 Connection terminals 3 x 4 mm ²	RCBO 16 A 2-pole type A - extern	Type 1 3,7 kW	LED	RCD extern IP-44 ABS		abc
98100103	235 x 280 x 125 Connection terminals 3 x 4 mm ²	RCBO 16 A 2-pole type A	Type 2 3,7 kW	LED	RCD A IP-44 ABS		abc

Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98100104	235 x 280 x 125 Connection terminals 3 x 4 mm ²	RCBO 16 A 2-pole type A	Type 2 3,7 kW	LED	RCD A IP-44 ABS		abc
98100105	235 x 280 x 125 Connection terminals 5 x 4 mm ²	RCD 40 A 4-pole type B AC/DC sensitive extern MCB 16 A 3-pole+N, C - extern	Type 3 11 kW	LED	RCD extern IP-44 ABS		abc
98100106	235 x 280 x 125 Connection terminals 3 x 4 mm ²	RCBO 16 A 2-pole type A	Type 2 3,7 kW	LED	RCD A IP-44 ABS		abc
98100107	235 x 280 x 125 Connection terminals 5 x 4 mm ²	RCD 40 A 4-pole type B AC/DC sensitive extern MCB 16 A 3-pole+N, C - extern	Type 2 11 kW	LED	RCD extern IP-44 ABS		abc

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.



Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98300100	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCBO 16 A 2-pole type A	Type 1 3,7 kW	LED	RCBO A IP-44 Schuko		RAL 9010 RAL 9005 abc Thema
98300101	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCBO 16 A 2-pole type A	Type 1 3,7 kW	LED	RCBO A IP-44 Schuko		RAL 9010 RAL 9005 abc Thema
98300102	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCD 16 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C	Type 2 11 kW	LED	RCBO B IP-44 Schuko		RAL 9010 RAL 9005 abc Thema
98300103	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C	Type 2 11 kW	LED	RCBO B IP-44 Schuko		RAL 9010 RAL 9005 abc Thema

Robust-Line

The Robust-Line product line is based on the power distributor system that has proven its effectiveness over many years for decentralised energy distribution in the outside area. The spacious stainless steel enclosure is painted and offers optimum protection at the same time as good heat dissipation. It provides space for the necessary safety devices such as RCD (residual current device), miniature circuit breaker (MCB) as well as the charge controller for communication with the electric vehicle. These devices for DIN-rail mounting are mounted on DIN rails, and can be accessed from the outside by opening a lockable door.

The Robust-Line enables you to provide single-phase and/or three-phase charging in the power range from 3 kW to 22 kW, depending on configuration. Optionally, it is also possible to provide a Schuko socket for charging according to mode 2, or for charging pedelegs.

Depending on the variant, either a type 2 charging socket is integrated or a fixed cable with the appropriate vehicle connector (type 1 or type 2) to the electric vehicle. This charging cable can be configured both as a spiral cable and a straight cable with the cable cross section according to the available max. charging power. The vehicle connector is stored behind the door in the enclosure. In the E-BoxX with type 2 charging socket, the electric vehicle is connected using an additional mode 3 charging cable.

A knob switch with LED for signalling is installed for operation and/or activation of the charging procedure.

Application/location of use: Outside area on garages, carports.



Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98300104	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 32 A 3-pole+N, C	Type 2 22 kW	LED	RCBO B IP-44 Schuko		RAL 9010 RAL 9005 abc Thema
98300105	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 32 A 3-pole+N, C	Type 2 22 kW	LED	RCBO B IP-44 Schuko		RAL 9010 RAL 9005 abc Thema
98300106	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C RCBO 16 A 2-pole type A	Type 2 11 kW 3,7 kW	LED	RCBO B RCBO A IP-44 Schuko		RAL 9010 RAL 9005 abc Thema
98300107	435 x 653 x 250 Connection terminals 2 x 5 x 25 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 32 A 3-pole+N, C RCBO 16 A 2-pole type A	Type 2 22 kW 3,7 kW	LED	RCBO B RCBO A IP-44 Schuko		RAL 9010 RAL 9005 abc Thema

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.



5



Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98200100	230 x 600 x 125 Connection terminals 3 x 6 mm ²	RCBO 16 A 2-pole type A	Type 1 3,7 kW	LED	RCBO A IP-44 Afu		RAL 9010 RAL 9005 abc Thema
98200101	230 x 600 x 125 Connection terminals 3 x 6 mm ²	RCBO 16 A 2-pole type A	Type 1 3,7 kW	LED	RCBO A IP-44 Afu		RAL 9010 RAL 9005 abc Thema
98200102	230 x 600 x 125 Connection terminals 2 x 3 x 6 mm ²	RCBO 16 A 2-pole type A RCBO 16 A 2-pole type A	Type 1 Type 1 3,7 kW 3,7 kW	LED LED	RCBO A RCBO A IP-44 Afu		RAL 9010 RAL 9005 abc Thema
98200103	230 x 600 x 125 Connection terminals 5 x 6 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C	Type 2 11 kW	LED	RCBO B IP-44 Afu		RAL 9010 RAL 9005 abc Thema

Slim-Line

In the Slim-Line product line, particular emphasis was placed on achieving an extremely robust enclosure with a low construction height of only 125 mm. The compact aluminium enclosure provides space for the required safety devices such as RCD (residual current device), miniature circuit breaker (MCB) as well as the charge controller for communication with the electric vehicle. These devices for DIN-rail mounting are mounted on DIN rails and, depending on the enclosure configuration, can be accessed from the outside by opening a flap.

The Slim-Line enables you to provide single-phase and/or three-phase charging in the power range from 3 kW to 22 kW, depending on configuration. Optionally, it is also possible to provide a Schuko socket for charging according to mode 2, or for charging pedelecs.

Depending on the variant, either a type 2 charging socket is integrated or a fixed cable with the appropriate vehicle connector (type 1 or type 2) to the electric vehicle. This charging cable can be configured both as a spiral cable and a straight cable with the cable cross section according to the available max. charging power. In the E-BoxX with type 2 charging socket, the electric vehicle is connected using an additional mode 3 charging cable.

Depending on the variant, knob switches, key-operated switches as well as LEDs for signalling are installed, for operation and/or release of the charging procedure.

Application/location of use: Underground garages, multi-storey car parks, outside area, optionally in conjunction with local energy management.

5



Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98200104	230 x 600 x 125 Connection terminals 5 x 6 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C	Type 2 11 kW	LED	RCBO B IP-44 Afu		RAL 9010 RAL 9005 abc Thema
98200105	230 x 600 x 140 Connection terminals 5 x 10 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 32 A 3-pole+N, C	Type 2 22 kW	LED	RCBO B IP-44 Afu		RAL 9010 RAL 9005 abc Thema
98200106	230 x 600 x 140 Connection terminals 5 x 10 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 32 A 3-pole+N, C	Type 2 22 kW	LED	RCBO B IP-44 Afu		RAL 9010 RAL 9005 abc Thema
98200107	230 x 600 x 140 Connection terminals 5 x 6 mm ²	RCD 40 A 4-pole type B AC/DC sensitive MCB 16 A 3-pole+N, C RCBO 16 A 2-pole type A	Type 2 Schuko 11 kW 3,7 kW	LED LED	RCBO B RCBO A IP-44 Afu		RAL 9010 RAL 9005 abc Thema

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.

Special solutions

Trolley, suspension-type combination, solid rubber distributor



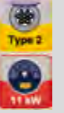


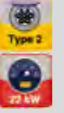


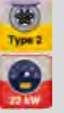


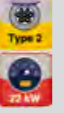



98400100



98400101



98400103

Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98400100	400 x 600 x 330	RCD 40 A 4-pole type A MCB 16 A 3-pole+N, C PE-monitoring	 11 kW				
98400101	400 x 600 x 330	RCD 40 A 4-pole type A MCB 32 A 3-pole+N, C PE-monitoring	 22 kW				
98400102	400 x 600 x 330	RCD 40 A 4-pole type A MCB 32 A 3-pole+N, C PE-monitoring	 22 kW				
98400103	400 x 600 x 330	RCD 40 A 4-pole type A MCB 32 A 3-pole+N, C PE-monitoring	 22 kW		 		

Trolley, suspension-type combination, solid rubber distributor

Innovative special solutions from the engineering team at Walther support car makers in the area of development and testing of new electric vehicles. Here, fast and flexible solutions are called for in order to provide a charging infrastructure under special environmental or general conditions. For example, this concerns charging the vehicles in locations where only CEE sockets are available for energy supply. Charging points for ceiling mounting are available for production and workshop areas without any suitable wall surfaces for installation.

E-BoxX in design as mobile supply unit

The mobile supply unit is a portable version of an Industry-Line E-BoxX, installed in a sturdy trolley case. Integrated supply cable equipped with CEE-connectors 16 A or 32 A, type 2 charging socket, 32 A, 3-phase and with a PWM rated value specification on up to 7 stages by the user. On the power system side, the PE is checked by an integrated protective earth monitoring module on connection using a test key, and monitored permanently during operation. Optionally, a meter can be installed in order to read off the „driven“ electricity.

E-BoxX in design as suspension-type box

The suspension-type combination based on the Industry-Line enclosure system is a particularly small and space-saving supply unit for ceiling mounting. Normally, it is suspended by chains or cables, and the energy supply comes from above. Optionally, it is possible to integrate a compressed air line with quick-release coupling as well as a PWM rated value specification via BCD switch. The electric vehicle is connected to the integrated type 2 charging socket using a charging cable.

E-BoxX in design as solid rubber distributor

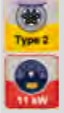








Rubber distributors can be divided into the categories of portable versions or wall-mounted versions, depending on their design. They have proven effective over many years under the toughest conditions on construction sites, at events, in welding stations, etc. A compact solid rubber enclosure with a 10 mm wall thickness contains the necessary components for charging an electric vehicle. A type 2 charging socket is available as the charging point.



98100116



98500100

Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
98100116	184 x 376 x 253	RCD 40 A 4-pole type A MCB 16 A 3-pole+N, C	 11 kW		  		
98500100	270 x 310 x 275	RCD 40 A 4-pole type A MCB 16 A 3-pole+N, C PE-monitoring	 11 kW		 		

The listed articles represent a current selection from the product line. In addition to this, there are many other variants of charging point – charging power – operation – technology and CI. Contact our specialists.

Pedelec cabinet with accessories



Charging possibility for e-Bikes / electric bicycles

Without doubt, the most interesting options are cabinets with lockable compartments in which the cyclist can charge his/her battery using a charger when the door is locked, and also provides space for secure storage of the helmet, gloves, glasses and backpack. A deposit key or ingenious electronics offer the necessary security – similarly to the situation in swimming pools or leisure parks.

The pedelec cabinet from Walther is available in an extremely wide range of variants. Depending on the number of compartments in the individual units (4 or 6 compartments), it is also possible to combine several cabinets with one another. Each cabinet includes a Schuko socket with a residual current device and circuit breaker. To provide a holistic energy concept, it is also possible to install solar panels and/or wind turbines on the pedelec cabinet.














































Combining simple bicycle racks with socket strips represents a low-cost alternative. This allows a charging facility to be provided for electric bicycles in a straightforward manner.

6



On request, pedelec cabinets from Walther can also be equipped with alternative energy sources such as small wind turbines or solar panels. In this case, the energy source is installed on the roof of the cabinet, and supplies the pedelec cabinet either directly or via an inverter. Projects of this kind have already been implemented successfully in customers' orders.

6

Art. no.	Enclosure W x H x D (mm)	Residual current devices and circuit breakers	Charging point and charging power	Identification and operation	Technology	Data communi- cation	Added-value services and CI design
M CD90 1201 40	1500 x 2250 x 500	RCBO 16 A 2-pole type A	      		  6 x		
M CD90 2200 40	1500 x 2250 x 500	RCBO 16 A 2-pole type A	      		  6 x		
M CD90 2290 40	1500 x 2250 x 500	RCBO 16 A 2-pole type A	       	 	  6 x		
M BEP0 1210 40	1500 x 2250 x 500	RCBO 16 A 2-pole type A	     		  4 x		



Marketing aspects of your charging infrastructure

Design foils: Formulate your own E-Mobility message



Individual, optical design of your charging station allows you to present not only logos and CI livery but also the highest quality subjects using design foils. This gives you the possibility of using your charging station as an active medium for your company's own E-Mobility message. Today, the majority of our customers are

already making active use of this possibility. Below, you can see excerpts from our internal selection process to define the design foils that are used.



Design foils:
Our Marketing department will be pleased to assist you in working out individual designs.



Make use of the double benefit!



Electric mobility attracts public attention. The focus on this topic in the media and amongst politicians means that people are being made more aware of electric mobility. Make use of this public interest to establish a double benefit on your charging stations.

For example, presentations (company profiles, upcoming events, etc.) can be shown on the screen, while an interactive menu system can provide product information (tariff systems, special offers, etc.) or even show a slideshow and short video films. All of this can support you in communicating your individual marketing message in the area of electric mobility. You can keep your content up to date at all times via a radio link, hard-wired transmission or SD card. Generate continuous footfall at your charging stations using innovative procedures such as mini-quizzes on the touchscreen, with the opportunity for customers to win prizes. As a result, the charging station is not just a charging point for electric cars, but also a real marketing instrument for your company.



Company or product presentation as a PowerPoint presentation or short image film.

Interactive display of products, offers or tariffs.

Operator's event calendar.

Sample E-Mobility quiz. Points scored can be redeemed when shopping.

Illuminated advertising in the top unit enables your customers to find the charging station even in the dark.

Product range of charging cables, charging connections and accessories


The IEC 62196 standard for charging connections and the IEC 61851 standard for charging infrastructure describe and define the individual components and configurations for charging electric vehicles. Walther offers all the products necessary for charging with alternating or three-phase current (AC charging). Charging powers from 3 kW to 44 kW can be provided in this case.

The energy flow is from the charging device (charging station or E-BoxX) through the corresponding charging cable to the electric vehicle. The charging device contains one or more charging points, each equipped with one charging socket. This provides the charging energy in the desired power range (16 A, 32 A or 63 A). The charging cable provides the electrical connection between the charging socket and the vehicle. When there are plug-in charging cables on the infrastructure side, the standard defines a charging plug (type 2) matching the charging socket and, on the vehicle side, a vehicle connector (type 1 or type 2) matching the vehicle inlet. The type of vehicle connector is selected according to the vehicle, as is the max. charging current and cable length.

The vehicle inlet is, it goes without saying, a component of the electric vehicle. Here, vehicles of the first generation use the so-called type 1 for single-phase charging whereas current vehicles use type 2 both for single-phase and for three-phase charging at higher power.

EV-Tester/Simulator
Following the installation of charging devices or in case of service, it is possible to check they are functioning correctly by simulating an electric vehicle. The devices are available as a variant for type 1, type 2 or as a combination device.

Charge controller CC 2
The charge controller controls a charging point and permits compact load control up to max. 70 A. The charge controller includes the cable detection (PP resistance coding), a PWM generator as well as activation of the charging contactor and the electromechanical interlock of the charging socket.



Your contact
in all questions relating to charging cables, charging connections and accessories

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Charging cables



Charging cables with full communication (mode 2 and 3), straight or spiral. Type 2 charging plug with type 1 or type 2 vehicle connector for single-phase and/or three-phase charging.

Expansion possibility

Type 1Type 2Type 2

3,7 kW11 kW32 kW

IP 44

Charging sockets and vehicle inlets



Charging sockets (type 2) for the charging infrastructure (charging station or E-BoxX units) and vehicle inlets (vehicle side) for using plug-in charging cables up to 63 A.

Expansion possibility

Type 2Type 2

3,7 kW11 kW32 kW44 kW

IP 44

Charging plug and vehicle connector



Charging plug (type 2) for connection to the charging infrastructure (charging station or E-BoxX units) for use on plug-in charging cables up to 63 A. Vehicle connector type 1 and type 2 for the vehicle side.

Expansion possibility

Type 1Type 2Type 2

3,7 kW11 kW32 kW44 kW

IP 44

Accessories



EV-Tester/Simulator for installation, function check and service on charging infrastructure. Charge controller for complete control of a charging point and communication with the electric vehicle.

Expansion possibility

Type 1Type 2

3,7 kW11 kW32 kW44 kW



Overview of electric cars and necessary charging cables

The electric vehicles that will be coming onto the market over the next few months, or are already available, still have different charging connections today. The international standard that specifies type 1 and type 2 was only approved in the middle of 2012. As a result, this standardisation will only feature in manufacturers' vehicles in the medium-term. Nevertheless, Walther offers you the corresponding solutions for the most common models, so that you will be able to charge your electric car as well. The following display shows you possible ways in which you can achieve a particular charging method with Walther products. As you would expect, there are many other possibilities. In this way, you can basically decide whether you would like the

cable fixed to your E-BoxX or E-Station, or whether the vehicle will be connected to the charging point using the charging cable. Also, the charging cable can be configured as straight or spiral. For more information and configuration options, please refer to the corresponding sections in this catalogue, or contact one of our sales employees directly. We will be happy to help you find the solution that is optimum for you.

Type 1 charging possibilities



Manufacturer	Market launch
Chevrolet Volt	2010
Citroën C-Zero	2010
Ford Focus EV	2012
Mitsubishi i-MiEV	2010
Nissan Leaf	2011
Opel Ampera	2011
Peugeot iOn	2010
Renault Fluence Z.E.	2011
Renault Kangoo Maxi Z.E.	2011
Renault Kangoo Z.E.	2011
Smart Fortwo ED	2012

Type 2 charging possibilities



Manufacturer	Market launch
BMW Megacity	2013/2014
eRUF Roadster	2011
Karabag 500E	2012
Mercedes E-Cell	2013
Mercedes Vito	2010





Charging cables

The charging cable provides the electrical connection between the charging socket and the electric vehicle and, with plug-in charging cables, contains a charging plug (type 2) on the infrastructure side matching the charging socket and, on the vehicle side, a vehicle connector (type 1 or type 2) matching the vehicle inlet.

The IEC 62196 (charging connection) and IEC 61851 (charging infrastructure) standards permit charging currents of 13, 16/20, 32 or 63 A. The appropriate charging cables are available depending on the vehicle, weight, handling etc. The designations mode 2 and mode 3 describe the type of charging, while the designations type 1 and type 2 refer to the connected charging plug or vehicle connector. The type of vehicle connector is selected according to the vehicle, also the max. charging current and cable length.

Charging cables with full communication (mode 3)

These charging cables guarantee safety according to the standard via the charging station or E-BoxX, with RCD (residual current device) and cable protection. They are used in all vehicles of the new generation and make it possible to charge at 13 A to 32 A. The charging cable can have different cable cross sections depending on the charging current.

Depending on the requirement and application, the charging cables can have a straight or spiral configuration. Special solutions are our strength.

Charging cable with in-cable control box (IC-CPD) for mode 2

For charging in domestic applications (generally on an existing Schuko socket), it is necessary to have a charging cable with a so-called in-cable control box (IC-CPD). This must replace an RCD (residual current device) if the electrical installation is “unknown”, as well as providing the necessary safety devices and communication with the vehicle. The international standardisation for this (IEC 62752-1 in conjunction with IEC 61851-3) has not been completed as at the end of 2012. Walther is working both on a version for a national connector type (single country) and on a multi-country version. Please contact us if you are interested in obtaining more information and would like to know the current status.



Mode 3, type 1 to type 2, straight cable



Mode 3, type 1 to type 2, spiral cable



Mode 3, type 2 to type 2, straight cable



Mode 3, type 2 to type 2, spiral cable



Mode 2, single-country



Mode 2, multi-country

Charging cables mode 3

Cable S05BQ-F as a straight version in orange

Art. no.	Rated current	Charging plug	Vehicle connector	Cable cross section	Cable length*
977 13 00 100	16 A 3-phase	Type 2, 7-pole	Type 2, 7-pole	5 x 2,5 + 0,5	5 m
977 13 00 101	16 A 1-phase	Type 2, 7-pole	Type 1, 5-pole	3 x 2,5 + 0,5	5 m
977 33 00 100	32 A 3-phase	Type 2, 7-pole	Type 2, 7-pole	5 x 6 + 0,5	5 m
977 33 00 101	32 A 1-phase	Type 2, 7-pole	Type 1, 5-pole	3 x 6 + 0,5	5 m

* Special lengths, special colours, with spiral or as connection cable on request.

