

Han® K 3/0, K 3/2 / Han® HC-Modular

Page

Technical characteristics Han K 3/0, Han K 3/2	14.10
Inserts Han K 3/0, Han K 3/2	14.11
Han 24 HPR special hoods/housings for Han K 3/0, Han K 3/2	14.12
Technical characteristics Han HC-Modular	14.14
Contacts Han HC-Modular	14.15
Hoods/housings for working voltage: 2 000 V Han HC-Modular	14.16
Hoods/housings for working voltage: 4 000 V Han HC-Modular	14.17
Assembly details for Han HC-Modular	14.19

Specifications

DIN VDE 0110
DIN VDE 0115

Inserts

K 3/0

K 3/2

Number of contacts	3	3/2 + PE
Working current (see current carrying capacity)	200 A	200 / 16 A
Working voltage		
Power contact to PE	1 000 V	1 000 V
Power contact to contact	2 000 V	2 000 V
Signal contact	—	400 V
Test voltage U_{rms}	6.5 kV	6.5 kV
Pollution degree	3	3
Insulation resistance	$10^{10} \Omega$	$10^{10} \Omega$
Material	Polycarbonate	Polycarbonate
Temperature range	- 40 °C ... +125 °C	- 40 °C ... +125 °C
Flammability acc. to UL 94	V 0	V 0

Contacts

K 3/0

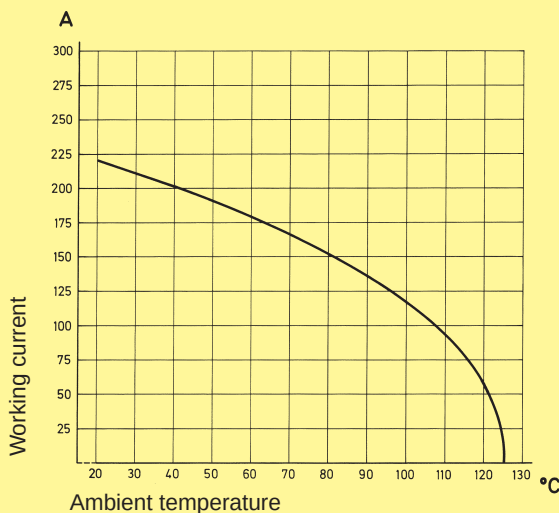
K 3/2

Material	copper alloy	copper alloy
Surface	silver	silver
Contact resistance	$\leq 0.2 \text{ m}\Omega$	$\leq 0.2 \text{ m}\Omega$
Axial screw contact		
- Wire gauge	35 - 70 mm ²	35 - 70 mm ²
- AWG	2 - 2/0	2 - 2/0
- Tightening torque	8 - 10 Nm	8 - 10 Nm
- Hexagonal wrench	SW 5	SW 5
PE contact		
- Wire gauge	—	16 - 35 mm ²
- AWG	—	5 - 2
- Tightening torque	—	6 Nm
- Hexagonal wrench	—	SW 4
Signal contact		
- Wire gauge	—	2,5 mm ²
- AWG	—	14
- Tightening torque	—	0.5 Nm

Current carrying capacity acc. to IEC 512

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 512-3.

Wire gauge: 50 mm²

Features

- To be used with Han® 24 HPR hoods and housings and 09 40 024 0311 (see page 14.12)
- Only available with axial screw termination
- The vertical and angled versions offer solutions for almost all applications
- The ideal connector for transmission of high currents requiring little space

HPR hoods/housings

Technical characteristics

Material	Aluminium alloy
Surface	
- priming	Chromated
- top coat	Epoxy powder paint
Locking elements	V2A
Kind of locking	Screw
Sealing	NBR
Temperature range	- 40 °C ... +125 °C
Degree of protection acc. to DIN 40 050 for coupled connector	IP 68

Features

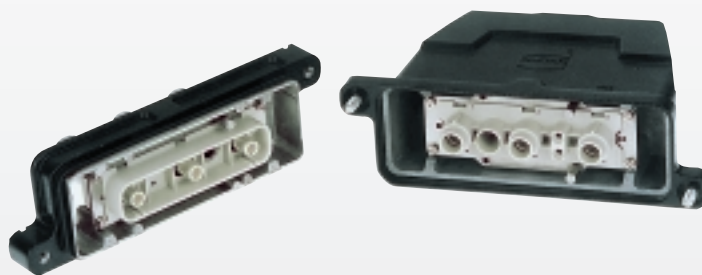
- Epoxy powder paint finish
- EMC protection
- Corrosion resistant
- Pressure tight

