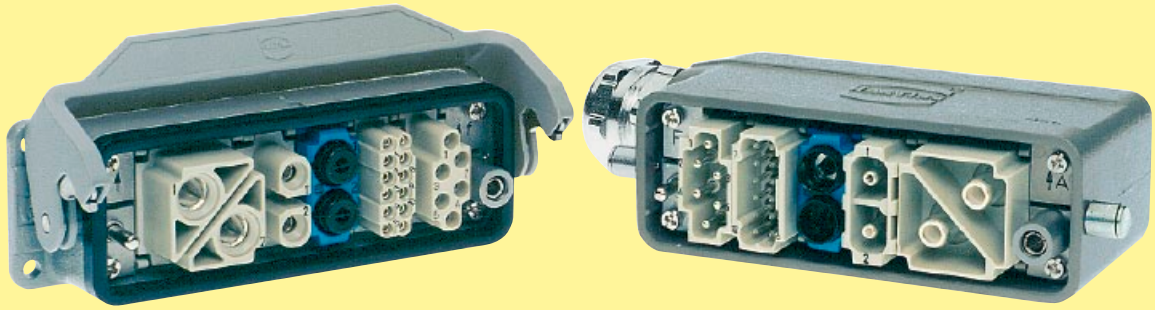
Contents

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.

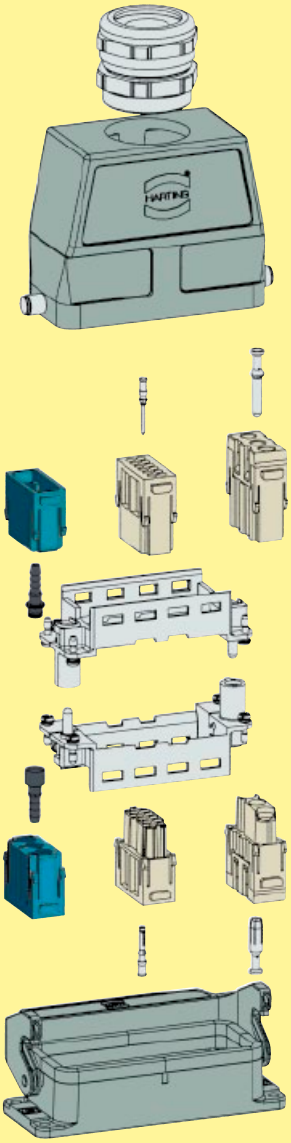
The individual contacts used in this system are all from existing well proven ranges and it is possible to use combinations of 1 to 12 modules depending on the size of the hoods and housings chosen.

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



Summary Han-Modular®

Summary Han-Modular®

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 / 1000 V	1000 V	1000 V
Wire gauge	25 ... 70 mm²	25 ... 70 mm²	10 ... 38 mm²	10 ... 35 mm²
Page	06.20	06.22	06.24	06.26

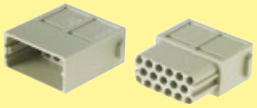
Series	Han® 70 A Axial module	Han® 40 A Axial module	Han® 40 A Crimp module	Han® C Axial module
Number of contacts	2	2	2	3
Modules	Axial screw terminal	Axial screw terminal	Crimp terminal	Axial screw terminal
				
Rated current	70 A	40 A	40 A	40 A
Rated voltage	1000 V	1000 V	1000 V	690 V
Wire gauge	6 ... 22 mm²	2.5 ... 10 mm²	1.5 ... 10 mm²	2.5 ... 10 mm²
Page	06.28	06.30	06.32	06.34

Series	Han® C module	Han® CC Protected module	Han® CD module	Han E® module
Number of contacts	3	4	3 / 4	6
Modules	Crimp terminal	Crimp terminal	Crimp terminal	Crimp terminal
				
Rated current	40 A	40 A	40 A / 10 A	16 A
Rated voltage	400 / 690 V	830 V	830 V / 830 V	500 V
Wire gauge	1.5 ... 10 mm²	1.5 ... 6 mm²	1.5 ... 6 mm² / 0.14 ... 2.5 mm²	0.14 ... 4 mm²
Page	06.36	06.38	06.40	06.42

Series	Han® EE module	Han® EE Quick Lock module	Han E® Protected module	Han® EEE module
Number of contacts	8	8	6	20
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 mm²	0.5 ... 2.5 mm²	0.14 ... 4 mm²	0.14 ... 4 mm²
Page	06.44	06.46	06.48	06.50

Summary Han-Modular®

Series	Han® ES module	Han® HV module	Han® HV module	Han DD® module
Number of contacts	5	2	2	12
Modules	Cage-clamp terminal	Crimp terminal	Crimp terminal	Crimp terminal
				
Rated current	16 A	16 A	40 A	10 A
Rated voltage	400 V	2900 / 5000 V	2900 / 5000 V	250 V
Wire gauge	0.14 ... 2.5 mm²	0.5 ... 4 mm²	1.5 ... 10 mm²	0.14 ... 2.5 mm²
Page	06.52	06.54	06.56	06.58

Series	Han DD® Quick Lock module	Han® DDD module	Han® High Density module	Han® D-Sub module
Number of contacts	12	17	25	9
Modules	Quick Lock terminal	Crimp terminal	Crimp terminal	Crimp terminal
				
Rated current	10 A	10 A	4 A	5 A
Rated voltage	250 V	160 V	50 V	50 V
Wire gauge	0.25 ... 1.5 mm²	0.14 ... 2.5 mm²	0.08 ... 0.52 mm²	0.08 ... 0.52 mm²
Page	06.60	06.62	06.64	06.66

Series	Han® USB module	Han® FireWire module	Han® RJ45 module	Han® GigaBit module
Number of contacts	4	6	8	8
Modules	USB 2.0	IEEE 1394	Ethernet Cat. 5e	Ethernet Cat. 6
				
Page	06.68	06.70	06.72	06.78

Series	Han-Quintax® module				Han® Multi Contact module	
Number of contacts	2				4	
Modules						
Page	06.82		06.84		06.86	06.88
Contacts	Quintax contact 4 + shielding	High Density Quintax contact 8 + shielding	Han D® D Coax contact 1 + shielding	Han E® E Coax contact 1 + shielding	FOC contacts	Coaxial contact
						
			75 Ω	50 Ω	Multimode F.O. HCS®*/PCF F.O. 1 mm POF	50 Ω RG 174 75 Ω RG 179 50 Ω RG 58

Han Modular

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

Summary Han-Modular®

Series	Han® Pneumatic module		Han® SC module	Han-Elisa®	Dummy module
Number of contacts	2	3	4		
Modules					
Page	06.90	06.92	06.94	06.96	06.104
Contacts	 ∅ 6.0 mm	 ∅ 1.6 mm ∅ 3.0 mm ∅ 4.0 mm	SC contact 	Temperature I/O modules ID module	

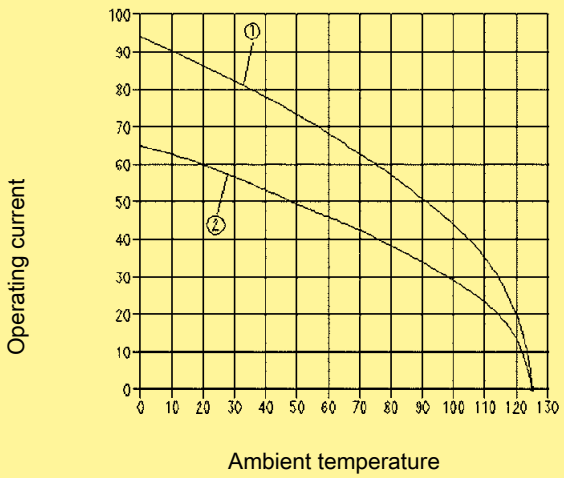
Features

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

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



① Han® Axial screw module, Wire gauge: 10 mm²

② Han® C module, Wire gauge: 6 mm²

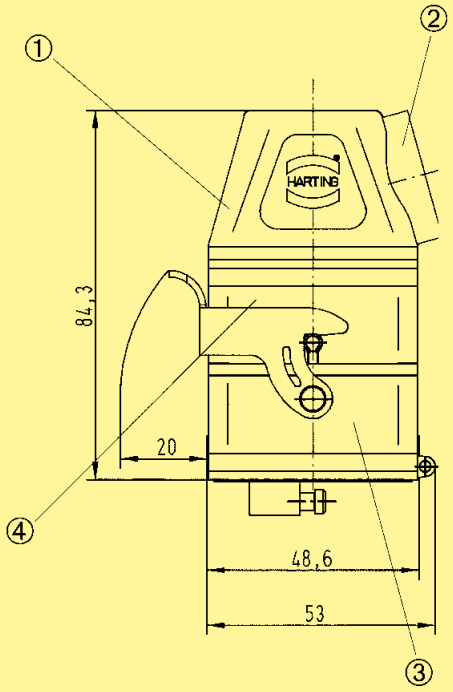
Technical characteristics

Hoods/Housings

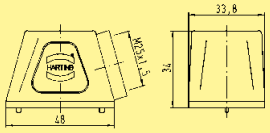
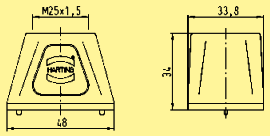
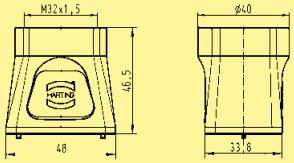
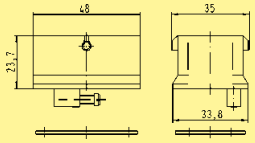
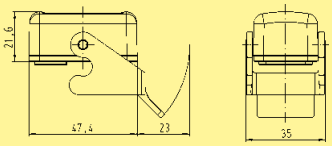
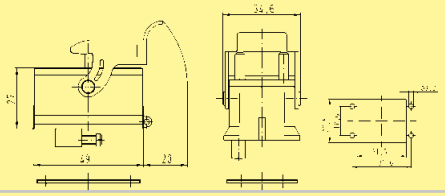
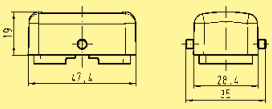
Material	zinc die-cast
Surface	nickel plated
Locking element	stainless steel
Hoods/Housings sealing	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529	
for coupled connector	IP 65
Mechanical working life	
- mating cycles	500
PE contact	
wire gauge	10 mm² / AWG 8
Stripping length	10 mm
Tightening tourque	1 Nm

Protection covers for housings, bulkhead mounting

Material	polycarbonate
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



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		

Stock items in bold type

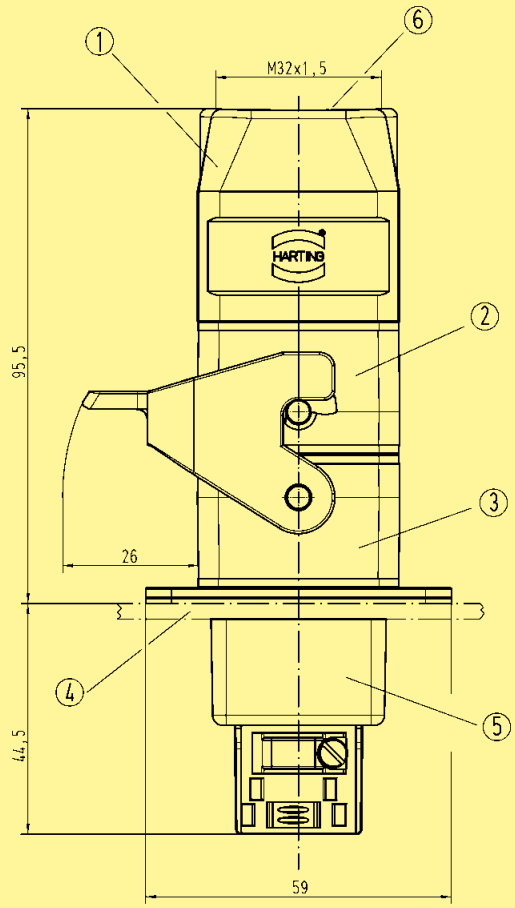
Features

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

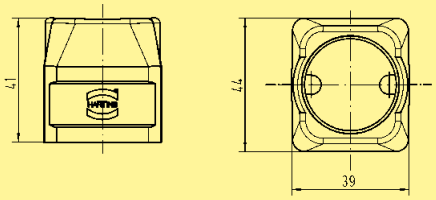
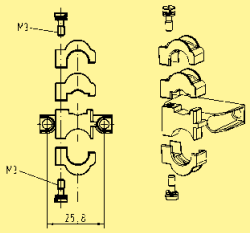
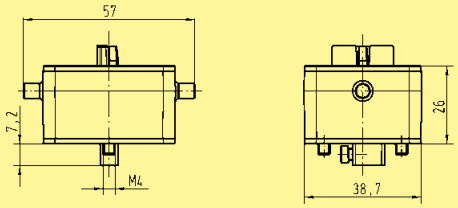
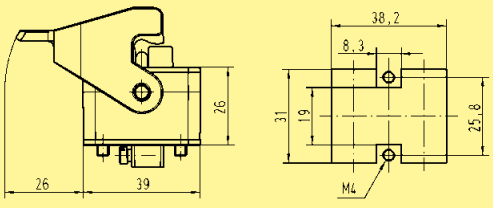
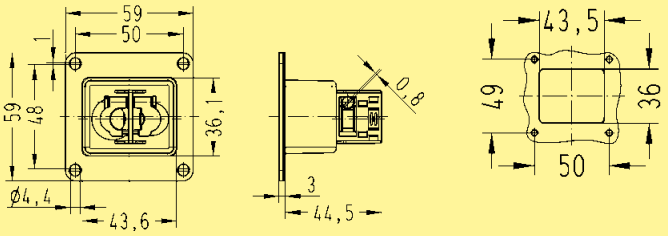
Technical characteristics

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 mm² / 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 Split Hood
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 	

Han Modular

Stock items in bold type

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

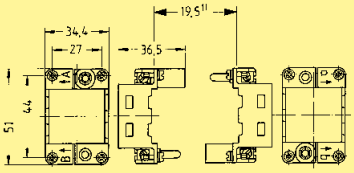
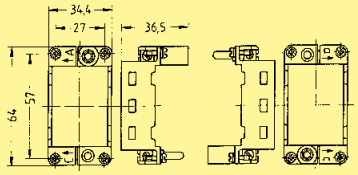
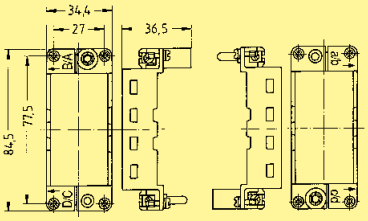
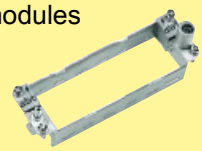
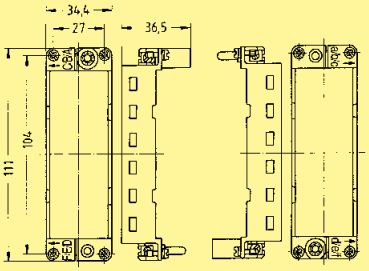
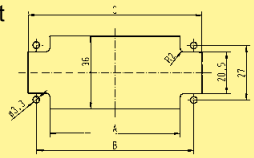
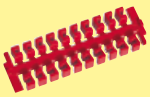
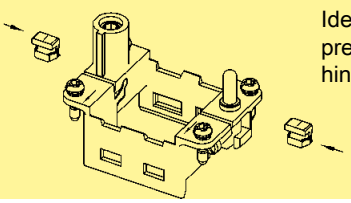
Selection of hoods/housings	see chapter 30 / chapter 31
Material	aluminium die-cast
Surface	powder-coated RAL 7037
Locking element	Han-Easy Lock®
Hoods/Hosuings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529	
for coupled connector	IP 65

Accessories

Coding of hoods/housings	chapter 40

* 10 mm² / AWG 8 only with ferrule crimp tool 09 99 000 0374

Han-Modular® Hinged frames

Identification	Size	Part number for Hood/Housing 2) Marking A ... F	Marking a ... f	Drawing	Dimensions in mm
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!

Stock items in bold type

Han-Modular® Docking frame

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

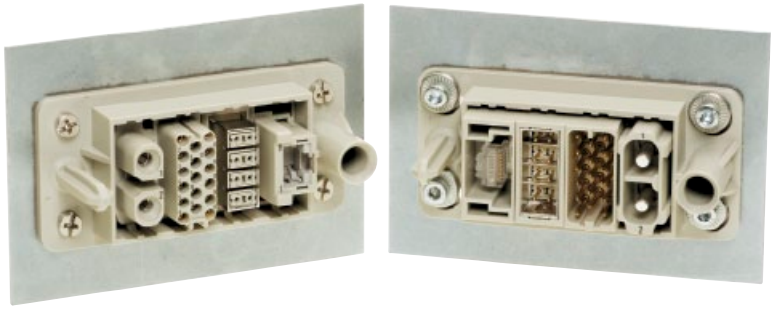
Technical characteristics

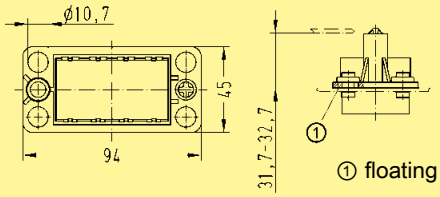
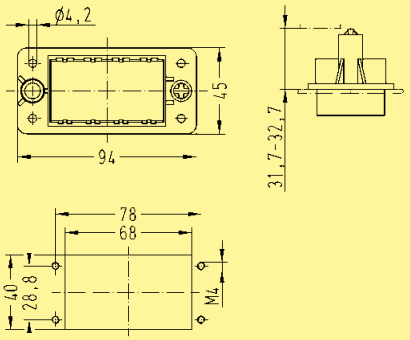
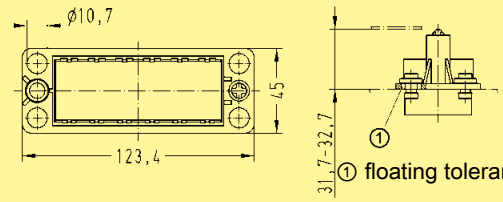
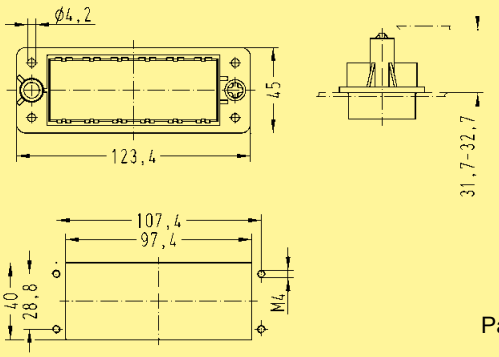
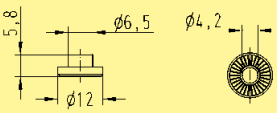
Specifications	DIN EN 60 664-1 DIN EN 61 984

Docking frames

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

Han-Modular® Docking frame



Identification	Part number Marking A ... F [1]	Part number Marking a ... f [2]	Drawing	Dimensions in mm
Docking frame for 4 modules 	**09 14 016 1701**			
Docking frame for 4 modules 		**09 14 016 1711**		
Docking frame for 6 modules 	**09 14 024 1701**			
Docking frame for 6 modules 		**09 14 024 1711**		
Float washer to enable the frame to be float mounted using standard M4 fixing screws 	**09 14 000 9936**			