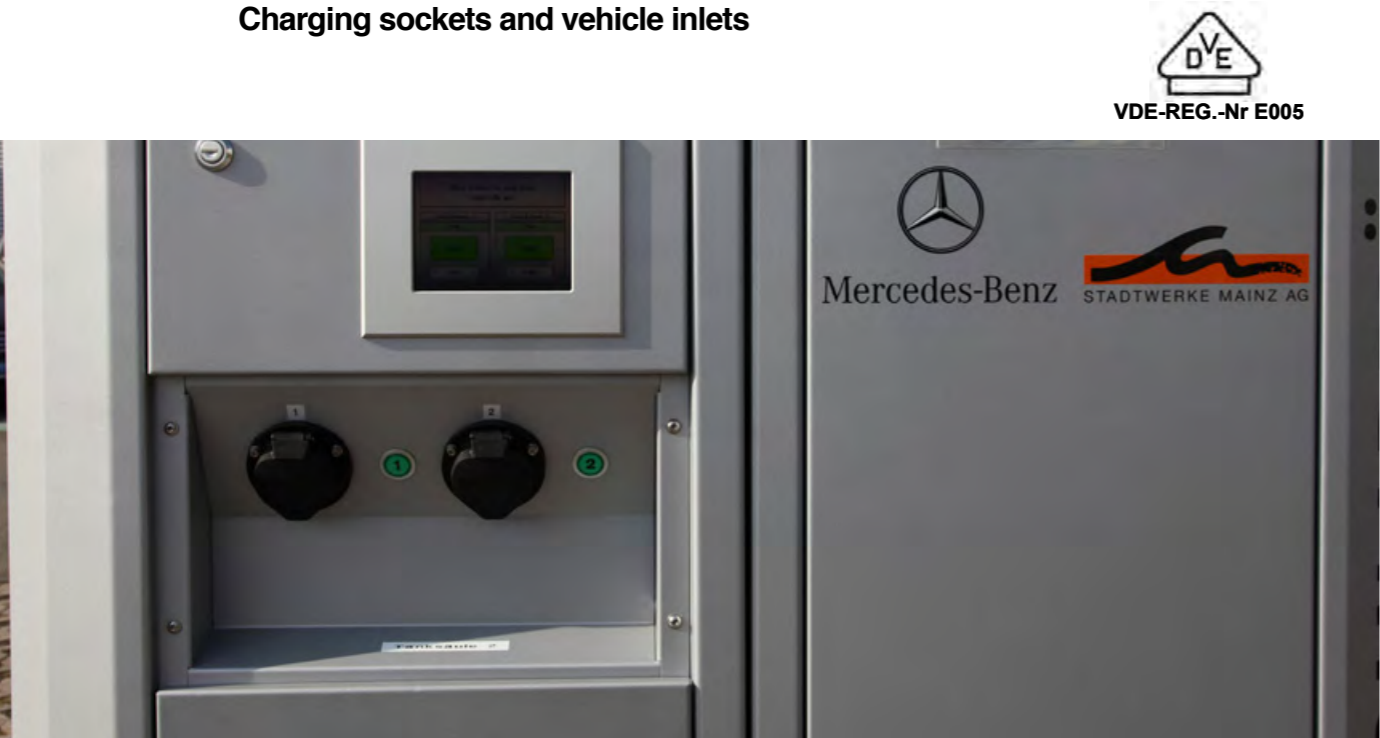
Charging cables mode 2

Cable S05BQ-F as a straight version in orange

Art. no.	Rated current	Mains plug	Vehicle connector	Cable cross section	Cable length*
On request	16 A 1-phase	Schuko plug	Type 2, 7-pole	3 x 2,5 + 0,5	5 m
On request	16 A 1-phase	Schuko plug	Type 1, 5-pole	3 x 2,5 + 0,5	5 m
On request	16 A 1-phase	Multi-country	Type 2, 7-pole	3 x 2,5 + 0,5	5 m
On request	16 A 1-phase	Multi-country	Type 1, 5-pole	3 x 2,5 + 0,5	5 m

* Special lengths, special colours, with spiral or as connection cable on request.

Charging sockets and vehicle inlets



Charging socket with cover, without interlock



Charging socket with cover and interlock



Charging socket without cover, without interlock

Charging sockets, straight

Screw terminal connection, IP 44 (in devices without lid, IP 44 only when connected)

Art. no.	Rated current	Lid	Electromagnetic interlock*	Conductor cross section		Weight (g)
				rigid	flexible	
741 00 00 00	16 A	no	yes	4 to 25 mm ²	2,5 to 16 mm ²	380
741 00 01 00	16 A	yes	yes			400
743 00 00 00	32 A	no	yes	4 to 25 mm ²	2,5 to 16 mm ²	380
743 00 01 00	32 A	yes	yes			400
746 00 00 00	63 A	no	yes	4 to 25 mm ²	2,5 to 16 mm ²	380
746 00 01 00	63 A	yes	yes			400

* All versions are also available without electromechanical interlock. Required connection cable 1 m, art. no. 790 00 00 01

Charging sockets

Charging sockets (type 2 acc. to IEC 62196-2) are components of the charging infrastructure (charging station or E-BoxX units) and make it possible to use plug-in charging cables. Charging sockets are equipped with female contacts and, according to the configuration, are defined for single-phase and three-phase charging of electric vehicles from 16 A to 63 A with the same contact arrangement. The stipulations of the standard require that charging sockets must have an interlocking mechanism that blocks the charging plug during the charging procedure to prevent it from being disconnected inadvertently.

Walther achieves this using an electromechanical interlock with an integrated microswitch for position feedback. In charging sockets without interlocking, this must be implemented by the user in order to comply with the standard.

Communication via both control contacts CP and PP with the electric vehicle means the charging socket is only locked once the charging cable has been connected at both ends. Also, the design of the system means that the energy is not switched on until this point, thus ensuring that there is never a danger of an electric shock or that the cable could be plugged in or disconnected under load. Charging sockets can be supplied with or without lids.

Vehicle inlets

The vehicle inlet for electric vehicles of the new generation (type 2 acc. to IEC 62196-2) is a component of the electric vehicle and makes it possible to use plug-in charging cables. Vehicle inlets are equipped with male contacts, and, according to the configuration, are defined for single-phase and three-phase charging of electric vehicles from 16 A to 63 A with the same contact arrangement.

The vehicle inlet is installed in the vehicle by the car maker. Depending on the installation location and situation, customer-specific adaptations can be implemented in the external holding and attachment area. The electrical connection is performed from the back, or else if required a prefabricated version is supplied. If required, an electromechanical interlock identical to that of the charging socket is available. Depending on the installation orientation intended, it is also possible for a drainage opening to be used. Seals can be used as an option, according to the standard. Optionally, a protective cap is available in order to achieve IP rating IP 44.



Vehicle inlet



Vehicle inlet with protective cap



Vehicle inlet with interlock

Vehicle inlets, straight

Screw terminal connection, IP 44 (in devices without lid, IP 44 only when connected)

Art. no.	Rated current	Protective cap*	Electromagnetic interlock	Conductor cross section		Weight (g)
				rigid	flexible	
761 00 00 00	16 A	Art. no. 790 00 00 02 as option	yes	4 to 25 mm ²	2,5 to 16 mm ²	430
761 00 02 00	16 A		no			300
763 00 00 00	32 A	Art. no. 790 00 00 02 as option	yes	4 to 25 mm ²	2,5 to 16 mm ²	430
763 00 02 00	32 A		no			300
766 00 00 00	63 A	Art. no. 790 00 00 02 as option	yes	4 to 25 mm ²	2,5 to 16 mm ²	430
766 00 02 00	63 A		no			300

* Push-on protective cap art. no. 790 00 00 02

Charging plug and vehicle connector



Charging plug type 2, crimp connection



Vehicle connector type 2, screw terminal connection



Charging plug type 2, screw terminal connection

Type 2 charging plugs

Art. no.	Rated current	Connection	Contact pattern arrangement	Terminal cross section	Cable ø in mm	Weight (g)
721 00 00 15	16 A	Screw terminal connection	Type 2, 7-pole	2,5 to 6 mm²	7,5 to 18	345
9721 02 00 00	16 A	Crimp connection	Type 2, 7-pole	2,5 to 6 mm²	7,5 to 18	345
723 00 00 15	32 A	Screw terminal connection	Type 2, 7-pole	2,5 to 6 mm²	7,5 to 18	345
9723 02 00 00	32 A	Crimp connection	Type 2, 7-pole	2,5 to 6 mm²	7,5 to 18	345

Charging plug

The charging plug (type 2 acc. to IEC 62196-2) is a component of a plug-in charging cable for operation on charging sockets of charging stations or E-BoxX units. Charging plugs are equipped with male contacts, and, according to the configuration, are defined for single-phase and three-phase charging of electric vehicles from 16 A to 63 A with the same contact arrangement. This means charging powers from 3 kW to 44 kW per hour can be achieved.

The charging plug and type 2 vehicle connector not only have the main current contacts (L1, L2, L3, N and PE) have two additional control contacts (CP and PP) for data transfer as well as cable detection and coding. The CP (control pilot) control line establishes the connection between the charging device and the charger in the electric vehicle. Coding is installed in the charging plug for cable detection. This is evaluated by the charging device and taken into account when specifying the charging current. Charging plugs are available both with screw terminal or crimp connections, as well as with special colours as an option.

Vehicle connector

The vehicle connector (type 2 acc. to IEC 62196-2) is a component of a plug-in charging cable for operation on the vehicle inlet of the electric vehicle. Vehicle connectors are equipped with female contacts and, according to the configuration, are defined for single-phase and three-phase charging of electric vehicles from 16 A to 63 A with the same contact arrangement. This means charging powers from 3 kW to 44 kW per hour can be achieved.

Vehicle connectors also provide the charging interface to the electric vehicle in charging stations and E-BoxX units with a fixed cable. Coding is installed in the vehicle connector for cable detection. This is evaluated by the electric vehicle and taken into account in the charging current.

The IEC 62196-2 standard also defines a type 1 vehicle connector for single-phase charging up to 32 A (Europe) for first-generation electric vehicles from Japan, the USA etc. The type 1 vehicle connector not only has the main current contacts (L, N and PE) but also two additional control contacts (CP and CS) for data transfer and interlocking. Walther also offers the corresponding solution.



Vehicle connector type 1, crimp connection



Vehicle connectors type 1 and type 2

Art. no.	Rated current	Connection	Contact arrangement	Terminal cross section	Cable ø in mm	Weight (g)
731 00 00 15	16 A	Screw terminal connection	Type 2, 7-pole	2,5 to 6 mm²	7,5 to 18	360
733 00 00 15	32 A	Screw terminal connection	Type 2, 7-pole	2,5 to 6 mm²	7,5 to 18	360
731 12 14 00	16 A	Crimp connection	Type 1, 5-pole	2,5 to 6 mm²	11	400
733 12 14 00	32 A	Crimp connection	Type 1, 5-pole	2,5 to 6 mm²	17,5	400
731 12 06 00	16 A	Crimp connection	Type 1, 5-pole	2,5 to 6 mm²	11	380
733 12 06 00	32 A	Crimp connection	Type 1, 5-pole	2,5 to 6 mm²	17,5	380



EV-Tester/Simulator

Once charging devices have been installed, and when servicing is required, it is possible to check they are functioning correctly by simulating an electric vehicle. This is particularly important if no suitable electric vehicle is available. Using built-in toggle switches, all devices can simulate the coding resistance in the charging plug of the charging cable (13 A, 16/20 A, 32 A or 63 A). The same applies to the specification of vehicle status B, C and D, and thus to switching the charging energy on and off. The test of the PE connection to the vehicle as well as a BNC output for CP measurement are also present in all devices. LEDs indicate the switching status of the charging contactor in the charging station or E-BoxX. Additional functions are included, depending on the configuration (hand-held device or service case): Test sockets or Schuko socket for load switching and FI measuring device, resistance measurement PP – PE for the cable coding and CP – PE for the interlocking as well as a residual current for FI tripping that can be generated by buttons.

- EV-Tester/Simulator for type 2 charging socket as hand-held device: LED indicators for L1, L2 and L3. Test sockets optional.
- EV-Tester/Simulator for type 2 charging socket as service case: LED indicators for L1, L2 and L3. Schuko socket for load switching (L1), Measurement of resistance PP – PE by built-in instrument, switchable residual current for RCD tripping.
- EV-Tester/Simulator for type 1 charging socket as service case: LED display for L1. Measurement of resistance CS – PE (latch) by built-in instrument, switchable residual current for RCD tripping. Schuko socket for load switching (L1) optional.
- EV-Tester/Simulator for type 1 and type 2 charging socket as service case: LED indicators for L1, L2 and L3. Measurement of resistance PP – PE and CS – PE (latch) via built-in instrument, switchable residual current for RCD tripping. Schuko socket for load switching (L1).



EV-Tester/Simulator and charge controller

Art. no.	Device	Connection infrastructure	Enclosure version	Load switching
780 00 15 01	EV-Tester/Simulator	Type 2, 7-pole	Hand-held device	no
780 00 15 02	EV-Tester/Simulator	Type 2, 7-pole	Hand-held device	Test sockets 4 mm
780 00 15 03	EV-Tester/Simulator	Type 2, 7-pole	Service case	Schuko socket
780 12 00 01	EV-Tester/Simulator	Type 1, 5-pole	Service case	no
780 12 10 24	EV-Tester/Simulator	Type 1, 5-pole and type 2, 7-pole	Service case	Schuko socket
780 00 00 01	Charge controller CC 2	Screw terminals	Device for DIN-rail mounting, 4 modules	Screw terminals

Charge controller CC 2

The charge controller controls a charging point and permits compact load control up to max. 70 A. The design as a device for DIN-rail mounting permits installation on a DIN rail with a width of 4 modules. The charge controller includes the cable detection (PP resistance coding), a PWM generator as well as activation of the charging contactor and the electromechanical interlock of the charging socket. With Walther, emergency unlatching on power failure is guaranteed, without external auxiliary energy. The PWM control can be adapted to the mains power using corresponding digital inputs (BCD) for applications and specifications via smart grid or decentralised control for energy distribution.

Basic knowledge in the area of electric mobility

A great deal has already been written about the fundamentals of electric mobility. Here, we present a short, sharp introduction to the main technical features.

Standardisation

Standards are essential prerequisites of properly functioning and future-oriented electric mobility, in order to ensure compatibility amongst systems and rapid dissemination across borders. The IEC 62196-1 and IEC 62196-2 standards describe charging plugs, charging sockets, vehicle connectors and vehicle inlets for charging on AC or DC voltage, while the IEC 62196-3 standard deals with combined plugs and sockets for AC and DC voltage. The IEC 61851-1 standard describes the electrical equipment of conductive (hard-wired) charging systems with connection configurations, basic communication, charging mode and safety devices. HD 60364-7-722 defines the installation provisions for low-voltage switchgear. Requirements on the enclosures can be found in IEC 61493-7, while requirements on the electric vehicle are given in ISO 17409. Walther has been involved in all these standardization committees right from day one.



Charging connections

The IEC 62196-2 standard describes the three different plug-and-socket systems: Type 1 (developed in Japan) for single-phase charging up to 32 A, type 2 (developed with input from Walther on the standardisation committee) for single-phase to three-phase charging up to 63 A and type 3 (developed in Italy) with different geometries up to 63 A. Walther offers products and charging options for all current electric vehicles equipped with type 1 and type 2 as charging connection.



Vehicle connector Type 1



Charging plug Type 2

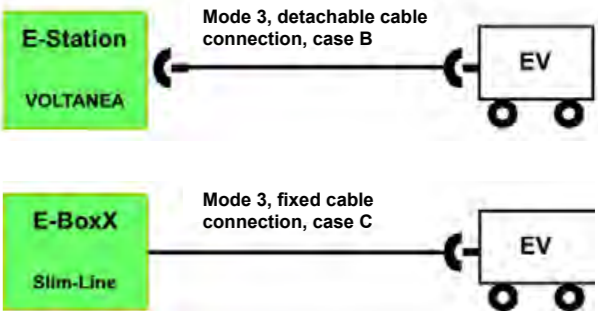


Charging plug Type 3

Charging connector	AC	230 V 1-phase	400 V 3-phase
Type 1	16 A 32 A	3,7 kW 7,4 kW	- -
Type 2	13 A 16 A 32 A 63 A	3,0 kW 3,7 kW 7,4 kW -	9,0 kW 11,0 kW 22,0 kW 43,5 kW
Type 3	up to 63 A	up to 3,7 kW	up to 43,5 kW

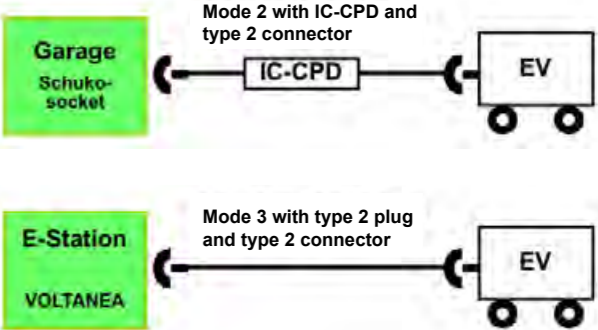
Charging types

Safety is top priority when it comes to charging types and charging modes. Of course, this applies to AC charging and DC charging. For AC charging on alternating current (single-phase and three-phase), Walther offers what is probably the widest range of products for the charging infrastructure – from medium voltage through to the vehicle equipment connector – all included in this catalogue. Products for DC are in the pipeline. When it comes to the connection types, the dominant options are case B as a double-ended plug-in charging cable and case C as a charging cable fixed to the charging station or E-BoxX.



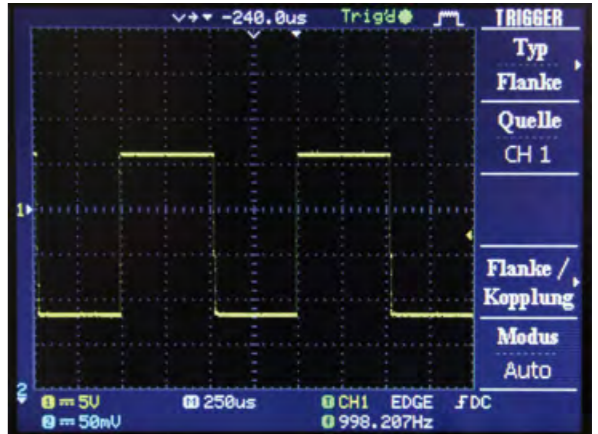
Charging modes

Charging acc. to mode 2 describes charging from the domestic or CEE socket, which means the existing installation is used. In mode 3, charging takes place on a new charging infrastructure that is to be set up, with communication to the electric vehicle. This concerns the charging station (E-Station), wallbox (E-BoxX) as well as the associated charging cable. Walther does not offer products for charging acc. to mode 1, because it is not possible to assume that older installations will have RCDs (residual current devices).



Basic communication

The IEC 61851-1 standard describes basic communication for mode 2 and mode 3 between the charging device and electric vehicle. The max. available charging current is specified for the electric vehicle via the CP control contact using a PWM signal (PWM = pulse width modulation). The vehicle uses the same signal to control the activation and deactivation of the charging voltage according to the battery status. At Walther, the PWM signal from the charge controller is generated with the corresponding monitoring functions.



PWM signal 32 A

Training courses

Electric mobility is an exceedingly dynamic topic. Standardisation efforts at national and international level bring new insights and developments with them almost on a weekly basis. Any player wishing to present itself as a competent contender needs to have an extensive and up-to-date store of knowledge.

To ensure that the training courses address the individual information requirement as far as possible, we offer various training modules at Walther so that you can devote your valuable time to the “right” seminar.

Would you basically like to find out about the current status of electric mobility because your company has identified market opportunities in this new sphere of business? Or are you in the electrical wholesale trade and would you like your employees to be trained to handle consulting and sales? In order to respond to all the questions posed by specific customers and standards, it is important to build up a deep knowledge if you are going to be successful in this highly technical application area. The last training module is aimed at electricians. In addition to providing an introduction to the basics of the topic, this course focuses on communicating the technical product capabilities that are necessary for installation, maintenance and troubleshooting. It goes without saying that you should also experience electric mobility. A drive in our electric car should “electrify” you for this new market.

The training courses are all held in our headquarters at Eisenberg (Rhineland Palatinate). The fee for attending a seminar is € 250 per person which includes beverages, a midday snack and seminar documents. The dates of the training courses are set every quarter based on demand.

Please contact +49 6351 4750 to enquire about the current schedule.