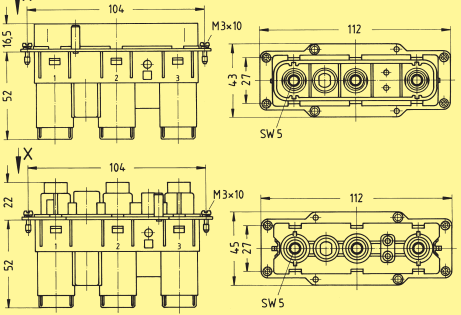
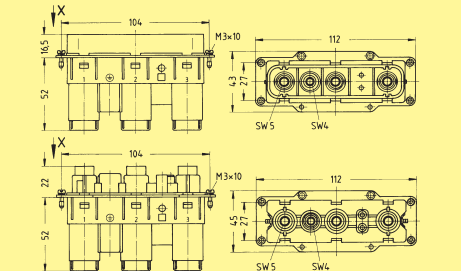
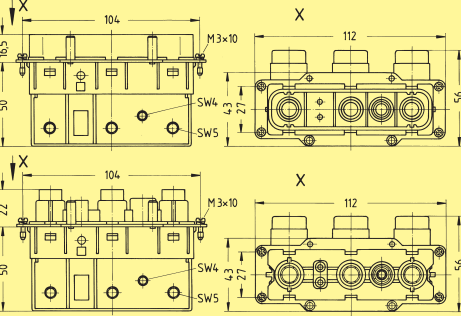
Number of contacts

K 3/0 without

K 3/2 with

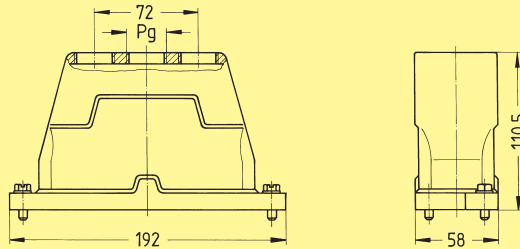
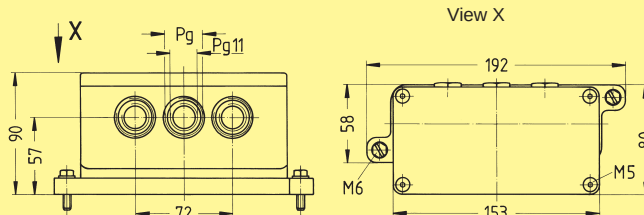
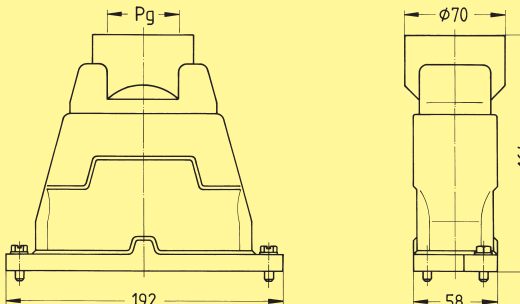
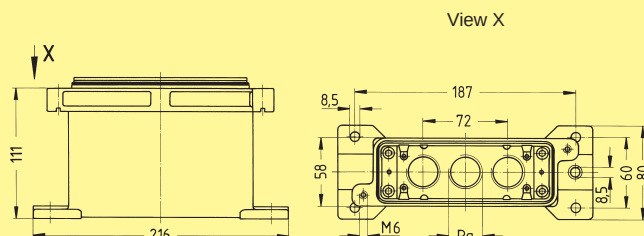
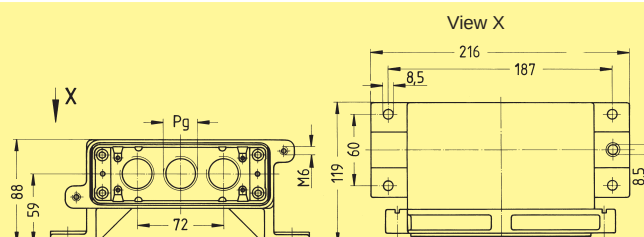
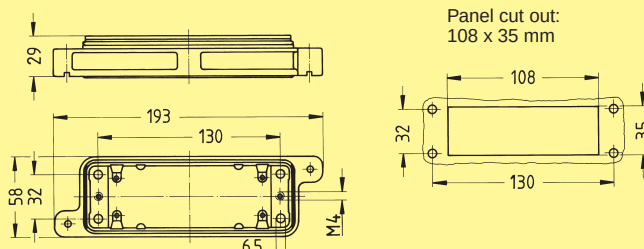
Inserts



