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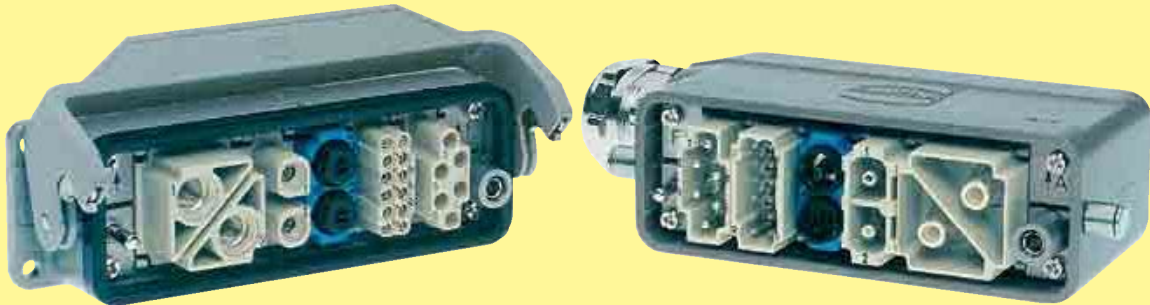
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Description of the Han-Modular® system



The Han-Modular® series is a new system of inserts designed to meet the specific requirements of individual customers. In close cooperation with potential users a range of modular inserts have been developed allowing the simple assembly of custom designed complete connectors which meet the diverse requirements encountered by designers today.

Han-Modular® is a logical development of the Han-Com® series which already offers the combination of power and signal circuits in one connector.

The individual modules of this series now allow the integration of electrical, optical and gaseous signal and power connections in one connector assembly.

The pneumatic contacts are also suitable for the connection of liquid media. However it must be stated that a combination of electrical and liquid connections in one connector is not allowed according to VDE regulations.

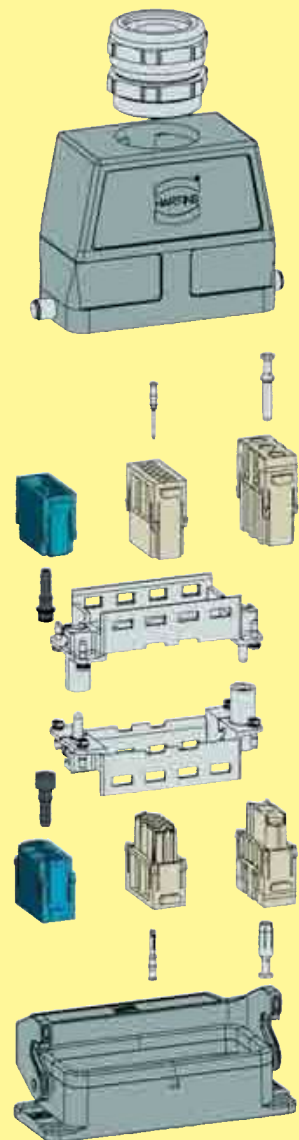
The individual contacts used in this system are all from existing well proven ranges and it is possible to use combinations of 1 to 12 modules depending on the size of the hoods and housings chosen.

The basic modules snap into a mounting frame and can be exchanged separately at any time.

Advantages:

- Custom designs can be simply assembled
- Optimum solutions can be reached
- Stock can be minimized

Assembly details



Han-Modular® Compact



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Han-Modular® Twin



Page 06.12

Han-Modular® Hinged frames in Han® B hoods and housings



Page 06.14

Han-Modular® Docking frame











Page 06.16

Han-Modular® ECO











Page 06.20

Series	Han® 200 A Axial module	Han® 200 A Crimp module	Han® 100 A Axial module	Han® 100 A Crimp module
Number of contacts	1	1	2	2
Modules	Axial screw terminal 	Crimp terminal 	Axial screw terminal 	Crimp terminal 
Rated current	200 A	200 A	100 A	100 A
Rated voltage	1000 V	1000 V	1000 V	1000 V
Wire gauge	25 ... 70 mm ²	25 ... 70 mm ²	10 ... 38 mm ²	10 ... 35 mm ²
Page	06.24	06.26	06.28	06.30

