

Han® industrial connectors with degree of protection IP 65 / IP 67 represent the worldwide standard for safe installation, quick commissioning and easy servicing of machines and plants.

The use of Han® connectors enables efficient and cost-effective modular structures of machines and plants.

The outstanding properties of Han® connectors are reflected by their versatility, application bandwidth and ruggedness. The advantages of the Han® connector family that users know from installation tasks are also available for direct device connections. The Han® connectors support the installation of automation systems in control cabinets and of IP 65 / IP 67 distributed devices using identical connectors.

Key user benefits: Investment and operational security.

Application profile:

| CONNECTION TYPE                     |                                     | ENVIRONMENT                         |                                     | APPLICATION                         |                                     |  |                                     |                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Board to Board                      | Cable/Wire to Board                 | IP 20                               | IP 65 / IP 67                       | Data                                | Signal                              | Power                                  | high performance                    |                                     |                                     |                                     |
|                                     |                                     |                                     |                                     |                                     |                                     |  | Data transfer rate                  | Shielding                           | Number of contacts, contact density | Voltage, working current            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Cable termination                   |                                     |                                     | PCB termination                     |                                     |                                     | Application standard                   |                                     |                                     |                                     |                                     |
| Han-Quick Lock®    IDC    Crimp     |                                     |                                     | THT    SMC    SMT                   |                                     |                                     |  |                                     |                                     |                                     |                                     |
|                                     |                                     |                                     |                                     |                                     |                                     | Housing integration                    |                                     |                                     |                                     |                                     |
| Screw    Cage clamp    Axial screw  |                                     |                                     | Press-in                            |                                     |                                     | separate housing    integrated housing |                                     |                                     |                                     |                                     |
|                                     |                                     |                                     |                                     |                                     |                                     |  |                                     |                                     |                                     |                                     |
|                                     |                                     |                                     |                                     |                                     |                                     |  |                                     |                                     |                                     |                                     |
|                                     |                                     |                                     |                                     |                                     |                                     |  |                                     |                                     |                                     |                                     |



Han® connectors with degree of protection IP 65 / IP 67 are established as the worldwide standard for industrial connectors. This standard connector can also be used directly as appliance connector.

The rugged housings are equipped with secure interlock mechanisms that protect the contact inserts from external negative influences such as dust, dampness and mechanical stress. On the appliance side, the connector contacts are routed in the bulkhead mount module, soldered directly onto the PCB and are aligned precisely to the bulkhead frame. This results in appliance connections that are resistant to any environmental stress.

The Han® appliance connectors offer comprehensive solutions based on connector inserts for data, signal and power lines up to 32 A per contact. The Han® 3A housing can be equipped for

communication applications with copper-bound RJ45 modules, 4-pole (Cat. 5) and 8-pole (Cat. 6) and optical LC modules.

The power contact inserts are available for the Han® 3A, Han® Compact and Han® B housing variants. The cables can be wired to the contact inserts by way of crimp, screw or cage clamp terminals, or using the patented Quick-Lock® quick connection technology for on-site assembly.

HARTING highlights its Han® 3A appliance connector series with versatile hybrid contact inserts for wiring data and power lines using a single connector and cable. This functionality results in a reduction of insertion points and cabling by more than 50%.

Han® connectors with high degree of protection can be used for wiring appliances, terminal boxes and control cabinets.



## Han® APPLIANCE CONNECTORS:

The PCB-Adapter of HARTING can be used to convert Han® industrial connectors into fully-fledged PCB connectors. The modular PCB adapters enable the implementation of various Han® contact inserts.

The PCB Adapter concept:

- The PCB adapter is processed as component in a standard soldering process and is a fixed part of the PCB.
- The contact insert of the Han® industrial connector is simply plugged in after the soldering process has been completed.
- The bulkhead mount housing with the bracket interlock is mounted to the appliance housing.

This modularity guarantees the availability of a wide range of contact inserts and connector housings for the assembly of a multitude of rugged IP 65 / IP 67 appliance connectors for data, signal and power lines.