		Part No.		Drawing	Dimensions in mm
Identification	Serie	Male insert (M)	Female insert (F)		
Axial screw terminal top-entry  angled 	Han K	09 38 005 2621	09 38 005 2721		
Axial screw terminal top-entry  angled 	Han K	09 38 005 2601	09 38 005 2701		Han HC-Modular
Axial screw terminal top-entry  angled 	Han K	09 38 005 2602	09 38 005 2702		Han HC-Modular

¹⁾ Distance for contact max. 21 mm¹⁾ Distance for contact max. 21 mm

Stock items in bold type

Identification	Part No. Screw locking	Serie Pg	Drawing	Dimensions in mm
Hood top-entry 	09 40 024 0461 09 40 024 0462	Han K 3/0 3 x 16 3 x 21		
angled entry 	09 40 024 0631	3 x 21		
top-entry for Pg 48 	09 40 024 0416	Han K 3/2 48		
Housing surface mounting straight version 	09 40 024 1231	Han K 3/0 3 x 21		
horizontal version 	09 40 024 0931	3 x 21		
Housing bulkhead mounting 	09 40 024 0311	Han K 3/0 + 3/2 24		

Stock items in bold type



Modular High Current Connector System



Technical characteristics

Specification

DIN VDE 0110
DIN VDE 0115
DIN VDE 0627

Inserts

Number of contacts	1, 2, 3 or 3 + PE
Working current (see current carrying capacity)	350 A
Working voltage (only with hexagonal adapter) for 16/24 HPR	2000 V 4000 V
Pollution degree	3
Rated impulse voltage	18 kV
Insulation resistance	$10^{10} \Omega$
Material	Polyamide
Temperature range	- 40 °C ... +125 °C
Flammability acc. to UL 94	V 0

Contacts

Contacts													
Material	copper alloy												
Surface	silver												
Contact resistance	≤ 0.2 mΩ												
Axial screw terminal													
- Wire gauge	35 - 70 mm ² or 95 - 120 mm ²												
- AWG	1 - 00 000 - 0000												
- Hexagonal wrench	SW 5												
- Tightening torque	<table><tr><td>mm²</td><td>35</td><td>50</td><td>70</td><td>95</td><td>120</td></tr><tr><td>Nm</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td></tr></table>	mm ²	35	50	70	95	120	Nm	6	8	10	12	14
mm ²	35	50	70	95	120								
Nm	6	8	10	12	14								
Screw terminal													
- Thread	M 10												
- Hexagonal wrench	SW 17												
- Tightening torque	14 Nm												

Frame

Tightening torque of the fixing screws	0.5 Nm
Tightening torque of the cross-tying screws on the frame for 4 poles	1.5 Nm