Expertise through knowledge

General principles of electric mobility

1



Contents:

- Principles and standardisation
- Charging connections
- Charging cables
- Charging stations
- Home charging stations
- EV-Tester/Simulator
- Communication and interface
- Electric vehicle
- Installations with scope for future expansion

Important information for consulting and sale in the electrical wholesale trade

2



Contents:

- Principles of electric mobility
- Market observation and opportunities for the electrical trade
- Charging infrastructure for sales channel of the electrical wholesale trade
- Product selection and properties
- Guidelines for the consultation conversation acc. to user groups
- Marketing support and marketing tools

Installation, maintenance and troubleshooting

3



Contents:

- Charging stations
- Home charging stations
- Installation prerequisites
- Parameter setting and start-up
- Charging infrastructure
- Tools for testing, simulation and fault diagnosis
- Communication and data exchange with external systems

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Walther E-Mobility icons: Equipment features at a glance

Charging point

Type 1	Type 2	Type 2	Type 2	Type 2	Type 3	Schuko	CEE	
Vehicle connector type 1 (vehicle side), fixed	Charging plug type 2 (infrastructure side), fixed	Vehicle connector type 2 (vehicle side), fixed	Charging socket type 2 (infrastructure side) for installation in charging devices	Charging socket type 3 (infrastructure side) for installation in charging devices	Schuko socket (infrastructure side) for installation in charging devices	CEE socket (infrastructure side) for installation in charging devices		Spiral charging cable or fixed connection to the charging device

Charging power

3,7 kW	7 kW	11 kW	22 kW	44 kW
Charging device or charging cable for max. 3.7 kW (16 A)	Charging device or charging cable for max. 7 kW (32 A)	Charging device or charging cable for max. 11 kW (16 A)	Charging device or charging cable for max. 22 kW (32 A)	Charging device or charging cable for max. 44 kW (63 A)

Data communication

	OCPP	TCP/IP
Communication with the charging device via mobile phone	Communication with the charging device via OCPP protocol	Communication with the charging device via TCP/IP

Identification and operation

	RFID	eRFID	Display		LPIN	LTAN	eTAN
Payment for the charging power by coins or tokens	RFID identification and release according to the local list	RFID identification and release by provider	Operating indicator and communication via line display	Operating indicator and communication via touchscreen monitor	PIN is verified with the internal local list	TAN is generated by the charging device locally	TAN is verified by the external provider

Technology

		LED	DJB	RCD A	RCD B	external RCD
Identification and release using key-operated switch	Identification and release using knob switch	Signalling and operating indicator via light-emitting diodes (LEDs)	Domestic junction box (DJB) at the supply point	RCD (residual current device) type A	RCD (residual current device) type B	RCD (residual current device) in upstream installation


IP 44	ABS	Stainless Steel	Alu	6.9 kWh int. meter	6.9 kWh meter	6.9 kWh -> data
IP rating IP 44	Enclosure of the charging device made from plastic	Enclosure of the charging device made from stainless steel	Enclosure of the charging device made from aluminium	Internal energy meter (single-phase or three-phase) for consumption measurement and reading	Visible energy meter (single-phase or three-phase) for consumption measurement and reading	Energy meter (single-phase or three-phase) for consumption measurement and data recording

Added-value services and CI livery

abc media	E-BoxX E-Station		RAL 9010	RAL 9005/9006	Customer	RAL bicolor
Foil application on the enclosure as promotional surface	Top unit with illumination as promotional surface.	Publicity information (slide show) on touchscreen monitor	Enclosure painted in standard colour RAL 9010 (pure white)	Enclosure painted in RAL 9005 (jet black) and RAL 9006 (white aluminium)	Enclosure painted in one colour at the customer's request (RAL table)	Enclosure painted in one colour at the customer's request (RAL table)


Walther E-Mobility icons: Equipment features at a glance

Charging point




Type 1

Vehicle connector type 1 (vehicle side), fixed




Type 2

Charging plug type 2 (infrastructure side), fixed




Type 2

Vehicle connector type 2 (vehicle side), fixed




Type 2

Charging socket type 2 (infrastructure side) for installation in charging devices




Type 3

Charging socket type 3 (infrastructure side) for installation in charging devices




Schuko

Schuko socket (infrastructure side) for installation in charging devices



CEE

CEE socket (infrastructure side) for installation in charging devices



Spiral charging cable or fixed connection to the charging device

Charging power



3,7 kW

Charging device or charging cable for max. 3.7 kW (16 A)



7 kW

Charging device or charging cable for max. 7 kW (32 A)



11 kW

Charging device or charging cable for max. 11 kW (16 A)



22 kW

Charging device or charging cable for max. 22 kW (32 A)



44 kW

Charging device or charging cable for max. 44 kW (63 A)



Communication with the charging device via mobile phone




Communication with the charging device via OCPP protocol




Communication with the charging device via TCP/IP

Data communication


Identification and operation




Payment for the charging power by coins or tokens




RFID identification and release according to the local list




RFID identification and release by provider




Operating indicator and communication via line display




Operating indicator and communication via touchscreen monitor



PIN is verified with the internal local list



TAN is generated by the charging device locally



TAN is verified by the external provider

Technology



Identification and release using key-operated switch



Identification and release using knob switch



Signalling and operating indicator via light-emitting diodes (LEDs)



Domestic junction box (DJB) at the supply point



RCD (residual current device) type A



RCD (residual current device) type B



RCD (residual current device) in upstream installation



IP rating IP 44



Enclosure of the charging device made from plastic



Enclosure of the charging device made from stainless steel



Enclosure of the charging device made from aluminium



Internal energy meter (single-phase or three-phase) for consumption measurement and reading




Visible energy meter (single-phase or three-phase) for consumption measurement and reading




Energy meter (single-phase or three-phase) for consumption measurement and data recording


Added-value services and CI livery




Foil application on the enclosure as promotional surface




Top unit with illumination as promotional surface.




Publicity information (slide show) on touchscreen monitor




Enclosure painted in standard colour RAL 9010 (pure white)



Enclosure painted in RAL 9005 (jet black) and RAL 9006 (white aluminium)



Enclosure painted in one colour at the customer's request (RAL table)



Enclosure painted in one colour at the customer's request (RAL table)



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mail@walther-werke.de

<ul style="list-style-type: none"> Screw terminal inserts, crimp contact carriers, contacts A 3 connector with insulation displacement technique; 3 pole + PE up to 32 poles + PE, rated current 16 A max.; 10 A with 40° C ambient temperature, rated voltage 250 a. 400 V NEW: 5 pole compact insert for housings of series A3 / A4 	
<ul style="list-style-type: none"> Screw terminal and crimp contact carriers, contacts, insulation displacement inserts, wiring adapters 6 pole + PE up to 48 pole + PE, rated current 16 A max., 16 A with 40° C ambient temperature, rated voltage 500 V; series BB: 10 poles + PE up to 92 poles + PE 	
<ul style="list-style-type: none"> Screw terminal inserts 6 poles + PE and 12 poles + PE, rated current 35 A, rated voltage 690 V 	
<ul style="list-style-type: none"> Crimp contact carriers, contacts, wiring adapters 7 pole + PE up to 128 poles + PE, LWL, rated current 10 A max., rated voltage 42 V and 250 V, high contact density, modified contact arrangements 	
<ul style="list-style-type: none"> Crimp contact carriers, contacts 24 poles + PE up to 216 poles + PE, LWL, rated current 10 A max., rated voltage 250 V, very high contact density, modified contact arrangements 	
<ul style="list-style-type: none"> Retaining frames, crimp contact carriers, contacts, tools, blind modules Frames with PE terminal, lock-in contact modules 3 to 280 poles, coax, optical waveguide, rated current 5 A - 50 A, rated voltage 63 V - 1000 V, tools, NEW: RJ45 and pneumatic modules 	
<ul style="list-style-type: none"> Housings for inserts of series A 3, A 4, A 5, D 7 and D 8 Wall mount housings, panel housings, coupler hoods and hoods made of plastic + aluminium, protective plastic caps 	
<ul style="list-style-type: none"> Housings for inserts of series A 10 and D 15 Wall mount housings, panel housings, coupler hoods and hoods made of aluminium, snap-on mounting adapters, protective plastic caps, adapter plates for contact inserts, cover plates for switch cabinets 	
<ul style="list-style-type: none"> Housings for inserts of series A 16 and D 25 Wall mount housings, panel housings, coupler hoods and hoods made of aluminium, snap-on mounting adapters, protective plastic caps, adapter plates for contact inserts, cover plates for switch cabinets 	
<ul style="list-style-type: none"> Housings for inserts of series A 32 and D 50 Wall mount housings, panel housings and hoods made of aluminium, Protective caps made of aluminium 	
<ul style="list-style-type: none"> Housings for inserts of series B 6, BB 10, DD 24 and MOB 6 Wall mount & panel housings, coupler hoods & hoods, housings with central locking system, snap-on mounting adapters, protective caps made of plastic or aluminium, adapter plates for contact inserts, cover plates for switch cabinets 	
<ul style="list-style-type: none"> Housings for inserts of series B 10, BB 18, DD 42 and MOB 10 Wall mount & panel housings, coupler hoods & hoods, housings with central locking system, snap-on mounting adapters, protective caps made of plastic or aluminium, adapter plates for contact inserts, cover plates for switch cabinets 	
<ul style="list-style-type: none"> Housings for inserts of series B 16, BB 32, BA 6, D 40, DD 72 and MOB 16 Wall mount & panel housings, coupler hoods & hoods, housings with central locking system, snap-on mounting adapters, protective caps made of plastic or aluminium, adapter plates for contact inserts, cover plates for switch cabinets 	
<ul style="list-style-type: none"> Housings for inserts of series B 24, BB 46, D 64, DD 108 and MOB 24 Wall mount & panel housings, coupler hoods & hoods, housings with central locking system, snap-on mounting adapters, protective caps made of plastic or aluminium, adapter plates for contact inserts, cover plates for switch cabinets 	
<ul style="list-style-type: none"> Housings for inserts of series B 32, BB 64, BA 12, D 80, DD 144 and 2 x MOB 16 Wall mount housings and panel housings, coupler hoods and hoods, housings with spring cover, protective caps 	
<ul style="list-style-type: none"> Housings for inserts of series B 48, BB 92, BV 20, BV 26, BV 32, D 128, DD 216, 2 x MOB 24 Wall mount housings, panel housings and hoods 	
<ul style="list-style-type: none"> Screw-mountable hoods for inserts of series B, BB, BA, BHT, D, DD and MOB Screw-mountable hoods, hoods with bayonet lock, flange set, protective caps for screw-mountable hoods 	
<ul style="list-style-type: none"> Series BHT Contact inserts 6 poles + PE up to 24 poles + PE, rated current 16 A max., 16 A with 200° C ambient temperature, incl. contact heating, rated voltage 400 V 	
<ul style="list-style-type: none"> Series BV Contact inserts 3 pole + PE up to 32 pole + PE, rated current 16 A max., rated voltage 660 V, electrical interlocking by shortened switch contact pins, mechanical coding for insertion/assembly 	
<ul style="list-style-type: none"> Special versions: Suggestions for your individual application Accessories: cable glands, (NPT)adapters, labels, coding accessories, accessories for POF conductors, thermo crimp contacts, connection with POF cable, crimping tools, tools, wire-through housings, EMC protection, protective caps 	
<ul style="list-style-type: none"> Sockets, 16 and 32 A Plugs, 16 and 32 A Appliance plugs, 16 and 32 A Couplers, 16 und 32 A Panel sockets, 16 and 32 A Contacts for control section Tools and coding parts Accessories for POF conductors CEPro cables 	
<ul style="list-style-type: none"> Information • PROCON system • Regulations and approvals • Advantages • Application areas • Housings • Locking systems • Termination methods • Index • Part numbers • Certificate of conformity • General conditions 	

Inserts

Housings

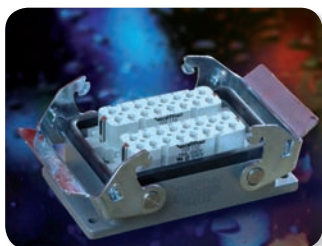
Series A Inserts 3 to 32 poles			1
Series B Inserts/contacts 6/10/16/24/32/48 p.	Series BB Inserts/contacts 10/18/32/46/64/92 p.		2
Series BA Inserts and contacts 6 and 12 poles			3
Series D Inserts and contacts 7, 8, 15, 25, 40, 50, 64, 80, 128 poles			4
Series DD Inserts and contacts 24, 42, 72, 108, 144, 216 poles			5
Series MO Frames, contact carriers, contacts, tools, RJ, pneumatic & blind modules			6
Housings for inserts of series A 3, A 4, A 5, D 7, D 8			7
Housings for inserts of series A 10, D 15			8
Housings for inserts of series A 16, D 25			9
Housings for inserts of series A 32, D 50			10
Housings for inserts of series B 6, BB 10, DD 24, MOB 6			11
Housings for inserts of series B 10, BB 18, DD 42, MOB 10			12
Housings for inserts of series B 16, BB 32, BA 6, D 40, DD 72, MOB 16			13
Housings for inserts of series B 24, BB 46, D 64, DD 108, MOB 24			14
Housings for inserts of series B 32, BB 64, BA 12, D 80, DD 144, 2 x MOB 16			15
Housings for inserts of series B 48, BB 92, BV 20, BV 26, BV 32, D 128, DD 216, 2 x MOB 24			16
Screw-mountable hoods / hoods with bayonet lock, for inserts of series B, BB, BA, BHT, D, DD, MOB			17
Series BHT Inserts and housings 6, 10, 16, 24 poles			18
Series BV (short overview) Inserts and housings 3, 6, 10, 16, 20, 26, 32 poles			19
Special versions, Accessories			20
CEPro Plugs and sockets Power and control in one unit			21
Information			22

Series A 3 - A 32



Housings of series A 3 to A 16 are provided with a **single locking lever**.

Housings of series A 32 have **two locking levers**.



Series A 3 housings are available either in **plastic or zinc die-casting** - according to your requirements.



Series A 3 connectors are available **both with screw and IDC terminals**.

Series A 4 connectors, however, are **only available with screw terminals**.

Series A 5 is equipped with **crimp contacts** of series B for 16 A. The use of a coding pin prevents incorrect mating of connectors.



This applies also for the series **A 10, A 16 and A 32**, which are **additionally available with screw contact carriers**.

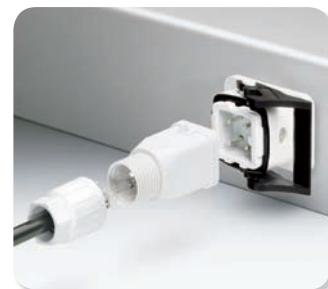
Screw terminal inserts are equipped with a wire protection. This **wire protection** saves the time-consuming crimping of wire-end ferrules.



Of course, all **WALTHER** contacts are provided with **open, captive screws**.

The **convenience of IDC connection** is now also available with a classic square connector – a 4-pole (3+PE) industrial plug connector of series A.

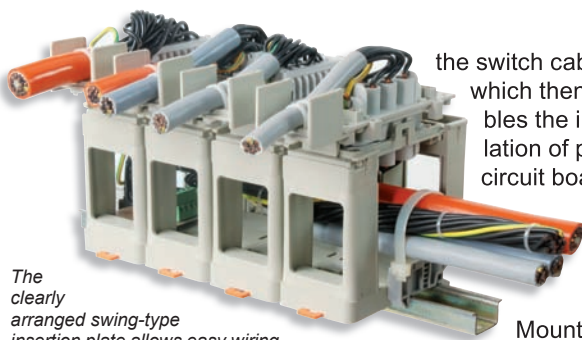
Male and female versions are available in hoods and coupler hoods made of plastic.



Thanks to **insulation displacement connection**, it now only takes a few seconds to connect the 4-pole round conductor: Only the sleeve nut has to be slid over the conductor – since splicing ring, seal and strain relief are included in the sleeve nut.

Snap-on mounting adapters

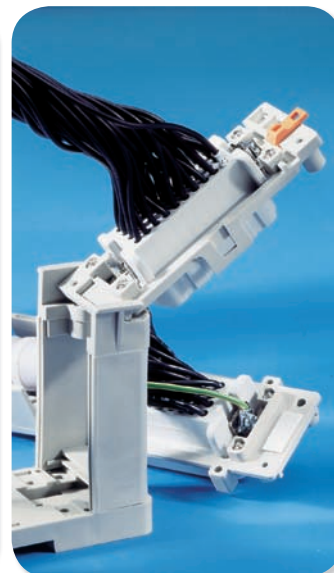
are ideal for mounting into switch cabinets.



When installing several mounting plates side-by-side, an additional cable duct can be built up inside

the switch cabinet, which then enables the installation of printed circuit boards.

Mounting is made by snapping connectors onto DIN-rails in transverse direction.



Series A

Specifications

Regulations: DIN VDE 0627, DIN VDE 0110, DIN EN 61 984

Approvals: UR, CSA, MEIE, EZÚ

Number of poles: 3, 4, 5, 10, 16, 32 (2 x 16) + PE

Electrical Data acc. to DIN EN 61 984:

Series A3/A4	10 A	230 / 400 V	4 kV	3
Rated current				
Rated voltage conductor - earth				
Rated voltage conductor - conductor				
Rated surge				
Pollution degree				
or	10 A	250 V	4 kV	3

Series A5	16 A	230 / 400 V	4 kV	3
Rated current				
Rated voltage conductor - earth				
Rated voltage conductor - conductor				
Rated surge				
Pollution degree				
- Pollution degree 2 also	16 A	320/500 V	4 kV	2

Series A 10 / A 16	16 A	250 V	4 kV	3
Rated current				
Rated voltage				
Rated surge				
Pollution degree				
Pollution degree 2 also	16 A	230 / 400 V	4 kV	2

Rated voltage acc. to UL/CSA: 600 V
(Table with rated surges see chapter "Information")

Material: Glass-fibre reinforced polyamide
Temperature range: - 40 °C up to + 125 °C
Flame class rating acc. to UL 94: V 0
Mechanical operating life: ≥ 500 mating cycles

Contacts

Material: copper alloy
Surface: • hard silver plated: 3 µm Ag
• hard gold plated: 2 µm Au over 3 µm Ni

Contact resistance: ≤ 1 m Ω

Series A 10 / A 16:

Crimp type terminal mm² (AWG): 0.14 - 4.0 mm² (26-12 AWG)
Screw type terminal mm² (AWG): 0.5 - 2.5 mm² (14 AWG)

Series A 3 / A 4:

only screw type mm² (AWG): 0.5 - 1.5 mm² (16 AWG)
Torque/testing torque:
A 3 and A 4: 0.25 Nm
A 10 and A 16: 0.5 Nm

Series A 5:

only crimp terminal mm² (AWG): 0.14 - 2.5 mm² (26-14 AWG)

Wire stripping length:

Series A 3 and A 4: 5 mm
Series A 5, A 10 and A 16: 7 mm with screw and crimping contacts

Application hint:

Industrial connectors are electrical devices which must not be connected or disconnected under load!

Page

A 3-pole + ⊕

Inserts 14

- Short overview see page 90 -
- Matching housings see page 91 - 92 -



A 4-pole + ⊕

Inserts 15

- Short overview see page 90 -
- Matching housings see page 91 - 92 -



A 5-pole + ⊕

Inserts 15

- Short overview see page 90 -
- Matching housings see page 91 - 92 -



A 10-pole + ⊕

Inserts 16

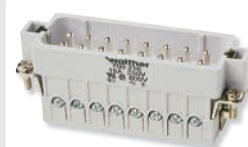
- Short overview see page 94 -
- Matching housings see page 95 - 96 -



A 16-pole + ⊕

Inserts 17

- Short overview see page 98 -
- Matching housings see page 99 - 100 -



A 32-pole + ⊕

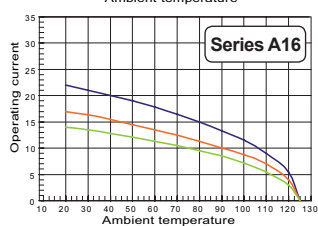
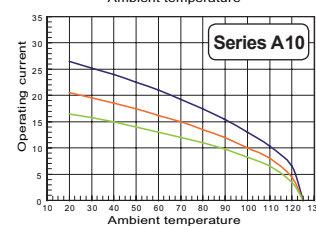
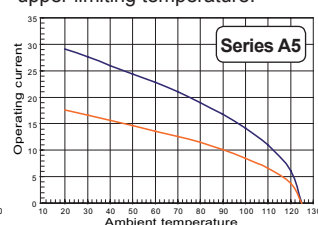
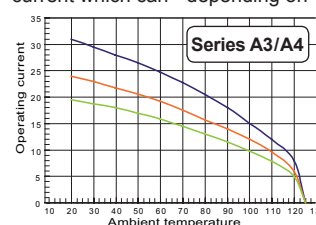
Inserts 18

- Short overview see page 102 -
- Matching housings see page 103 - 105 -



The derating diagram (corrected current capacity curve) acc. to DIN IEC 60 512 applies to such current which can - depending on

ambient temperature and conductor size - circulate through each contact without exceeding the upper limiting temperature.