Series	Han® 100 A Single module	Han® 70 A Axial module	Han® 70 A Crimp module	Han® 70 A Hybrid module
Number of contacts	1	2	2	1 / 4
Modules	Axial screw terminal 	Axial screw terminal 	Crimp terminal 	Axial screw terminal 
Rated current	100 A	70 A	70 A	70 A / 16 A
Rated voltage	830 V	1000 V	1000 V	1000 V / 400 V
Wire gauge	10 ... 35 mm ²	6 ... 22 mm ²	10 ... 25 mm ²	6 ... 22 mm ² / 0.14 ... 4 mm ²
Page	06.32	06.34	06.36	06.38

Han
Modular

Series	Han® 40 A Axial module	Han® 40 A Crimp module	Han® C Axial module	Han® C module
Number of contacts	2	2	3	3
Modules	Axial screw terminal 	Crimp terminal 	Axial screw terminal 	Crimp terminal 
Rated current	40 A	40 A	40 A	40 A
Rated voltage	1000 V	1000 V	690 V	690 V
Wire gauge	2.5 ... 10 mm ²	1.5 ... 10 mm ²	2.5 ... 10 mm ²	1.5 ... 10 mm ²
Page	06.40	06.42	06.44	06.46

Series	Han® CC Protected module	Han® CD module	Han E® module	Han® E Quick Lock module
Number of contacts		3 / 4	6	6
Modules	Crimp terminal 	Crimp terminal 	Crimp terminal 	Quick Lock terminal 
Rated current	40 A	40 A / 10 A	16 A	16 A
Rated voltage	830 V	830 V / 830 V	500 V	500 V
Wire gauge	1.5 ... 6 mm ²	1.5 ... 6 mm ² / 0.14 ... 2.5 mm ²	0.14 ... 4 mm ²	0.5 ... 2.5 mm ²
Page	06.48	06.50	06.52	06.54

Series	Han® EE module	Han® EE Quick Lock module	Han E® Protected module	Han® EEE module
Number of contacts	8	8		
Modules	Crimp terminal	Quick Lock terminal	Crimp terminal	Crimp terminal
Rated current	16 A	16 A	16 A	16 A
Rated voltage	400 V	400 V	830 V	500 V
Wire gauge	0.14 ... 4 mm ²	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²	0.14 ... 4 mm ²
Page	06.56	06.58	06.60	06.62

Han Modular

Series	Han® ES module	Han® HV Single module	Han® HV module	Han® HV module
Number of contacts	5	2	2	2
Modules	Cage-clamp terminal	Crimp terminal	Crimp terminal	Crimp terminal
Rated current	16 A	16 A	16 A	40 A
Rated voltage	400 V	2500 V	2900 / 5000 V	2900 / 5000 V
Wire gauge	0.14 ... 2.5 mm ²	0.5 ... 4 mm ²	0.5 ... 4 mm ²	1.5 ... 10 mm ²
Page	06.64	06.66	06.68	06.70

Series	Han DD® module	Han DD® Quick Lock module	Han® DDD module	Han® High Density module
Number of contacts	12	12	17	25
Modules	Crimp terminal	Quick Lock terminal	Crimp terminal	Crimp terminal
Rated current	10 A	10 A	10 A	4 A
Rated voltage	250 V	250 V	160 V	50 V
Wire gauge	0.14 ... 2.5 mm ²	0.25 ... 1.5 mm ²	0.14 ... 2.5 mm ²	0.08 ... 0.52 mm ²
Page	06.72	06.74	06.76	06.78

Series	Han® D-Sub module		Han® USB module	Han® FireWire module
Number of contacts	9		4	6
Modules	Crimp terminal		USB 2.0	IEEE 1394
Rated current	5 A			
Rated voltage	50 V			
Wire gauge	0.08 ... 0.52 mm ²			
Page	06.80		06.82	06.84