## SCALABLE HYBRID APPLIANCE CONNECTION USING Han® CONNECTORS:

The hybrid appliance connector series enable the cost-effective combination of Fieldbus/Ethernet communication and power supply lines in a single cable and connector.

The contact insert combination for communication and for the power supply to the appliance is soldered directly to the PCB. The bulkhead mount housing can be adapted directly to the housing shape, or be mounted as separate unit to the appliance housing. HARTING offers cable solutions for smaller batches which can be used to connect the contact insert to the PCB.

Key user benefits: A tailored appliance connection is always available for small- and large-scale appliance series.





Han® 3A RJ45 device side

## Advantages

- Simple mounting
- RJ45 plug-compatible
- Different versions cover all applications
- Coding (4 variants) possible

## Technical characteristics

|                          |   |
|--------------------------|---|
| Number of ports          | 2 / 1x Han® 3A RJ45 (IP 65 / IP 67)   |
| Copper / termination     | 1x RJ45 (Twisted Pair) (IP 20)  |
| Transmission performance | Category 5 / Class D up to 100 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1 |
| Transmission rate        | 10/100/1000 Mbit/s  |
| Shielding                | fully shielded, 360° shielding contact                                      |
| Mounting                 | screw-on type on steel plate walls  |
| Degree of protection     | IP 65 / IP 67   |
| Mating cycles            | min. 500  |
| Temperature range        | - 40 °C up to + 70 °C   |
| Housing material         |   |
| Plastic version          | Polycarbonate, black, UL 94-V0  |
| Metal version            | Zinc die-cast, powder coating, grey   |

| Identification | Part No. | Drawing | Dimensions in mm |
|----------------|----------|---------|------------------|
|----------------|----------|---------|------------------|