— 2.5 mm² — 1.5 mm² — 1.0 mm²

Description	Part no.	Series A 3 P + ⊕ 10 A / 230/400 V UL/CSA: 600 V	
Screw terminal inserts		 	10 14
Female insert Screw terminal without wire protection 0.5-1.5 mm ² (20-16 AWG)	700 103		
Male insert Screw terminal without wire protection 0.5-1.5 mm ² (20-16 AWG)	700 203		10 14
Contact arrangement		View from termination side <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Female insert </div> <div style="text-align: center;"> Male insert </div> </div>	
Connectors with insulation displacement connection (IDC)		 	10 25 10 25 10 28 10 28
Hood with female insert Height 66 mm for single locking system	700 724		
Hood with male insert Height 66 mm for single locking system	700 725		
Coupler hood with female insert Height 63 mm with single locking system	700 726		
Coupler hood with male insert Height 63 mm with single locking system	700 727		

Specifications of connectors with insulation displacement connection:

General:

Key width of sleeve nut	19 mm
Torque of sleeve nut	3 Nm
Mating cycles	≤ 500

Cable specifications for IDC connection:

Conductor cross section area:	0.75 - 1.5 mm ² / 18 -16 AWG
Stranded cable / smallest wire diameter:	VDE 0295 class 2 up to 5/0.2 mm
Core insulating material:	PVC/PE
External cable diameter:	6 - 12 mm
Wire diameter (incl. insulation)	≤ 3





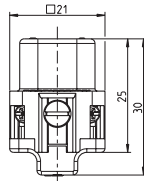
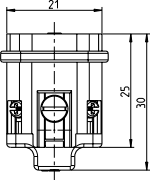


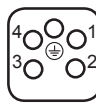

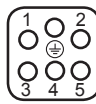
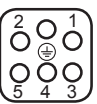




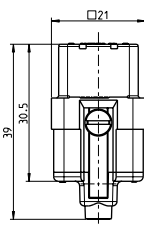
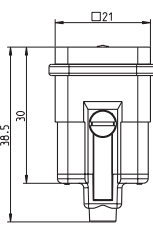




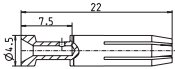

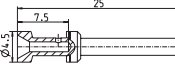


Mechanical specifications:

Frequency of connection of cables with equal diameter: 10





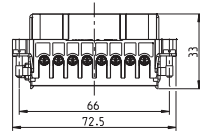
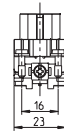

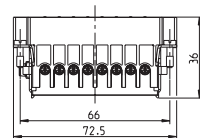
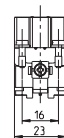

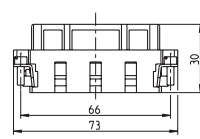
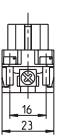

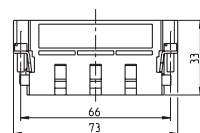
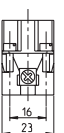
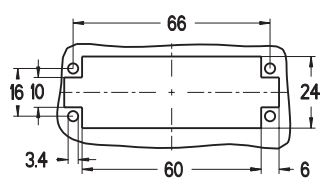
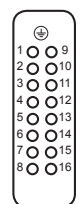
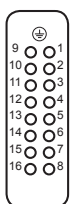
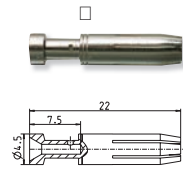


Material:

Contact material / contact surface: Copper alloy/nickel base coat, silver-plated
Insulating material/flammability acc. to UL 94: PA / V0

Approvals: UL/CSA

Description	Part no.	Series A 4 P + \oplus 10 A / 230/400 V UL/CSA: 600 V	 
Screw terminal inserts		   	 
Female insert Screw terminal without wire protection 0.5-1.5 mm ² (20-16 AWG)	700 104		10 17
Male insert Screw terminal without wire protection 0.5-1.5 mm ² (20-16 AWG)	700 204		10 18
Contact arrangement		Series A 4 Series A 5 Female insert Male insert Female insert Male insert     - View from termination side -	
Description	Part no.	Series A 5 P + \oplus 16 A / 400 V UL/CSA: 600 V	 
Crimp contact carrier		   	 
Contact carrier for sleeve contacts	700 105		10 18
Contact carrier for pin contacts	700 205		10 14
Coding pin	700 734	 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.	10 1
Contacts for crimp contact carriers		Number of grooves = n   Terminal cross section indicated by grooves  	 
Sleeve contacts for series A 5 crimp-type, solid, turned, weight per 100	silver-plated 710 508 710 504 710 509 710 500 710 501 710 502	gold-plated 710 916 710 842 710 917 710 843 710 844 710 845	100 162 160 148 148 150 154
Pin contacts for series A 5 crimp-type, solid, turned, weight per 100	silver-plated 710 518 710 514 710 519 710 510 710 511 710 512	gold-plated 710 918 710 847 710 919 710 848 710 849 710 850	100 125 124 128 128 132 132

Description		Part no.	Series A 10 P +		 9
Screw terminal inserts					
Female insert Screw terminal with wire protection 700 110 0.5-2.5 mm² (20-14 AWG)			 		10 46
Male insert Screw terminal with wire protection 700 210 0.5-2.5 mm² (20-14 AWG)			 		10 47
Crimp contact carrier					
Contact carrier for sleeve contacts 700 310			 		10 26
Contact carrier for pin contacts 700 410			 		10 27
Contact arrangement			Panel cut-out View from termination side Female insert Male insert 		
Contacts for crimp contact carriers			Number of grooves = n Terminal cross section indicated by grooves n 0 0.14-0.37 mm² 26-22 AWG 0 0.5 mm² 20 AWG 1 0.75 mm² 18 AWG 1 1 mm² 18 AWG 2 1.5 mm² 16 AWG 3 2.5 mm² 14 AWG 0 4.0 mm² 12 AWG		100 162 160 148 148 150 154 165
Sleeve contacts for series A 10 silver-plated gold-plated 710 508 710 916 710 504 710 842 710 509 710 917 crimp-type, 710 500 710 843 solid, turned, 710 501 710 844 weight per 100 710 502 710 845 710 503 710 846			Pin contacts for series A 10 silver-plated gold-plated 710 518 710 918 710 514 710 847 710 519 710 919 crimp-type, 710 510 710 848 solid, turned, 710 511 710 849 weight per 100 710 512 710 850 710 513 710 851		100 125 124 128 128 132 132 134
Sleeve contact Optical waveguide for POF, solid, turned 710 521 Weight per 100			POF* Ø 1 mm 		100 89
Pin contact Optical waveguide for POF, solid, turned 710 531 Weight per 100			POF* Ø 1 mm 		100 74
Coding pin 700 734			 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.		10 1

Description		Part no.	Series A	16 P + 	16 A / 250 V UL/CSA: 600 V	  9
Screw terminal inserts						
Female insert Screw terminal with wire protection 0.5-2.5 mm ² (20-14 AWG)			700 116	  	10 65	
Male insert Screw terminal with wire protection 0.5-2.5 mm ² (20-14 AWG)			700 216	  	10 63	
Crimp contact carrier						
Contact carrier for sleeve contacts			700 316	  	10 32	
Contact carrier for pin contacts			700 416	  	10 31	
Contact arrangement			Panel cut-out  View from termination side Female insert  Male insert 			
Contacts for crimp contact carriers			Number of grooves = n  Terminal cross section indicated by grooves n 0 0.14-0.37 mm ² 26-22 AWG 0 0.5 mm ² 20 AWG 1 0.75 mm ² 18 AWG 1 1 mm ² 18 AWG 2 1.5 mm ² 16 AWG 3 2.5 mm ² 14 AWG 0 4.0 mm ² 12 AWG			100 162 160 148 148 150 154 165
Pin contacts for series A 16			silver-plated 710 508 710 504 710 509 crimp-type, solid, turned, weight per 100 710 500 710 501 710 502 710 503	gold-plated 710 916 710 842 710 917 710 843 710 844 710 845 710 846	n 0 0 1 1 2 3 0	100 125 124 128 128 132 132 134
Sleeve contact Optical waveguide for POF, solid, turned			710 521	Weight per 100	 POF* Ø 1 mm	100 89
Pin contact Optical waveguide for POF, solid, turned			710 531	Weight per 100	 POF* Ø 1 mm	100 74
Coding pin			700 734	The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.		10 1

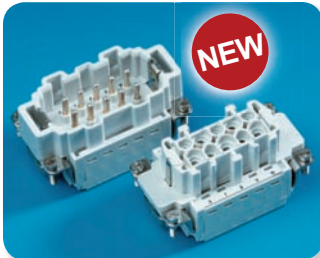
Description		Part no.	Series A 32 P +		16 A / 250 V UL/CSA: 600 V	 																									
Screw terminal inserts			 			10 69 69																									
Female insert Screw terminal, 0.5-2.5 mm ² (20-14 AWG) with wire protection 1 - 16 700 116 with wire protection 17 - 32 700 132																															
Male insert Screw terminal, 0.5-2.5 mm ² (20-14 AWG) with wire protection 1 - 16 700 216 with wire protection 17 - 32 700 232			 			10 64 64																									
Crimp contact carrier																															
Contact carriers for sleeve contacts 1 - 16 700 316 for sleeve contacts 17 - 32 700 332			 			10 38 38																									
Contact carriers for pin contacts 1 - 16 700 416 for pin contacts 17 - 32 700 432																															
Contact arrangement			 																												
Contacts for crimp contact carriers			Number of grooves = n n <table><tr><th>n</th><th>Terminal cross section indicated by grooves</th><th></th></tr><tr><td>0</td><td>0.14-0.37 mm²</td><td>26-22 AWG</td></tr><tr><td>0</td><td>0.5 mm²</td><td>20 AWG</td></tr><tr><td>1</td><td>0.75 mm²</td><td>18 AWG</td></tr><tr><td>1</td><td>1 mm²</td><td>18 AWG</td></tr><tr><td>2</td><td>1.5 mm²</td><td>16 AWG</td></tr><tr><td>3</td><td>2.5 mm²</td><td>14 AWG</td></tr><tr><td>0</td><td>4.0 mm²</td><td>12 AWG</td></tr></table>			n	Terminal cross section indicated by grooves		0	0.14-0.37 mm ²	26-22 AWG	0	0.5 mm ²	20 AWG	1	0.75 mm ²	18 AWG	1	1 mm ²	18 AWG	2	1.5 mm ²	16 AWG	3	2.5 mm ²	14 AWG	0	4.0 mm ²	12 AWG	100 162 160 148 148 150 154 165	
n	Terminal cross section indicated by grooves																														
0	0.14-0.37 mm ²	26-22 AWG																													
0	0.5 mm ²	20 AWG																													
1	0.75 mm ²	18 AWG																													
1	1 mm ²	18 AWG																													
2	1.5 mm ²	16 AWG																													
3	2.5 mm ²	14 AWG																													
0	4.0 mm ²	12 AWG																													
Sleeve contacts for series A 10 silver-plated gold-plated 710 508 710 916 710 504 710 842 710 509 710 917 crimp-type, 710 500 710 843 solid, turned, 710 501 710 844 weight per 100 710 502 710 845 710 503 710 846			Pin contacts for series A 10 silver-plated gold-plated 710 518 710 918 710 514 710 847 710 519 710 919 crimp-type, 710 510 710 848 solid, turned, 710 511 710 849 weight per 100 710 512 710 850 710 513 710 851			 n <table><tr><th>n</th><th>Terminal cross section indicated by grooves</th><th></th></tr><tr><td>0</td><td>0.14-0.37 mm²</td><td>26-22 AWG</td></tr><tr><td>0</td><td>0.5 mm²</td><td>20 AWG</td></tr><tr><td>1</td><td>0.75 mm²</td><td>18 AWG</td></tr><tr><td>1</td><td>1 mm²</td><td>18 AWG</td></tr><tr><td>2</td><td>1.5 mm²</td><td>16 AWG</td></tr><tr><td>3</td><td>2.5 mm²</td><td>14 AWG</td></tr><tr><td>0</td><td>4.0 mm²</td><td>12 AWG</td></tr></table>	n	Terminal cross section indicated by grooves		0	0.14-0.37 mm ²	26-22 AWG	0	0.5 mm ²	20 AWG	1	0.75 mm ²	18 AWG	1	1 mm ²	18 AWG	2	1.5 mm ²	16 AWG	3	2.5 mm ²	14 AWG	0	4.0 mm ²	12 AWG	100 125 124 128 128 132 132 134
n	Terminal cross section indicated by grooves																														
0	0.14-0.37 mm ²	26-22 AWG																													
0	0.5 mm ²	20 AWG																													
1	0.75 mm ²	18 AWG																													
1	1 mm ²	18 AWG																													
2	1.5 mm ²	16 AWG																													
3	2.5 mm ²	14 AWG																													
0	4.0 mm ²	12 AWG																													
Sleeve contact Optical waveguide for POF, solid, turned 710 521 Weight per 100			 POF* Ø 1 mm			100 89																									
Pin contact Optical waveguide for POF, solid, turned 710 531 Weight per 100			 POF* Ø 1 mm			100 74																									
Coding pin 700 734			 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.			10 1																									

Series B 6 - B 48 and BB 10 - BB 92

Series B 6 - B 24 with new housing design



Series B 6 - B 48 with push-in terminals



Termination methods available with series B:

- Screw terminal inserts
- Contact carriers for crimp contacts
- Inserts with insulation displacement connection (IDC) for considerable time saving during installation.
- Push-in terminals

Screw terminal inserts

are available either with or without **wire protection**. This wire protection **saves the time-consuming crimping of wire-end ferrules**.



Of course, all WALTHER contacts are provided with open, captive screws.

Locking systems:

- Series **B 6** and **B 48**: only with **single locking system**
- Series **B 32**: only with **double locking system**
- Series **B 10, B 16, B 24**: both locking types possible



Housing size 5 with single locking system



Housing size 9 with double locking system



Housing sizes 6-7-8 with both locking systems



Housing size 10 with single locking system

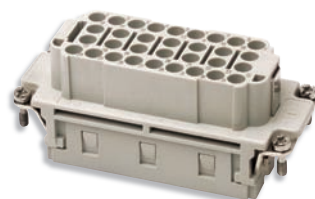
Housings of series B 6 - B 24: More possibilities with exchangeable locking levers

Easy and cost-saving exchange of single and double locking levers in case of damage or material fatigue.

Just press replacement lever in axial direction onto the bolts until they lock in place.



Series BB 10 - BB 92



Series BB has only contact carriers for crimp contacts.

Attachable rubber flange gasket for series B 6, B 10, B 16, B 24

- reduced mounting time
- optimum handling
- quick switch cabinet mounting



Series B 6 - B 24

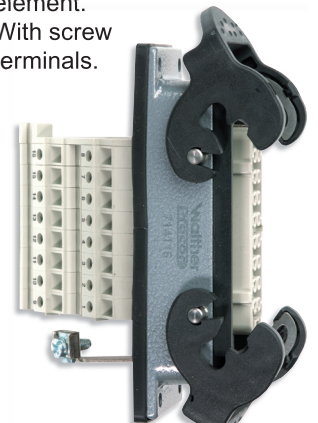
If connectors have to be disconnected frequently, wall-mount or panel housings with hinged spring cover and single locking system should be used.



Thus also data connectors are protected against harsh industrial environments. Mounting of data connectors in aluminium housings is made possible by adapter plates.

Wiring adapters

mounted directly into the panel housing - as cost-saving switch cabinet feed-through and space-saving connection element. With screw terminals.



Series B

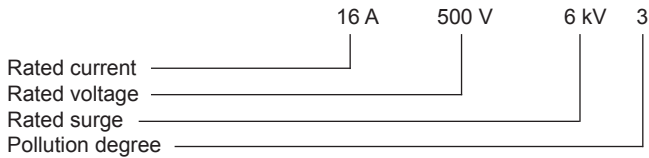
Specifications

Regulations: DIN VDE 0627, DIN VDE 0110, DIN EN 61 984

Approvals: UR, CSA, SEV, MEIE, EZÚ

Number of poles: 6, 10, 16, 24, 32 (2 x 16), 48 (2 x 24) + PE

Electrical Data acc. to DIN EN 61 984:



Rated voltage acc. to UL/CSA: 600 V
(Table with rated surges see chapter "Information")

Material: Glass-fibre reinforced polyamide
 Temperature range: - 40 °C up to + 125 °C
 Flame class rating acc. to UL94: V 0
 Mechanical operating life: ≥ 500 mating cycles

Contacts

Material: copper alloy
 Surface: • hard silver plated: 3 µm Ag
 • hard gold plated: 2 µm Au over 3 µm Ni

Contact resistance: ≤ 1 m Ω

Screw type terminal with wire protection: 2.5 mm² (14 AWG)

Screw type terminal without wire protection: 4 mm² (12 AWG)

Torque/testing torque: 0.5 Nm

Crimp type terminal: 0.5 - 4 mm² (20 - 12) AWG

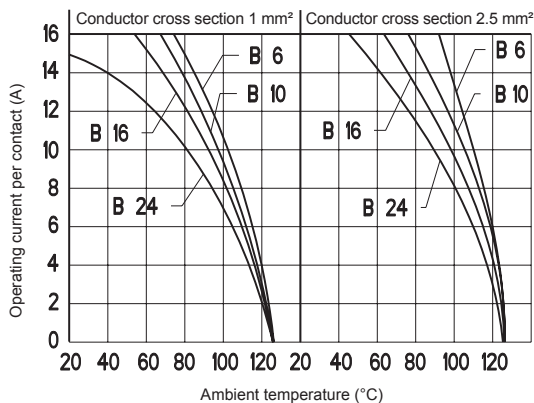
Wire stripping length: 7 mm with screw and crimp contacts

IDC terminals: 0.5 - 2.5 mm² (20 - 14 AWG)

Application hint:

Heavy duty connectors are electrical devices which must not be connected or disconnected under load!

The derating diagram (corrected current capacity curve) acc. to DIN IEC 60 512 applies to such current which can - depending on ambient temperature and conductor size - circulate through each contact without exceeding the upper limiting temperature.



Page

B 6-pole + ⊕

Inserts 22 - 23

- Short overview see page 106
- Matching housings see page 107 - 109



B 10-pole + ⊕

Inserts 24 - 25

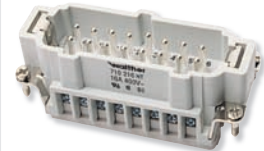
- Short overview see page 110
- Matching housings see page 111 - 117



B 16-pole + ⊕

Inserts 26 - 27

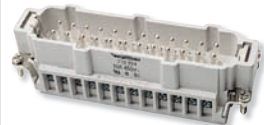
- Short overview see page 118
- Matching housings see page 119 - 126



B 24-pole + ⊕

Inserts 28 - 29

- Short overview see page 128
- Matching housings see page 129 - 135



B 32-pole + ⊕

Inserts 30 - 31

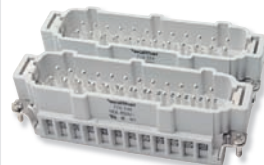
- Short overview see page 136
- Matching housings see page 137 - 138



B 48-pole + ⊕

Inserts 32 - 33

- Short overview see page 140
- Matching housings see page 141



Series BB

Specifications

Regulations: DIN VDE 0627, DIN VDE 0110, DIN EN 61 984

Approvals: UR, CSA, SEV, MEIE, EZÚ

Number of poles: 10, 18, 32, 46, 64, 92

Electrical Data acc. to DIN EN 61 984:

	16 A	500 V	6 kV	3
Rated current	_____	_____	_____	_____
Rated voltage	_____	_____	_____	_____
Rated surge	_____	_____	_____	_____
Pollution degree	_____	_____	_____	_____

Rated voltage acc. to UL/CSA: 600 V
(Table with rated surges see chapter "Information")

Material: Glass-fibre reinforced polyamide
Temperature range: - 40 °C up to + 125 °C
Flame class rating acc. to UL 94: V 0
Mechanical operating life: ≥ 500 mating cycles

Contacts

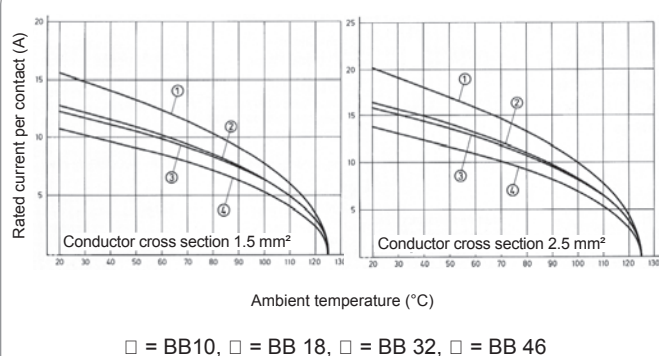
Material: copper alloy
Surface - hard silver plated: 3 µm Ag
- hard gold plated: 2 µm Au over 3 µm Ni

Contact resistance: ≤ 1 m Ω
Crimp type terminal: 0.5 - 4 mm² (20 - 12) AWG
Wire stripping length: 7 mm

Application hint:

Industrial connectors are electrical devices which must not be connected or disconnected under load!