1) Float mount
2) Fixed

Stock items in bold type

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

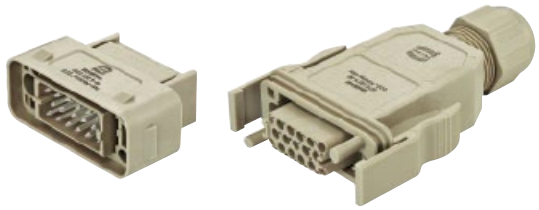
Technical characteristics

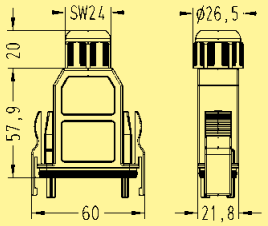
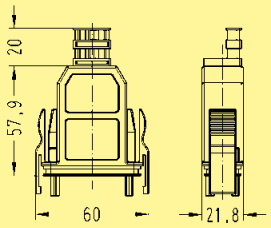
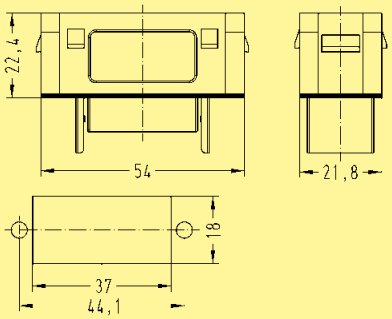
Specifications	DIN EN 60 664-1 DIN EN 61 984

Hoods/Housings

Material	
- Hoods/Housings	polycarbonate
- Seal	NBR
- Cable seal	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

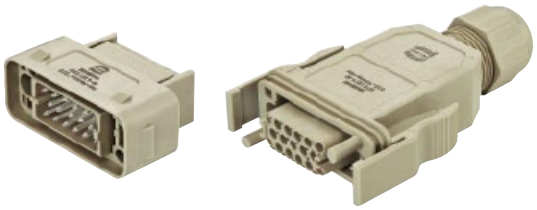


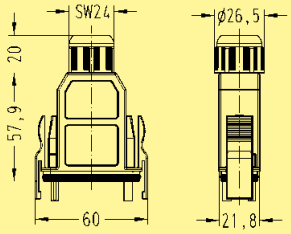
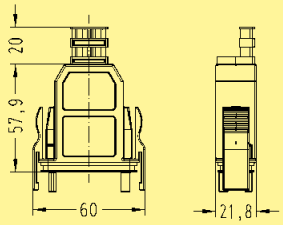
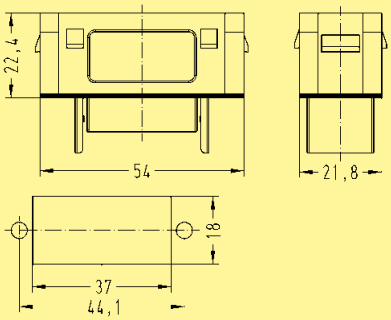
Identification	Part number	Drawing	Dimensions in mm
Hoods with PE marking (pin 1 = PE) IP 65 top entry 	**09 14 001 0421**		
Hoods with PE marking (pin 1 = PE) IP 20 top entry 	**09 14 001 0423**		
Hoods with PE marking (pin 1 = PE) IP 20 / IP 65 top entry 	**09 14 001 0321**		Panel cut out
Coding pin 	**09 14 000 9929**		Range of delivery: 8 pieces per frame

Stock items in bold type

Plastic hoods/housings

without PE



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**		
Hoods without PE IP 20 / IP 65 top entry 	**09 14 001 0320**		Panel cut out
Coding pin 	**09 14 000 9929**		Range of delivery: 8 pieces per frame

Stock items in bold type

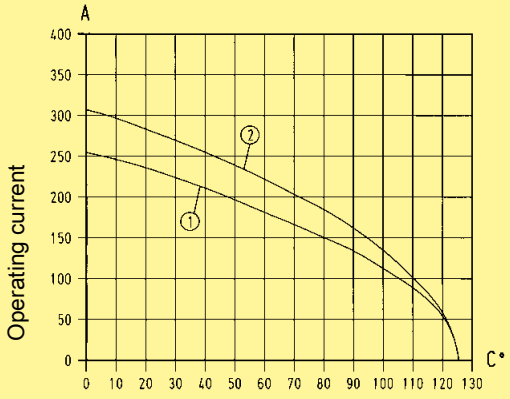
Features

- Axial-screw termination
- No special tools required
- Power module for big wire gauge up to 70 mm²
- Suitable as a 3 + PE connector in a Han® 32 B housing
- Compatible to the Han® 200 A module with crimp terminal

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



Ambient temperature

① 24 B hoods/housings with 3 modules; wire gauge: 50 mm²

② 24 B hoods/housings with 3 modules; wire gauge: 70 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	1
Electrical data	
acc. to EN 61 984	**200 A 1000 V 8 kV 3**
Rated current	200 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

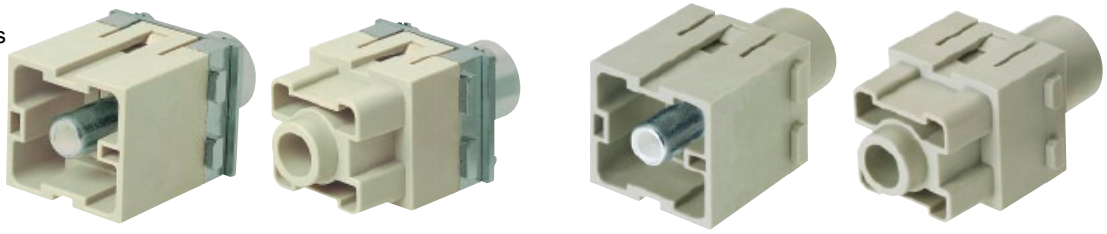
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	0.2 mΩ
Screw terminal	
- Wire gauge [1)]	25 ... 70 mm²
- AWG	2 ... 00
- Hexagonal driver	SW 5
- Stripping length	16 mm
- Tightening tourque	

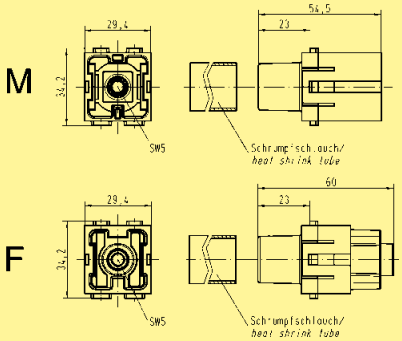
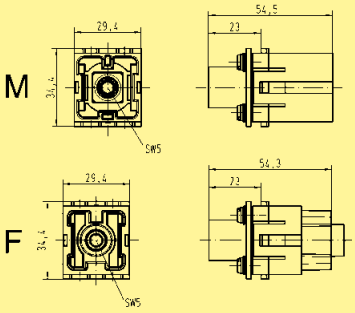
mm²	25	35	50	70
Nm	8	8	9	10

1) geometric wire gauge

Number of contacts

1



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Axial screw terminal 200 A				
25 ... 40 mm²	**09 14 001 2663**	**09 14 001 2763**		
40 ... 70 mm²	**09 14 001 2662**	**09 14 001 2762**		
Axial screw terminal 200 A PE (Ground)				
25 ... 40 mm²	**09 14 001 2668**	**09 14 001 2768**		
40 ... 70 mm²	**09 14 001 2667**	**09 14 001 2767**		

Identification	Part number	Drawing	Dimensions in mm
Hex key SW 5 for axial setscrew			
with grip 	**09 99 000 0364**		
adapter 3/8“ 	**09 99 000 0371**		

Stock items in bold type

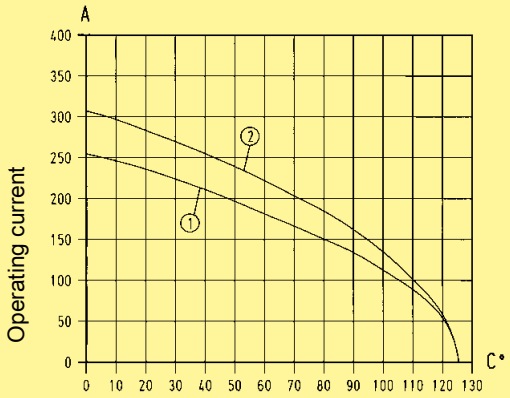
Features

- Crimp termination
- Contacts can be unlocked from the mating side
- Compatible with Han® 200 A modules with axial screw terminal

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



Ambient temperature

① 24 B hoods/housings with 3 modules; wire gauge: 50 mm²
② 24 B hoods/housings with 3 modules; wire gauge: 70 mm²

Technical characteristics

Specifications	EN 50 124-1 DIN EN 60 664-1 DIN EN 61 984

Inserts

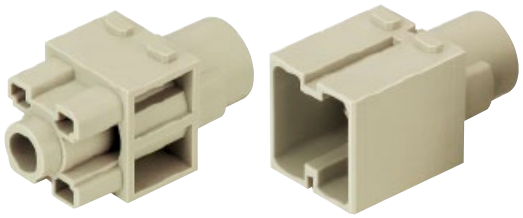
Number of contacts	1
Electrical data	
acc. to EN 61 984	**200 A 1000 V 8 kV 3**
Rated current	200 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

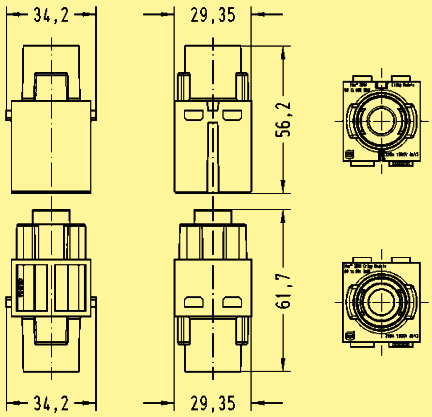
Contacts

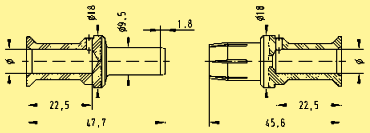
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 0.3 mΩ
Crimp terminal	
- mm²	25 ... 70 mm²
Stripping length	22.5 mm
Max. insulation diameter	18 mm

Number of contacts

1



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Modul	**09 14 001 3001**	**09 14 001 3101**		

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts silver plated	25	**09 11 000 6120**	**09 11 000 6220**		
	35	**09 11 000 6121**	**09 11 000 6221**		
	50	**09 11 000 6122**	**09 11 000 6222**		
	70	**09 11 000 6123**	**09 11 000 6223**		

Wire gauge	∅	Stripping length
25 mm²	7	22.5 mm
35 mm²	8.2	22.5 mm
50 mm²	10	22.5 mm
70 mm²	11.5	22.5 mm
for stranded wire according to IEC 60 228 Class 5		

Stock items in bold type

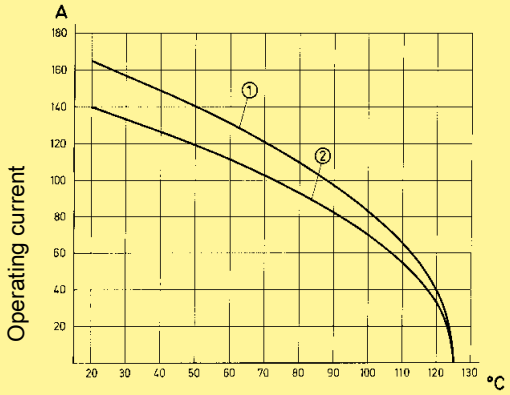
Features

- Axial-screw termination
- No special tools required
- Connect PE contact with special cable shoe
- Compatible to the Han® 100 A module with crimp terminal

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



Ambient temperature

① 24 B hoods/housings with 3 modules; wire gauge: 35 mm²

② 24 B hoods/housings with 3 modules; wire gauge: 25 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	2
Electrical data	
acc. to EN 61 984	**100 A 1000 V 8 kV 3**
Rated current	100 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

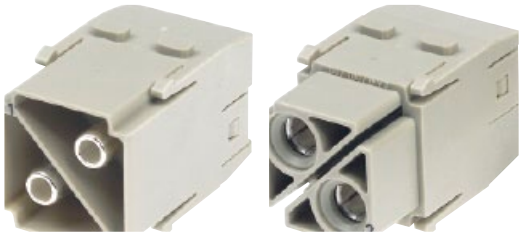
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	0.3 mΩ
Screw terminal	
- Wire gauge [1)]	10 ... 38 mm²
- AWG	6 ... 2
- Hexagonal driver	SW 4
- Stripping length	13 mm
- Tightening tourque	

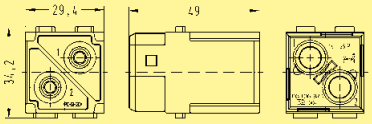
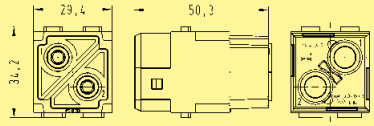
mm²	10	16	25	35
Nm	6	6	7	8

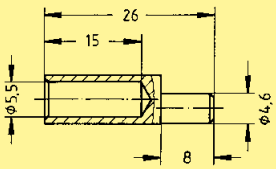
1) geometric wire gauge

Number of contacts

2



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Axial screw terminal 100 A			M 	
10 ... 25 mm²	**09 14 002 2653**	**09 14 002 2753**	F 	
16 ... 35 mm²	**09 14 002 2651**	**09 14 002 2751**		
38 mm²	09 14 002 2650	09 14 002 2750		

Identification	Part number	Drawing	Dimensions in mm
Hex key SW 4 for axial setscrew			
with grip 	**09 99 000 0363**		
adapter 3/8“ 	**09 99 000 0370**		
Cable shoe 16 mm² for PE extension  Comment for hoods/ housings high construction only	**09 14 000 9912**		Please use pressing tools for non-insulated cable shoes following DIN 46 230 with 16 mm² range (eg. K25, co. Klauke)

Han Modular

Stock items in bold type

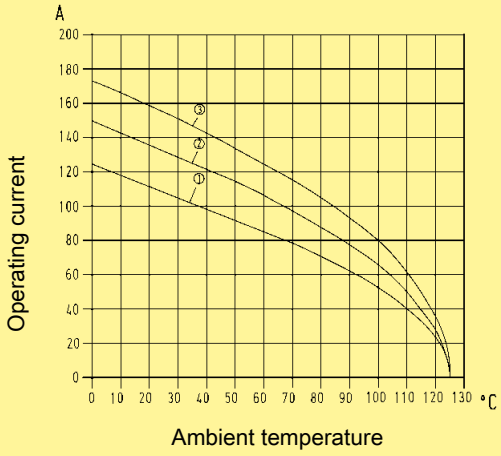
Features

- Crimp termination
- Unlock of contacts from mating side
- Connect PE contact with special cable shoe
- Compatible to Han® 100 A module with axial screw terminal

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



① 24 B hoods/housings with 3 modules; wire gauge: 16 mm²

② 24 B hoods/housings with 3 modules; wire gauge: 25 mm²

③ 24 B hoods/housings with 3 modules; wire gauge: 35 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

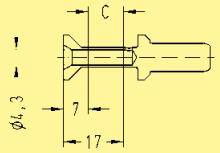
Inserts

Number of contacts	2
Electrical data	
acc. to EN 61 984	**100 A 1000 V 8 kV 3**
Rated current	100 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

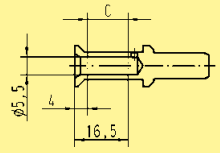
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 0.3 mΩ
Crimp terminal	
- mm²	10 ... 35 mm²
Max. cable diameter	14 mm

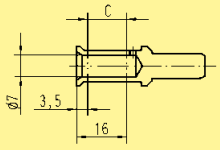
Crimp zone (C)



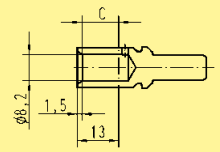
09 11 000 6114



09 11 000 6116



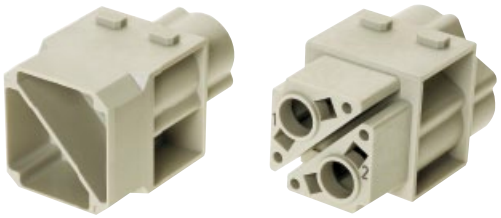
09 11 000 6125

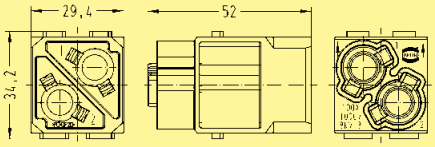
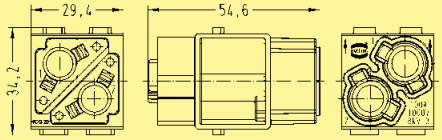


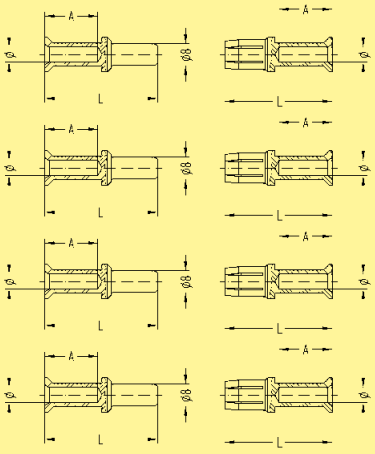
09 11 000 6135

Number of contacts

2



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Modul	**09 14 002 3051**	**09 14 002 3151**	M  F 	
Removal tool for TC contacts	09 99 000 0383	09 99 000 0383		

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts silver plated					
	10	**09 11 000 6114**	**09 11 000 6214**		
	16	**09 11 000 6116**	**09 11 000 6216**		
	25	**09 11 000 6125**	**09 11 000 6225**		
	35	**09 11 000 6135**	**09 11 000 6235**		

Wire gauge	∅	Stripping length
10 mm²	4.3	19 mm
16 mm²	5.5	19 mm
25 mm²	7	19 mm
35 mm²	8.2	16 mm
for stranded wire according to IEC 60 228 Class 5		

Stock items in bold type

Features

- Axial-screw termination
- 2 contacts (70 A) for power circuits
- Male inserts with protection collar
- Polarisation of module
- Male and female contacts are finger safe

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	2
Electrical data	
acc. to EN 61 984	**70 A 1000 V 8 kV 3**
Rated current	70 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	0.5 mΩ
Screw terminal	
- Wire gauge [1)]	6 ... 22 mm²
- AWG	8 ... 4
- Hexagonal driver	SW 2.5

- Stripping length

mm²	6	10	16	22
mm	11^{+1}	11^{+1}	11^{+1}	12.5^{+1}

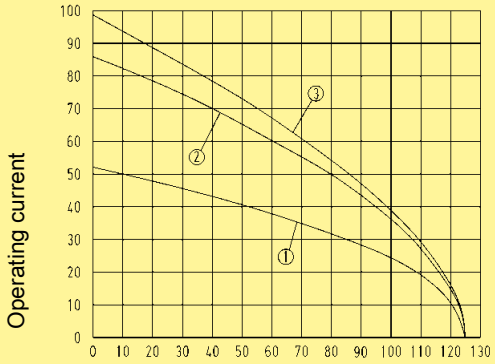
- Tightening tourque

mm²	6	10	16	22
Nm	2	3	4	5

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



Ambient temperature

① 24 B hoods/housings with 6 modules; wire gauge: 6 mm²

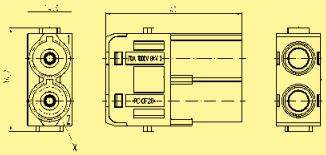
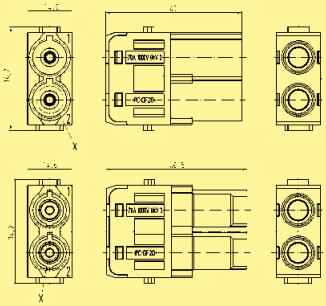
② 24 B hoods/housings with 6 modules; wire gauge: 16 mm²

③ 24 B hoods/housings with 6 modules; wire gauge: 22 mm²

1) geometric wire gauge

Number of contacts

2

Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Axial screw terminal 70 A				
6 ... 16 mm²	**09 14 002 2646**	**09 14 002 2741**		
14 ... 22 mm²	**09 14 002 2647**	**09 14 002 2742**		
Axial screw terminal 70 A with finger protected male contacts				
6 ... 16 mm²	**09 14 002 2641**			
14 ... 22 mm²	**09 14 002 2642**			

Identification	Part number	Drawing	Dimensions in mm
Hex key SW 2.5 for axial setscrew			
Bit 1/4“ 	**09 99 000 0375**		