Series	Han® RJ45 module	Han® GigaBit module	Han® MegaBit module	Han® Shielded module
Number of contacts	8	8	2 x 4	20
Modules	Ethernet Cat. 6	Ethernet Cat. 6A	Ethernet Cat. 5e	Crimp terminal
Page	06.86	06.92	06.94	06.96

Series	Han-Quintax® module			
Number of contacts	2			
Modules				
Page	06.100		06.102	
Contacts	Han-Quintax® contact 4 + shielding	High Density Quintax contact 8 + shielding	Han D® Coax contact 1 + shielding 75 Ω	Han E® Coax contact 1 + shielding 50 Ω

Han
Modular

Series	Han® Multi module			
Number of contacts	4		12	
Modules				
Page	06.104		06.106	
Contacts	FOC contacts	Coaxial contacts	FOC contacts	Coaxial contacts
	Multimode F.O. HCS®* / PCF F.O. 1 mm POF	50 Ω RG 174 75 Ω RG 179 50 Ω RG 58	Multimode F.O. HCS®* / PCF F.O. 1 mm POF	50 Ω RG 174 75 Ω RG 179

Series	Han® Pneumatic module		Han® SC module	Han-Elisa®	Dummy module
Number of contacts	2	3	4		
Modules					
Page	06.110	06.112	06.114	06.116	06.124
Contacts					
	Ø 6.0 mm	Ø 1.6 mm Ø 3.0 mm Ø 4.0 mm	SC contact for GI 50; 62.5 / 125 µm	Temperature I/O modules ID module	

* HCS® = Hard Clad Silica (is registered trade mark of the SpecTran Corporation)

Features

- Compact design saves space
- Modular structure increases flexibility
- Simple and quick assembly
- Robust design
- Two part grommet housing

Technical characteristics

Hoods/Housings

Material	zinc die-cast
Surface	nickel plated
Locking element	stainless steel
Hoods/Housings sealing	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529	
for coupled connector	IP 65
Mechanical working life	
- mating cycles	500
PE contact	
wire gauge	10 mm ² / AWG 8
Stripping length	10 mm
Tightening torque	1 Nm

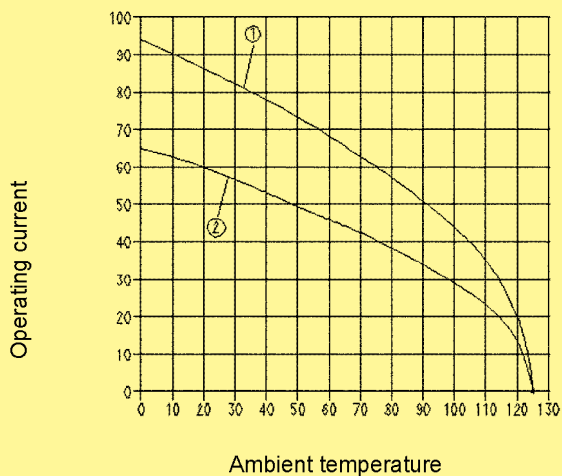
Protection covers for housings, bulkhead mounting

Material	Polyamide
Locking element	Polyamide
Hoods/Housings sealing	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529	
for coupled connector	IP 65
Flammability acc. to UL 94	V 0

Current carrying capacity

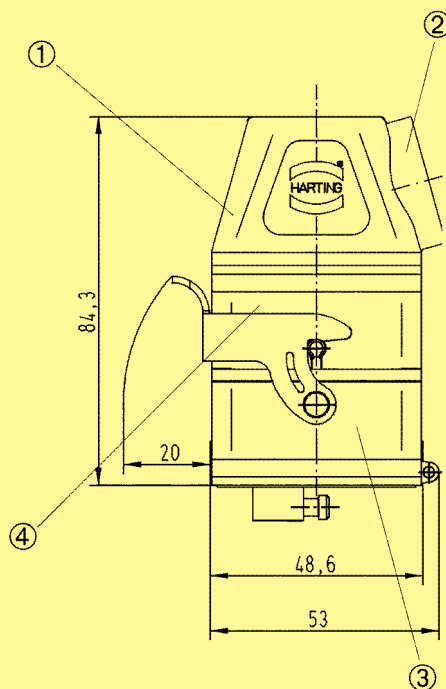
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques according to DIN EN 60 512-5-2