The derating diagram (corrected current capacity curve) acc. to DIN IEC 60 512 applies to such current which can - depending on ambient temperature and conductor size - circulate through each contact without exceeding the upper limiting temperature.



Page

BB 10-pole + ⊕

Inserts 23

- Short overview see page 106
- Matching housings see page 107 - 109



BB 18-pole + ⊕

Inserts 25

- Short overview see page 110
- Matching housings see page 111 - 117



BB 32-pole + ⊕

Inserts 27

- Short overview see page 118
- Matching housings see page 119 - 126



BB 46-pole + ⊕

Inserts 29

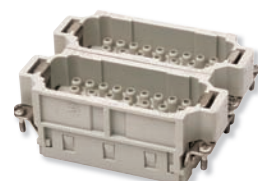
- Short overview see page 128
- Matching housings see page 129 - 135



BB 64-pole + ⊕

Inserts 31

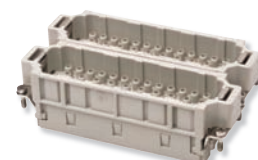
- Short overview see page 136
- Matching housings see page 137 - 138



BB 92-pole + ⊕

Inserts 33

- Short overview see page 140
- Matching housings see page 141



Series B
6 P + 

16 A / 500 V

UL/CSA: 600 V



Description

Part no.

Terminal
cross section

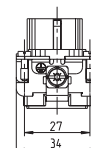
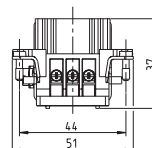
Screw terminal inserts
Female inserts

Screw terminals

with wire protection
710 106

0.5-2.5 mm² (20-14 AWG)

without wire protection
710 769

0.5-4 mm² (20-12 AWG)

10
52
49

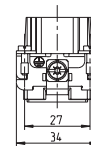
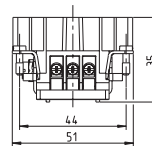
Male inserts

Screw terminals

with wire protection
710 206

0.5-2.5 mm² (20-14 AWG)

without wire protection
710 773

0.5-4 mm² (20-12 AWG)

10
50
47

Wiring adapters
Female inserts

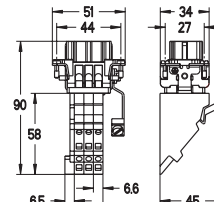
Screw terminals

Earth pin on the right

710 657

0.5-2.5 mm² (20-14 AWG)

Earth pin on the left

710 661

10
84
84

Male inserts

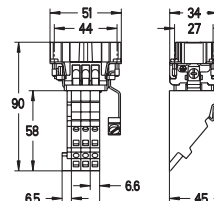
Screw terminals

Earth pin on the right

710 665

0.5-2.5 mm² (20-14 AWG)

Earth pin on the left

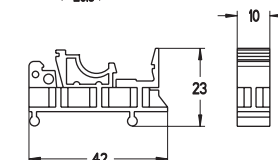
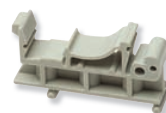
710 669

10
85
85

Combi snap element

for DIN-rail mounting

710 807

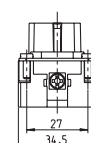
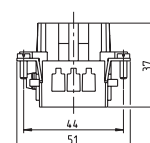
1 piece required per adapter


10
4

IDC terminal inserts
Female insert

IDC terminals

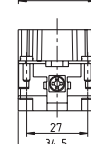
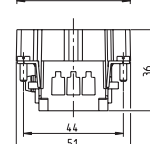
710 106 01

0.5-2.5 mm² (20-14 AWG)

10
56

Male inserts

IDC terminals

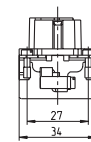
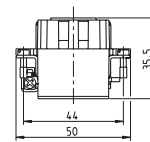
710 206 01

0.5-2.5 mm² (20-14 AWG)

10
56

Push-in terminal inserts
NEW
Female insert

Push-in terminals

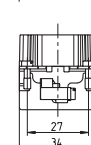
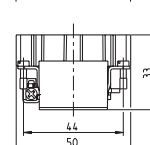
710 106 04

0.5-2.5 mm² (20-14 AWG)

10
51

Male insert

Push-in terminals

710 206 04

0.5-2.5 mm² (20-14 AWG)

10
50



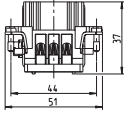
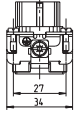
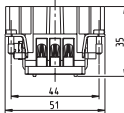
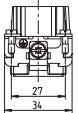
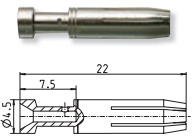
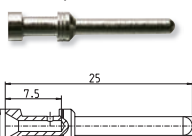
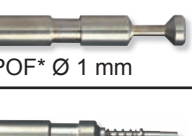


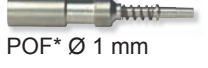
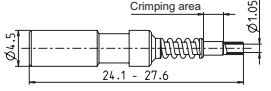



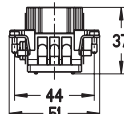

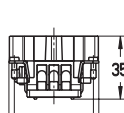
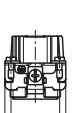
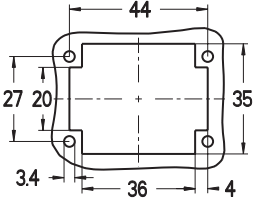
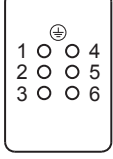
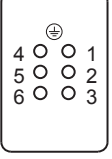
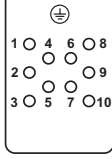
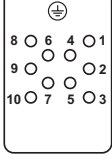
Coding pin

for insertion into
the coding grooves

710 607

*B 6 inserts can be equipped
with max. 2 coding pins*

10
1

Description		Part no.	Series B 6 P + \oplus		16 A / 500 V UL/CSA: 600 V	 g
Crimp contact carriers			    		10 40	
Contact carriers for sleeve contacts		710 306			10 38	
Contact carriers for pin contacts		710 406			10 38	
Contacts for crimp contact carriers			Number of grooves = n 		Terminal cross sections indicated by grooves n 0 0.14-0.37 mm ² 26-22 AWG 0 0.5 mm ² 20 AWG 1 0.75 mm ² 18 AWG 1 1 mm ² 18 AWG 2 1.5 mm ² 16 AWG 3 2.5 mm ² 14 AWG 0 4.0 mm ² 12 AWG	
Sleeve contacts for series B and BB		silver-plated 710 508 gold-plated 710 916 710 504 710 842 710 509 710 917 crimp-type, 710 500 710 843 solid, turned, 710 501 710 844 weight per 100 710 502 710 845 710 503 710 846			n 0 0.14-0.37 mm ² 26-22 AWG 0 0.5 mm ² 20 AWG 1 0.75 mm ² 18 AWG 1 1 mm ² 18 AWG 2 1.5 mm ² 16 AWG 3 2.5 mm ² 14 AWG 0 4.0 mm ² 12 AWG	
Pin contacts for series B and BB		silver-plated 710 518 gold-plated 710 918 710 514 710 847 710 519 710 919 crimp-type, 710 510 710 848 solid, turned, 710 511 710 849 weight per 100 710 512 710 850 710 513 710 851			n 0 0.14-0.37 mm ² 26-22 AWG 0 0.5 mm ² 20 AWG 1 0.75 mm ² 18 AWG 1 1 mm ² 18 AWG 2 1.5 mm ² 16 AWG 3 2.5 mm ² 14 AWG 0 4.0 mm ² 12 AWG	
Sleeve contact Optical waveguide for POF solid, turned		710 521	 POF* Ø 1 mm			
Pin contact Optical waveguide for POF solid, turned		710 531	 POF* Ø 1 mm			
Coding pin		700 734	 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.		10 1	
Description		Part no.	Series BB 10 P + \oplus		16 A / 500 V UL/CSA: 600 V	 g
Crimp contact carriers			    		10 42	
Contact carriers for sleeve contacts		710 311			10 40	
Contact carriers for pin contacts		710 411			10 40	
Contact arrangement					Series B6  Female insert  Male insert Series BB 10  Female insert  Male insert View from termination side	

Series B

10 P + 

16 A / 500 V

UL/CSA: 600 V



Description

Part no.

Terminal
cross section

Screw terminal inserts

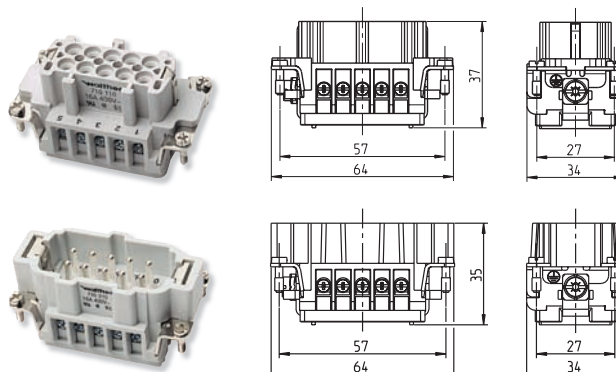
Female inserts

Screw terminals

with wire protection **710 110** 0.5-2.5 mm² (20-14 AWG)without wire protection **710 770** 0.5-4 mm² (20-12 AWG)

Male inserts

Screw terminals

with wire protection **710 210** 0.5-2.5 mm² (20-14 AWG)without wire protection **710 774** 0.5-4 mm² (20-12 AWG)10
69
6510
65
60

Wiring adapters

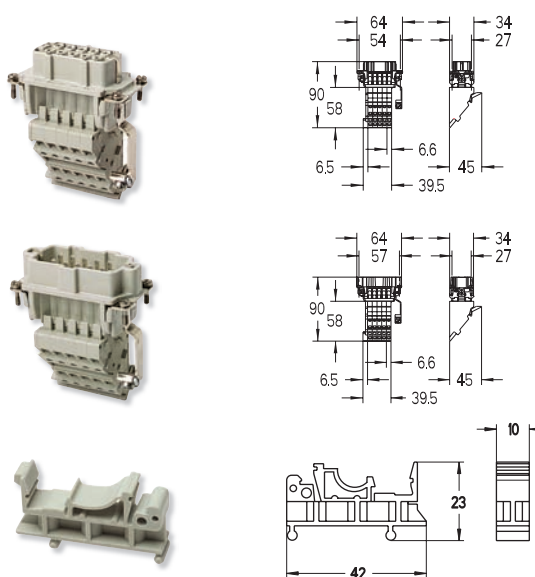
Female inserts

Screw terminals

Earth pin on the right **710 658** 0.5-2.5 mm² (20-14 AWG)Earth pin on the left **710 662**

Male inserts

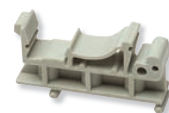
Screw terminals

Earth pin on the right **710 666** 0.5-2.5 mm² (20-14 AWG)Earth pin on the left **710 670**10
122
12210
124
12410
4

Combi snap element

for DIN-rail mounting **710 807**

2 pieces required per adapter



IDC terminal inserts

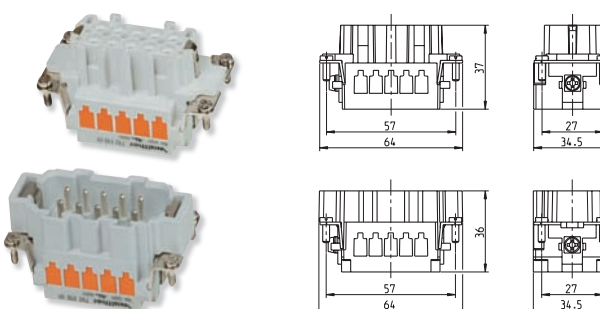
Female insert

IDC terminals

710 110 01 0.5-2.5 mm² (20-14 AWG)

Male insert

IDC terminals

710 210 01 0.5-2.5 mm² (20-14 AWG)10
7410
74

Push-in terminal inserts

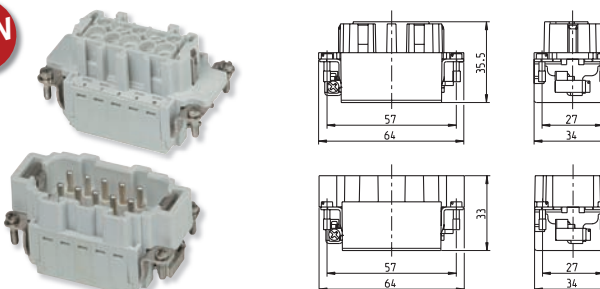
Female insert

Push-in terminals

710 110 04 0.5-2.5 mm² (20-14 AWG)





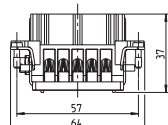
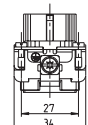
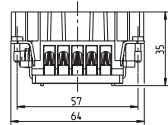
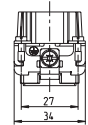
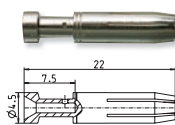

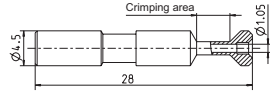

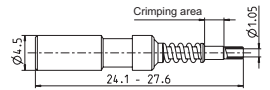





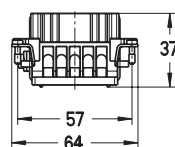
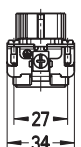
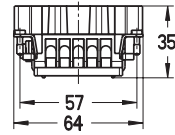
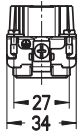
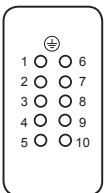
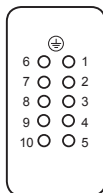
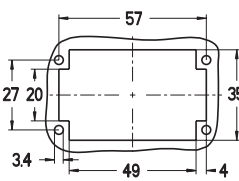
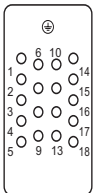
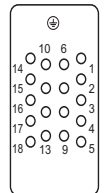
Male insert

Push-in terminals

710 210 04 0.5-2.5 mm² (20-14 AWG)10
6610
64

Coding pin

for insertion into the
coding grooves**710 607**B 10 inserts can be equipped
with max. 2 coding pins10
1

Description		Part no.	Series B 10 P + 		 	
			16 A / 500 V UL/CSA: 600 V			
Crimp contact carriers			    		10 49	
Contact carriers for sleeve contacts	710 310	Please order crimp contacts separately			10 46	
Contact carriers for pin contacts	710 410					
Contacts for crimp contact carriers			Number of grooves = n 			
Sleeve contacts for series B and BB	silver-plated 710 508 gold-plated 710 916 710 504 710 509		n 0 0 1 1 2 3 0	0.14-0.37 mm ² 0.5 mm ² 0.75 mm ² 1 mm ² 1.5 mm ² 2.5 mm ² 4.0 mm ²	26-22 AWG 20 AWG 18 AWG 18 AWG 16 AWG 14 AWG 12 AWG	100 162 160 148 148 150 154 165
crimp-type, solid, turned, weight per 100	710 500 710 501 710 502 710 503	710 843 710 844 710 845 710 846				
Pin contacts for series B and BB	silver-plated 710 518 gold-plated 710 918 710 514 710 519		n 0 0 1 1 2 3 0	0.14-0.37 mm ² 0.5 mm ² 0.75 mm ² 1 mm ² 1.5 mm ² 2.5 mm ² 4.0 mm ²	26-22 AWG 20 AWG 18 AWG 18 AWG 16 AWG 14 AWG 12 AWG	100 125 124 128 128 132 132 134
crimp-type, solid, turned, weight per 100	710 510 710 511 710 512 710 513	710 848 710 849 710 850 710 851				
Sleeve contact	Optical waveguide for POF solid, turned	710 521	Weight per 100	 POF* Ø 1 mm		100 89
Pin contact	Optical waveguide for POF solid, turned	710 531	Weight per 100	 POF* Ø 1 mm		100 74
Coding pin	700 734		 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.			10 1
Description		Part no.	Series BB 18 P + 		 	
			16 A / 500 V UL/CSA: 600 V			
Crimp contact carriers			    		10 53	
Contact carriers for sleeve contacts	710 318	Please order crimp contacts separately			10 47	
Contact carriers for pin contacts	710 418					
Contact arrangement			Series B 10 Female insert Male insert   View from termination side			
Panel cut-out:			Series BB 18 Female insert Male insert  			

Series B

16 P + 

16 A / 500 V

UL/CSA: 600 V



Description

Part no.

Terminal
cross section

Screw terminal inserts

Female inserts

Screw terminals

with wire protection **710 116** 0.5-2.5 mm² (20-14 AWG)

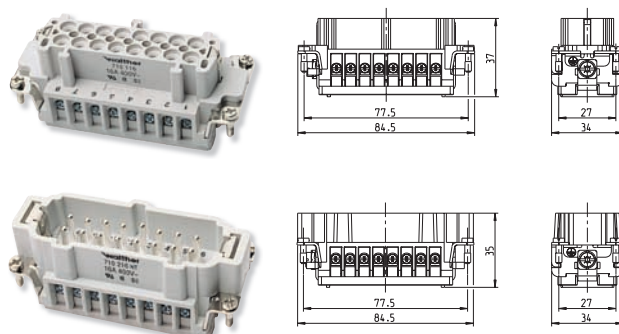
without wire protection **710 771** 0.5-4 mm² (20-12 AWG)

Male inserts

Screw terminals

with wire protection **710 216** 0.5-2.5 mm² (20-14 AWG)

without wire protection **710 775** 0.5-4 mm² (20-12 AWG)



10
94
90

10
94
90

Wiring adapters

Female inserts

Screw terminals

Earth pin on the right **710 659** 0.5-2.5 mm² (20-14 AWG)

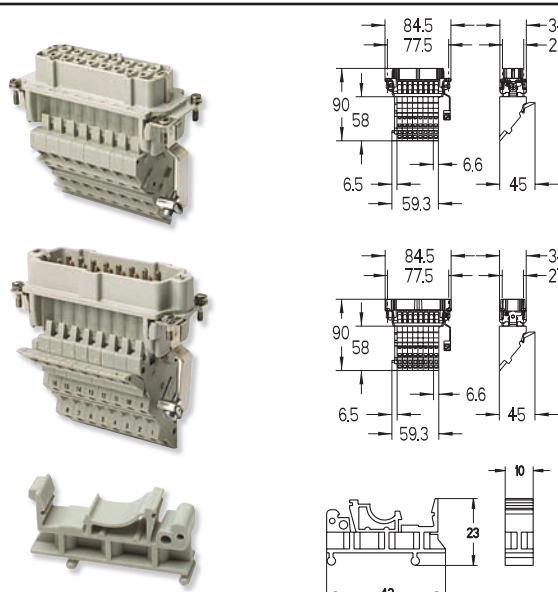
Earth pin on the left **710 663**

Male inserts

Screw terminals

Earth pin on the right **710 667** 0.5-2.5 mm² (20-14 AWG)

Earth pin on the left **710 671**



10
136
136

10
135
135

10
4

Combi snap element

for DIN-rail mounting **710 807**

2 pieces required per adapter

IDC terminal inserts

Female insert

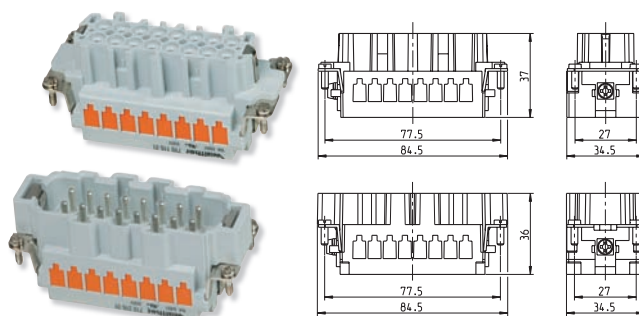
IDC terminals

710 116 01 0.5-2.5 mm² (20-14 AWG)

Male insert

IDC terminals

710 216 01 0.5-2.5 mm² (20-14 AWG)



10
102

10
102

Push-in terminal inserts

NEW

Female insert

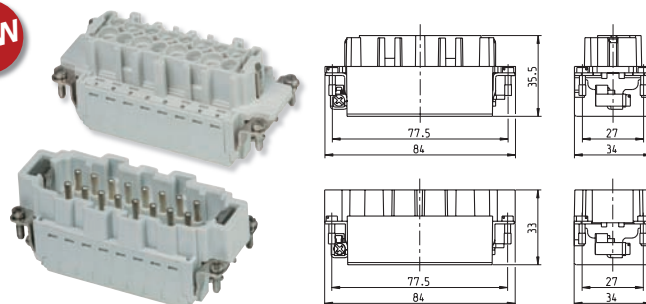
Push-in terminals

710 116 04 0.5-2.5 mm² (20-14 AWG)

Male insert

Push-in terminals

710 216 04 0.5-2.5 mm² (20-14 AWG)