Stock items in bold type

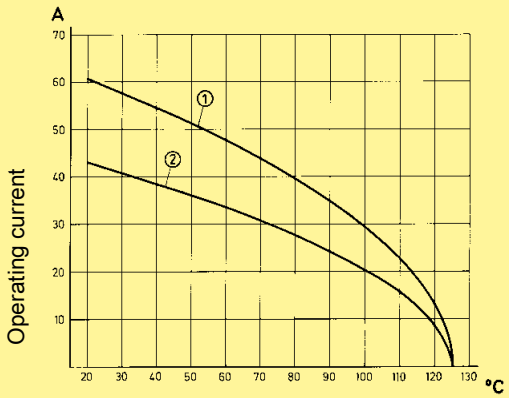
Features

- Axial-screw termination
- No special tools required
- Compatible to Han® 40 A module with crimp terminal

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



Ambient temperature

① 24 B hoods/housings with 6 modules; wire gauge: 10 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 6 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	c UL us

Inserts

Number of contacts	2
Electrical data	
acc. to EN 61 984	**40 A 1000 V 8 kV 3**
Rated current	40 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	0.5 mΩ
Screw terminal	
- Wire gauge [1)]	2.5 ... 10 mm²
- AWG	14 ... 8
- Hexagonal driver	SW 2

- Stripping length

mm²	2.5	4	6	10
mm	5^{+1}	5^{+1}	8^{+1}	11^{+1}

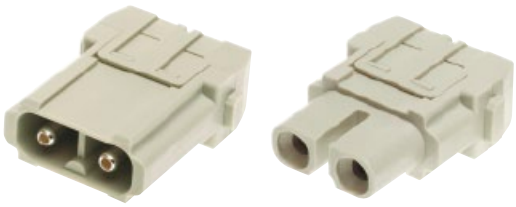
- Tightening tourque

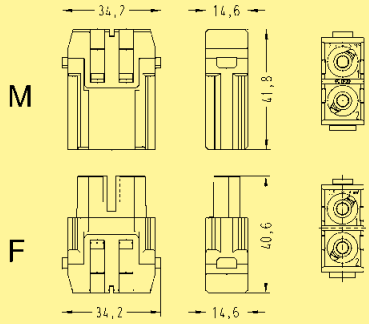
mm²	2.5	4	6	10
Nm	1.5	1.5	2	2

1) geometric wire gauge

Number of contacts

2



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Axial screw terminal 40 A			 Contact arrangement view from termination side	
2.5 ... 8 mm²	**09 14 002 2601**	**09 14 002 2701**		
6 ... 10 mm²	**09 14 002 2602**	**09 14 002 2702**		

Identification	Part number	Drawing	Dimensions in mm
Hex key SW 2 for axial setscrew			
with grip 	**09 99 000 0313**		
Bit 1/4“ 	**09 99 000 0369**		

Stock items in bold type

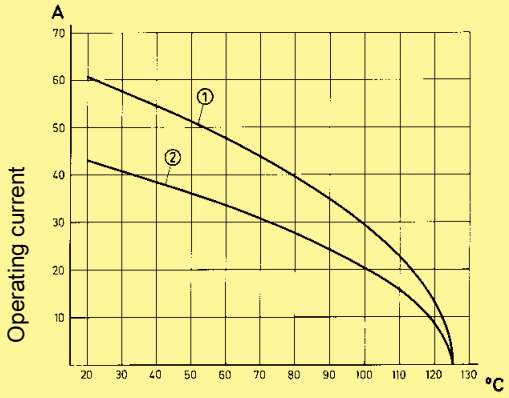
Features

- Crimp termination
- Compatible with Han® 40 A module with axial screw terminal

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



Ambient temperature

① 24 B hoods/housings with 6 modules; wire gauge: 10 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 6 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984

Inserts

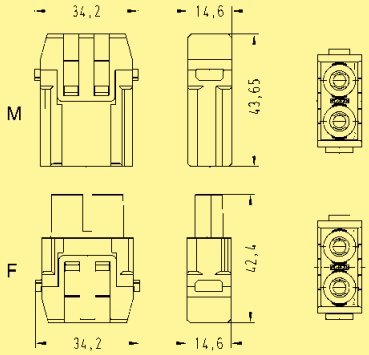
Number of contacts	2
Electrical data	
acc. to EN 61 984	**40 A 1000 V 8 kV 3**
Rated current	40 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	

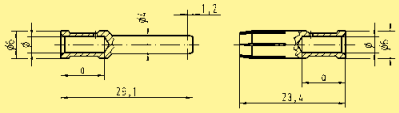
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 0.3 mΩ
Crimp terminal	
- mm²	1.5 ... 10 mm²
- AWG	16 ... 8

Number of contacts

2

Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 002 3002**	**09 14 002 3102**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts silver plated	1.5	09 32 000 6104	09 32 000 6204		
	2.5	**09 32 000 6105**	**09 32 000 6205**		
	4	**09 32 000 6107**	**09 32 000 6207**		
	6	**09 32 000 6108**	**09 32 000 6208**		
	10	09 32 000 6109	09 32 000 6209		

Wire gauge			∅	Stripping length
1.5	mm²	AWG 16	1.75	9 mm
2.5	mm²	AWG 14	2.25	9 mm
4	mm²	AWG 12	2.85	9.6 mm
6	mm²	AWG 10	3.5	9.6 mm
10	mm²	AWG 8	4.3	15 mm

Stripping length a = 15 mm for cables ≥ 5 mm
Stripping length a = 18 mm for cables ≥ 6.4 mm

Stock items in bold type

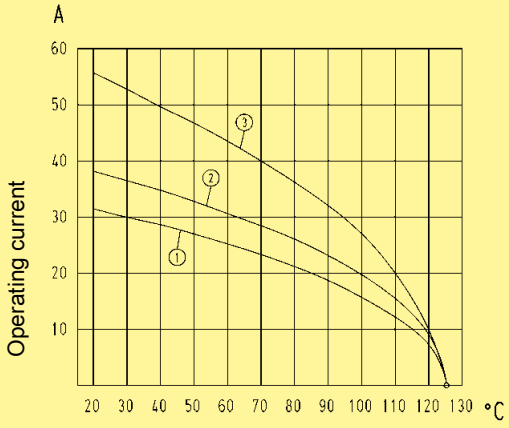
Features

- Axial screw terminal
- No special tools required for assembly
- Compatible to Han® C module with crimp terminal

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



① 24 B hoods/housings with 6 modules; wire gauge: 4 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 6 mm²

③ 24 B hoods/housings with 6 modules; wire gauge: 10 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	3
Electrical data	
acc. to EN 61 984	**40 A 690 V 8 kV 3**
Rated current	40 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	0.3 mΩ
Screw terminal	
- Wire gauge [1)]	2.5 ... 10 mm²
- AWG	14 ... 8
- Hexagonal driver	SW 2

- Stripping length

mm²	2.5	4	6	10
mm	5^{+1}	5^{+1}	8^{+1}	11^{+1}

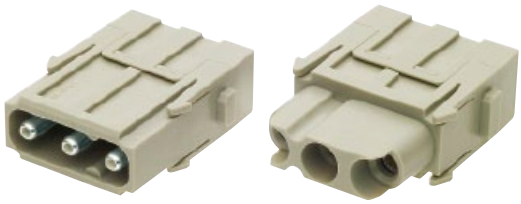
- Tightening tourque

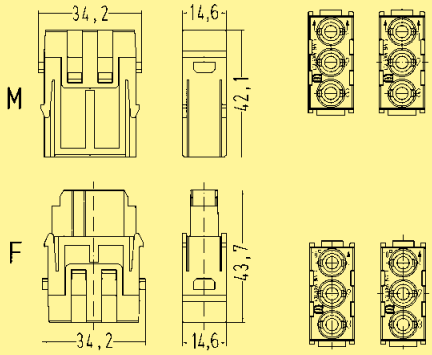
mm²	2.5	4	6	10
Nm	1.5	1.5	2	2

1) geometric wire gauge

Number of contacts

3



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Axial screw terminal 40 A				
2.5 ... 8 mm²	**09 14 003 2601**	**09 14 003 2701**		
6 ... 10 mm²	**09 14 003 2602**	**09 14 003 2702**		

Identification	Part number	Drawing	Dimensions in mm
Hex key SW 2 for axial setscrew			
with grip 	**09 99 000 0313**		
Bit 1/4“ 	**09 99 000 0369**		

Stock items in bold type

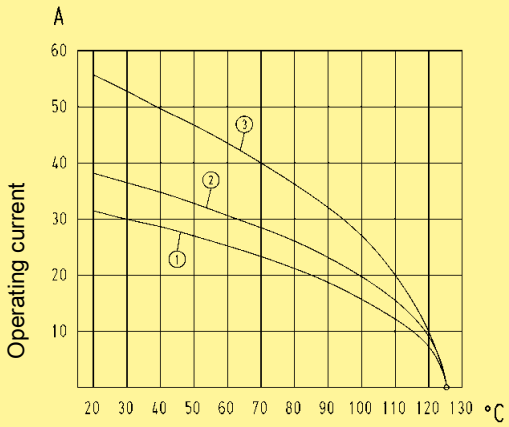
Features

- Suitable for Han® C crimp contacts
- Standard module for power up to 40 A
- Compatible to Han® C module with axial screw terminal

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



Ambient temperature

① 24 B hoods/housings with 6 modules; wire gauge: 4 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 6 mm²

③ 24 B hoods/housings with 6 modules; wire gauge: 10 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

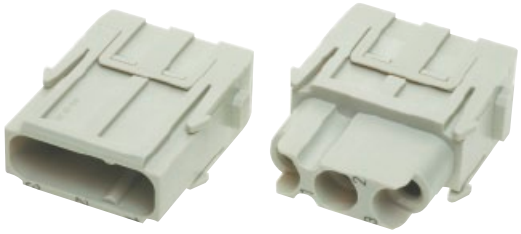
Number of contacts	3
Electrical data acc. to EN 61 984	
Cable diameter up to 5 mm	**40 A 400/690 V 6 kV 3**
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Cable diameter up to 7.5 mm	**40 A 500 V 6 kV 3**
Rated current	40 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL/CSA	600 V
Rated current acc. to UL/CSA	32 A
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

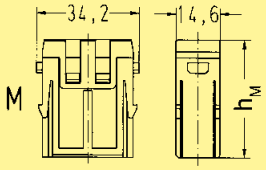
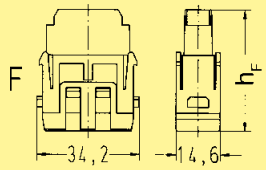
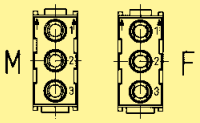
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 0.3 mΩ
Crimp terminal	
- mm²	1.5 ... 10 mm²
- AWG	16 ... 8

Number of contacts

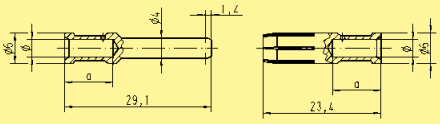
3



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately				
Cable diameter up to 5 mm	**09 14 003 3001**	**09 14 003 3101**		
Cable diameter up to 7.5 mm	**09 14 003 3002**	**09 14 003 3102**	 Contact arrangement view from termination side	

	h_M
09 14 003 3001	39.1 mm
09 14 003 3002	43.1 mm

	h_F
09 14 003 3101	40.7 mm
09 14 003 3102	44.7 mm

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts					
silver plated	1.5	**09 32 000 6104**	**09 32 000 6204**		
	2.5	**09 32 000 6105**	**09 32 000 6205**		
	4	**09 32 000 6107**	**09 32 000 6207**		
	6	**09 32 000 6108**	**09 32 000 6208**		
	10*	**09 32 000 6109**	**09 32 000 6209**		

Wire gauge		∅	Stripping length
1.5 mm²	AWG 16	1.75	9 mm
2.5 mm²	AWG 14	2.25	9 mm
4 mm²	AWG 12	2.85	9.6 mm
6 mm²	AWG 10	3.5	9.6 mm
10 mm²	AWG 8	4.3	15 mm
Stripping length a = 15 mm for cables ≥ 5 mm Stripping length a = 18 mm for cables ≥ 6.4 mm			

* for modules 09 14 003 3002 and 09 14 003 3102 only

Stock items in bold type

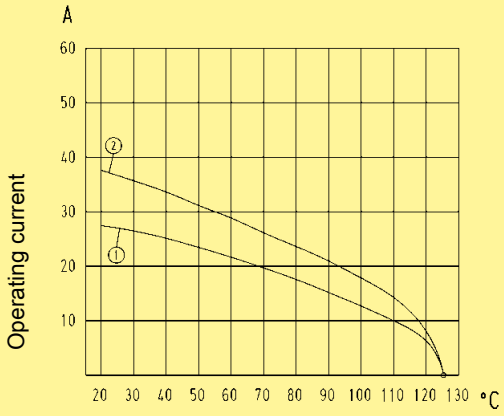
Features

- Suitable for Han® C crimp contacts
- Designed for a high working voltage up to 830 V
- Finger safe male and female contacts
- High contact density

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



① 24 B hoods/housings with 6 modules; wire gauge: 4 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 6 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

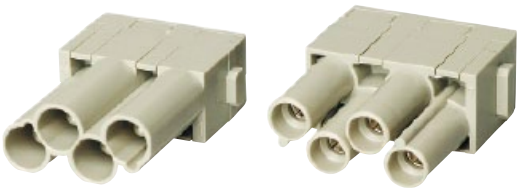
Number of contacts	4
Electrical data	
acc. to EN 61 984	**40 A 830 V 8 kV 3**
Rated current	40 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

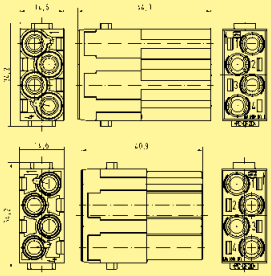
Contacts

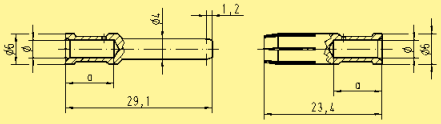
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 0.3 mΩ
Crimp terminal	
- mm²	1.5 ... 6 mm²
- AWG	16 ... 10

Number of contacts

4



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 004 3041**	**09 14 004 3141**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts silver plated	1.5	**09 32 000 6104**	**09 32 000 6204**		
	2.5	**09 32 000 6105**	**09 32 000 6205**		
	4	**09 32 000 6107**	**09 32 000 6207**		
	6	**09 32 000 6108**	**09 32 000 6208**		

Wire gauge		∅	Stripping length
1.5 mm²	AWG 16	1.75	9 mm
2.5 mm²	AWG 14	2.25	9 mm
4 mm²	AWG 12	2.85	9.6 mm
6 mm²	AWG 10	3.5	9.6 mm

Stock items in bold type

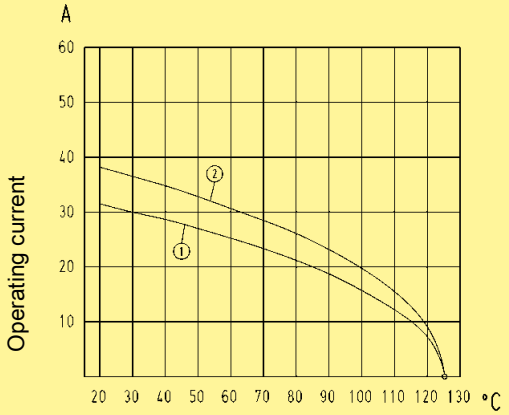
Features

- 3 contacts (40 A) for power circuits and 4 contacts (10 A) for signal circuits
- Ideal as motor drive connector
- Male and female contacts are finger safe

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



① 24 B hoods/housings with 6 modules; wire gauge: 4 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 6 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

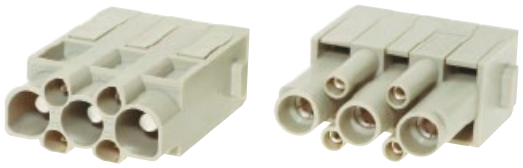
Number of contacts	3 / 4
Electrical data acc. to EN 61 984	
Power contacts	**40 A 830 V 8 kV 3**
Rated current	40 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Signal contacts	**10 A 830 V 8 kV 3**
Rated current	10 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

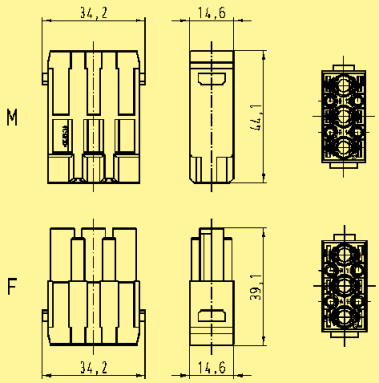
Contacts

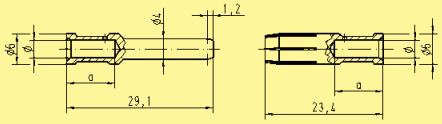
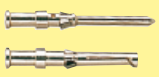
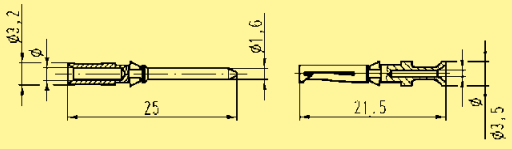
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	
Power contacts	≤ 0.3 mΩ
Signal contacts	≤ 3 mΩ
Crimp terminal	
- mm²	
Power contacts	1.5 ... 6 mm²
Signal contacts	0.14 ... 2.5 mm²
- AWG	
Power contacts	16 ... 10
Signal contacts	26 ... 14
Max. insulation diameter	
- Power contacts	5 mm

Number of contacts

3 / 4



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 007 3001**	**09 14 007 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts					
silver plated 	1.5	**09 32 000 6104**	**09 32 000 6204**		
	2.5	**09 32 000 6105**	**09 32 000 6205**		
	4	**09 32 000 6107**	**09 32 000 6207**		
	6	**09 32 000 6108**	**09 32 000 6208**		
Signal contacts silver plated 	0.14-0.37	**09 15 000 6104**	**09 15 000 6204**		
	0.5	**09 15 000 6103**	**09 15 000 6203**		
	0.75	**09 15 000 6105**	**09 15 000 6205**		
	1	**09 15 000 6102**	**09 15 000 6202**		
	1.5	**09 15 000 6101**	**09 15 000 6201**		
	2.5	**09 15 000 6106**	**09 15 000 6206**		
gold plated 	0.14-0.37	**09 15 000 6124**	**09 15 000 6224**		
	0.5	**09 15 000 6123**	**09 15 000 6223**		
	0.75	**09 15 000 6125**	**09 15 000 6225**		
	1	**09 15 000 6122**	**09 15 000 6222**		
	1.5	**09 15 000 6121**	**09 15 000 6221**		
	2.5	**09 15 000 6126**	**09 15 000 6226**		

Wire gauge		∅	Stripping length
1.5 mm²	AWG 16	1.75	9 mm
2.5 mm²	AWG 14	2.25	9 mm
4 mm²	AWG 12	2.85	9.6 mm
6 mm²	AWG 10	3.5	9.6 mm

Wire gauge		∅	Stripping length
0.14-0.37 mm²	AWG 26-22	0.9	8 mm
0.5 mm²	AWG 20	1.1	8 mm
0.75 mm²	AWG 18	1.3	8 mm
1 mm²	AWG 18	1.45	8 mm
1.5 mm²	AWG 16	1.75	8 mm
2.5 mm²	AWG 14	2.25	6 mm

Stock items in bold type

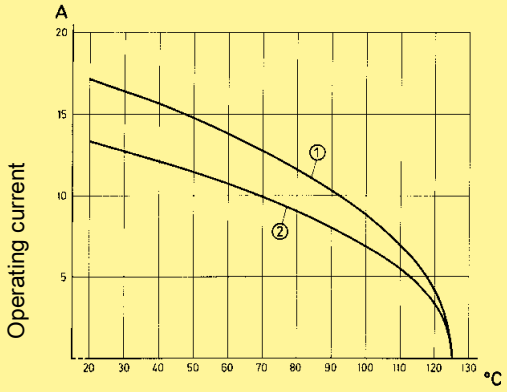
Features

- Suitable for Han E® crimp contacts
- Standard module for power up to 40 A

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



Ambient temperature

① 24 B hoods/housings with 6 modules; wire gauge: 2.5 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	,