① Han® 40 A Axial module, wire gauge: 10 mm²

② Han® C module, wire gauge: 6 mm²


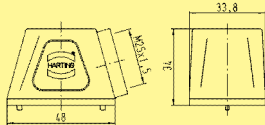

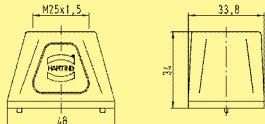


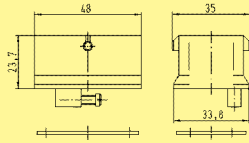

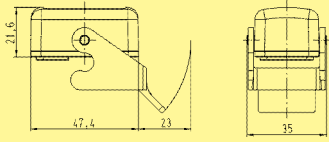

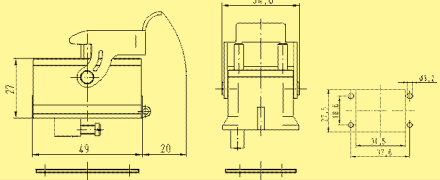

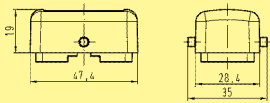


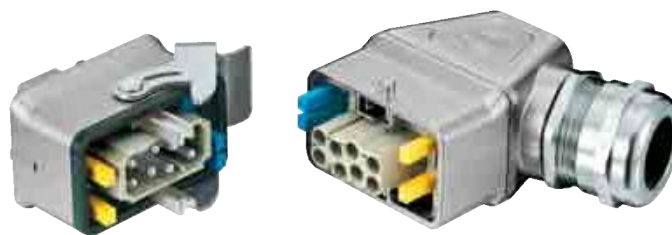
① Hood with side entry

② Thread M25

③ Bulkhead mounted housing with locking lever

④ Carrier hood

Identification	Part number	Drawing	Dimensions in mm
Hoods side entry M25 	19 14 001 0501	4 screws are included in the delivery range 	
Hoods top entry M25 	19 14 001 0401	4 screws are included in the delivery range 	
Hoods top entry M32 	19 14 001 0402	4 screws are included in the delivery range 	
Carrier hood 	09 14 001 0311		
Protection covers 	09 14 001 5402		
Housings, bulkhead mounting 	09 14 001 0301		Panel cut out
Protection covers for housings, bulkhead mounting 	09 14 001 5401		



Coding pins

Han
Modular

Identification

Part number

Drawing

Dimensions in mm

Coding pin 1 (red)



09 14 000 9971

Coding pin 2 (blue)



09 14 000 9972

Coding pin 3 (black)



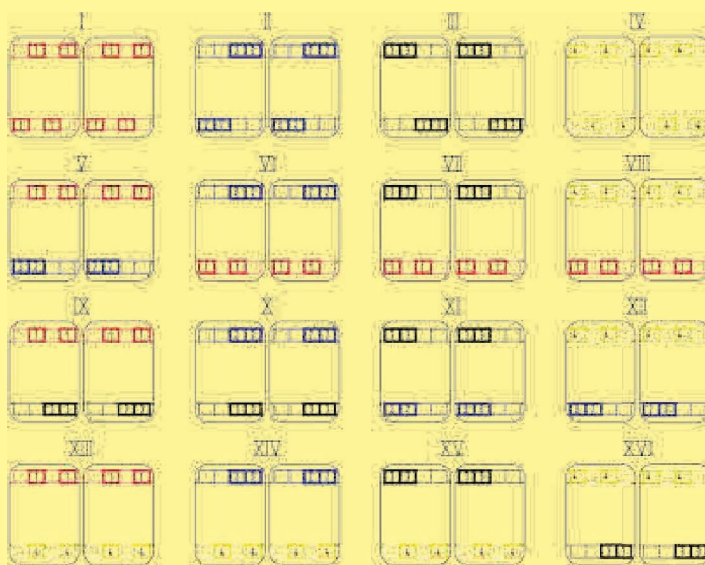
09 14 000 9973

Coding pin 4 (yellow)