10
89

10
84

Coding pin






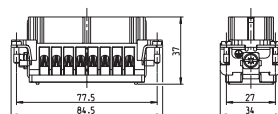
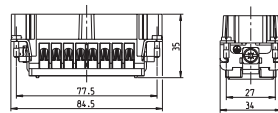
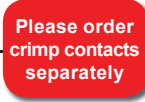
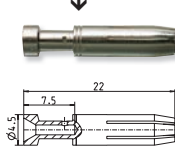

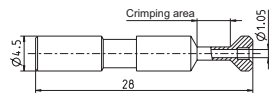

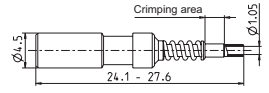




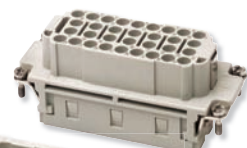

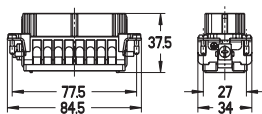
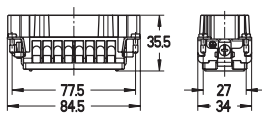
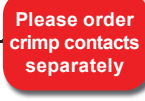
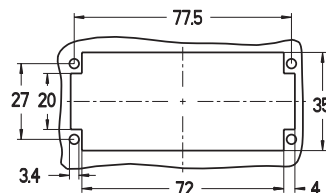
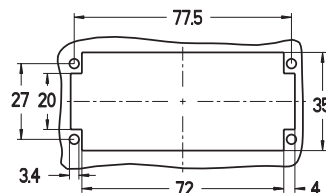
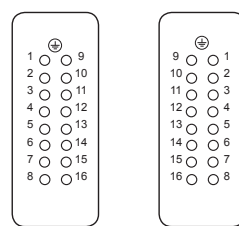
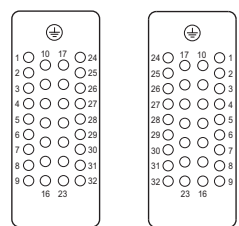
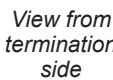
for insertion into the
coding grooves

710 607



*B 16 inserts can be equipped
with max. 4 coding pins*

10
1

Description		Part no.	Series B 16 P + 		 
			16 A / 500 V UL/CSA: 600 V		
Crimp contact carriers			   		10 68
Contact carriers for sleeve contacts		710 316			
Contact carriers for pin contacts		710 416			
Contacts for crimp contact carriers			Number of grooves = n 		Terminal cross sections indicated by grooves
Sleeve contacts for series B and BB		silver-plated 710 508 710 504 710 509 710 500 710 501 710 502 710 503	gold-plated 710 916 710 842 710 917 710 843 710 844 710 845 710 846	0 0 1 1 2 3 0	
crimp-type, solid, turned, weight per 100				0.14-0.37 mm ² 0.5 mm ² 0.75 mm ² 1 mm ² 1.5 mm ² 2.5 mm ² 4.0 mm ²	26-22 AWG 20 AWG 18 AWG 18 AWG 16 AWG 14 AWG 12 AWG
Pin contacts for series B and BB		silver-plated 710 518 710 514 710 519 710 510 710 511 710 512 710 513	gold-plated 710 918 710 847 710 919 710 848 710 849 710 850 710 851	0 0 1 1 2 3 0	100 125 124 128 128 132 132 134
Sleeve contact Optical waveguide for POF solid, turned		710 521	Weight per 100	 POF* Ø 1 mm	 100 89
Pin contact Optical waveguide for POF solid, turned		710 531	Weight per 100	 POF* Ø 1 mm	 100 74
Coding pin		700 734	 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.		10 1
Description		Part no.	Series BB 32 P + 		 
			16 A / 500 V UL/CSA: 600 V		
Crimp contact carriers			   		10 68
Contact carriers for sleeve contacts		710 333			
Contact carriers for pin contacts		710 433			
Contact arrangement			 Panel cut-out: 		 Series B 16 Female insert Male insert  Series BB 32 Female insert Male insert 

Series B

24 P + 

16 A / 500 V

UL/CSA: 600 V



Description

Part no.

Terminal
cross section

Screw terminal inserts

Female inserts

Screw terminals

with wire protection **710 124** 0.5-2.5 mm² (20-14 AWG)

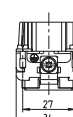
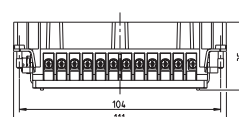
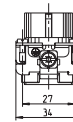
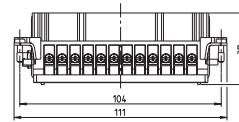
without wire protection **710 772** 0.5-4 mm² (20-12 AWG)

Male inserts

Screw terminals

with wire protection **710 224** 0.5-2.5 mm² (20-14 AWG)

without wire protection **710 776** 0.5-4 mm² (20-12 AWG)



10
138
134

10
118
114

Wiring adapters

Female inserts

Screw terminals

Earth pin on the right **710 660** 0.5-2.5 mm² (20-14 AWG)

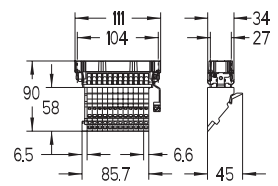
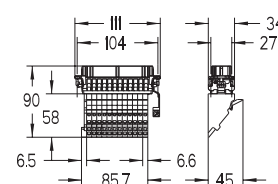
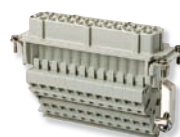
Earth pin on the left **710 664** 0.5-2.5 mm² (20-14 AWG)

Male inserts

Screw terminals

Earth pin on the right **710 668** 0.5-2.5 mm² (20-14 AWG)

Earth pin on the left **710 672** 0.5-2.5 mm² (20-14 AWG)



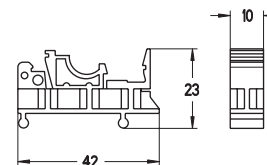
10
140
140

10
241
241

Combi snap element

for DIN-rail mounting **710 807**

2 pieces required per adapter



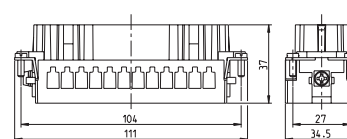
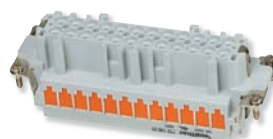
10
4

IDC terminal inserts

Female insert

IDC terminals

710 124 01 0.5-2.5 mm² (20-14 AWG)

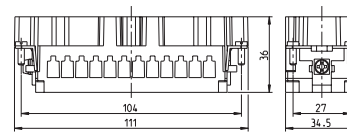


10
135

Male insert

IDC terminals

710 224 01 0.5-2.5 mm² (20-14 AWG)



10
135

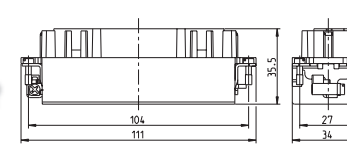
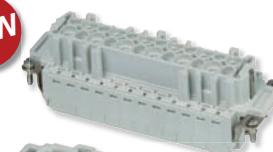
Push-in terminal inserts

NEW

Female insert

Push-in terminals

710 124 04 0.5-2.5 mm² (20-14 AWG)

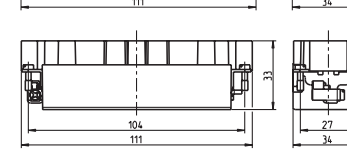
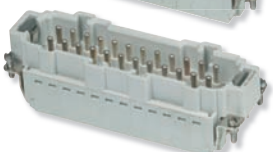


10
119

Male insert

Push-in terminals

710 224 04 0.5-2.5 mm² (20-14 AWG)



10
113

Coding pin





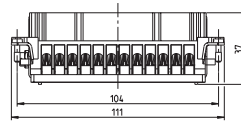
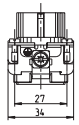

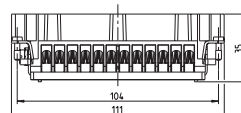
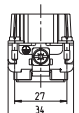
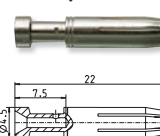
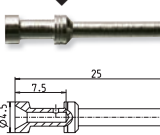







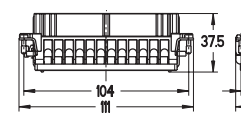
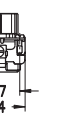

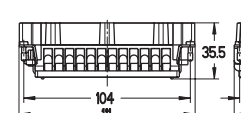
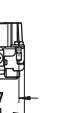
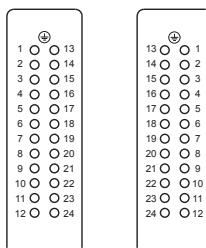
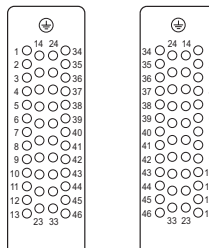
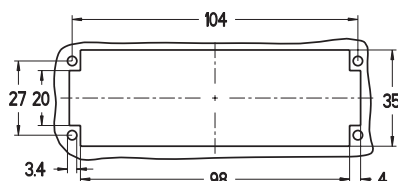
for insertion into the
coding grooves

710 607



*B 24 inserts can be equipped
with max. 4 coding pins*

10
1

Description		Part no.	Series B 24 P + 		 
			16 A / 500 V UL/CSA: 600 V		
Crimp contact carriers			     		10 88
Contact carriers for sleeve contacts	710 324	Please order crimp contacts separately			
Contact carriers for pin contacts	710 424		10 80		
Contacts for crimp contact carriers			Number of grooves = n  n Terminal cross sections indicated by grooves		100 162 160 148 148 150 154 165
Sleeve contacts for series B and BB	silver-plated 710 508 710 504 710 509 710 500 710 501 710 502 710 503	gold-plated 710 916 710 842 710 917 710 843 710 844 710 845 710 846	0 0.14-0.37 mm ² 26-22 AWG 0 0.5 mm ² 20 AWG 1 0.75 mm ² 18 AWG 1 1 mm ² 18 AWG 2 1.5 mm ² 16 AWG 3 2.5 mm ² 14 AWG 0 4.0 mm ² 12 AWG		
crimp-type, solid, turned, weight per 100					
Pin contacts for series B and BB	silver-plated 710 518 710 514 710 519 710 510 710 511 710 512 710 513	gold-plated 710 918 710 847 710 919 710 848 710 849 710 850 710 851	n  n 0 0.14-0.37 mm ² 26-22 AWG 0 0.5 mm ² 20 AWG 1 0.75 mm ² 18 AWG 1 1 mm ² 18 AWG 2 1.5 mm ² 16 AWG 3 2.5 mm ² 14 AWG 0 4.0 mm ² 12 AWG		100 125 124 128 128 132 132 134
crimp-type, solid, turned, weight per 100					
Sleeve contact Optical waveguide for POF solid, turned	710 521	Weight per 100	 POF* Ø 1 mm		100 89
Pin contact Optical waveguide for POF solid, turned	710 531	Weight per 100	 POF* Ø 1 mm		100 74
Coding pin	700 734		 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.		10 1
Description		Part no.	Series BB 46 P + 		 
			16 A / 500 V UL/CSA: 600 V		
Crimp contact carriers			     		10 90
Contact carriers for sleeve contacts	710 346	Please order crimp contacts separately			
Contact carriers for pin contacts	710 446		10 74		
Contact arrangement			Series B 24  Female insert Male insert Series BB 46  Female insert Male insert View from termination side		
Panel cut-out: 					

Series B
32 P + 

16 A / 500 V

UL/CSA: 600 V



9

Description

Part no.

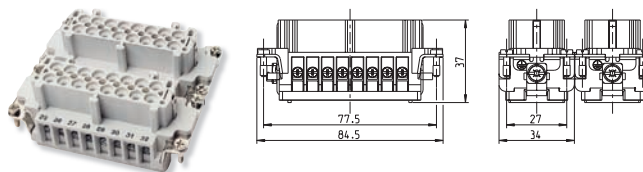
Terminal
cross section

Screw terminal inserts
Female inserts

Screw terminals

with wire protection 1 - 16 **710 116** 0.5-2.5 mm² (20-14 AWG)
without wire protection **710 771** 0.5-4 mm² (20-12 AWG)

with wire protection 17 - 32 **710 132** 0.5-2.5 mm² (20-14 AWG)
without wire protection **710 859** 0.5-4 mm² (20-12 AWG)


10
94
90

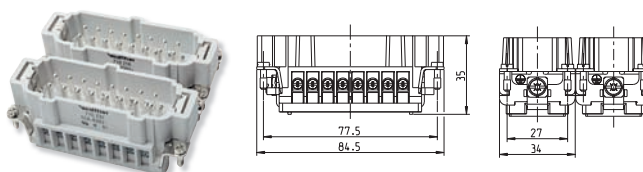
94
90

Male inserts

Screw terminals

with wire protection 1 - 16 **710 216** 0.5-2.5 mm² (20-14 AWG)
without wire protection **710 775** 0.5-4 mm² (20-12 AWG)

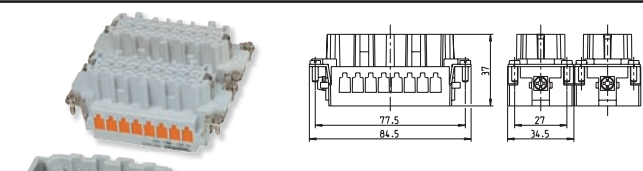
with wire protection 17 - 32 **710 232** 0.5-2.5 mm² (20-14 AWG)
without wire protection **710 860** 0.5-4 mm² (20-12 AWG)


10
94
90

94
90

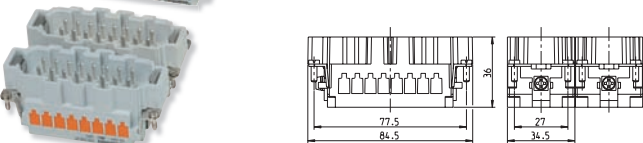
IDC terminal inserts
Female inserts

1 - 16 **710 116 01** 0.5-2.5 mm² (20-14 AWG)
17 - 32 **710 132 01**


10
102
102

Male inserts

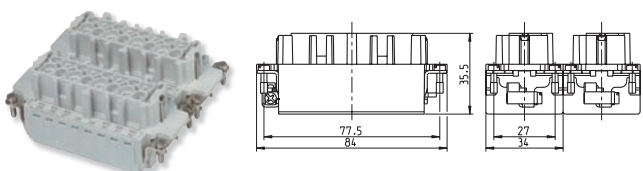
1 - 16 **710 216 01** 0.5-2.5 mm² (20-14 AWG)
17 - 32 **710 232 01**


10
102
102

Push-in terminal inserts
NEW
Female inserts

Push-in terminals

for sleeve contacts 1 - 16 **710 116 04** 0.5-2.5 mm² (20-14 AWG)
for sleeve contacts 17 - 32 **710 132 04**

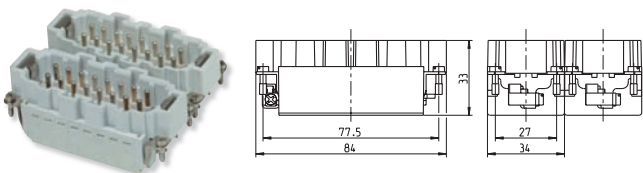

10
89

89

Male inserts

Push-in terminals

for pin contacts 1 - 16 **710 216 04** 0.5-2.5 mm² (20-14 AWG)
for pin contacts 17 - 32 **710 232 04**


10
84

84

Coding pin

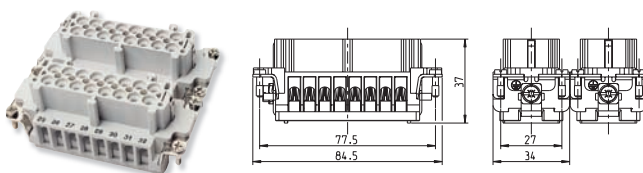
for insertion into coding grooves **710 607**

*B 32 inserts can be equipped
with max. 8 coding pins*

10
1

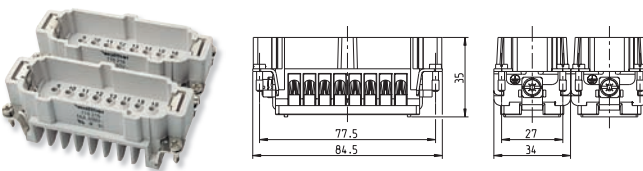
Crimp contact carriers
Contact carriers

for sleeve contacts 1 - 16 **710 316**
for sleeve contacts 17 - 32 **710 332**

Please order
crimp contacts
separately

10
68
68

Contact carriers

for pin contacts 1 - 16 **710 416**
for pin contacts 17 - 32 **710 432**


10
63
63

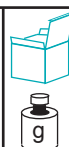
			Series B	32 P +	
				16 A / 500 V UL/CSA: 600 V	
Description			Part no.		
Contacts for crimp contact carriers					
Sleeve contacts for series B and BB		silver-plated 710 508 710 504 710 509 710 500 710 501 710 502 710 503	gold-plated 710 916 710 842 710 917 710 843 710 844 710 845 710 846		
crimp-type, solid, turned, weight per 100					

Series B

48 P + 

16 A / 500 V

UL/CSA: 600 V



Description

Part no.

Terminal
cross section

Screw terminal inserts

Female inserts

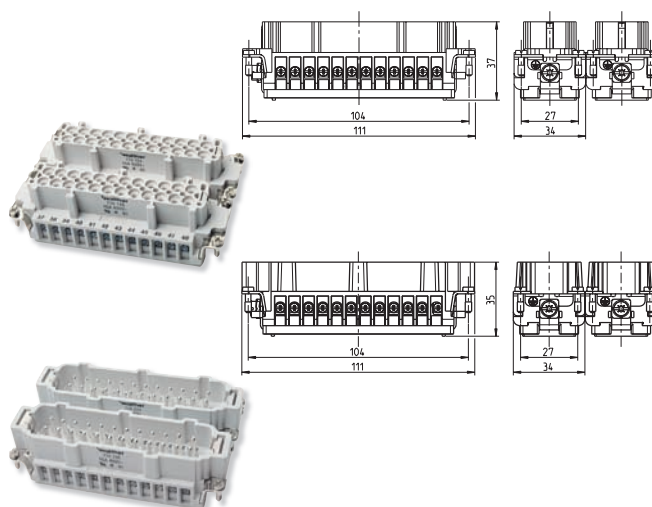
Screw terminals

with wire protection 1 - 24	710 124	0.5-2.5 mm ² (20-14 AWG)
without wire protection	710 772	0.5-4 mm ² (20-12 AWG)
with wire protection 25 - 48	710 148	0.5-2.5 mm ² (20-14 AWG)
without wire protection	710 861	0.5-4 mm ² (20-12 AWG)

Male inserts

Screw terminals

with wire protection 1 - 24	710 224	0.5-2.5 mm ² (20-14 AWG)
without wire protection	710 776	0.5-4 mm ² (20-12 AWG)
with wire protection 25 - 48	710 248	0.5-2.5 mm ² (20-14 AWG)
without wire protection	710 862	0.5-4 mm ² (20-12 AWG)



10
138
130
138
130

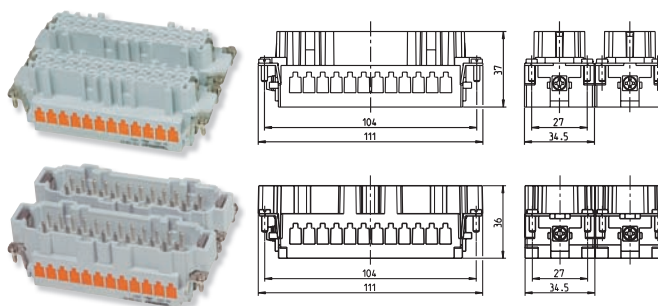
IDC terminal inserts

Female inserts

1 - 24	710 124 01	0.5-2.5 mm ² (20-14 AWG)
25 - 48	710 148 01	

Male inserts

1 - 24	710 224 01	0.5-2.5 mm ² (20-14 AWG)
25 - 48	710 248 01	



10
135
135
10
135
135

Push-in terminal inserts

NEW

Female inserts

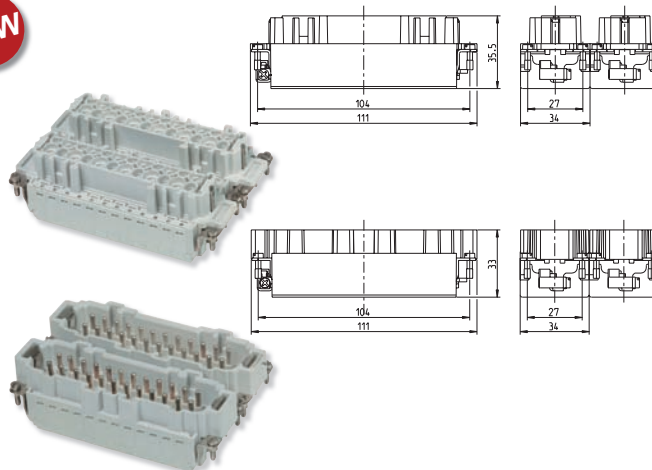
Push-in terminals

for sleeve contacts 1 - 24	710 124 04	0.5-2.5 mm ² (20-14 AWG)
for sleeve contacts 25 - 48	710 148 04	