Inserts

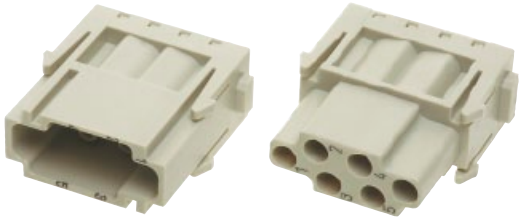
Number of contacts	6
Electrical data	
acc. to EN 61 984	**16 A 500 V 6 kV 3**
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage	
acc. to UL/CSA	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

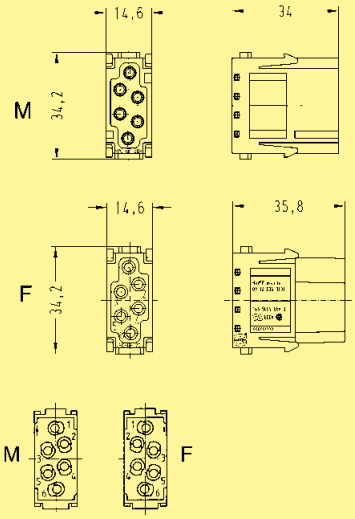
Contacts

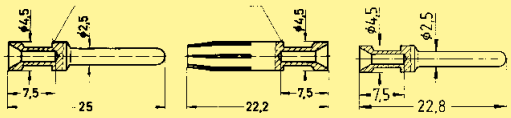
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

Number of contacts

6



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 006 3001**	**09 14 006 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts					
silver plated	0,14-0,37	09 33 000 6127	09 33 000 6227		
	0,5	**09 33 000 6121**	**09 33 000 6220**		
	0,75	**09 33 000 6114**	**09 33 000 6214**		
	1	**09 33 000 6105**	**09 33 000 6205**		
	1,5	**09 33 000 6104**	**09 33 000 6204**		
	2,5	**09 33 000 6102**	**09 33 000 6202**		
	3	09 33 000 6106	09 33 000 6206		
	4	**09 33 000 6107**	**09 33 000 6207**		
gold plated	0,14-0,37	09 33 000 6117	09 33 000 6217		
	0,5	**09 33 000 6122**	**09 33 000 6222**		
	0,75	**09 33 000 6115**	**09 33 000 6215**		
	1	**09 33 000 6118**	**09 33 000 6218**		
	1,5	**09 33 000 6116**	**09 33 000 6216**		
	2,5	**09 33 000 6123**	**09 33 000 6223**		
	4	09 33 000 6119	09 33 000 6221		
Relay contact silver plated	0,75-1	09 33 000 6109		Operating contact Identification / Relay contact 	
	1,5	09 33 000 6110			
	2,5	09 33 000 6111			

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm
wide groove	3 mm²	AWG 12	7.5 mm
no groove	4 mm²	AWG 12	7.5 mm

* on the back crimp collar

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

Stock items in bold type

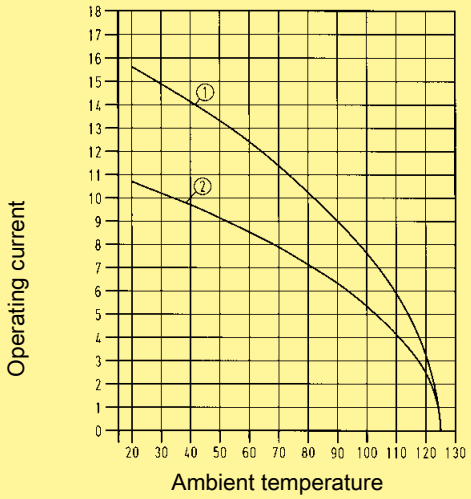
Features

- Suitable for Han E® crimp contacts
- High contact density
- Compatible to the Han® EE module with Quick Lock terminal

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



① 24 B hoods/housings with 6 modules; wire gauge: 2.5 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

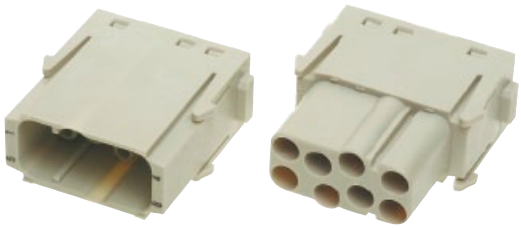
Number of contacts	8
Electrical data	
acc. to EN 61 984	**16 A 400 V 6 kV 3**
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

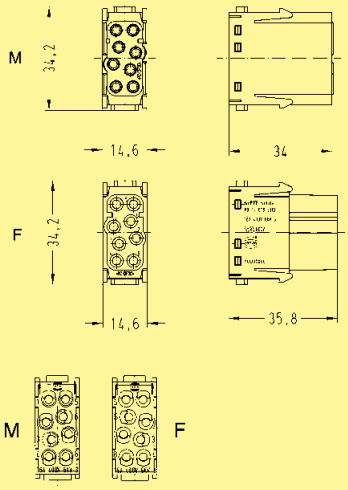
Contacts

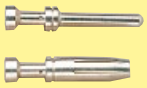
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

Number of contacts

8

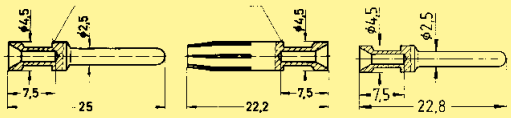


Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 008 3001**	**09 14 008 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts					
silver plated 	0.14-0.37	09 33 000 6127	09 33 000 6227		
	0.5	**09 33 000 6121**	**09 33 000 6220**		
	0.75	**09 33 000 6114**	**09 33 000 6214**		
	1	**09 33 000 6105**	**09 33 000 6205**		
	1.5	**09 33 000 6104**	**09 33 000 6204**		
	2.5	**09 33 000 6102**	**09 33 000 6202**		
	3	09 33 000 6106	09 33 000 6206		
	4	**09 33 000 6107**	**09 33 000 6207**		
gold plated 	0.14-0.37	09 33 000 6117	09 33 000 6217		
	0.5	**09 33 000 6122**	**09 33 000 6222**		
	0.75	**09 33 000 6115**	**09 33 000 6215**		
	1	**09 33 000 6118**	**09 33 000 6218**		
	1.5	**09 33 000 6116**	**09 33 000 6216**		
	2.5	**09 33 000 6123**	**09 33 000 6223**		
	4	09 33 000 6119	09 33 000 6221		
Relay contact silver plated 	0.75-1	09 33 000 6109			
	1.5	09 33 000 6110			
	2.5	09 33 000 6111			

Operating contact Identification

Relay contact



Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm
wide groove	3 mm²	AWG 12	7.5 mm
no groove	4 mm²	AWG 12	7.5 mm

* on the back crimp collar

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

Stock items in bold type

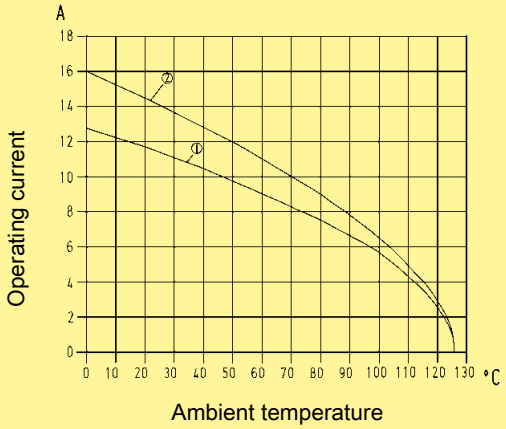
Features

- Innivative Han-Quick Lock® termination technology
- Field assembly without special tools
- Compatible to Han® EE module with crimp terminal
- Reduced wiring times

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



① 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 2.5 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984

Inserts

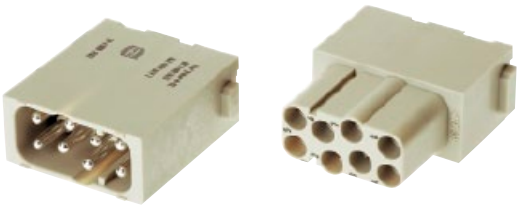
Number of contacts	8
Electrical data	
acc. to EN 61 984	**16 A 400 V 6 kV 3**
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

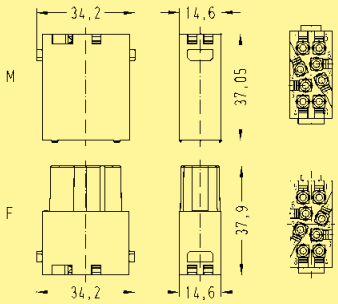
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 1 mΩ
Quick Lock termination	
- mm²	0.5 ... 2.5 mm²
- AWG	20 ... 14

Number of contacts

8



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Quick Lock termination 	**09 14 008 2633**	**09 14 008 2733**	 Contact arrangement view from termination side	

Stock items in bold type

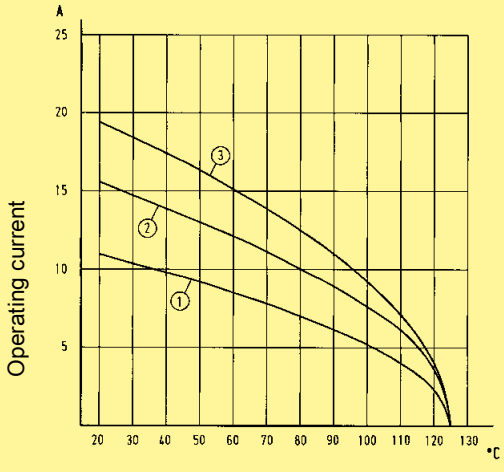
Features

- Suitable for Han E® crimp contacts
- designed for a high working voltage up to 830 V
- finger safe male and female contacts

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



① 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 2.5 mm²

③ 24 B hoods/housings with 6 modules; wire gauge: 4 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

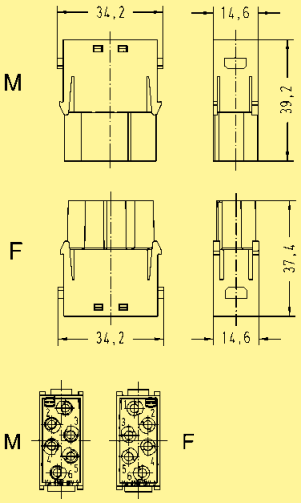
Number of contacts	6
Electrical data	
acc. to EN 61 984	**16 A 830 V 8 kV 3**
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

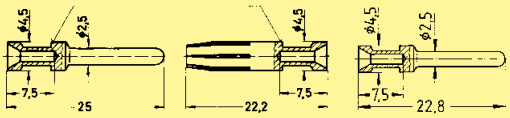
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

Number of contacts

6

Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 006 3041**	**09 14 006 3141**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts				Operating contact Identification / Relay contact	
silver plated	0.14-0.37	09 33 000 6127	09 33 000 6227		
	0.5	**09 33 000 6121**	**09 33 000 6220**		
	0.75	**09 33 000 6114**	**09 33 000 6214**		
	1	**09 33 000 6105**	**09 33 000 6205**		
	1.5	**09 33 000 6104**	**09 33 000 6204**		
	2.5	**09 33 000 6102**	**09 33 000 6202**		
	3	09 33 000 6106	09 33 000 6206		
	4	**09 33 000 6107**	**09 33 000 6207**		
gold plated	0.14-0.37	09 33 000 6117	09 33 000 6217		
	0.5	**09 33 000 6122**	**09 33 000 6222**		
	0.75	**09 33 000 6115**	**09 33 000 6215**		
	1	**09 33 000 6118**	**09 33 000 6218**		
	1.5	**09 33 000 6116**	**09 33 000 6216**		
	2.5	**09 33 000 6123**	**09 33 000 6223**		
	4	09 33 000 6119	09 33 000 6221		
Relay contact silver plated	0.75-1	09 33 000 6109			
	1.5	09 33 000 6110			
	2.5	09 33 000 6111			

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm
wide groove	3 mm²	AWG 12	7.5 mm
no groove	4 mm²	AWG 12	7.5 mm

* on the back crimp collar

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

Stock items in bold type

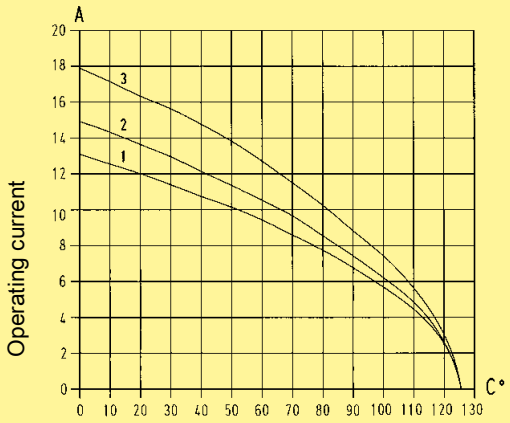
Features

- Suitable for Han E® crimp contacts
- High contact density
- Up to 16 A per contact
- Also suitable as a reliable signal connector

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



Ambient temperature

① 24 B hoods/housings with 3 modules; wire gauge: 1.5 mm²

② 24 B hoods/housings with 3 modules; wire gauge: 2.5 mm²

③ 24 B hoods/housings with 3 modules; wire gauge: 4 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

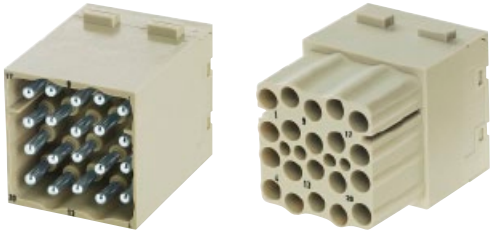
Number of contacts	20
Electrical data	
acc. to EN 61 984	**16 A 500 V 6 kV 3**
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

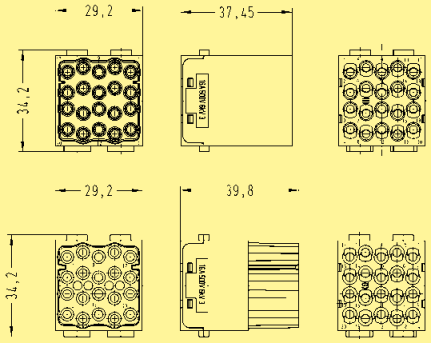
Contacts

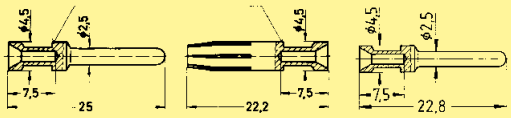
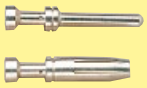
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

Number of contacts

20



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 020 3001**	**09 14 020 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts				Operating contact Identification / Relay contact 	
silver plated 	0.14-0.37	09 33 000 6127	09 33 000 6227		
	0.5	**09 33 000 6121**	**09 33 000 6220**		
	0.75	**09 33 000 6114**	**09 33 000 6214**		
	1	**09 33 000 6105**	**09 33 000 6205**		
	1.5	**09 33 000 6104**	**09 33 000 6204**		
	2.5	**09 33 000 6102**	**09 33 000 6202**		
	3	09 33 000 6106	09 33 000 6206		
	4	**09 33 000 6107**	**09 33 000 6207**		
gold plated 	0.14-0.37	09 33 000 6117	09 33 000 6217		
	0.5	**09 33 000 6122**	**09 33 000 6222**		
	0.75	**09 33 000 6115**	**09 33 000 6215**		
	1	**09 33 000 6118**	**09 33 000 6218**		
	1.5	**09 33 000 6116**	**09 33 000 6216**		
	2.5	**09 33 000 6123**	**09 33 000 6223**		
	4	09 33 000 6119	09 33 000 6221		
Relay contact silver plated 	0.75-1	09 33 000 6109			
	1.5	09 33 000 6110			
	2.5	09 33 000 6111			

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm
wide groove	3 mm²	AWG 12	7.5 mm
no groove	4 mm²	AWG 12	7.5 mm

* on the back crimp collar

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

Stock items in bold type

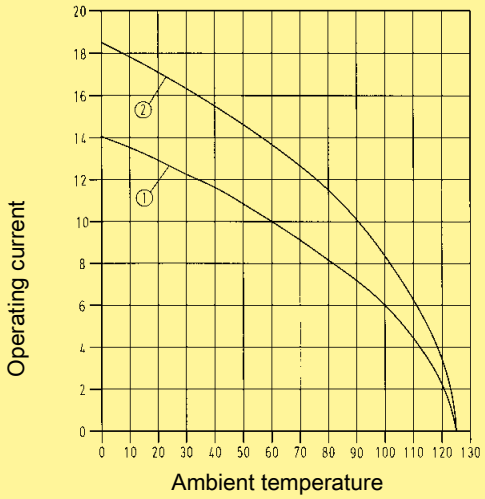
Features

- Cage-clamp terminal
- No special tools required

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



① 24 B hoods/housings with 6 modules; wire gauge: 2.5 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

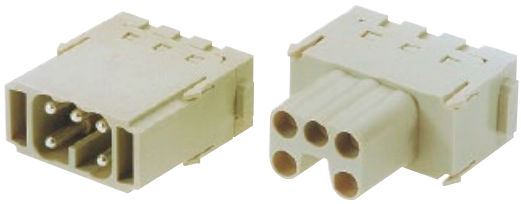
Number of contacts	5
Electrical data	
acc. to EN 61 984	**16 A 400 V 6 kV 3**
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

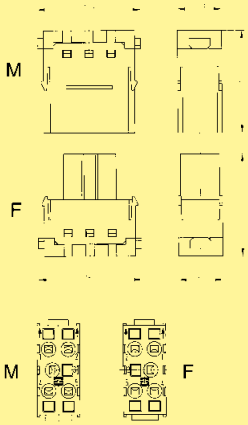
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 3 mΩ
Cage clamp terminal	
- mm²	0.14 ... 2.5 mm²
- AWG	26 ... 14

Number of contacts

5



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Cage-clamp terminal	**09 14 005 2616**	**09 14 005 2716**	 Contact arrangement view from termination side	

Stock items in bold type

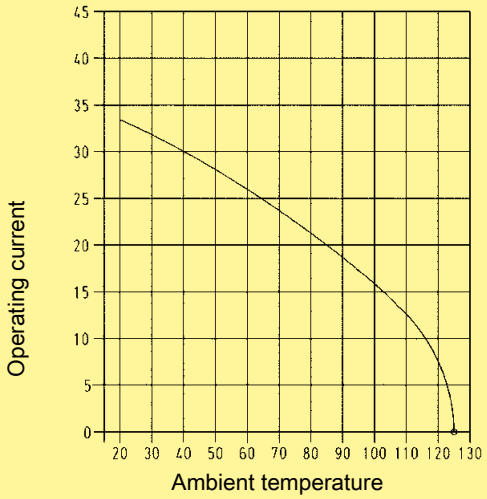
Features

- Suitable for Han E® crimp contacts
- 2 contacts up to 5000 V
- Insulator out of a voltage resistant teflon material
- Combination of all other modules (pneumatic, signal etc.)