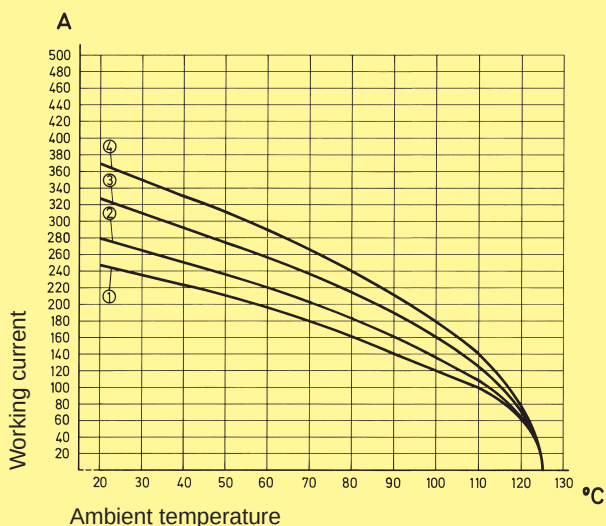
Han HPR Hoods/Housings

Material	corrosion resistant aluminium die-cast
Surface	
- Priming	chromated
- Top coat	powder paint RAL 9005
Locking elements	V2A steel
Kind of locking	screw
Sealing	NBR
Temperature range	- 40 °C ... +125 °C
Degree of protection acc. to DIN 40 050 for coupled connector	IP 68

Current carrying capacity acc. to IEC 512

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 512-3.

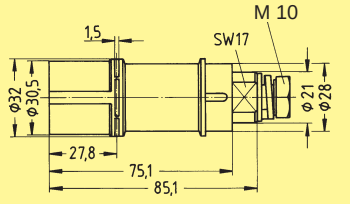
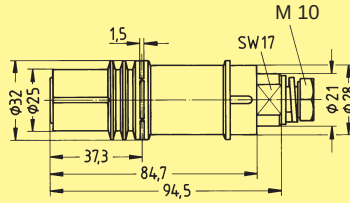
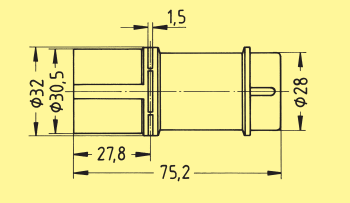
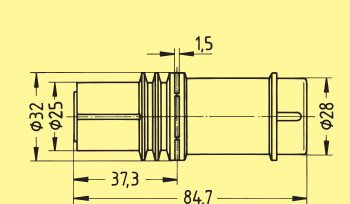
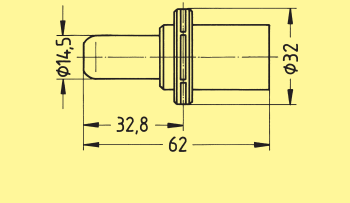
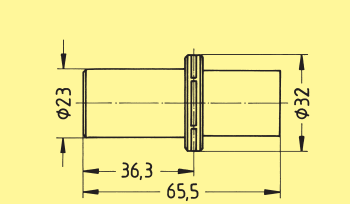
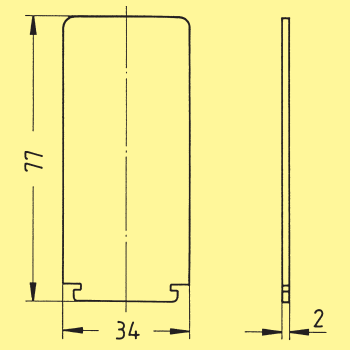