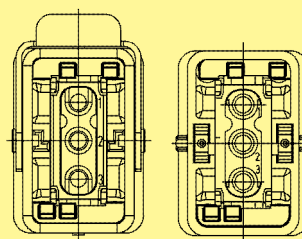


09 14 000 9974

16 Coding options




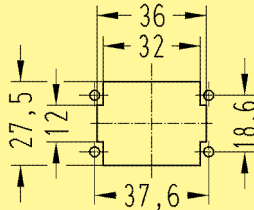
Example for coding option IV



Remark

Coding pins can be retro fitted from the front.

-  09 14 000 9971 red
-  09 14 000 9972 blue
-  09 14 000 9973 black
-  09 14 000 9974 yellow

Identification	Part number	Drawing	Dimensions in mm
<p>Fixing bracket for Han-Modular® Compact</p> 	<p>09 14 000 9947</p>	 <p>1 Panel cut out</p>	

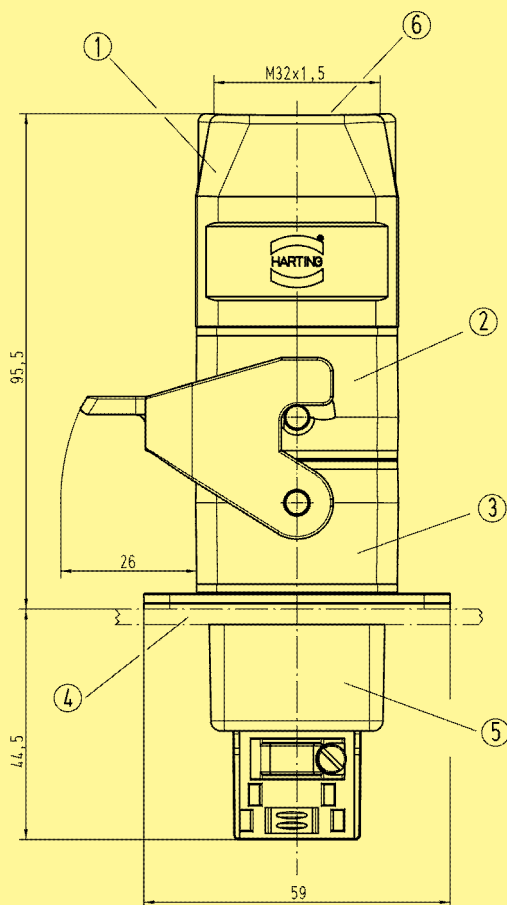
Features

- Compact and space saving
- High degree of flexibility due to modular assembly
- Easy and quick assembly
- Robust design
- Hood consists of two parts

Technical characteristics

Hoods/Housings

Material	aluminium die-cast
Surface	powder-coated
Locking element	Han-Easy Lock®
Material	
Panel feed through housing / Shielding frame	zinc die-cast
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529	
for coupled connector	IP 65
Mechanical working life	
- mating cycles	≥ 500
PE contact	
wire gauge	10 mm ² / AWG 8
Stripping length	10 mm
Tightening torque	1 Nm



- ① Hood with top entry
- ② Carrier hood
- ③ Bulkhead mounted housing with locking lever
- ④ Switch board panel
- ⑤ Panel feed through housing
- ⑥ Thread M32



Identification	Part number	Drawing	Dimensions in mm
Hoods top entry M32	19 14 002 0402		
Shielding frame	09 14 000 9924		
Carrier hood	09 14 002 0311		
Housings, bulkhead mounting	09 14 002 0301		Panel cut out
Panel feed through housings	09 14 000 9928		Panel cut out

Features

- Pre-leading grounding system according VDE
- Modules can only be assembled polarized to guarantee a correct orientation
- Alphabetical marking of module position
- High mechanical reliability of modules in case of vibration and impact stress
- No tools necessary to remove modules