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



① Housing Han® 16 B with 1 Han® HV module, wire gauge: 2.5 mm²

Technical characteristics

Specifications	DIN EN 61 984 DIN VDE 0115 DIN EN 60 664-1
Approvals	

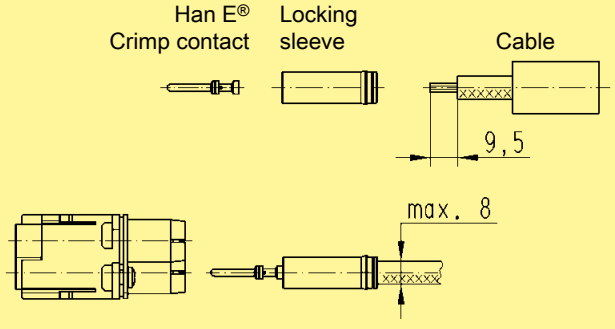
Inserts

Number of contacts	2
Electrical data	
acc. to EN 61 984	**16 A 2900/5000 V 15 kV 3**
Rated current	16 A
Rated voltage conductor - ground	2900 V
Rated voltage conductor - conductor	5000 V
Rated impulse voltage	15 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate/Teflon (PTFE)
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

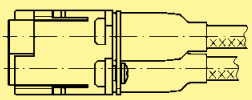
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.5 ... 4 mm²
- AWG	20 ... 12

Assembly instructions



Crimp with BUCHANAN crimping tool 09 99 000 0001
Snap crimped cable in the insert



shrink the heat shrink tube over the rear of contact

Number of contacts

2

Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately			M	
Range of delivery: - 1 module - 2 locking sleeves - 2 heat shrink tubes	**09 14 002 3021**	**09 14 002 3121**	F	
Removal tool for locking sleeve	**09 99 000 0327**	**09 99 000 0327**		

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts				Operating contact Identification	
silver plated	0.5	**09 33 000 6121**	**09 33 000 6220**		
	0.75	**09 33 000 6114**	**09 33 000 6214**		
	1	**09 33 000 6105**	**09 33 000 6205**		
	1.5	**09 33 000 6104**	**09 33 000 6204**		
	2.5	**09 33 000 6102**	**09 33 000 6202**		
	3	09 33 000 6106	09 33 000 6206		
	4	**09 33 000 6107**	**09 33 000 6207**		

Identification	Wire gauge		Stripping length
no groove	0.5 mm²	AWG 20	9.5 mm
1 groove*	0.75 mm²	AWG 18	9.5 mm
1 groove	1 mm²	AWG 18	9.5 mm
2 grooves	1.5 mm²	AWG 16	9.5 mm
3 grooves	2.5 mm²	AWG 14	9.5 mm
wide groove	3 mm²	AWG 12	9.5 mm
no groove	4 mm²	AWG 12	9.5 mm

* on the back crimp collar

Stock items in bold type

Features

- Suitable for Han® C crimp contacts
- 2 contacts up to 5000 V
- Insulator out of a voltage resistant teflon material
- Combination of all other modules (pneumatic, signal etc.)

Technical characteristics

Specifications	DIN EN 61 984 DIN VDE 0115 DIN EN 60 664-1

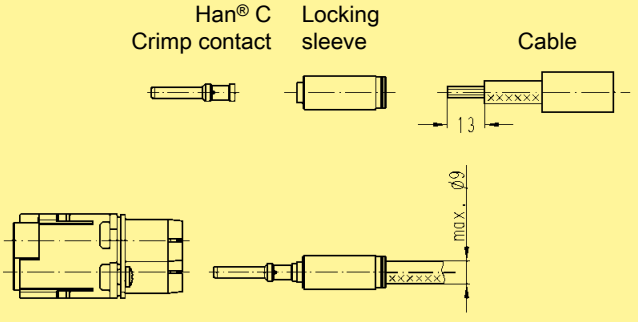
Inserts

Number of contacts	2
Electrical data	
acc. to EN 61 984	**40 A 2900/5000 V 15 kV 3**
Rated current	40 A
Rated voltage conductor - ground	2900 V
Rated voltage conductor - conductor	5000 V
Rated impulse voltage	15 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate/Teflon (PTFE)
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Max. cable diameter	9 mm
Mechanical working life	
- mating cycles	≥ 500

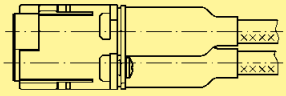
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 0.3 mΩ
Crimp terminal	
- mm²	1.5 ... 10 mm²
- AWG	16 ... 8

Assembly instructions



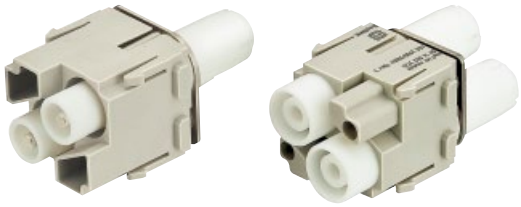
Crimp with tool 0999 000 0001,
0999 000 0110 or 0999 000 0377
Snap crimped cable in the insert



shrink the heat shrink tube over the rear of contact

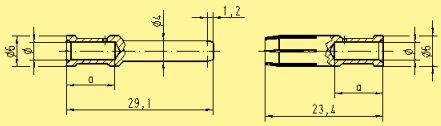
Number of contacts

2



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately			M	
Range of delivery: - 1 module - 2 locking sleeves - 2 heat shrink tubes	**09 14 002 3023**	**09 14 002 3123**	F	
Removal tool for locking sleeve	**09 99 000 0327**	**09 99 000 0327**		

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts					
silver plated	1.5	**09 32 000 6104**	**09 32 000 6204**		
	2.5	**09 32 000 6105**	**09 32 000 6205**		
	4	**09 32 000 6107**	**09 32 000 6207**		
	6	**09 32 000 6108**	**09 32 000 6208**		
	10	**09 32 000 6109**	**09 32 000 6209**		



Wire gauge			∅	Stripping length
1.5	mm²	AWG 16	1.75	13 mm
2.5	mm²	AWG 14	2.25	13 mm
4	mm²	AWG 12	2.85	13 mm
6	mm²	AWG 10	3.5	13 mm
10	mm²	AWG 8	4.3	13 mm

Stock items in bold type

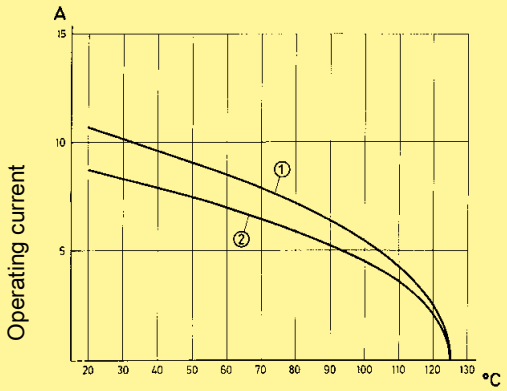
Features

- Suitable for Han D® crimp contacts
- Standard module for power up to 10 A

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



Ambient temperature

① 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 1.0 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	,

Inserts

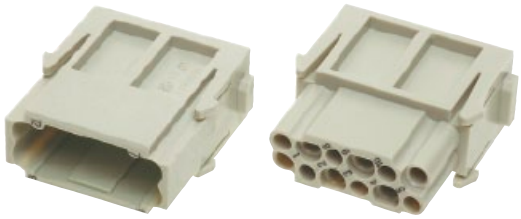
Number of contacts	12
Electrical data	
acc. to EN 61 984	**10 A 250 V 4 kV 3**
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL/CSA	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

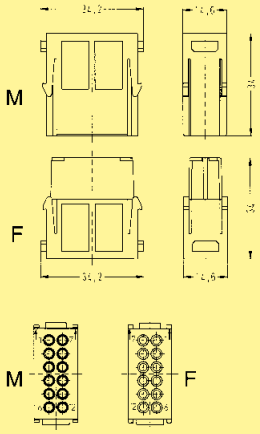
Contacts

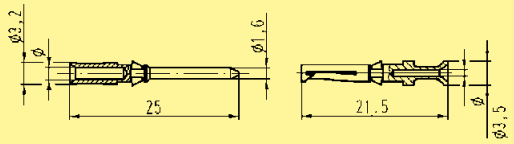
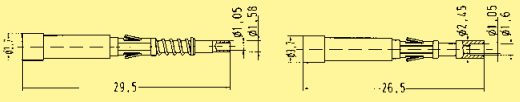
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 3 mΩ
Crimp terminal	
- mm²	0.14 ... 2.5 mm²
- AWG	26 ... 14

Number of contacts

12



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 012 3001**	**09 14 012 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts					
silver plated	0.14-0.37	**09 15 000 6104**	**09 15 000 6204**		
	0.5	**09 15 000 6103**	**09 15 000 6203**		
	0.75	**09 15 000 6105**	**09 15 000 6205**		
	1	**09 15 000 6102**	**09 15 000 6202**		
	1.5	**09 15 000 6101**	**09 15 000 6201**		
	2.5	**09 15 000 6106**	**09 15 000 6206**		
gold plated	0.14-0.37	**09 15 000 6124**	**09 15 000 6224**		
	0.5	**09 15 000 6123**	**09 15 000 6223**		
	0.75	**09 15 000 6125**	**09 15 000 6225**		
	1	**09 15 000 6122**	**09 15 000 6222**		
	1.5	**09 15 000 6121**	**09 15 000 6221**		
	2.5	**09 15 000 6126**	**09 15 000 6226**		
F.O. contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221		

Wire gauge		∅	Stripping length
0.14-0.37 mm²	AWG 26-22	0.9	8 mm
0.5 mm²	AWG 20	1.1	8 mm
0.75 mm²	AWG 18	1.3	8 mm
1 mm²	AWG 18	1.45	8 mm
1.5 mm²	AWG 16	1.75	8 mm
2.5 mm²	AWG 14	2.25	6 mm

Stock items in bold type

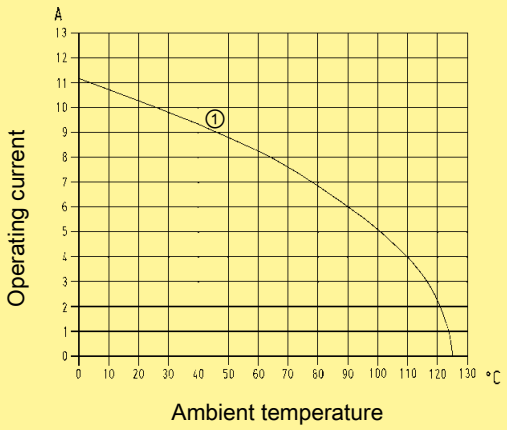
Features

- Innovative Han-Quick Lock® termination technology
- Field assembly without special tools
- Mating compatible with standard Han® DD module with crimp terminal
- Reduced wiring times

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



① 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984

Inserts

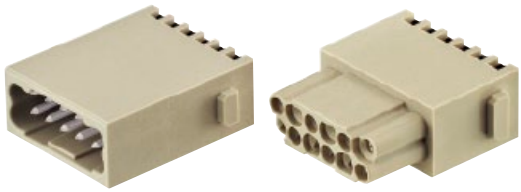
Number of contacts	12
Electrical data	
acc. to EN 61 984	**10 A 250 V 4 kV 3**
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	

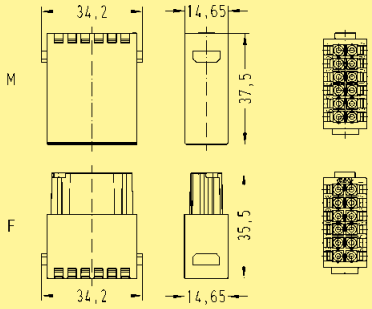
Contacts

Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
Contact resistance	≤ 3 mΩ
Quick Lock termination	
- mm²	0.25 ... 1.5 mm²
- AWG	22 ... 16

Number of contacts

12



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Quick Lock termination 	**09 14 012 2632**	**09 14 012 2732**	 Contact arrangement view from termination side	

Stock items in bold type

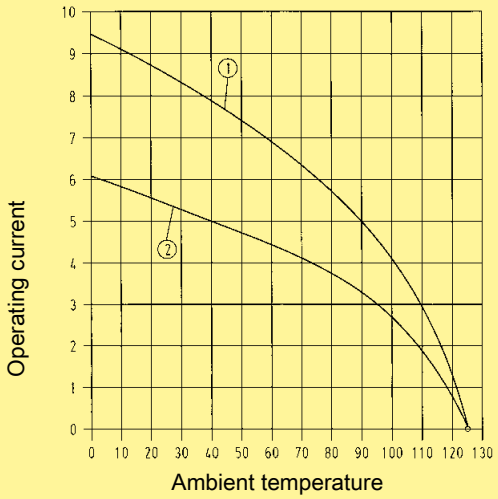
Features

- Suitable for Han D® crimp contacts
- High contact density

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



① 24 B hoods/housings with 6 modules; wire gauge: 1.5 mm²

② 24 B hoods/housings with 6 modules; wire gauge: 1.0 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

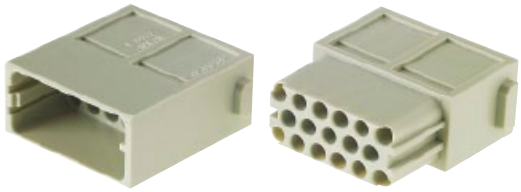
Number of contacts	17
Electrical data	
acc. to EN 61 984	**10 A 160 V 2.5 kV 3**
Rated current	10 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Pollution degree	3
Rated voltage	
acc. to UL	250 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

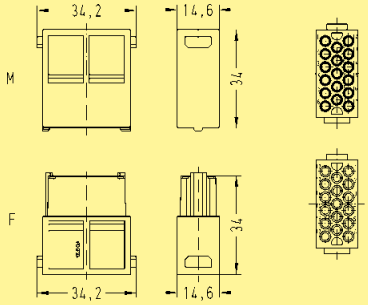
Contacts

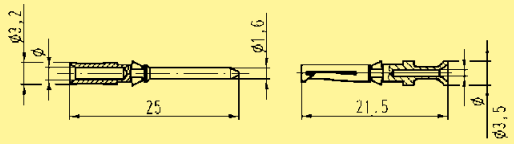
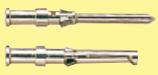
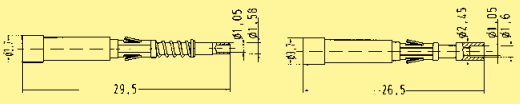
Material	copper alloy
Surface	
- hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 3 mΩ
Crimp terminal	
- mm²	0.14 ... 2.5 mm²
- AWG	26 ... 14

Number of contacts

17



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 017 3001**	**09 14 017 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts Power contacts					
silver plated	0.14-0.37	**09 15 000 6104**	**09 15 000 6204**		
	0.5	**09 15 000 6103**	**09 15 000 6203**		
	0.75	**09 15 000 6105**	**09 15 000 6205**		
	1	**09 15 000 6102**	**09 15 000 6202**		
	1.5	**09 15 000 6101**	**09 15 000 6201**		
	2.5	**09 15 000 6106**	**09 15 000 6206**		
gold plated	0.14-0.37	**09 15 000 6124**	**09 15 000 6224**		
	0.5	**09 15 000 6123**	**09 15 000 6223**		
	0.75	**09 15 000 6125**	**09 15 000 6225**		
	1	**09 15 000 6122**	**09 15 000 6222**		
	1.5	**09 15 000 6121**	**09 15 000 6221**		
	2.5	**09 15 000 6126**	**09 15 000 6226**		
F.O. contacts for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221		
					

Wire gauge		∅	Stripping length
0.14-0.37 mm²	AWG 26-22	0.9	8 mm
0.5 mm²	AWG 20	1.1	8 mm
0.75 mm²	AWG 18	1.3	8 mm
1 mm²	AWG 18	1.45	8 mm
1.5 mm²	AWG 16	1.75	8 mm
2.5 mm²	AWG 14	2.25	6 mm

Stock items in bold type

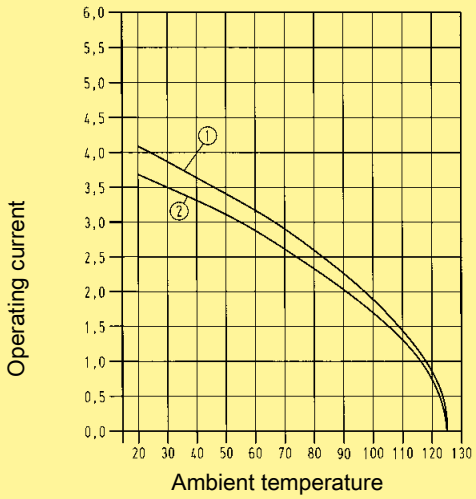
Features

- Suitable for D-Sub crimp contacts
- High contact density
- Using of guiding pins (male and female) is recommended (see chapter 40).

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



① 24 B hoods/housings with 6 modules; wire gauge: 0.5 mm² turned contacts

② 24 B hoods/housings with 6 modules; wire gauge: 0.5 mm² stamped contacts

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984

Inserts

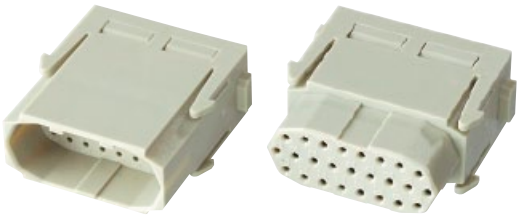
Number of contacts	25
Electrical data	
acc. to EN 61 984	**4 A 50 V 0.8 kV 3**
Rated current	4 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

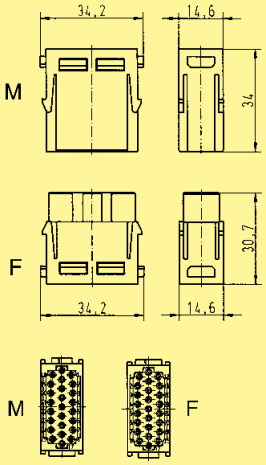
Contacts

Crimp terminal	
- mm²	0.08 ... 0.52 mm²
- AWG	28 ... 20
turned contacts	Performance level 1 as per CECC 75 301-802, 500 mating cycles, 10 days 4 mixed gas test - IEC 60 512

Number of contacts

25



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	**09 14 025 3001**	**09 14 025 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
D-Sub crimp contacts	0,08-0,21 0,13-0,33 0,33-0,52	61 03 000 0078 **61 03 000 0094** **61 03 000 0073**	61 03 000 0080 **61 03 000 0096** **61 03 000 0074**		
Insertion / Removal tool for D-Sub crimp contacts		09 99 000 0368	09 99 000 0368		

Wire gauge		Stripping length
0.08-0.21 mm²	AWG 28-24	5 mm
0.13-0.33 mm²	AWG 26-22	5 mm
0.33-0.52 mm²	AWG 22-20	5 mm

Stock items in bold type

Features

- 9-pin D-Sub connector of the Han-Modular® system
- Ideal for the transmission of sensetive signals
- Compatible to crimp, solder or IDC termination
- Using of guiding pins (male and female) is recommended (see chapter 40).