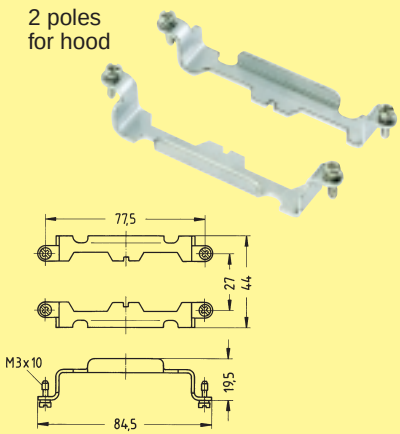
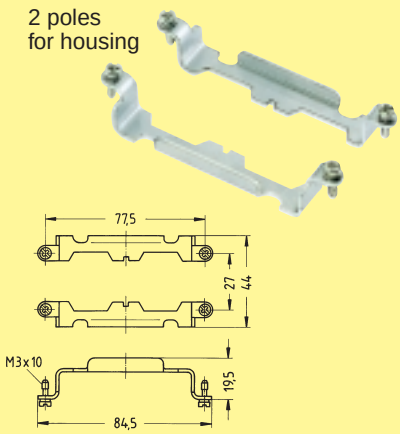
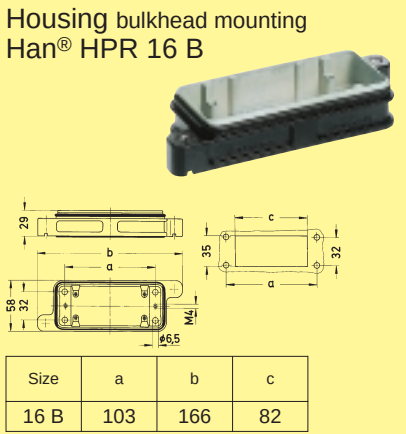
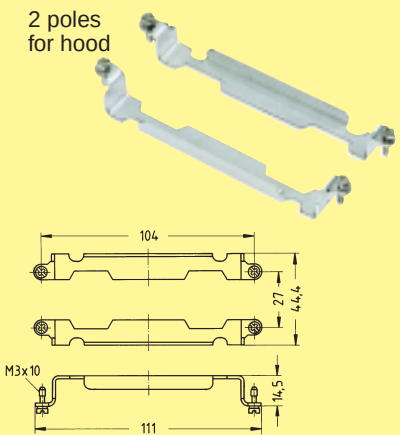
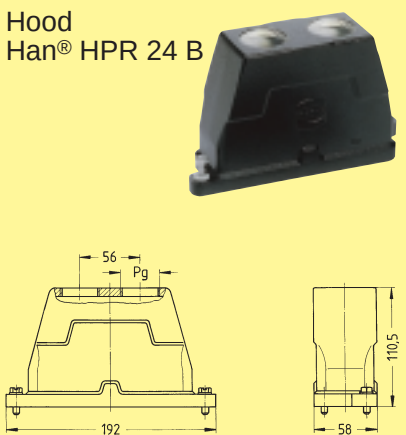
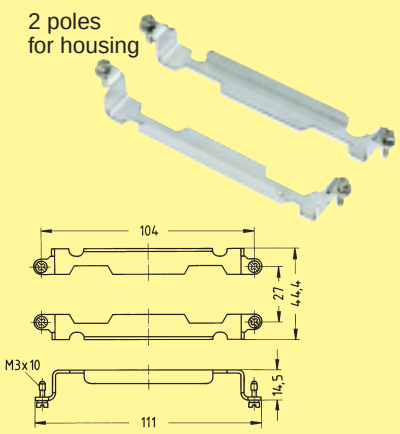
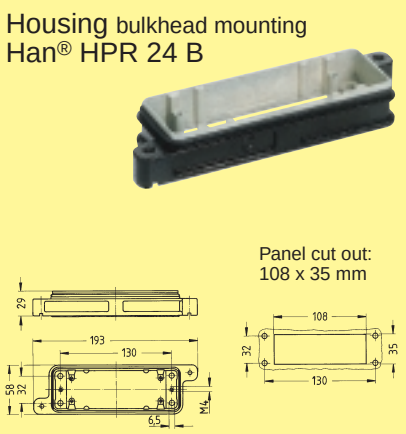
- ① Wire gauge: 50 mm²
- ② Wire gauge: 70 mm²
- ③ Wire gauge: 95 mm²
- ④ Wire gauge: 120 mm²

free contacts in HPR size 24

Han M Hoods/Housings

Material	corrosion resistant aluminium die-cast
Surface	
- Priming	chromated
- Top coat	powder paint RAL 9005
Locking elements	V2A steel
Sealing	Viton
Temperature range	- 40 °C ... +125 °C
Degree of protection acc. to DIN 40 050 for coupled connector	IP 65

Contacts	Part No.		Wire gauge	Drawing
	Male contact (M)	Female contact (F)		
Straight version with screw terminal  with axial screw terminal 	09 11 001 2655	09 11 001 2755	for cable lug up to max. 120 mm ²	   
PE contact with axial screw terminal 	09 11 000 6156	09 11 000 6256	35 - 70 mm ²	 
Partition wall for inserts in the frame for 2 poles 09 11 000 9952 	09 11 000 9962			