Male inserts

Push-in terminals

for pin contacts 1 - 24	710 224 04	0.5-2.5 mm ² (20-14 AWG)
for pin contacts 25 - 48	710 248 04	



10
119
119
10
113
113

Coding pin

for insertion into coding grooves **710 607**



*B 48 inserts can be equipped
with max. 8 coding pins*

10
1

Crimp contact carriers

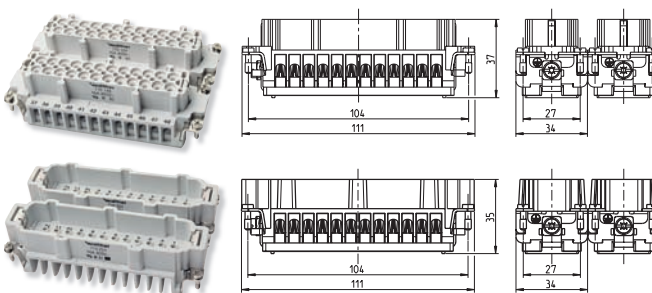
Contact carriers

for sleeve contacts 1 - 24	710 324
for sleeve contacts 25 - 48	710 348




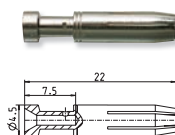
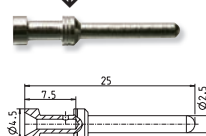
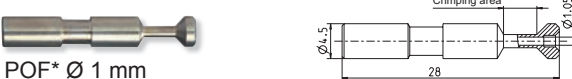
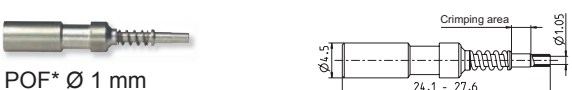




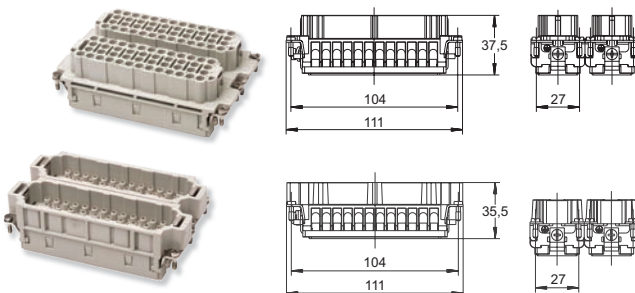
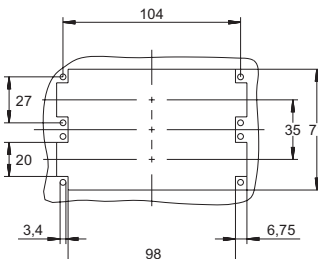
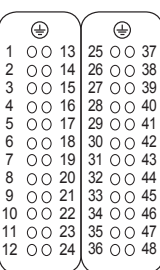
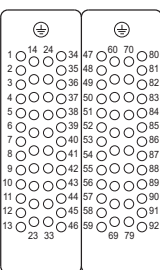
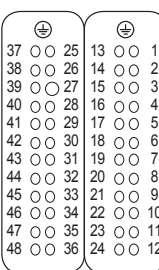
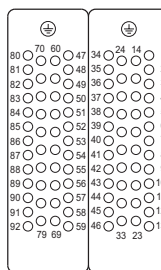
Contact carriers

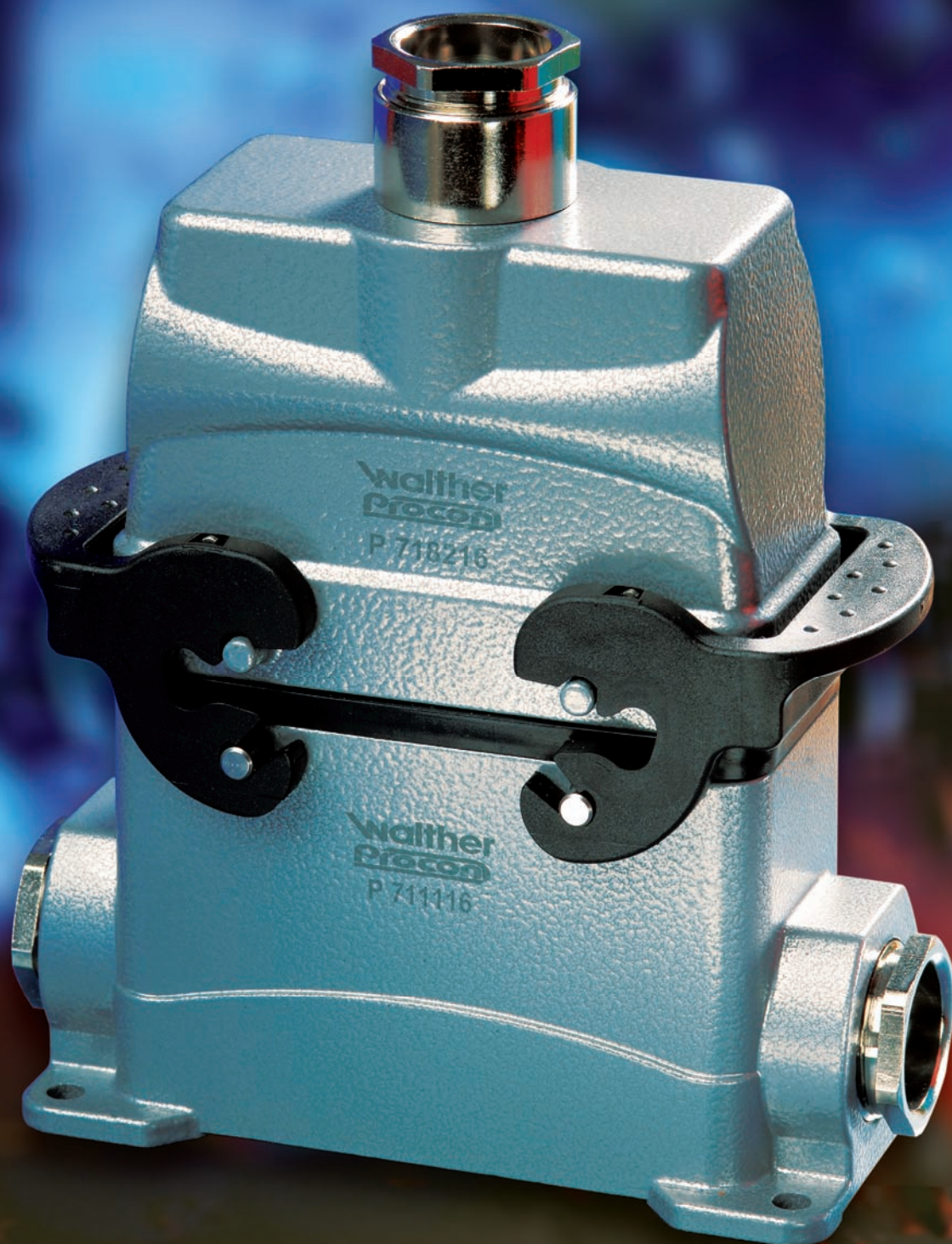
for pin contacts 1 - 24	710 424
for pin contacts 25 - 48	710 448

Please order
crimp contacts
separately



10
88
88
10
80
80

Description		Part no.	Series B 48 P + 		 			
Contacts for crimp contact carriers			Number of grooves = n	Terminal cross sections indicated by grooves				
Sleeve contacts for series B and BB crimp-type, solid, turned, weight per 100	silver-plated	gold-plated		n	100			
	710 508	710 916		0 0.14-0.37 mm² 26-22 AWG	162			
	710 504	710 842		0 0.5 mm² 20 AWG	160			
	710 509	710 917		1 0.75 mm² 18 AWG	148			
	710 500	710 843		1 1 mm² 18 AWG	148			
	710 501	710 844		2 1.5 mm² 16 AWG	150			
	710 502	710 845		3 2.5 mm² 14 AWG	154			
	710 503	710 846	0 4.0 mm² 12 AWG	165				
Pin contacts for series B and BB crimp-type, solid, turned, weight per 100	silver-plated	gold-plated		n	100			
	710 518	710 918		0 0.14-0.37 mm² 26-22 AWG	125			
	710 514	710 847		0 0.5 mm² 20 AWG	124			
	710 519	710 919		1 0.75 mm² 18 AWG	128			
	710 510	710 848		1 1 mm² 18 AWG	128			
	710 511	710 849		2 1.5 mm² 16 AWG	132			
	710 512	710 850		3 2.5 mm² 14 AWG	132			
	710 513	710 851	0 4.0 mm² 12 AWG	134				
Sleeve contact Optical waveguide for POF solid, turned	710 521	Weight per 100			100 89			
Pin contact Optical waveguide for POF solid, turned	710 531	Weight per 100			100 74			
Coding pin	700 734	 The use of a coding pin prevents confusion of equal connectors. The pin contact opposite to the coding pin is not equipped.		10 1				
Description		Part no.	Series BB 92 P + 		 			
Crimp contact carriers								
Contact carriers for sleeve contacts 1 - 46 for sleeve contacts 47 - 92		710 346 710 392				10 90 90		
Contact carriers for pin contacts 1 - 46 for pin contacts 47 - 92		710 446 710 492				10 74 74		
Contact arrangement								
								
Panel cut-out:								
		Series B 48		Series BB 92				
								
								
		Female insert		Female insert				
		Male insert		Male insert				
		View from termination side						



Series BA

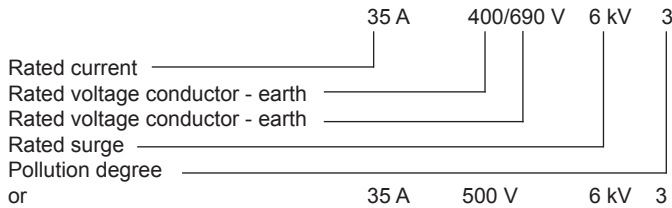
Specifications

Regulations: DIN VDE 0627, DIN VDE 0110, DIN EN 61 984

Approvals: UR, SEV, MEIE, EZÚ

Number of poles: 6, 12 (2 x 6) + PE

Electrical Data acc. to DIN EN 61 984:



Rated voltage acc. to UL/CSA: 600 V
(Table with rated surges see chapter "Information")

Material: Glass-fibre reinforced polyamide
Temperature range: - 40 °C up to + 125 °C
Flame class rating acc. to UL 94: V 0
Mechanical operating life: ≥ 500 mating cycles

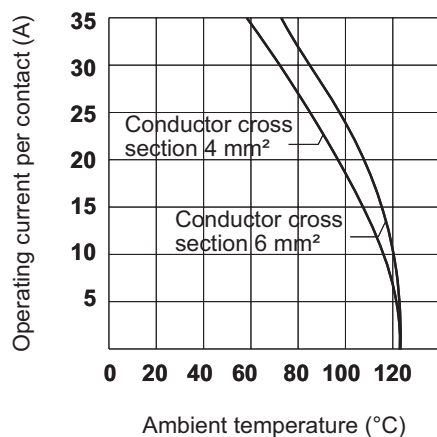
Contacts

Material: copper alloy
Surface - hard silver plated: 3 µm Ag
Contact resistance: ≤ 0.5 m Ω
Screw terminal with wire protection: 6 mm² (10 AWG)
Torque/testing torque: 1.2 Nm
Wire stripping length: 10 mm

Application hint:

Industrial connectors are electrical devices which must not be connected or disconnected under load!

The derating diagram (corrected current capacity curve) acc. to DIN IEC 60 512 applies to such current which can - depending on ambient temperature and conductor size - circulate through each contact without exceeding the upper limiting temperature.



Page

3

BA 6-pole + ⚡

Inserts 36

- Short overview see page S. 118 -
- Matching housings see page 119 - 126 -




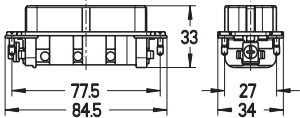

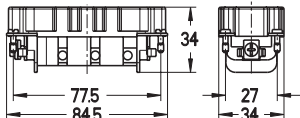
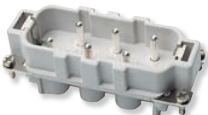
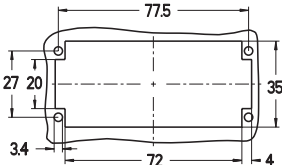
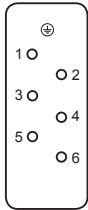
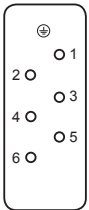






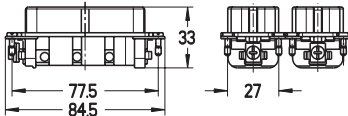

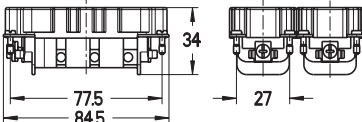
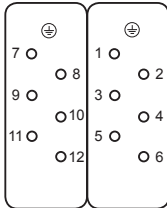
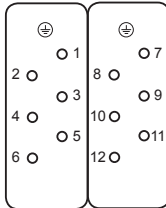
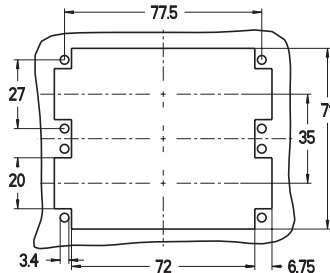
BA 12-pole + ⚡

Inserts 37

- Short overview see page 136 -
- Matching housings see page 139 - 138 -



Description	Part no.	Series BA 6 P +  35 A / 400/690 V UL/CSA: 600 V	  g
Screw terminal inserts		<div></div> <div></div>	10 88
Male insert screw terminal with wire protection 0.5-6 mm ² (20-10 AWG)		710 621	10 86
Contact arrangement		<div>Panel cut-out</div> <div></div> <div>View from termination side</div> <div><div></div><div></div></div> <div>Female insert Male insert</div>	

Description	Part no.	Series BA 12 P +  35 A / 400/690 V UL/CSA: 600 V	 
Screw terminal inserts		   	10 88 88
Female insert screw terminal with wire protection 1 - 6 710 620 0.5 - 6 mm ² (20-10 AWG) with wire protection 7 - 12 710 692 0.5 - 6 mm ² (20-10 AWG)			10 86 86
Male insert screw terminal with wire protection 1 - 6 710 621 0.5 - 6 mm ² (20-10 AWG) with wire protection 7 - 12 710 693 0.5 - 6 mm ² (20-10 AWG)		View from termination side   Female insert Male insert Panel cut-out 	

Series DD 24 - DD 216

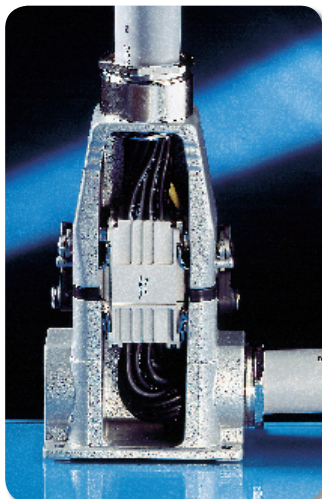
Housings of series B6-B24 with new design



Series DD is the economic and space-saving solution for applications in which high contact density is needed. **Up to 216** contacts can be fitted.



The high contact density requires a high wiring density. To ensure comfortable termination, maximum conductor sizes and optimum wiring space, WALTHER offers housings in higher version. Of course these housings can also be used with the other series.



Locking systems:

- Series DD 24 and DD 216: only with **single locking system**
- Series DD 144: only with **double locking system**
- Series DD 42, DD 72 and DD 108: **both locking systems** possible



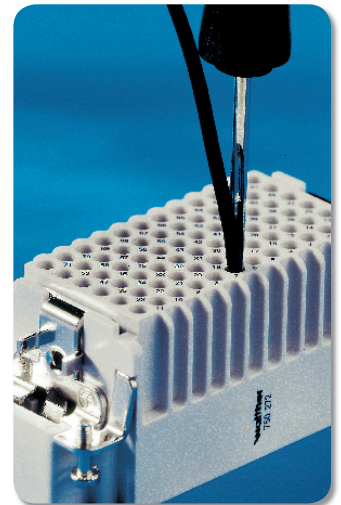
Housings of series B6-B24: More possibilities with exchangeable locking levers

Easy and cost-saving exchange of single and double locking levers in case of damage or material fatigue.

Just press replacement lever in axial direction onto the bolts until they lock in place.



Series DD contact carriers can only be equipped with crimp contacts, which have to be ordered separately according to the relevant conductor cross section. The contacts are crimped with a special crimping tool and then snapped into the contact carrier by means of an insertion tool. If required, they can be released with a special removal tool.



The millionfold proven crimp-type contacts guarantee a safe connection.



Optical waveguide

Instead of silver or gold-plated brass contacts for copper wires, also contacts for optical waveguide made of polymer optical fibre (POF) fit into the contact cavities of series DD contact carriers.



Series DD

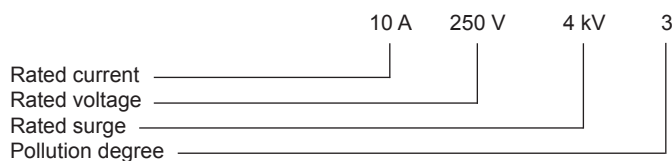
Specifications

Regulations: DIN VDE 0627, DIN VDE 0110, DIN EN 61 984

Approvals: UR, EZÚ

Number of poles: 24, 42, 72, 108, 144 (2 x 72), 216 (2x108) + PE

Electrical data acc. to DIN EN 61 984:



Rated voltage acc. to UL: 600 V
(Table with rated surges see chapter "Information")

Material: Glass fibre reinforced polyamide
Temperature range: - 40 °C up to + 125 °C
Flame class rating acc. to UL 94: V 0
Mechanical operating life: ≥ 500 mating cycles

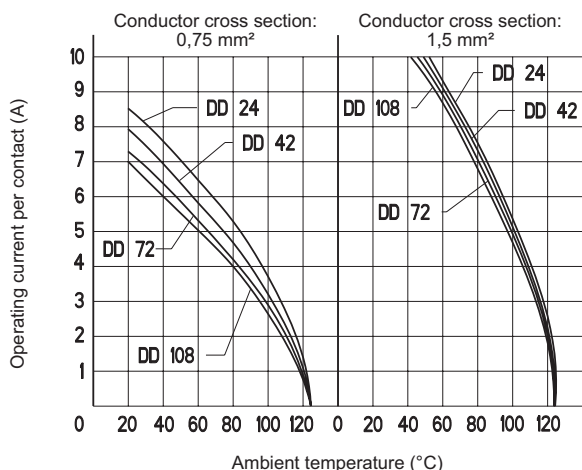
Contacts

Material: copper alloy
Surface: - hard silver plated: 3 µm Ag
- hard gold plated: 2 µm Au over 3 µm Ni
Contact resistance: ≤ 3 m Ω
Crimp type terminal: 0.14 - 2.5 mm² (26 - 14) AWG
Wire stripping length: 7 mm

Application hint:

Industrial connectors are electrical devices which must not be connected or disconnected under load!

The derating diagram (corrected current capacity curve) acc. to DIN IEC 60 512 applies to such kind of current which can - depending on ambient temperature and conductor size) circulate through each contact without exceeding the upper limiting temperature.