### Housing bulkhead mounting

- Plastic version
- Metal version Standard
- Metal version M



- 09 20 003 0327
- 09 20 003 0301
- 09 37 003 0301

- with fixed cover and with seal
- Metal version Standard



- 09 20 003 0306

### Adapter

- for fixing of RJ45 female with fixing clip
- without fixing clip

- 09 45 515 0020
- 09 45 515 0022

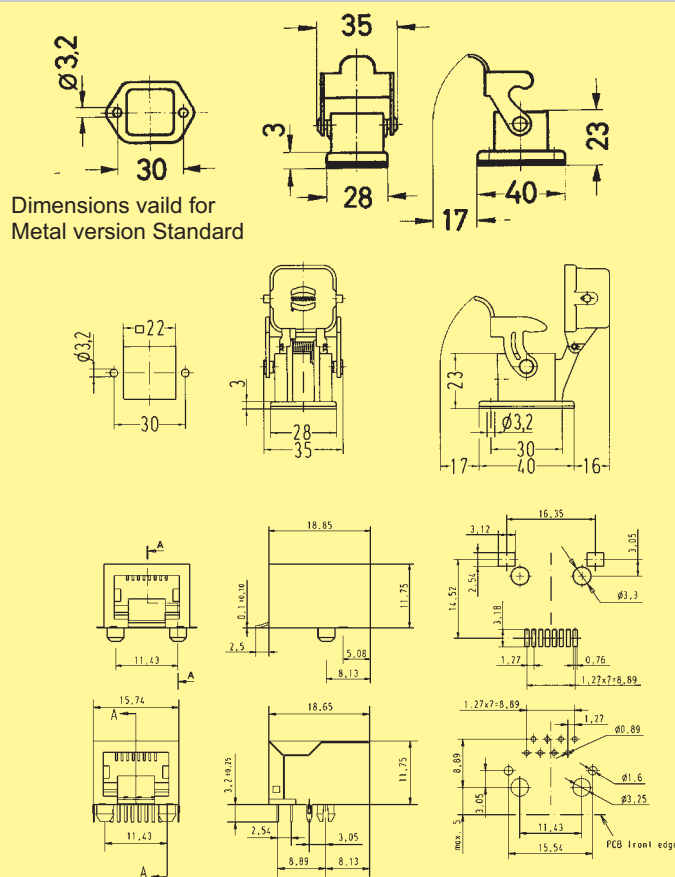
### RJ45 Buchsen Cat. 5

- Solder variant SMD, 90° angled

- 09 45 551 1100<sup>1)</sup>
- 09 45 551 1110<sup>2)</sup>

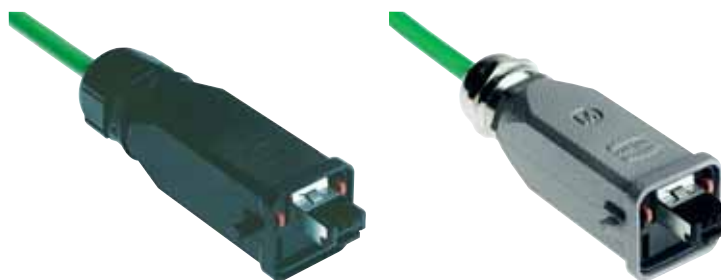
- Solder variant overmolded, 90° angled

- 09 45 551 1102<sup>1)</sup>



<sup>1)</sup> Packaging: Blister à 120 pieces  
<sup>2)</sup> Packaging: Tape & Reel à 130 pieces





## Han® 3A connector RJ45, 4-poles

### Advantages

- RJ45 Ethernet-Data connector suitable for industry
- Tool-less field-assembly with *HARAX*® rapid termination in IDC technology
- Category of transmission Cat. 5
- Compact design and very robust housing
- Suitable for termination of solid and stranded cables
- Up to 10 x reductable
- PROFINET compatible
- Min. 500 mating cycles

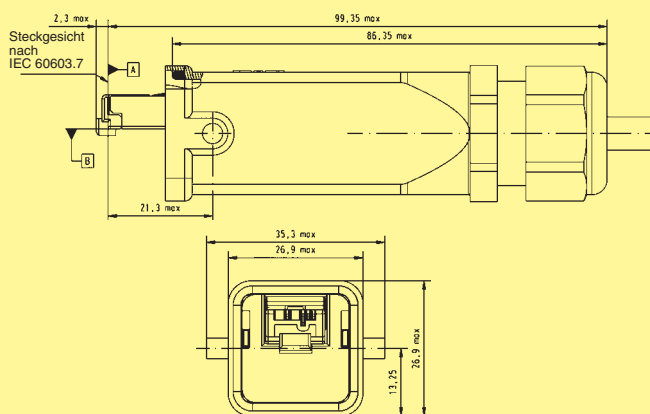
### Technical characteristics

|                          |   |
|--------------------------|---|
| Connector type           | Han® 3A Connector RJ45 acc. to IEC 61076-3-106 variant 5  |
| Number of contacts       | 4   |
| Transmission performance | Category 5 / Class D up to 100 MHz acc. to ISO/IEC 11801:2002, EN 50173-1   |
| Transmission rate        | 10/100 Mbit/s   |
| Shielding                | fully shielded, 360° shielding contact  |
| Cable termination        | tool-less with IDC contacts   |
| Cable diameter           | stranded AWG 24/7 - AWG 22/7<br>solid AWG 23/1 - AWG 22/1   |
| Cable outer diameter     | 6.0 mm – 9.0 mm   |
| Degree of protection     | IP 65/67  |
| Temperature range        | – 40 °C up to + 70 °C   |
| Housing material         | Plastic version Polycarbonate, UL 94-V0, black<br>Metal versions Standard Zinc die-cast, powder coating grey<br>M-version Zinc die-cast, powder coating black |

| Identification | Part No. | Drawing | Dimensions in mm |
|----------------|----------|---------|------------------|
|----------------|----------|---------|------------------|

Han® 3A connector set RJ45, 4-poles  
incl. housing, cable gland  
and instruction manual

|                        |          |                |
|------------------------|----------|----------------|
| Plastic version        | straight | 09 45 125 1100 |
|                        | angled   | 09 45 125 1104 |
| Metal version Standard | straight | 09 45 115 1100 |
|                        | angled   | 09 45 115 1104 |
| Metal version M        | straight | 09 45 115 1102 |
|                        | angled   | 09 45 115 1106 |
| Coding pin set         |          | 09 45 820 0000 |



Dimensions valid for plastic version, straight



## Han® 3A connector set RJ45, 8-poles

### Advantages

- RJ45 Ethernet-Data connector suitable for industry
- Field-assembly with mounting tool
- Category of transmission Cat. 6
- Compact design and very robust housing
- Min. 500 mating cycles

#### Reference note:

For cat. 6 patch cords it is recommended to use 1 connector with a white wire manager and one with a blue cable manager, in order to optimise the crosstalk between different signal pairs.