Technical characteristics

Specifications DIN EN 60 664-1
 DIN EN 61 984

Approvals 

Hinged frames

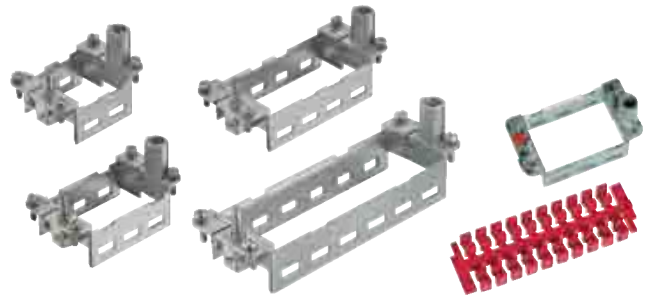
Number of modules 2, 3, 4, 6
 PE contact
 Wire gauge
 - Power side * 4 ... 10 mm²
 AWG 12 ... 8
 - Signal side 1 ... 2.5 mm²
 AWG 18 ... 14
 Material zinc die-cast
 Limiting temperatures -40 °C ... +125 °C
 Mechanical working life
 - mating cycles ≥ 500

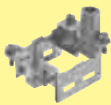
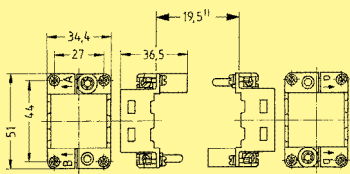
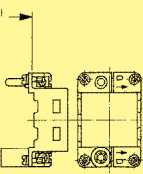
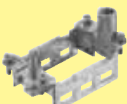
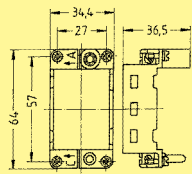
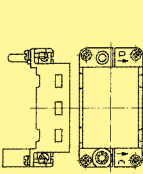
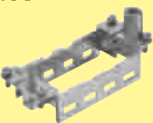
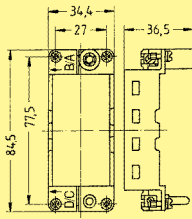
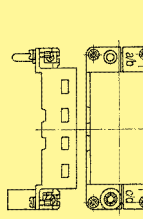
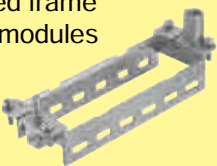
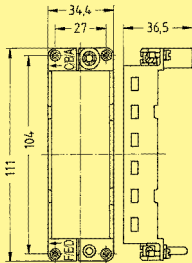
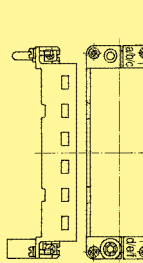
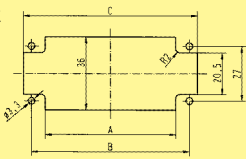

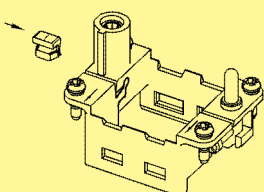
Hoods/Housings

Selection of hoods/housings see chapter 31
 Material aluminium die-cast
 Surface powder-coated
 RAL 7037
 Locking element Han-Easy Lock®
 Hoods/Housings seal NBR
 Limiting temperatures -40 °C ... +125 °C
 Degree of protection acc. to DIN EN 60 529
 for coupled connector IP 65

Accessories

Coding of hoods/housings chapter 95



Identification	Part number for Hood/Housing 2)			Drawing	Dimensions in mm
	Size	Marking A ... F	Marking a ... f		
Hinged frame for 2 modules 	6 B	09 14 006 0303	09 14 006 0313	Hoods 	Housings 
Hinged frame for 3 modules 	10 B	09 14 010 0303	09 14 010 0313		
Hinged frame for 4 modules 	16 B	09 14 016 0303	09 14 016 0313		
Hinged frame for 6 modules 	24 B	09 14 024 0303	09 14 024 0313		 Panel cut out 
Locking element for hinged frames (20 pieces per bloc) 		09 14 000 9960	09 14 000 9960		Ideal to pre-assemble the hinged frames

Size	A	B	C
6 B	35	44	52
10 B	49	57	66
16 B	64	77.5	85.5
24 B	94	104	112

1) Distance max. 20.5 mm
 2) Hinged frames can be used either in hood or housing
 Both different markings must be used for one connector!