Frame	Part No.	Hoods/Housings top-entry	Pg	Part No.								
2 poles for hood 	09 11 000 9952	Hood Han® HPR 16 B 	2 x 21	09 40 016 0432								
2 poles for housing 	09 11 000 9952	Housing bulkhead mounting Han® HPR 16 B  <table><tr><th>Size</th><th>a</th><th>b</th><th>c</th></tr><tr><td>16 B</td><td>103</td><td>166</td><td>82</td></tr></table>	Size	a	b	c	16 B	103	166	82	—	09 40 016 0311
Size	a	b	c									
16 B	103	166	82									
2 poles for hood 	09 11 000 9956	Hood Han® HPR 24 B 	2 x 29	09 40 024 0433								
2 poles for housing 	09 11 000 9956	Housing bulkhead mounting Han® HPR 24 B  Panel cut out: 108 x 35 mm	—	09 40 024 0311								

* A working voltage of 4 000 V is only possible to realize by using a hexagonal adapter and the HARTING cable gland, in order to realize the clearance and creepage distances according to DIN VDE 0110.

Frame

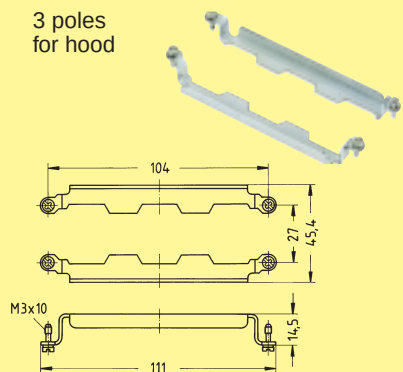
Part No.

Hoods/Housings top-entry

Pg

Part No.

3 poles
for hood



09 11 000 9963

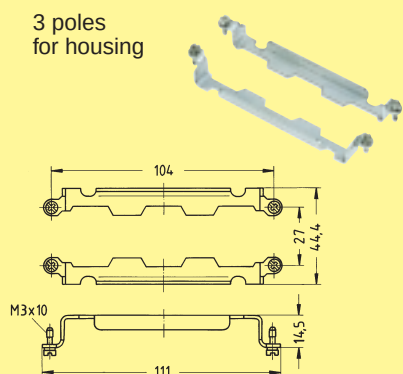
Hood
Han® HPR 24 B



3 x 21

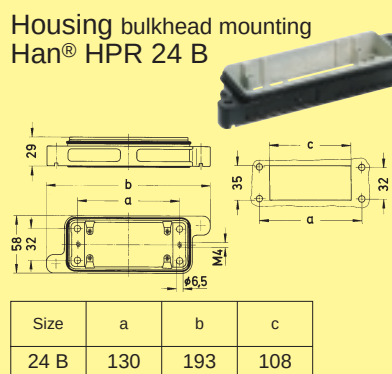
09 40 024 0462

3 poles
for housing



09 11 000 9953

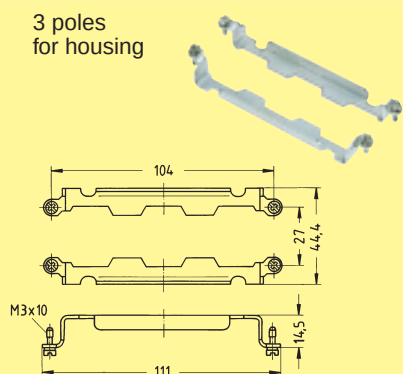
Housing bulkhead mounting
Han® HPR 24 B



—

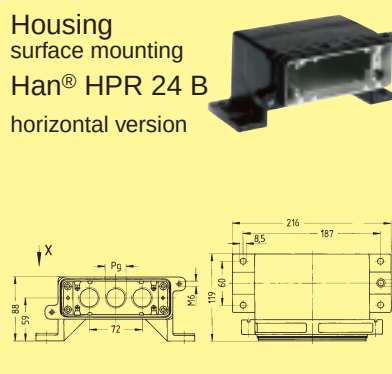
09 40 024 0311

3 poles
for housing



09 11 000 9953

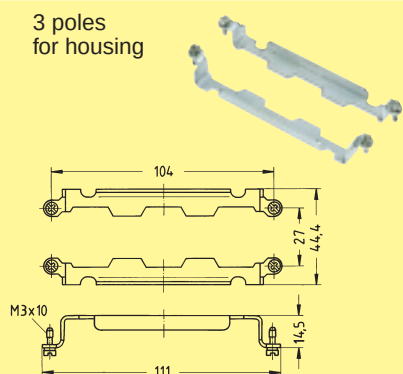
Housing
surface mounting
Han® HPR 24 B
horizontal version