Technical characteristics

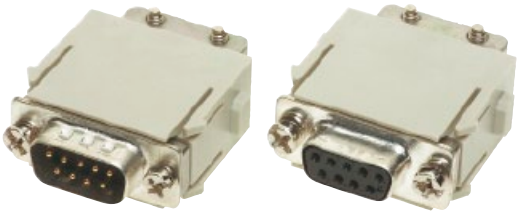
Specifications	DIN EN 60 664-1 DIN EN 61 984

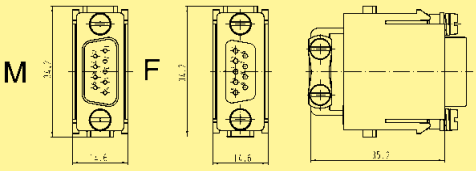
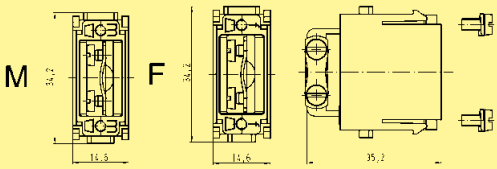
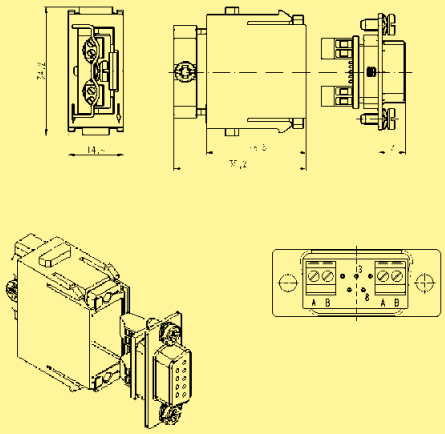
Inserts

Number of contacts	9
Electrical data	
acc. to EN 61 984	**5 A 50 V 0.8 kV 3**
Rated current	5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Number of contacts

9



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see page 06.65) 	**09 14 009 3001**	**09 14 009 3101**		
Adapter module without D-Sub insert for one cable 	**09 14 000 9930**	**09 14 000 9931**		
for two cables	**09 14 000 9932**	**09 14 000 9933**		
Screw terminal for RS 485-based bus systems with T-functionality 		**09 14 009 3151**	 Contact arrangement view from termination side	

Signal	Contact no.
A	8
B	3

Stock items in bold type

Han® USB module

Features

- According to USB 2.0 specification
- Simple and cost effective termination by plug in patch cable
- Cable tie strain relief

Technical characteristics

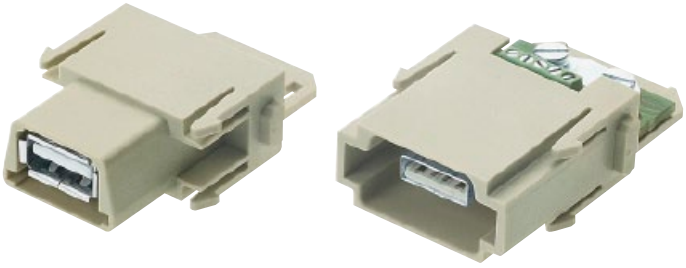
Specifications	DIN EN 60 664-1 DIN EN 61 984

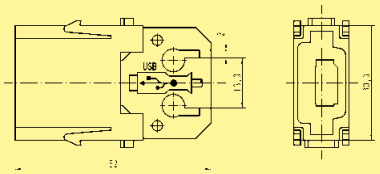
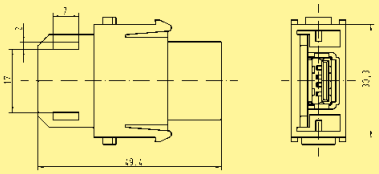
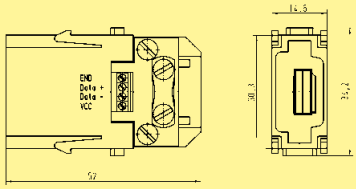
Inserts

Number of contacts	4
Electrical data	
acc. to EN 61 984	**1 A 50 V 0.8 kV 3**
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Number of contacts

4



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Module for patch cable Male insert 	09 14 001 4601			
Module for patch cable Female insert 		**09 14 001 4701**		
Module for screw termination Male insert 	09 14 001 4651			
Patch cable USB male / male Style A 	2 m **39 50 903 0050** 5 m **39 50 903 0051**	2 m **39 50 903 0050** 5 m **39 50 903 0051**		

Stock items in bold type

Han® FireWire module

Features

- Compatibel to IEEE 1394
- Simple and cost effective termination by plug in patch cable
- Cable tie strain relief

Technical characteristics

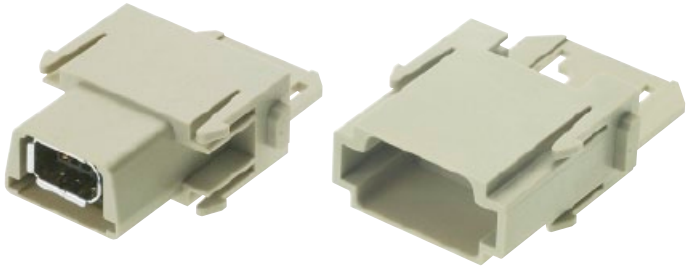
Specifications	DIN EN 60 664-1 DIN EN 61 984

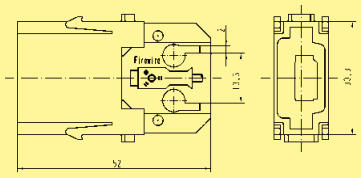
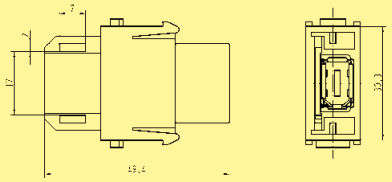
Inserts

Number of contacts	6
Electrical data	
acc. to EN 61 984	**1 A 50 V 0.8 kV 3**
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Number of contacts

6



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Module for patch cable Male insert 	09 14 001 4611			
Module for patch cable Female insert 		**09 14 001 4711**		

Stock items in bold type

Features

- Single module with standard shielded RJ45 plug and jack
- Cat 5e for all data pairs (all 8 pins)
- Conforming to the RoHS directive
- The RJ45 inserts are protected by a reliable plastic insulator
- Patch cables are assembled/removed without tools

Technical characteristics

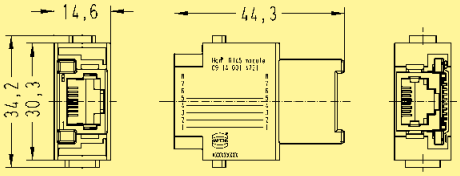
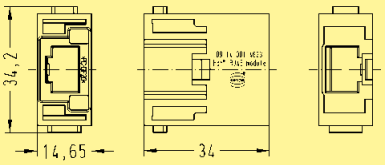
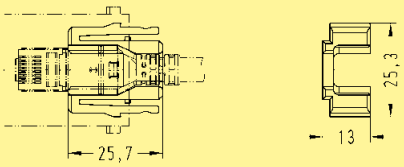
Specifications	DIN EN 60 664-1 DIN EN 61 984

Inserts

Number of contacts	8
Electrical data	
acc. to EN 61 984	**1 A 50 V 0.8 kV 3**
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Transmission features	Category 5 / Class D up to 100 MHz; acc. to ISO/IEC 11 801:2002 and EN 50 173-1
Transmission rate	10/100 Mbit/s
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Number of contacts

8

Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Gender Changer for patch cable 		**09 14 001 4721**		
Male insert for patch cable 	**09 14 001 4623**			
Adapter for HARTING patch cable 	**09 14 000 9966**			

Stock items in bold type

Features

- Locking lever protection for RJ45 connector latch
- Very short plug design in combination with robust bend protection
- RoHS compliant
- Fully EMC screened (aluminium-clad foil and braid)

Technical characteristics

Specifications	ISO/IEC 24 702 ISO/IEC 11 801 ISO/IEC 61 935-2

Cat. 5 e RJ45 patch cable

Transmission features	Category 5 / Class D up to 100 MHz; acc. to ISO/IEC 24 702 or ISO/IEC 11 801
Transmission rate	10/100/1000 Mbit/s
Cable type	1:1 EIA/TIA 568 B, 8 poles
Material cables	SF/UTP, PUR, yellow
Limiting temperatures	
- mobile	0 °C ... +60 °C
- stationary	-40 °C ... +80 °C
Flammability	flame retardant, halogen-free
Degree of protection	IP 20

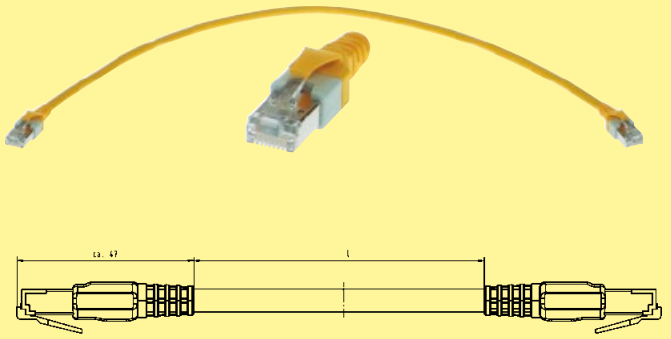
Cat. 6 RJ45 patch cable

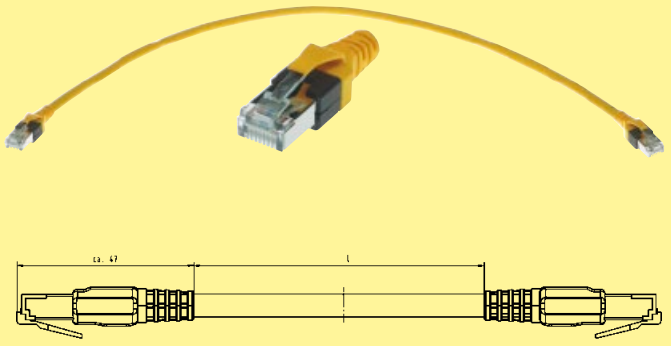
Transmission features	Category 6 / Class E up to 250 MHz; acc. to ISO/IEC 24 702 or ISO/IEC 11 801
Transmission rate	10/100/1000 Mbit/s
Cable type	1:1 EIA/TIA 568 B, 8 poles
Material cables	SF/UTP, PUR, yellow
Limiting temperatures	
- mobile	0 °C ... +60 °C
- stationary	-20 °C ... +80 °C
Flammability	flame retardant, halogen-free
Degree of protection	IP 20

Number of contacts

8

Identification		Part number	Drawing	Dimensions in mm
Cat. 5e RJ45 patch cable				
Length	0.2 m	09 47 474 7001		
	0.3 m	09 47 474 7002		
	0.4 m	09 47 474 7003		
	0.5 m	09 47 474 7004		
	0.6 m	09 47 474 7005		
	0.7 m	09 47 474 7006		
	0.8 m	09 47 474 7007		
	0.9 m	09 47 474 7008		
	1.0 m	09 47 474 7009		
	1.5 m	**09 47 474 7010**		
	2.0 m	**09 47 474 7011**		
	2.5 m	09 47 474 7012		
	3.0 m	**09 47 474 7013**		
	4.0 m	**09 47 474 7014**		
	5.0 m	**09 47 474 7015**		
	6.0 m	09 47 474 7016		
	7.0 m	09 47 474 7017		
	7.5 m	09 47 474 7018		
	8.0 m	09 47 474 7019		
	9.0 m	**09 47 474 7020**		
	10 m	**09 47 474 7021**		
	15 m	09 47 474 7022		
	20 m	09 47 474 7023		
Cat. 6 RJ45 patch cable				
Length	0.2 m	**09 47 474 7101**		
	0.3 m	**09 47 474 7102**		
	0.4 m	**09 47 474 7103**		
	0.5 m	**09 47 474 7104**		
	0.6 m	**09 47 474 7105**		
	0.7 m	**09 47 474 7106**		
	0.8 m	**09 47 474 7107**		
	0.9 m	**09 47 474 7108**		
	1.0 m	**09 47 474 7109**		
	1.5 m	**09 47 474 7110**		
	2.0 m	**09 47 474 7111**		
	2.5 m	**09 47 474 7112**		
	3.0 m	**09 47 474 7113**		
	4.0 m	**09 47 474 7114**		
	5.0 m	**09 47 474 7115**		
	6.0 m	**09 47 474 7116**		
	7.0 m	**09 47 474 7117**		
	7.5 m	**09 47 474 7118**		
	8.0 m	**09 47 474 7119**		
	9.0 m	**09 47 474 7120**		
	10 m	**09 47 474 7121**		
	15 m	**09 47 474 7122**		
	20 m	**09 47 474 7123**		





Stock items in bold type

Features

Han-Modular® RJ Industrial RJ45 connector set

- Conforming to the RoHS directive
- 360° shielded contact
- Field assembly without tools possible by means of HARAX® rapid termination in IDC technology
- Suitable for termination of massive and flexible wires

Han-Modular® RJ Industrial Gigalink RJ45 connector set

- Conforming to the RoHS directive
- 360° shielded contact
- Field assembly by means of piercing contacts
- Suitable for termination of flexible wires

Technical characteristics

Specifications	IEC 60 603-7 DIN EN 60 664-1 DIN EN 61 984

HARTING RJ Industrial®, 4 pins

Number of contacts	4
Transmission features	Category 5 / Class D up to 100 MHz; acc. to ISO/IEC 11 801:2002 and EN 50 173-1
Transmission rate	10/100 Mbit/s
Wire termination	IDC contacts; without tools
Terminated cable	
- Conductor cross section	
flexible	AWG 24/7 ... AWG 22/7
solid	AWG 23/1 ... AWG 22/1
- Cable outside diameter	≤ 1.6 mm
Material insert	polyamide
Limiting temperatures	-40 °C ... +70 °C

HARTING RJ Industrial® Gigalink, 8 pins

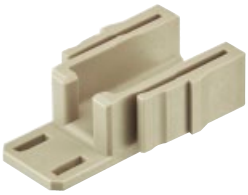
Number of contacts	8
Transmission features	Category 6 / Class E up to 250 MHz; acc. to ISO/IEC 11 801:2002 and EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Wire termination	Piercing contacts
Terminated cable	
- Conductor cross section	
flexible	AWG 28/7 ... AWG 24/7
- Cable outside diameter	≤ 1.05 mm
Material insert	polyamide
Limiting temperatures	-40 °C ... +70 °C

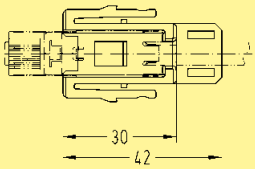
HARTING RJ Industrial® 10G, 8 pins

Number of contacts	8
Transmission features	Category 6 / Class E up to 250 MHz; acc. to ISO/IEC 11 801:2002 and EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Wire termination	IDC contacts; without tools
Terminated cable	
- Conductor cross section	
flexible	AWG 27/7 ... AWG 22/7
solid	AWG 27/1 ... AWG 22/1
- Cable outside diameter	≤ 1.5 mm
Material insert	polyamide
Limiting temperatures	-40 °C ... +70 °C

Number of contacts

4 / 8



Identification	Part number Male insert (M)	Drawing	Dimensions in mm
Han-Modular® RJ Industrial RJ45 connector set 			
Cat. 5			
4 pins for AWG 24 ... 22	09 45 400 1100		
4 pins for AWG 26	09 45 400 1109		
Cat. 6			
Gigalink, 8 pins	09 45 400 1500		
Gigalink, 8 pins	09 45 400 1510		
Cat. 6			
10G, 8 pins	09 45 400 1560		
		Set consists of the relevant RJ45 insert and the suitable adapter for Han® RJ45 module, male, part number 09 14 001 4623	
HARTING RJ Industrial® Gigalink Assembly tool	**09 45 800 0500**		

Han Modular

* usable with male insert 09 14 001 4623 (see page 06.73)

Stock items in bold type

Features

- Shielding bus separate from housing potential
- Ideal for the transmission of sensetive signals (e.g. bus signals)
- Usuable for Gigabit Ethernet Cat. 6

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984

Inserts

Number of contacts	8
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

GigaBit contacts

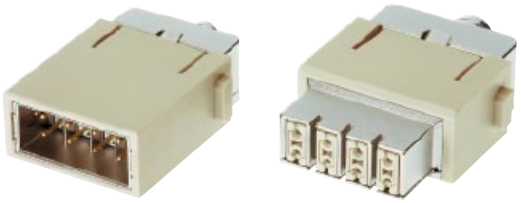
Number of contacts	8 + shielding
Electrical data	
acc. to EN 61 984	**5 A 50 V 0.8 kV 3**
Rated current	5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Material	
- Insulator	polycarbonate
- Outer conductor	zinc alloy
Contact resistance	≤ 4 mΩ
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Outer surface finish	nickel
Cable diameter	5 ... 12 mm

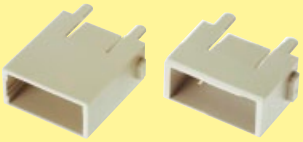
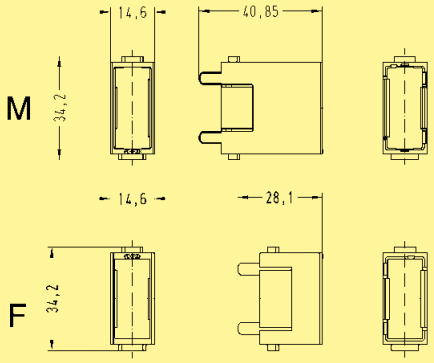
D-Sub crimp contacts

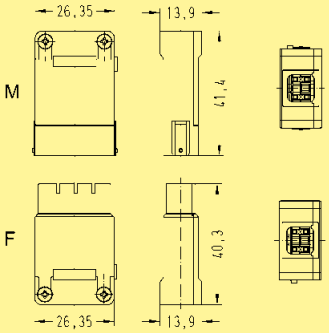
Crimp terminal	
- mm²	0.08 ... 0.52 mm²
- AWG	28 ... 20
turned contacts	Performance level 1

Number of contacts

8



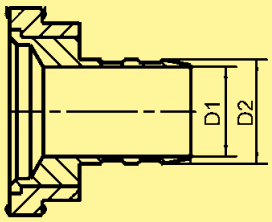
Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Han® GigaBit module 	**09 14 001 3011**	**09 14 001 3111**		

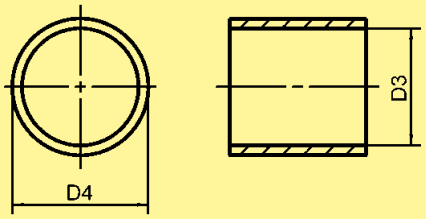
Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
GigaBit contacts 8 + shielding Order crimp contacts separately 		**09 14 008 3011**	**09 14 008 3111**		
D-Sub crimp contacts 	0,08-0,21 0,13-0,33 0,33-0,52	61 03 000 0078 **61 03 000 0094** **61 03 000 0073**	61 03 000 0080 **61 03 000 0096** **61 03 000 0074**		

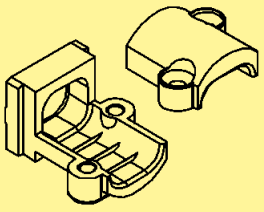
Wire gauge		Stripping length
0,08-0,21 mm²	AWG 28-24	5 mm
0,13-0,33 mm²	AWG 26-22	5 mm
0,33-0,52 mm²	AWG 22-20	5 mm

Stock items in bold type

Identification			Part number	Drawing	Dimensions in mm
Crimp flange					
	D1	D2			
	3.0	4.0	61 03 000 0062		
	3.5	4.5	**61 03 000 0063**		
	4.0	5.0	**61 03 000 0064**		
	4.5	5.5	61 03 000 0065		
	5.0	6.0	61 03 000 0066		
	5.5	6.5	61 03 000 0166		
	6.0	7.0	**61 03 000 0067**		
	6.5	7.5	**61 03 000 0068**		
	7.0	8.0	**61 03 000 0069**		
	7.5	8.5	61 03 000 0070		
	8.0	9.0	61 03 000 0071		
	8.5	9.5	61 03 000 0165		
	9.0	10.0	61 03 000 0072		
Crimp ferrule					
	D3	D4			
	5.0	6.0	61 03 000 0045		
	5.5	6.5	61 03 000 0046		
	6.0	7.0	**61 03 000 0047**		
	6.5	7.5	61 03 000 0048		
	7.0	8.0	**61 03 000 0049**		
	7.5	8.5	**61 03 000 0050**		
	8.0	9.0	61 03 000 0051		
	8.5	9.5	**61 03 000 0052**		
	9.0	10.0	61 03 000 0053		
	9.5	10.5	**61 03 000 0054**		
	10.0	11.0	**61 03 000 0055**		
	10.5	11.5	61 03 000 0056		
	11.0	12.0	**61 03 000 0057**		
	11.5	12.5	**61 03 000 0058**		
	12.0	13.0	61 03 000 0142		
	12.5	13.5	61 03 000 0059		
	13.0	14.0	61 03 000 0127		
Cable clamp					
cable diameter approx. 5 ... 7 mm			**61 03 000 0141**		
cable diameter approx. 7 ... 10 mm			**61 03 000 0044**		
cable diameter approx. 10 ... 12 mm			**61 03 000 0143**		







Stock items in bold type

Features

- Shielding bus separate from housing potential
- Perfect for transmission of sensitive signals (eg. bus signals)
- The four pole Han® Quintax contact is suitable for Ethernet Cat. 5e and PROFIBUS when diagonally wiring of the data pairs.