Features

- Blind mating connector system for drawer systems
- Direct panel mounting without housing
- Very robust design
- Solid pre-leading guid pins and float bushes
- Can be fixed with standard M4 screws

Notice:

Due the plastic material used in the docking frame without PE, the panel will need to be grounded separately


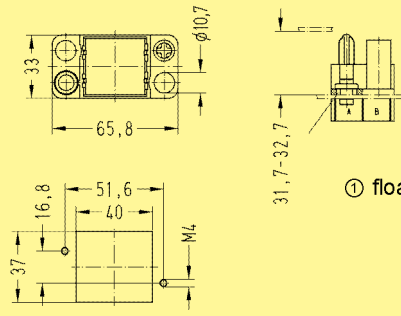
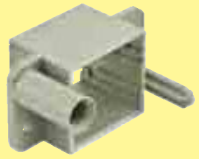
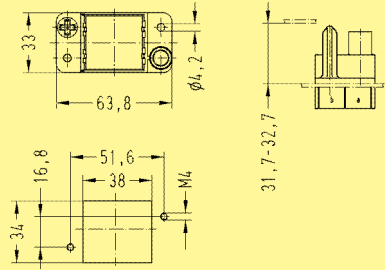

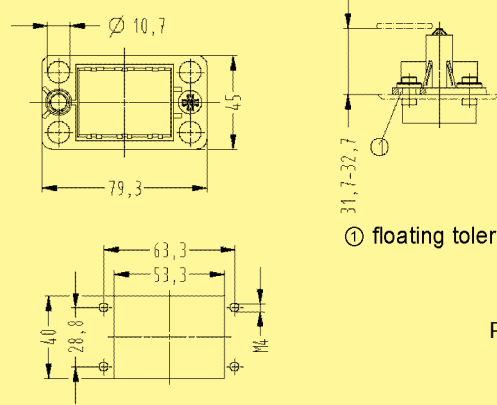

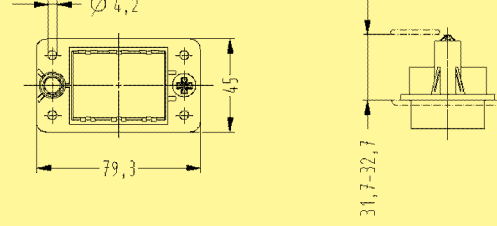
Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
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Docking frames


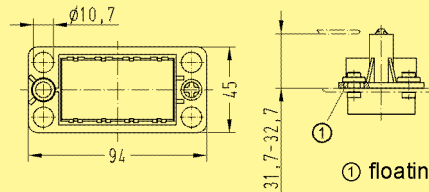

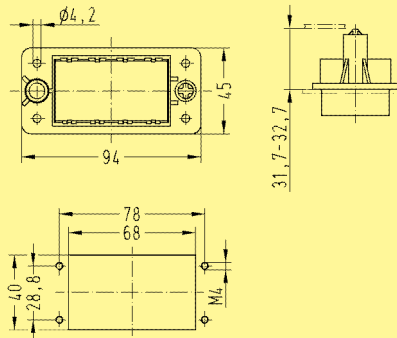

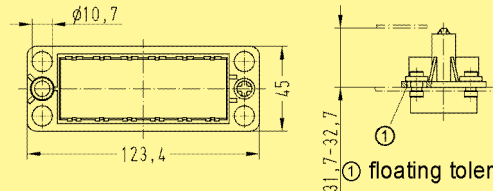

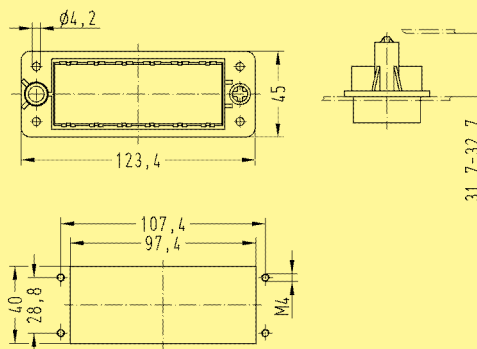
Number of modules	2, 3, 4, 6
Material	
- Docking frames	polycarbonate
- Float washer	zinc die-cast
Floating tolerance	± 2 mm
Aligning tolerance	± 4 mm
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500