3 x 21

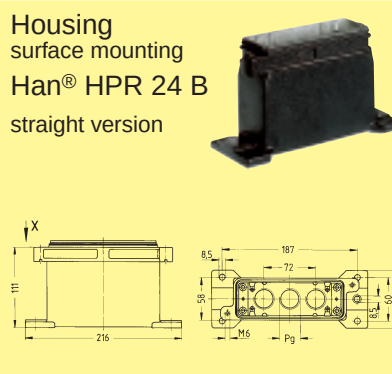
09 40 024 0931

3 poles
for housing



09 11 000 9953

Housing
surface mounting
Han® HPR 24 B
straight version



3 x 21

09 40 024 1231

Hexagonal adaptor

Part No.

Pg

SW

Drawing

Dimensions in mm

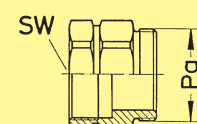
Metal version
with O-Ring for
anti-twist device



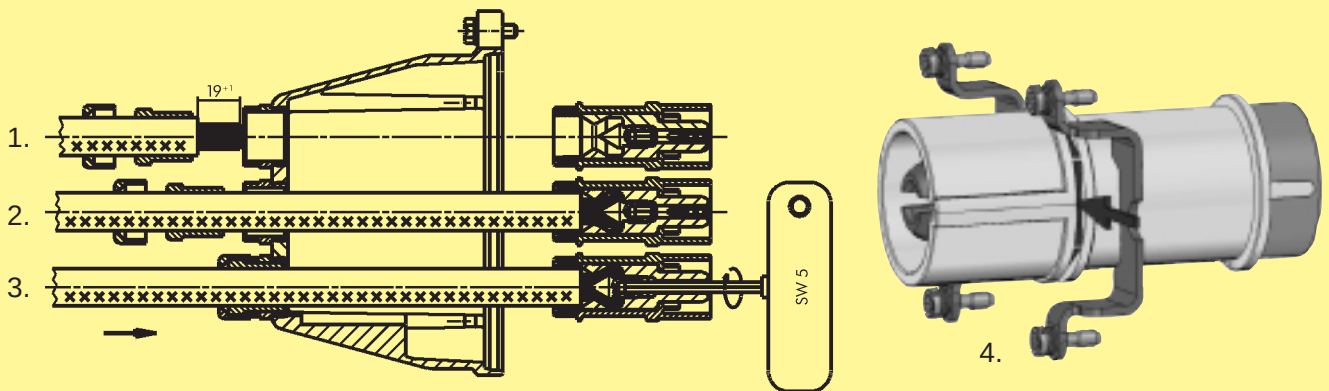
09 36 000 5134
09 36 000 5135

21
29

30
40



Assembly Details



1. Strip cable to 19+1 mm.
2. Push conductors through the cable gland and the housing. Push the stripped end of the conductor into the connection entry of the module until the insulation touches the contact.
3. To tighten the locking screw, a hexagonal wrench size 5 is needed. Insert the hexagonal wrench on the mating side of the contact. At the same time, push the conductor over the axial screw. The locking screw has to be tightened with the recommended tightening torque that is determined by the conductor's cross section (6 - 14 Nm).
4. Once all modules are terminated, they are mounted into the housing by means of two metal frames (tightening torque of the fixing screws = 0.5 Nm). The modules have a hexagonal around it which mates with the metal frame. The heads of the fixing screws have to face the mating direction of the module. Due to the hexagonal slot, each module can be used in 6 different positions (turning every 60 degrees) to create a coding system.

Therefore it is important that the corresponding modules are assembled in the correct position or mating is not possible.

5. After the assembly of the modules in the housing, the tightening torque of the locking screw can be checked and corrected if necessary.
6. After final assembly of the contacts, the user should ensure that the cable is adequately strain relieved to protect the contact from radial stress.
7. During the assembly of the frame for 4 poles the following tightening torques have to be taken into consideration:
 - A = 0.5 Nm
 - B = 1.5 Nm
 - C = 0.25 Nm