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	2
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Quintax contacts

Number of contacts	
- Quintax	4 + shielding
- High Density Quintax	8 + shielding
Electrical data acc. to EN 61 984	
- Quintax	**10 A 50 V 0.8 kV 3**
- High Density Quintax	**5 A 50 V 0.8 kV 3**
Rated current	10 A / 5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Material	
- Insulator	polycarbonate
- Outer conductor	zinc alloy
Contact resistance	≤ 4 mΩ
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Outer surface finish	nickel
Cable diameter	3 ... 9.5 mm

Han D® contacts

Material	copper alloy
Surface	
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 3 mΩ
Crimp terminal	
- mm²	0.14 ... 2.5 mm²
- AWG	26 ... 14

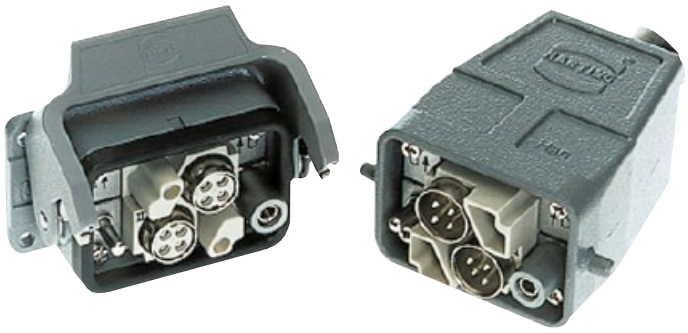
D-Sub crimp contacts

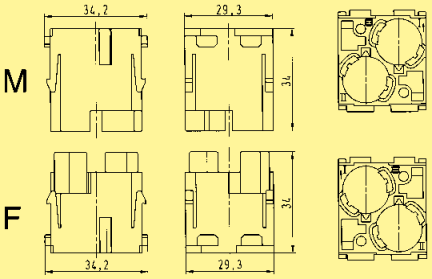
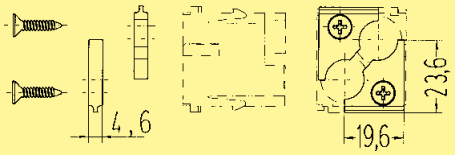
Crimp terminal	
- mm²	0.08 ... 0.52 mm²
- AWG	28 ... 20
turned contacts	Performance level 1

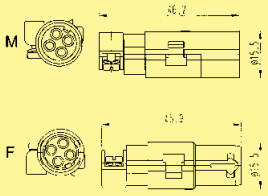
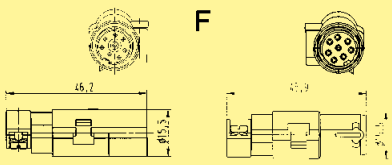
Han-Quintax® module

Number of contacts

2



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal 	**09 14 002 3001**	**09 14 002 3101**	M F  Contact arrangement view from termination side	
Quintax metal adapter option 	**09 14 000 9915**	**09 14 000 9915**		

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Quintax contact 4 + shielding Han D® crimp contacts 		**09 15 004 3013**	**09 15 004 3113**	M F 	
Han D® Crimp contact gold plated 	0.14-0.37	**09 15 000 6124**	**09 15 000 6224**		
	0.5	**09 15 000 6123**	**09 15 000 6223**		
	0.75	**09 15 000 6125**	**09 15 000 6225**		
	1	**09 15 000 6122**	**09 15 000 6222**		
	1.5	**09 15 000 6121**	**09 15 000 6221**		
	2.5	**09 15 000 6126**	**09 15 000 6226**		
High Density Quintax contact 8 + shielding Han® D-Sub contacts 		**09 15 008 3013**	**09 15 008 3113**	M F 	
D-Sub crimp contact 	0.08-0.21	61 03 000 0078	61 03 000 0080		
	0.13-0.33	**61 03 000 0094**	**61 03 000 0096**		
	0.33-0.52	**61 03 000 0073**	**61 03 000 0074**		

Order crimp contacts separately

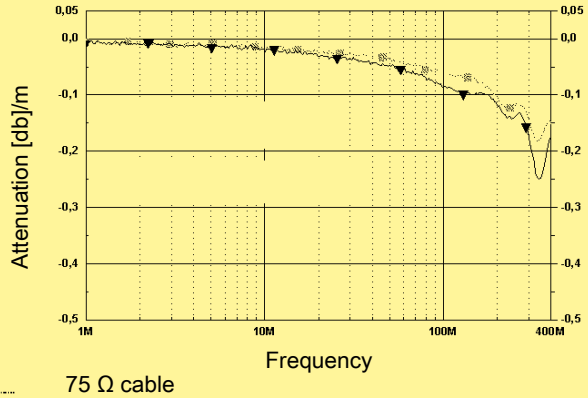
Stock items in bold type

Features

- Well known Quintax concept
- Suitable for contacts with large diameters
- Han E® coax is applicable to the ETCS Eurobalise cable

RF transmission characteristics

Impedance 75 Ω



75 Ω cable
75 Ω cable with Han D® Coax

75 Ω coax cable
diameter shielding: 7.3 mm

Impedance 50 Ω

Han E® Coax with ETCS S21 Eurobalise cable (4 mm²)	**27 MHz**
Return loss [db]	35.4
Attenuation [db]	0.017

Han E® Coax with RG 213 cable (2.5 mm²)	**200 MHz**	**500 MHz**	**1.0 GHz**	**1.2 GHz**	**1.5 GHz**	**2.0 GHz**	**2.5 GHz**
Return loss [db]	23.8	21.1	>18.7	>17.7	>16.4	>14.1	>12.0
Attenuation [db]	0.07	0.11	0.17	0.2	<0.23	<0.53	<2.0

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	c UL us

Inserts

Number of contacts	2
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Coax contacts

Number of contacts	1 + shielding
Electrical data acc. to EN 61 984	
- Han D® Coax	**10 A 50 V 0.8 kV 3**
- Han E® Coax	**16 A 50 V 0.8 kV 3**
Rated current	10 A / 16 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Impedance	
- Han D® Coax	75 Ω
- Han E® Coax	50 Ω
Material	
- Insulator	polycarbonate
- Outer conductor	zinc alloy
Contact resistance	≤ 4 mΩ
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Outer surface finish	nickel
Cable diameter	3 ... 9.5 mm

Han D® contacts

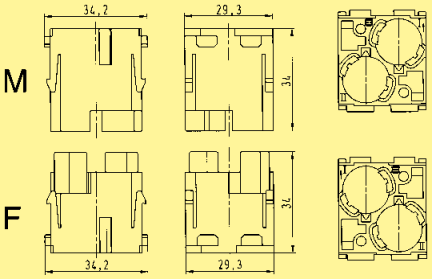
Material	copper alloy
Surface	
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 3 mΩ
Crimp terminal	
- mm²	0.14 ... 2.5 mm²
- AWG	26 ... 14

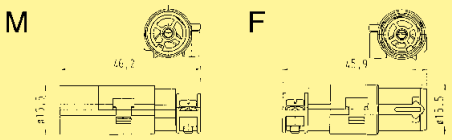
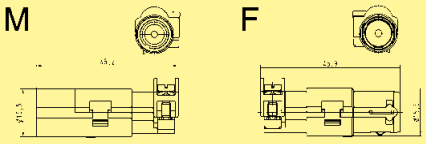
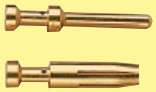
Han E® contacts

Material	copper alloy
Surface	
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤1 mΩ
Crimp terminal	
- mm²	0.14 ... 5.5 mm²
- AWG	26 ... 10

Number of contacts

2

Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal 	**09 14 002 3001**	**09 14 002 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Han® D Coax contact 1 + shielding, 75 Ω Han D® crimp contacts 		**09 15 001 3013**	**09 15 001 3113**		
Han D® Crimp contact gold plated 	0.14-0.37	**09 15 000 6124**	**09 15 000 6224**		
	0.5	**09 15 000 6123**	**09 15 000 6223**		
	0.75	**09 15 000 6125**	**09 15 000 6225**		
	1	**09 15 000 6122**	**09 15 000 6222**		
	1.5	**09 15 000 6121**	**09 15 000 6221**		
	2.5	**09 15 000 6126**	**09 15 000 6226**		
Han® E Coax contact 1 + shielding, 50 Ω Han E® crimp contacts 		**09 15 001 3023**	**09 15 001 3123**		
Han E® contacts gold plated 	0.14-0.37	09 33 000 6117	09 33 000 6217		
	0.5	**09 33 000 6122**	**09 33 000 6222**		
	0.75	**09 33 000 6115**	**09 33 000 6215**		
	1	**09 33 000 6118**	**09 33 000 6218**		
	1.5	**09 33 000 6116**	**09 33 000 6216**		
	2.5	**09 33 000 6123**	**09 33 000 6223**		
	4	09 33 000 6119	09 33 000 6221		
	5.5	**09 33 000 6139**	**09 33 000 6239**		

Order crimp contacts separately

Stock items in bold type

Features

- Suitable for FOC and coaxial contacts acc. to DIN 41 626
- Using of guiding pins (male and female) is imperative (see chapter 40).

Contact arrangement

according to following matrix

Contacts	Male insert (M) 09 14 004 4501	Female insert (F) 09 14 004 4512
Coaxial contacts	09 14 000 62xx	09 14 000 61xx
F.O. contacts	20 10 xxx 421x	20 10 xxx 422x

Coaxial cables (group 2)

Wires	Shell ∅	Internal wire ∅	Attenuation db/100 m at		
	mm	mm	100 MHz	200 MHz	800 MHz
50 Ω					
RG 174 / U	2.5	0.48			84
RG 188 A / U	2.6	0.54	29	40	
RG 316 / U	2.5	0.54		40	
75 Ω					
RG 179 B / U	2.55	0.3		41	
RG 187 A / U	2.7	0.3		41	

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	4
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

Coaxial contacts

Material	copper alloy
Surface	
- hard-gold plated	demand level 2
Impedance	50 Ω / 75 Ω
Contact resistance	
- Internal wire	≤ 10 mΩ
- Outer conductor	≤ 3 mΩ
Rated current	1.5 A
Rated voltage	50 V

F.O. contacts

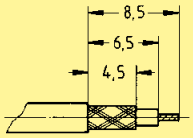
Fibre type	Glas fibre (GI)
Attenuation	< 1.5 dB

F.O. contacts

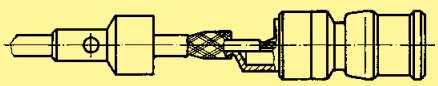
Fibre type	Polymer Optical Fibre (POF)
Attenuation	< 2.5 dB

Assembly instructions

Stripping de-scription



Assembly details for coaxial contacts



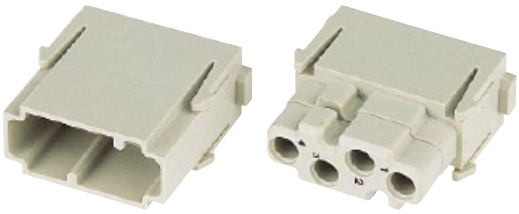
Crimp barrel solder

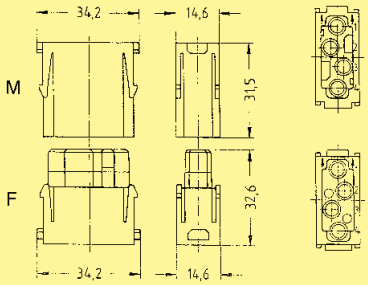
Solder temperature	approx. 300 °C
Solder duration	approx. 2 s

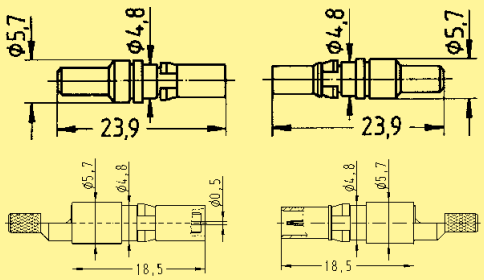
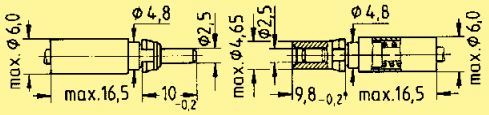
Due to the closed entry design of female insert the upper part has to be removed by screw driver (7 mm) before extracting the contacts. In this case the module will be destroyed.

Number of contacts

4



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Multicontact module acc. to DIN 41 626 Order contacts separately	**09 14 004 4501**	**09 14 004 4512**	 Contact arrangement view from termination side	

Identification	Impedance	Part number		Drawing	Dimensions in mm
Coaxial contacts acc. to DIN 41 626* Solder / crimp contact	50 Ω 75 Ω	09 14 000 6211 09 14 000 6221	09 14 000 6111 09 14 000 6121	 For cable group 2 flexible wires	
F.O. contacts acc. to DIN 41 626 for SI fibre (HCS®) 200/230 µm		20 10 230 4211	20 10 230 4221		
for GI fibre 50/125 µm or 62.5/125 µm ceramic ferrule		20 10 125 4212	20 10 125 4222		
for 1 mm plastic fibre		20 10 001 4211	20 10 001 4221		

* Using of guiding pins is imperative (see chapter 40).

Stock items in bold type

Features

- Suitable for coaxial contacts acc. to D-Sub (DIN 41 652)
- Using of guiding pins (male and female) is recommended (see chapter 40).

Contact arrangement

according to following matrix

Contacts	Male insert (M) 09 14 004 4501	Female insert (F) 09 14 004 4513
Coaxial contacts	09 14 000 62xx	09 14 000 61xx
Coaxial contacts	09 69 28x 5xxx	09 69 18x 5xxx

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	4
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

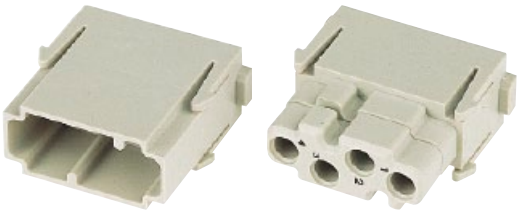
Contacts

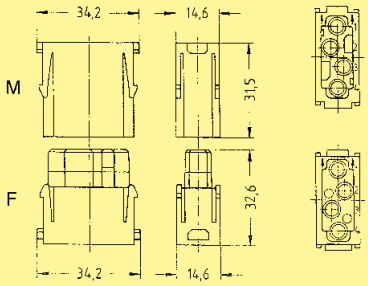
Coaxial contacts

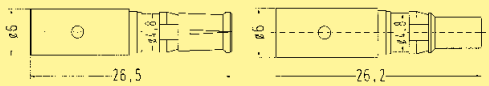
Material	copper alloy
Surface	
- hard-gold plated	demand level 2, S4
Impedance	50 Ω / 75 Ω
Contact resistance	
- Internal wire	≤ 10 mΩ
- Outer conductor	≤ 3 mΩ
Rated current	1.5 A
Rated voltage	50 V

Number of contacts

4



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Multicontact module acc. to D-Sub Order contacts separately	**09 14 004 4501**	**09 14 004 4513***	 Contact arrangement view from termination side	

Identification	Impedance	Part number		Drawing	Dimensions in mm
Coaxial contacts acc. to D-Sub Performance level 2 Solder / solder contact	50 Ω	09 14 000 6215	09 14 000 6115	 RG 58	
Solder / crimp contact Performance level S4	50 Ω 50 Ω 50 Ω 75 Ω	09 69 281 5140 09 69 281 5141 09 69 281 5143 09 69 281 5230	09 69 181 5140 09 69 181 5141 09 69 181 5143 09 69 181 5230	RG 174 U, 188 AU, 316 U RG 178 BU, 196 AU, 404 U RG 58 CU, 141 AU RG 179 BU, 187 AU	
Crimp / crimp terminal Performance level S4	50 Ω 75 Ω	09 69 282 5140 09 69 282 5230	09 69 182 5140 09 69 182 5230	RG 174 U, 188 AU, 316 U RG 179 BU, 187 AU	

* Due to the closed entry design of female insert the upper part has to be removed by screw driver (7 mm) before extracting the contacts. In this case the module will be destroyed.

Stock items in bold type

Features

- For the transmission of clean and dry compressed
- Female contacts with / without shut off
- Removal of tubes from pre-assembled pneumatic contacts is possible

Shut off principle:

In the disconnected position the spring integrated in the female contact is active, thus the O-ring of the valve seals the opening of the air-way. During the mating process, when the defined depth of insertion is reached the male contact presses on the valve head and moves it backwards against the spring tension, so that the air-way opens.

Using of guiding pins in connection with pneumatic modules is imperative.
In addition to this guiding pins guarantee a coding, if pneumatic modules are used exclusively.

Technical characteristics

Approvals	

Inserts *

Number of contacts	2
Colour	blue
Material	polycarbonate
Limiting temperatures	-40 °C ... +80 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

Material	delrin acetal
Colour	black
Tube termination	
- Internal diameter (ID)	6.0 mm / 1/4“
Working pressure	up to 8 bar / 116 psi

Sealing

Material	Buna-N

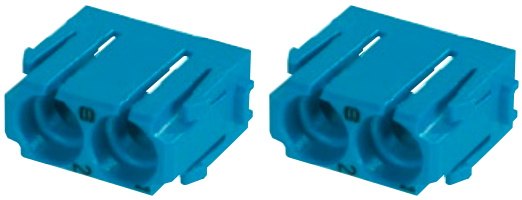
Shut off valve

Material	Polypropylen

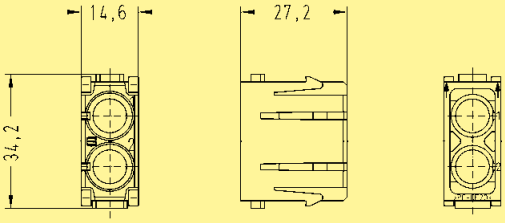
* Assemble contacts before module is fixed into the frame

Number of contacts

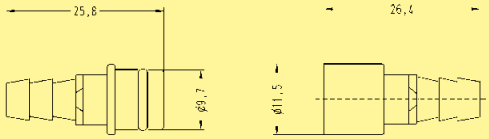
2

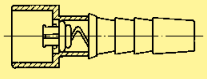


Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
for 6 mm Order contacts separately	**09 14 002 4501***	**09 14 002 4501***	Contact arrangement view from termination side	



Identification	ID (mm)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Pneumatic contacts without shut off for tube internal diameter (ID)	6.0	**09 14 000 6174**	**09 14 000 6274**	Male contact / Female contact	
Pneumatic contacts with shut off for tube internal diameter (ID)	6.0		**09 14 000 6279**	female contact with shut off in closed position	





* Using of guiding pins is imperative (see chapter 40).

Stock items in bold type

Han® Pneumatic module

Features

- For the transmission of clean and dry compressed
- Female contacts with / without shut off
- Removal of tubes from pre-assembled pneumatic contacts is possible

Shut off principle:

In the disconnected position the spring integrated in the female contact is active, thus the O-ring of the valve seals the opening of the air-way. During the mating process, when the defined depth of insertion is reached the male contact presses on the valve head and moves it backwards against the spring tension, so that the air-way opens.

Using of guiding pins in connection with pneumatic modules is imperative.
In addition to this guiding pins guarantee a coding, if pneumatic modules are used exclusively.