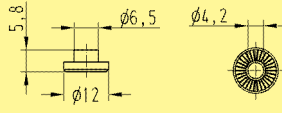




Identification	Part number		Drawing	Dimensions in mm
	Marking A ... F	Marking a ... f		
Docking frame for 2 modules float mount 	09 14 006 1701			Ⓞ floating tolerance ± 2 mm Panel cut out
Docking frame for 2 modules fixed 		09 14 006 1711		Panel cut out
Docking frame for 3 modules float mount 	09 14 010 1701			Ⓞ floating tolerance ± 2 mm Panel cut out
Docking frame for 3 modules fixed 		09 14 010 1711		Panel cut out



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Identification	Part number		Drawing	Dimensions in mm
	Marking A ... F	Marking a ... f		
Docking frame for 4 modules float mount 	09 14 016 1701		 <p>① floating tolerance ± 2 mm</p>	
Docking frame for 4 modules fixed 		09 14 016 1711	 <p>Panel cut out</p>	
Docking frame for 6 modules float mount 	09 14 024 1701		 <p>① floating tolerance ± 2 mm</p>	
Docking frame for 6 modules fixed 		09 14 024 1711	 <p>Panel cut out</p>	

Identification	Part number	Drawing	Dimensions in mm
<p>Float washer to enable the frame to be float mounted using standard M4 fixing screws</p> 	<p>09 14 000 9936</p>		
Identification	Part number	Drawing	Dimensions in mm
<p>Removal tool for modules</p>			
<p>Thermoplastic</p>	<p>09 99 000 0331</p>		
<p>Metal</p>	<p>09 99 000 0828</p>		

Features

- Suitable for all Han-Modular® single modules
- The variant with PE connection uses pin 1 of the module as PE
- Slim, space saving design
- Low cost plastic hoods and housings

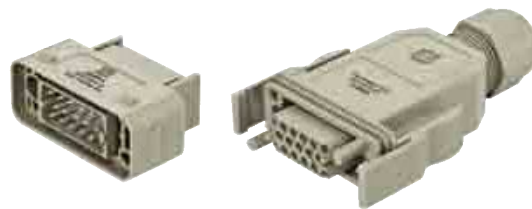
Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
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Hoods/Housings

Material	
- Hoods/Housings	polycarbonate
- Seal	NBR
- Cable gland	Polyamide
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 20 / IP 65
Mechanical working life	
- mating cycles	≥ 500

Plastic hoods/housings
with PE marking










Identification	Part number	Drawing	Dimensions in mm
Hoods with PE marking (pin 1 = PE) IP 65 top entry	09 14 001 0421		
Hoods with PE marking (pin 1 = PE) IP 20 top entry	09 14 001 0423		
Housing, bulkhead mounting with PE marking (pin 1 = PE) IP 20 / IP 65	09 14 001 0321		Panel cut out
Cable to cable hoods with PE marking (Pin 1 = PE) top entry IP 20	09 14 001 0721		
IP 65	09 14 001 0723		
Coding pin	09 14 000 9929		Range of delivery: 8 pieces per frame

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Plastic hoods/housings
without PE

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Identification	Part number	Drawing	Dimensions in mm
Hoods without PE IP 65 top entry 	09 14 001 0420		
Hoods without PE IP 20 top entry 	09 14 001 0422		
Housing, bulkhead mounting without PE IP 20 / IP 65 	09 14 001 0320		Panel cut out
Cable to cable hoods without PE top entry IP 20 	09 14 001 0720		
IP 65 	09 14 001 0722		
Coding pin 	09 14 000 9929		Range of delivery: 8 pieces per frame