Further informations see also page 01.06.

### Technical characteristics

|                          |  |
|--------------------------|--|
| Connector type           | Han® 3A Connector RJ45   |
| Number of contacts       | 8  |
| Transmission performance | Category 6 / Class E<br>up to 250 MHz acc. to<br>ISO/IEC 11 801:2002,<br>EN 50 173-1 |
| Transmission rate        | 10/100/1000 Mbit/s   |
| Shielding                | fully shielded, 360° shielding contact   |
| Cable termination        | with piercing contacts   |
| Cable diameter           | AWG 27/7 - AWG 24/7,<br>stranded   |
| Cable outer diameter     | 6.0 mm – 8.0 mm  |
| Degree of protection     | IP 65 / IP 67  |
| Temperature range        | – 40 °C up to + 70 °C  |
| Housing material         |  |
| Plastic version          | Polycarbonate, UL 94-V0, black   |
| Metal versions           |  |
| Standard                 | Zinc die-cast, powder coating grey   |
| M-version                | Zinc die-cast, powder coating black  |

| Identification  | Part No.                                | Drawing                         | Dimensions in mm |  |
|---|---|---------------------------------|------------------|--|
| Han® 3A connector set RJ45, 8-poles<br>incl. housing, cable gland<br>and instruction manual |   | Mating face acc. to IEC 60603-7 |                  |  |
| Plastic version   | Wire manager white<br>Wire manager blue |                                 |                  |  |
| Metal version Standard  | Wire manager white<br>Wire manager blue |                                 |                  |  |
| Metal version M   | Wire manager white<br>Wire manager blue |                                 |                  |  |
| Coding pin set  |   |                                 |                  |  |
|   |   |                                 |                  |  |
|   |   |                                 |                  |  |

Dimensions valid for metal version Standard





## Han® 3A 2x LC duplex

### Advantages

- Compact, space-saving Design
- Just one LWL modul for high mechanical load
- High packing density
- A & B parts identification according to TIA 568 standard

### Technical characteristics

|                      |                                       |
|----------------------|---------------------------------------|
| Degree of protection | IP 65 / IP 67                         |
| Temperature range    | -40 °C up to +70 °C                   |
| Housing material     | Zinc die-cast<br>powder coating black |

| Identification | Part No. | Drawing | Dimensions in mm |
|----------------|----------|---------|------------------|
|----------------|----------|---------|------------------|

#### Components device side

- Multimode GOF
- Singlemode GOF

09 57 467 0001 000  
09 57 467 0002 000  
projected

#### Connector

- Multimode GOF
- Singlemode GOF

09 57 407 0001 000  
09 57 407 0002 000  
projected



## Han® 3A RJ45 Hybride

### Advantages

- RJ45 Ethernet-Data connector suitable for industry with Power contacts for hybride applications
- Field-assembly with mounting tool
- Category of transmission Cat. 5
- Compact design and very robust housing
- Suitable for termination with solid and stranded cables
- Protection against direct contact on cable and device side according to EN 60529

#### Reference note:

For cat. 6 patch cords it is recommended to use 1 connector with a white wire manager and one with a blue cable manager, in order to optimise the crosstalk between different signal pairs.