Technical characteristics

Approvals	

Inserts *

Number of contacts	3
Colour	blue
Material	polycarbonate
Limiting temperatures	-40 °C ... +80 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Contacts

Material	delrin acetal
Colour	black
Tube termination	
- Internal diameter (ID)	1.6 mm / 1/16“ 3.0 mm 4.0 mm / 1/8“
Working pressure	up to 8 bar / 116 psi

Sealing

Material	Buna-N

Shut off valve

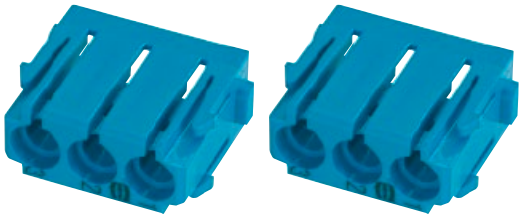
Material	Polypropylen

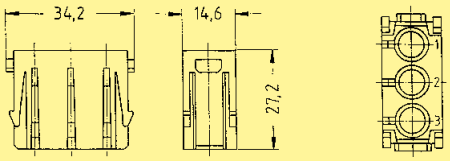
Han Modular

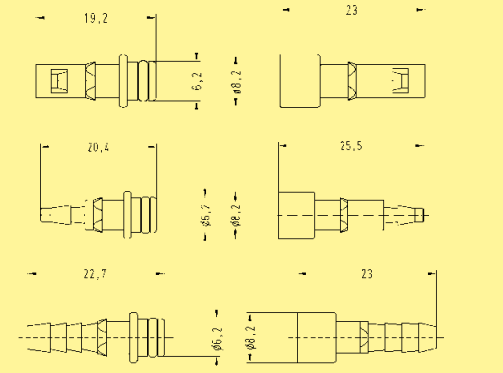
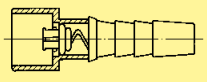
* Assemble contacts before module is fixed into the frame

Number of contacts

3



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
for 1.6; 3; 4 mm Order contacts separately	**09 14 003 4501***	**09 14 003 4501***	 Contact arrangement view from termination side	

Identification	ID (mm)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Pneumatic contacts without shut off for tube internal diameter (ID)	1.6	09 14 000 6151	09 14 000 6251	Male contact / Female contact 	
	3.0	**09 14 000 6152**	**09 14 000 6252**		
	4.0	**09 14 000 6153**	**09 14 000 6253**		
Pneumatic contacts with shut off for tube internal diameter (ID)	1.6		09 14 000 6256	 female contact with shut off in closed position	
	3.0		**09 14 000 6257**		
	4.0		**09 14 000 6258**		

* Using of guiding pins is imperative (see chapter 40).

Stock items in bold type

Features

- Suitable for HARTING SC contacts
- For GI-Fibre 50 - 62.5 / 125µm
- Using of guiding pins (male and female) is recommended (see chapter 40).

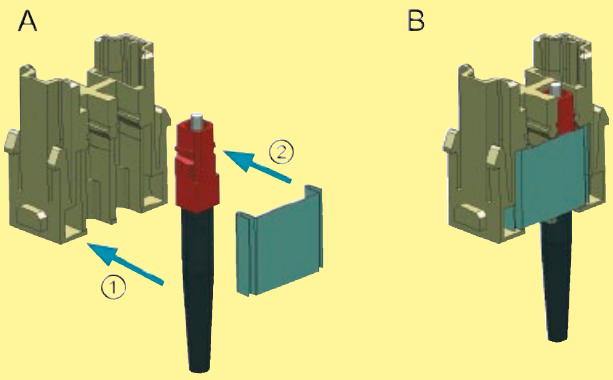
Technical characteristics

Inserts

Number of contacts	4
Insertion loss	< 0.5 dB
Material	polycarbonate
Limiting temperatures	-40 °C ... +85 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 500

Assembly instructions

Male insert (09 14 004 4701)

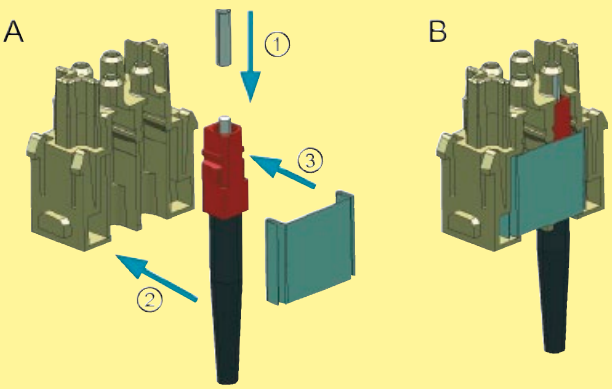


A Assemble the SC contact

Push the SC contact from the side into the relevant insert (1)
Push the fixing plate from the side over the contacts (2)

B SC contact fixed in the module

Female insert (09 14 004 4711)



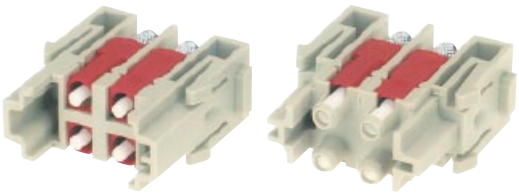
A Assemble the SC contact

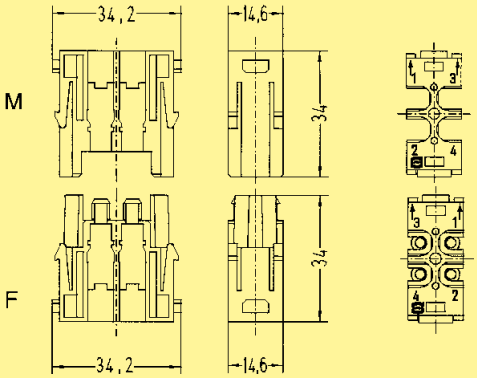
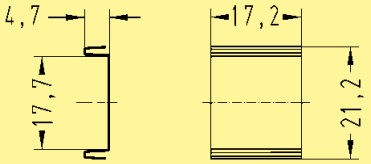
Push the centering ferrule (included in delivery) on the SC contact (1)
Push the SC contact from the side into the relevant insert (2)
Push the fixing plate from the side over the contacts (3)

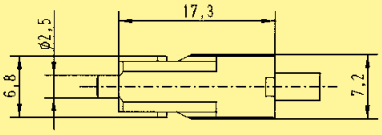
B SC contact fixed in the module

Number of contacts

4



Identification	Part number Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
SC module Order contacts separately	**09 14 004 4701**	**09 14 004 4711***	 Contact arrangement view from termination side	
Fixing plate	09 14 000 9965	09 14 000 9965		

Identification	Part number Male contact	Female contact	Drawing	Dimensions in mm
SC contact				
for GI fibre 50/125 µm or 62.5/125 µm ceramic ferrule	**20 10 125 5211**	**20 10 125 5211**		
for SI fibre (HCS®) 200/230 µm	20 10 230 5211	20 10 230 5211		
with quick assembly technique for 1 mm POF	**20 10 001 5217**	**20 10 001 5217**		
with crimp technique for 1 mm POF	**20 10 001 5211**	**20 10 001 5211**		

* The female inserts are equipped with centering ferrules.
4 ferrules are included in delivery range.

Stock items in bold type

Features

- Signal pre-processing and conversion do fit into the connector
- Individual combination of input and output modules for optimal signal pre-processing
- Minimum size for integration in Han® industrial connectors (Han-Modular® and Han-Snap®)
- Economy of space by reduction the number of terminal blocks and interface modules in the switch cabinet

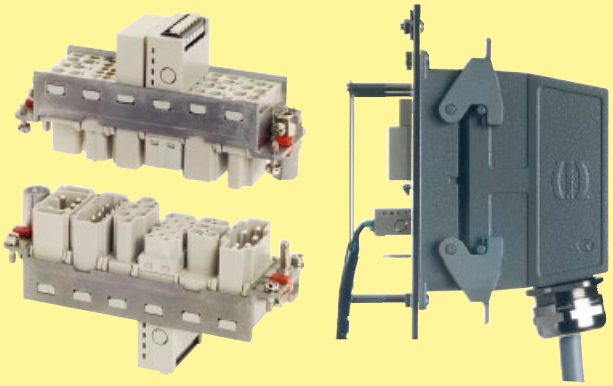
General description

The Han-Elisa® modules are a flexible I/O system - directly in the connector.

The input and output modules are developed for 1 or 2 channels and can be combined variously and flexible for optimal signal pre-processing. Within the product family modules are available for current/voltage converison, temperature, relay and timer.

Due to the minimized size thes modules can be integrated into the Han-Modular® and Han-Snap® system.

Signal pre-processing and conversion do fit into the connector and this will reduce installation space for terminal blocks and the number of interface modules. So the switch cabinets can be made smaller.



Technical characteristics

Power supply
(combination input and output module)

Supply voltage	24 V (-10 % ... +25 %)
Current consumption	< 0.08 A
Power consumption	< 2 W
Total transmission error	< 0.2 %

Product matrix and possible combinations

input module (male) / output module (female)	Relay Different versions	Optocoupler Different versions	Output current 4 ... 20 mA galvanically isolated	Output voltage 0 ... 10 V galvanically isolated
Timing	○	○		
Connecting 1:1	○	○		
Temperature Pt100 Different temperature ranges			●	●
Temperature thermo element type J, K Different temperature ranges			○	○
Input current 4 ... 20 mA			○	○
Input voltage 0 ... 10 V			○	○

○ = on request
● = available

Han-Elisa® Pt100 module

Features

- Minimum size for integration in Han® industrial connectors (Han-Modular® and Han-Snap®)
- Economy of space by reduction the number of terminal blocks and interface modules in the switch cabinet
- Male module for signal input

Technical characteristics

Inserts

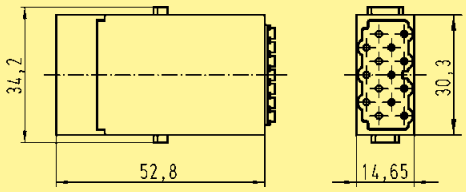
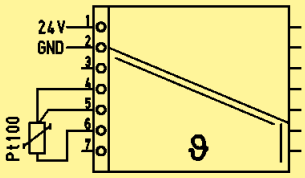
Sensor	Pt100 acc. to IEC 751
Termination technology	2-, 3-, 4 wire technology
Sensor input current	0.8 mA, constant
Conductor resistance, max. permissible	10 Ω per conductor
Min. measuring range	100 °C
Open circuit detection	integrated
Material	polycarbonate / LCP
Termination	Cage-clamp terminal
- mm²	0.14 ... 1.5 mm²
- AWG	26 ... 16
Power diagnostic	LED (green)

Temperature range

Working temperature	-20 °C ... +65 °C
Stock temperature	-40 °C ... +85 °C

Han-Elisa® Pt100 module

Pt100 Input module

Identification		Part number Male insert (M)	Drawing	Dimensions in mm
Temperature module Pt100				
Measuring range	0 ... 100 °C	**20 75 108 1101**		
	0 ... 200 °C	**20 75 108 1103**	Input 	
Additional measuring ranges on request				

Stock items in bold type

Han-Elisa® Output module

Features

- Minimum size for integration in Han® industrial connectors (Han-Modular® and Han-Snap®)
- Economy of space by reduction the number of terminal blocks and interface modules in the switch cabinet
- Female module for signal output

Technical characteristics

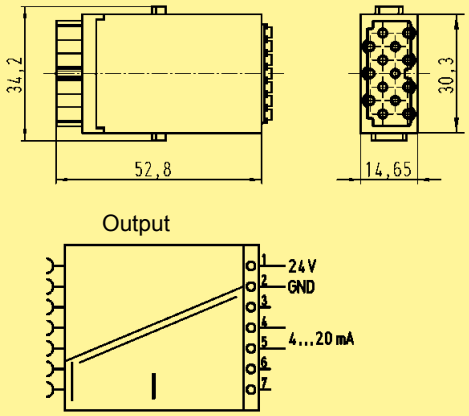
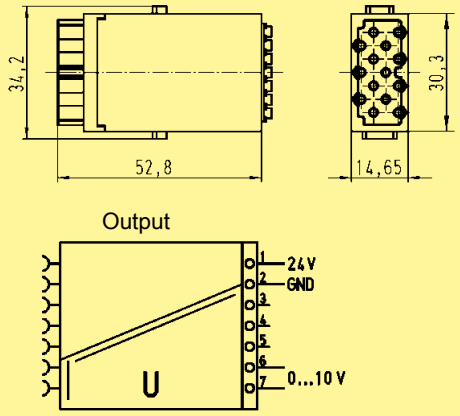
Inserts

Supply voltage	24 V (-10 % ... +25 %)
Load I_{out}	< 500 Ω
Load U_{out}	≥ 10 kΩ
Residual ripple	< 20 mV (500 Ω)
Step response (0 ... 99 %)	< 30 ms
Material	polycarbonate / LCP
Termination	Cage-clamp terminal
- mm²	0.14 ... 1.5 mm²
- AWG	26 ... 16
Power diagnostic	LED (green)

Temperature range

Working temperature	-20 °C ... +65 °C
Stock temperature	-40 °C ... +125 °C

Output module

Identification	Part number Female insert (F)	Drawing	Dimensions in mm
Output module, current 3-ways-isolating amplifier; galvanically isolated Output signal 4 ... 20 mA Additional output signal ranges on request	**20 75 104 2201**		
Output module, voltage 3-ways-isolating amplifier; galvanically isolated Output signal 0 ... 10 V Additional output signal ranges on request	**20 75 105 2201**		

Stock items in bold type

Han-Elisa® ID module

Features

- Coding of tools possible (e.g. press tools) by means of an alphanumeric identification
- I²C bus EEPROM as memory medium
- Communication with PLC via conventional digital I/Os
- Physical connection of PLC by means of well-proven Han® contacts
- Assembly of the ID module to the device by means of a Han® industrial connector

Technical characteristics

Inserts

Supply voltage	24 V via digital I/O device
Electrical connector, 24 V	Han E® module (see page 06.42)
Memory capacity	max. 128 Byte
Material	polycarbonate
Working temperature	0 °C ... +70 °C
Stock temperature	0 °C ... +85 °C
Max. length recommended between I/O device and ID module	100 m *

General description

The HARTING connector identification module (ID module) is suitable for storing of data and for coding of connectors. It is integrated in a Han-Modular® standard E module.

The module can be connected to a 24 V digital I/O device of a PLC. Two digital inputs are used for detecting the module connection and the data input. Two digital outputs are used for the data output and the system clock. Furthermore the ID module must be connected with 24 V and GND. Communication is carried out with voltage levels of 24 V according to the I²C bus standard. The total memory capacity is 128 Byte, e.g. for storing part numbers to identify the module. It is also possible to store the start parameters or operating data for machine components.

A typical data structure is displayed in the following table:

Byte no.

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Check sum		Operating hours of tool					Start parameter of the unit					Part number of the unit			

Applications for the ID module can be found in modular machines and product lines. A great advantage of the ID module is the non volatile decentralized storing of e.g. operating data. When changing the location stored data can protect the machines from damages. In service cases of the equipment data can be analyzed to minimize service time.

Han Modular

* The use of shielded cables is recommended for longer distances or EMC loaded environments.

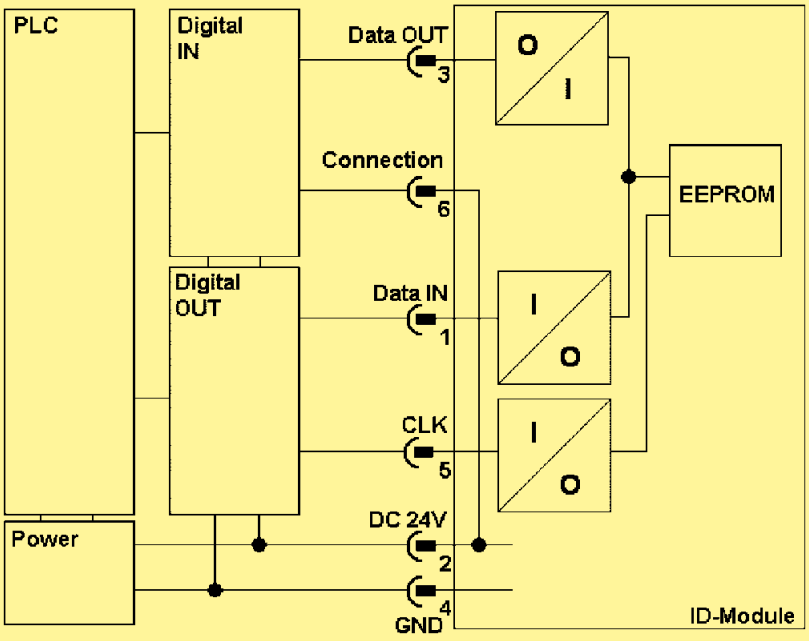
Han-Elisa® ID module

Input module

Identification	Part number Male insert (M)	Drawing	Dimensions in mm
Electronic identification module	**20 70 001 1001**		

Han Modular

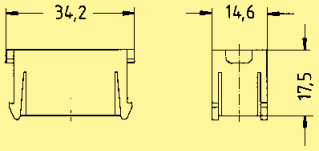
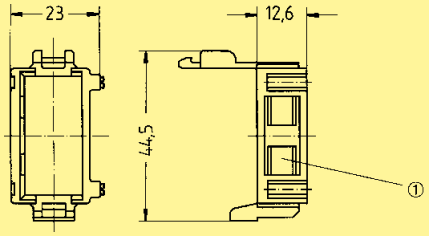
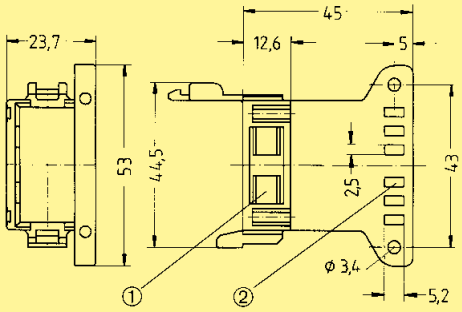
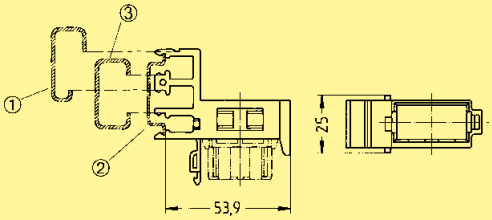
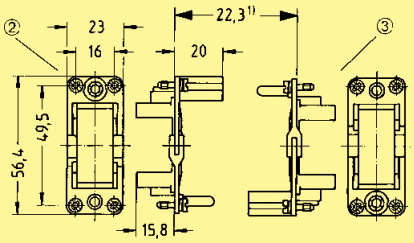
Block diagram / Wiring plan



Meaning of the connections

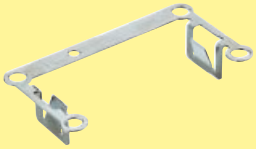
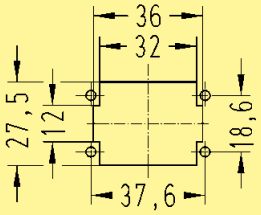
Pin no.	Name	Meaning/Function
1	Data IN	Input for data and control signals from PLC
2	DC 24 V	Power connection of the ID module
3	Data OUT	Output for data signals from ID module to PLC
4	GND	Ground
5	CLK	System clock for synchronisation
6	Connection	Output of the ID module for connection detection

Stock items in bold type

Identification	Part number	Drawing	Dimensions in mm
Han-Modular® Dummy module to fill up module spaces not in use in the frame 	**09 14 000 9950**		
Module clamp without strain relief *  Delivery comprises one module clamp.	**09 14 000 0311**	 1 Slot for identification strip	
Module clamp with strain relief *  Delivery comprises one module clamp.	**09 14 000 0312**	 1 Slot for identification strip 2 For cable ties with max. 5 mm width	
Module clamp for rail *  Delivery comprises one module clamp.	**09 14 000 0313**	 1 G-rail DIN EN 60 715-G32 2 rail DIN EN 60 715-35 x 7.5 with 1 mm thickness or -35 x 15 with 1.5 mm thickness 3 C-rail DIN EN 60 715-C30	
Frame for 1 module  in housing Han® 10 A	**09 14 000 0304**	 1 Distance max. 23.5 mm 2 Hoods 3 Housings	

* Suitable for the single modules Han® C Crimp, Han® C Axial, Han E® Crimp, Han EE®, Han E® Protected, Han DD® Crimp, Han® High Density, Han® USB, Han® Firewire, Han® Multi Contact and Han® SC

Stock items in bold type

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