Page

Inserts

DD 24-pole + ⊕, DD 24 modified
DD 12-pole + ⊕
DD 5-pole + ⊕

58

- Short overview see page 106
- Matching housings see page 107 - 109



Inserts

DD 42-pole + ⊕, DD 42 modified
DD 21-pole + ⊕
DD 11-pole + ⊕

59

- Short overview see page 110
- Matching housings see page 111 - 117



Inserts

DD 72-pole + ⊕, DD 72 modified
DD 34-pole + ⊕
DD 17-pole + ⊕

60

- Short overview see page 118
- Matching housings see page 119 - 126



Inserts

DD 108-pole + ⊕, DD 108 modified
DD 52-pole + ⊕
DD 26-pole + ⊕

62

- Short overview see page 128
- Matching housings see page 129 - 135



Inserts

DD 144-pole + ⊕, DD 144 modified
DD 68-pole + ⊕
DD 34.1-pole + ⊕

64

- Short overview see page 136
- Matching housings see page 137 - 138



Inserts





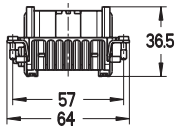


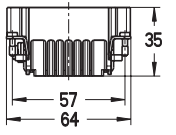



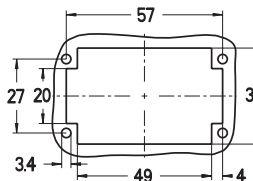
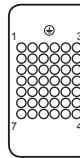
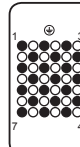

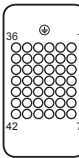
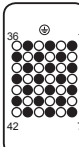
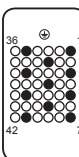
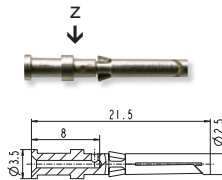
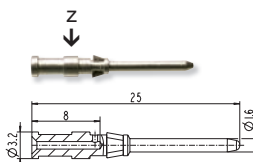


DD 216-pole + ⊕, DD 216 modified
DD 104-pole + ⊕
DD 52.1-pole + ⊕





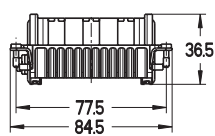
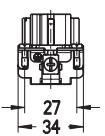

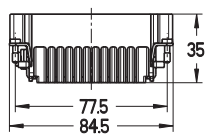
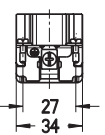
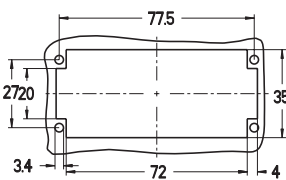
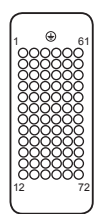
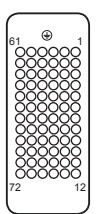

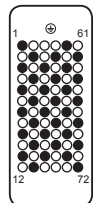
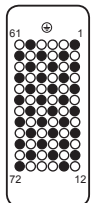

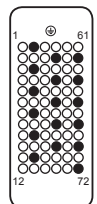
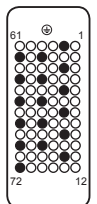


66




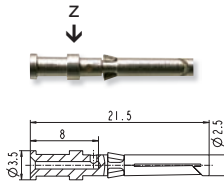
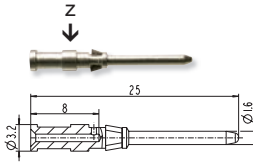
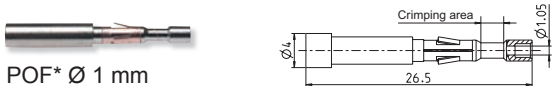
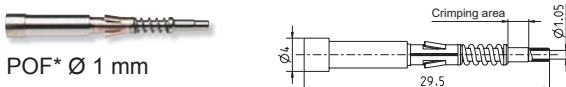
- Short overview see page 140
- Matching housings see page 141






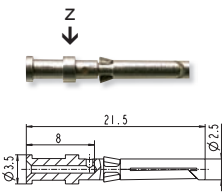
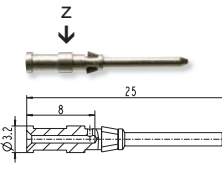
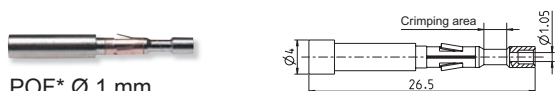
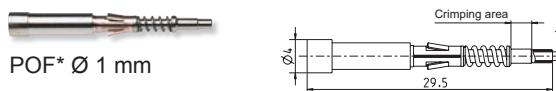
			Series DD	24 P +	
				10 A / 250 V UL/CSA: 600 V	
Description			Part no.	Part no.	
Crimp contact carriers					
Contact carrier for sleeve contacts			750 124		10 40
Please order crimp and glass fibre cable contacts separately					
Contact carrier for pin contacts			750 224		10 39
Please order crimp and glass fibre cable contacts separately					
Contact arrangement					
DD 24 completely equipped with 24 contacts Rated voltage: 250 V					
DD 24 modified: DD 12-pole +					
DD 24 equipped with 12 contacts Rated voltage: 400 V					
DD 24 modified: DD 5-pole +					
DD 24 equipped with 5 contacts Rated voltage: 500 V					
			Panel cut-out	View from termination side	
				Female insert 	Male insert
			● working contact ○ without contact		
Contacts					
Sleeve contacts D			silver-plated	gold-plated	100
crimp-type,			720 506	720 686	65
solid, turned,			720 507	720 687	68
weight per 100			720 508	720 688	70
			720 509	720 689	72
			720 502	720 690	62
Pin contacts D			silver-plated	gold-plated	100
crimp-type,			720 516	720 691	60
solid, turned,			720 517	720 692	63
weight per 100			720 518	720 693	65
			720 519	720 694	67
			720 512	720 695	70
Sleeve contact Optical waveguide for POF, solid, turned, weight per 100			720 520		100 89
Pin contact Optical waveguide for POF, solid, turned, weight per 100			720 530		100 74
			*POF = Polymer Optical Fibre		

			Series DD	42 P + 	 																	
Description	Part no.	Part no.																				
Crimp contact carriers																						
Contact carrier for sleeve contacts	750 142		  	10 51																		
Please order crimp and glass fibre cable contacts separately																						
Contact carrier for pin contacts	750 242		  	10 47																		
Please order crimp and glass fibre cable contacts separately																						
Contact arrangement																						
DD 42 completely equipped with 42 contacts Rated voltage: 250 V																						
DD 42 modified: DD 21-pole + 																						
DD 42 equipped with 21 contacts Rated voltage: 400 V																						
DD 42 modified: DD 11-pole + 																						
DD 42 equipped with 11 contacts Rated voltage: 500 V																						
			<div>Panel cut-out</div>  <div>View from termination side</div> <div>Female insert</div>    <div>Male insert</div>    <div>● working contact ○ without contact</div>																			
Contacts																						
Sleeve contacts D	silver-plated	gold-plated																				
crimp-type,	720 506	720 686																				
solid, turned,	720 507	720 687																				
weight per 100	720 508	720 688																				
	720 509	720 689																				
	720 502	720 690																				
Pin contacts D	silver-plated	gold-plated																				
crimp-type,	720 516	720 691																				
solid, turned,	720 517	720 692																				
weight per 100	720 518	720 693																				
	720 519	720 694																				
	720 512	720 695																				
			<div><div>z</div><div>Terminal cross section marked by z</div><table><tr><td>z</td><td></td><td></td></tr><tr><td>1</td><td>0.14 - 0.37 mm²</td><td>26 - 22 AWG</td></tr><tr><td>2</td><td>0.5 mm²</td><td>20 AWG</td></tr><tr><td>3</td><td>0.75 - 1 mm²</td><td>19 - 18 AWG</td></tr><tr><td>4</td><td>1.5 mm²</td><td>16 AWG</td></tr><tr><td>5</td><td>2.5 mm²</td><td>14 AWG</td></tr></table></div>	z			1	0.14 - 0.37 mm ²	26 - 22 AWG	2	0.5 mm ²	20 AWG	3	0.75 - 1 mm ²	19 - 18 AWG	4	1.5 mm ²	16 AWG	5	2.5 mm ²	14 AWG	100 65 68 70 72 62
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4	1.5 mm ²	16 AWG																				
5	2.5 mm ²	14 AWG																				
Sleeve contact Optical waveguide for POF, solid, turned, weight per 100	720 520		 <div>POF* Ø 1 mm</div>	100 89																		
Pin contact Optical waveguide for POF, solid, turned, weight per 100	720 530		 <div>POF* Ø 1 mm</div> <div>*POF = Polymer Optical Fibre</div>	100 74																		




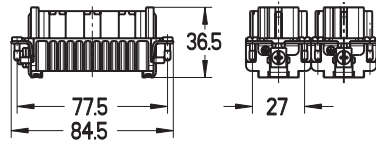

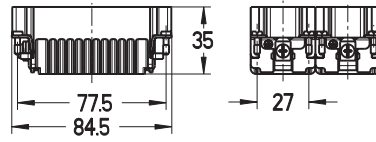

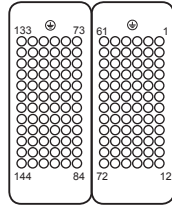
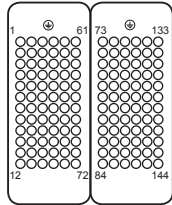
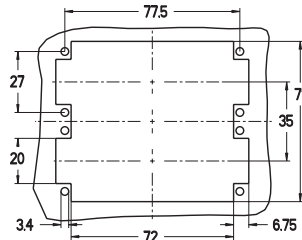
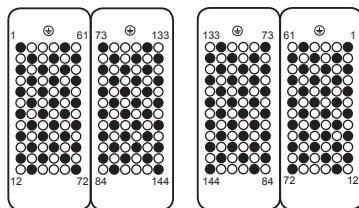
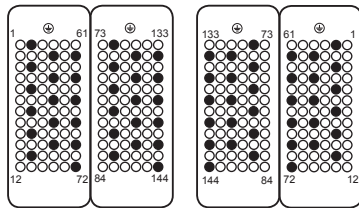




			Series DD	72 P + 	
				10 A / 250 V UL/CSA: 600 V	 g
Description			Part no.		
Crimp contact carriers					
Contact carrier for sleeve contacts			750 172	  	10 64
Please order crimp and glass fibre cable contacts separately					
Contact carrier for pin contacts			750 272	  	10 58
Please order crimp and glass fibre cable contacts separately					
Contact arrangement					
DD 72 completely equipped with 72 contacts Rated voltage: 250 V			Panel cut-out	View from termination side	
				Female insert 	Male insert 
DD 72 modified: DD 34-pole + 					
DD 72 equipped with 34 contacts Rated voltage: 400 V					
DD 72 modified: DD 17-pole + 					
DD 72 equipped with 17 contacts Rated voltage: 500 V					
			 working contact  without contact		




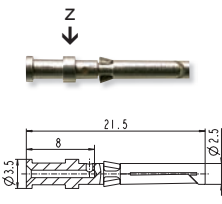
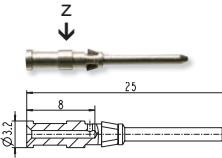


Description	Part no.	Part no.	Series DD	72 P + 	 																		
Contacts																							
Sleeve contacts D crimp-type, solid, turned, weight per 100	silver-plated 720 506 720 507 720 508 720 509 720 502	gold-plated 720 686 720 687 720 688 720 689 720 690		<table><thead><tr><th>z</th><th colspan="2">Terminal cross section marked by z</th></tr></thead><tbody><tr><td>1</td><td>0.14 - 0.37 mm²</td><td>26 - 22 AWG</td></tr><tr><td>2</td><td>0.5 mm²</td><td>20 AWG</td></tr><tr><td>3</td><td>0.75 - 1 mm²</td><td>19 - 18 AWG</td></tr><tr><td>4</td><td>1.5 mm²</td><td>16 AWG</td></tr><tr><td>5</td><td>2.5 mm²</td><td>14 AWG</td></tr></tbody></table>	z	Terminal cross section marked by z		1	0.14 - 0.37 mm ²	26 - 22 AWG	2	0.5 mm ²	20 AWG	3	0.75 - 1 mm ²	19 - 18 AWG	4	1.5 mm ²	16 AWG	5	2.5 mm ²	14 AWG	100 65 68 70 72 62
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Pin contacts D crimp-type, solid, turned, weight per 100	silver-plated 720 516 720 517 720 518 720 519 720 512	gold-plated 720 691 720 692 720 693 720 694 720 695		<table><tbody><tr><td>1</td><td>0.14 - 0.37 mm²</td><td>26 - 22 AWG</td></tr><tr><td>2</td><td>0.5 mm²</td><td>20 AWG</td></tr><tr><td>3</td><td>0.75 - 1 mm²</td><td>19 - 18 AWG</td></tr><tr><td>4</td><td>1.5 mm²</td><td>16 AWG</td></tr><tr><td>5</td><td>2.5 mm²</td><td>14 AWG</td></tr></tbody></table>	1	0.14 - 0.37 mm ²	26 - 22 AWG	2	0.5 mm ²	20 AWG	3	0.75 - 1 mm ²	19 - 18 AWG	4	1.5 mm ²	16 AWG	5	2.5 mm ²	14 AWG	100 60 63 65 67 70			
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Sleeve contact Optical waveguide for POF, solid, turned, weight per 100	720 520			100 89																			
Pin contact Optical waveguide for POF, solid, turned, weight per 100	720 530			100 74																			
			*POF = Polymer Optical Fibre																				

Description	Part no.	Series DD 108 P + 10 A / 250 V UL/CSA: 600 V	
Crimp contact carriers			
<div>5</div> Contact carrier for sleeve contacts	750 108 Please order crimp and glass fibre cable contacts separately	 	10 83
Contact carrier for pin contacts	750 208 Please order crimp and glass fibre cable contacts separately	 	10 73
Contact arrangement		Panel cut-out View from termination side	
DD 108 completely equipped with 108 contacts Rated voltage: 250 V		 <div> <div>Female insert</div> </div> <div> <div>Male insert</div> </div>	
DD 108 modified: DD 52-pole + DD 108 equipped with 52 contacts Rated voltage: 400 V		<div> <div>Female insert</div> </div> <div> <div>Male insert</div> </div>	
DD 108 modified: DD 26-pole + DD 108 equipped with 26 contacts Rated voltage: 500 V		<div> <div>Female insert</div> </div> <div> <div>Male insert</div> </div> <div> </div>	

Description	Part no.	Part no.	Series DD 108 P +  10 A / 250 V UL/CSA: 600 V		 
Contacts					
Sleeve contacts D crimp-type, solid, turned, weight per 100	silver-plated 720 506 720 507 720 508 720 509 720 502	gold-plated 720 686 720 687 720 688 720 689 720 690	Terminal cross section marked by z z 1 0.14-0.37 mm ² 26-22 AWG 2 0.5 mm ² 20 AWG 3 0.75-1 mm ² 19-18 AWG 4 1.5 mm ² 16 AWG 5 2.5 mm ² 14 AWG		100 65 68 70 72 62
Pin contacts D crimp-type, solid, turned, weight per 100	silver-plated 720 516 720 517 720 518 720 519 720 512	gold-plated 720 691 720 692 720 693 720 694 720 695	1 0.14-0.37 mm ² 26-22 AWG 2 0.5 mm ² 20 AWG 3 0.75-1 mm ² 19-18 AWG 4 1.5 mm ² 16 AWG 5 2.5 mm ² 14 AWG		100 60 63 65 67 70
Sleeve contact Optical waveguide for POF, solid, turned, weight per 100	720 520				100 89
Pin contact Optical waveguide for POF, solid, turned, weight per 100	720 530				100 74

*POF = Polymer Optical Fibre




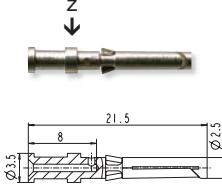
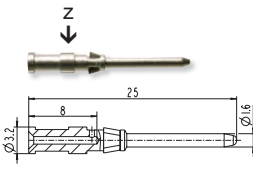
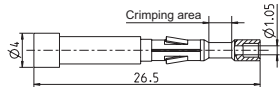
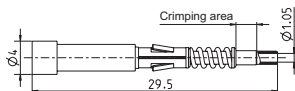
			<div>Series DD</div> <div>144 P + </div> <div>10 A / 250 V</div> <div>UL/CSA: 600 V</div>	  9
Description	Part no.			
<div>Crimp contact carriers</div>			<div></div> <div></div>	<div>10</div> <div>83</div> <div>83</div>
<div>Contact carriers</div> <div>for sleeve contacts 1 - 72</div> <div>for sleeve contacts 73 - 144</div> <div>750 172</div> <div>750 144</div> <div>Please order crimp and glass fibre cable contacts separately</div>				
<div>Contact carriers</div> <div>for pin contacts 1 - 72</div> <div>for pin contacts 73 - 144</div> <div>750 272</div> <div>750 244</div> <div>Please order crimp and glass fibre cable contacts separately</div>				<div>10</div> <div>73</div> <div>73</div>
<div>Contact arrangement</div>			<div>View from termination side</div> <div><div>Female insert</div><div>Male insert</div><div></div></div> <div>Panel cut-out</div> <div></div> <div></div> <div></div> <div><div> working contact</div><div> without contact</div></div>	
<div>DD 144 modified: DD 68-pole + </div> <div>DD 144 equipped with 2 x 34 contacts</div> <div>Rated voltage: 400 V</div>				
<div>DD 144 modified: DD 34-pole + </div> <div>DD 144 equipped with 2 x 17 contacts</div> <div>Rated voltage: 500 V</div>				

Description	Part no.	Part no.	Series DD 144 P +  10 A / 250 V UL/CSA: 600 V		 																																				
Contacts Sleeve contacts D crimp-type, solid, turned, weight per 100					Terminal cross section marked by z <table border="1"> <thead> <tr> <th>z</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>0.14 - 0.37 mm²</td> <td>26 - 22 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.5 mm²</td> <td>20 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.75 - 1 mm²</td> <td>19 - 18 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1.5 mm²</td> <td>16 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.5 mm²</td> <td>14 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	z	1	2	3	4	5	0.14 - 0.37 mm ²	26 - 22 AWG					0.5 mm ²	20 AWG					0.75 - 1 mm ²	19 - 18 AWG					1.5 mm ²	16 AWG					2.5 mm ²	14 AWG				
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Sleeve contact Optical waveguide for POF, solid, turned, weight per 100	720 520				<table border="1"> <thead> <tr> <th>z</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>0.14 - 0.37 mm²</td> <td>26 - 22 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.5 mm²</td> <td>20 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.75 - 1 mm²</td> <td>19 - 18 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1.5 mm²</td> <td>16 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.5 mm²</td> <td>14 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	z	1	2	3	4	5	0.14 - 0.37 mm ²	26 - 22 AWG					0.5 mm ²	20 AWG					0.75 - 1 mm ²	19 - 18 AWG					1.5 mm ²	16 AWG					2.5 mm ²	14 AWG				
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Pin contact Optical waveguide for POF, solid, turned, weight per 100	720 530				<table border="1"> <thead> <tr> <th>z</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>0.14 - 0.37 mm²</td> <td>26 - 22 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.5 mm²</td> <td>20 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.75 - 1 mm²</td> <td>19 - 18 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1.5 mm²</td> <td>16 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.5 mm²</td> <td>14 AWG</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	z	1	2	3	4	5	0.14 - 0.37 mm ²	26 - 22 AWG					0.5 mm ²	20 AWG					0.75 - 1 mm ²	19 - 18 AWG					1.5 mm ²	16 AWG					2.5 mm ²	14 AWG				
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*POF = Polymer Optical Fibre

			Series DD	216 P +		
				10 A / 250 V UL/CSA: 600 V		
Description			Part no.			
Crimp contact carriers						
Contact carriers for sleeve contacts 1 - 108 750 108 for sleeve contacts 109 - 216 750 116			 			10 64 64
Please order crimp and glass fibre cable contacts separately						
Contact carriers for pin contacts 1 - 108 750 208 for pin contacts 109 - 216 750 216						10 58 58
Please order crimp and glass fibre cable contacts separately						
Contact arrangement						
DD 216 completely equipped with 216 contacts Rated voltage: 250 V			View from termination side			
			Female insert Male insert			
			Panel cut-out			
DD 216 modified: DD 104-pole +			 			
DD 216 equipped with 2 x 52 contacts Rated voltage: 400 V						
DD 216 modified: DD 52.1-pole +			 			
DD 216 equipped with 2 x 26 contacts Rated voltage: 500 V						

● working contact ○ without contact

Description	Part no.	Part no.	Series DD	216 P + 	  9	
Contacts						
Sleeve contacts D	silver-plated	gold-plated				
crimp-type,	720 506	720 686		z	Terminal cross section marked by z	
solid, turned,	720 507	720 687		1	0.14-0.37 mm ²	26-22 AWG
weight per 100	720 508	720 688		2	0.5 mm ²	20 AWG
	720 509	720 689		3	0.75-1 mm ²	19-18 AWG
	720 502	720 690		4	1.5 mm ²	16 AWG
			5	2.5 mm ²	14 AWG	
Pin contacts D	silver-plated	gold-plated				
crimp-type,	720 516	720 691		z		
solid, turned,	720 517	720 692		1	0.14-0.37 mm ²	26-22 AWG
weight per 100	720 518	720 693		2	0.5 mm ²	20 AWG
	720 519	720 694		3	0.75-1 mm ²	19-18 AWG
	720 512	720 695		4	1.5 mm ²	16 AWG
			5	2.5 mm ²	14 AWG	
Sleeve contact						
Optical waveguide for POF,	720 520					
solid, turned,						
weight per 100						
Pin contact						
Optical waveguide for POF,	720 530					
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			*POF = Polymer Optical Fibre			