### Technical characteristics

|                          |   |
|--------------------------|---|
| Degree of protection     | IP 65 / IP 67   |
| Mating interface         | RJ45, 8-poles acc. to IEC 60 603-7 plus 3x power                            |
| Temperature range        | - 40 °C up to + 70 °C   |
| Housing material         | Zinc die-cast, powder coating black   |
| <b>Data</b>              |   |
| Transmission performance | Category 5 / Class D up to 100 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1 |
| Transmission rate        | 10/100 Mbit/s   |
| Shielding                | fully shielded, 360° shielding contact                                      |
| Cable diameter stranded  | AWG 27/7 - AWG 24/7   |
| <b>Power</b>             |   |
| Number of contacts       | 3 (AC: L1, PE, N / DC: V+, GND, V-)   |
| Working voltage          | 300 V AC/DC   |
| Working current          | 12 A @ 70 °C<br>(see current carrying capacity Han D® contacts)             |
| Cable diameter           | 2.5 mm <sup>2</sup>   |

| Identification   | Part No.           | Drawing | Dimensions in mm  |
|--|--------------------|---------|---|
| <b>Components device side</b><br>incl. 3x Han D® female contacts |                    |         |   |
| AC version   | 09 57 368 0500 000 |         |   |
| DC version   | 09 57 368 0501 000 |         |   |
| <b>Cable side</b><br>Connector<br>incl. 3x Han D® male contacts  |                    |         |   |
| AC version   | 09 57 308 0500 000 |         |   |
| DC version   | 09 57 308 0501 000 |         |   |
| Suitable Hybride cable Cat. 5<br>coil 500 m                      | 33 57 851 5000 001 |         | Sheath: PVC, black<br>Temperature range: -30 °C ... +80 °C<br>Data: 4 x 2 x AWG 26/7<br>Power: 3 x AWG 14 (L1-N-PE) |



## Han® 3A LC duplex Hybride

### Advantages

- Small form factor (compared to SC and ST®)
- Compact, space-saving Design
- Combined to only one LWL-modul for high mechanical load
- High packing density
- A & B parts identification according to TIA 568 standard

### Technical characteristics

|                      |                                    |
|----------------------|------------------------------------|
| Degree of protection | IP 65 / IP 67                      |
| Temperature range    | -40°C up to +70°C                  |
| Data                 |                                    |
| Mating module        | LC duplex (2 fibres)               |
| Cable diameter       | 6.0 ... 9.0 mm                     |
| Power                |                                    |
| Number of contacts   | 3(AC: L1, PE, N / DC: V+, GND, V-) |
| Working voltage      | 300 V AC/DC                        |
| Working current      | 12 A @ 70°C                        |
| Number of contacts   | 3(AC: L1, PE, N / DC: V+, GND, V-) |
| Housing material     | Aluminium die-cast, black          |

### Identification

### Part No.

### Drawing

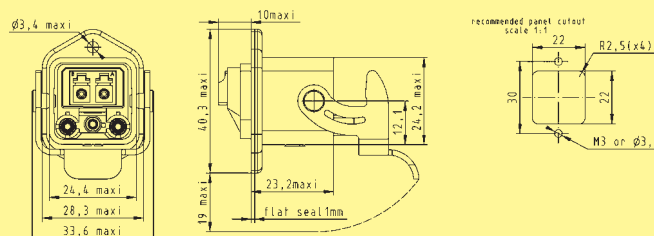
### Dimensions in mm

#### Components device side

Power: 3x Han D® male contacts

|                     |    |                                 |
|---------------------|----|---------------------------------|
| Data: Multimode GOF | AC | 09 57 568 0500 000<br>projected |
|                     | DC |                                 |

|                      |    |                                 |
|----------------------|----|---------------------------------|
| Data: Singlemode GOF | AC | 09 57 568 0501 000<br>projected |
|                      | DC |                                 |

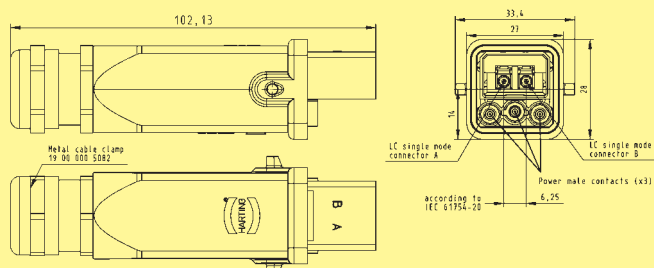


#### Connector

Power: 3x Han D® female contacts

|                     |    |                                 |
|---------------------|----|---------------------------------|
| Data: Multimode GOF | AC | 09 57 508 0500 000<br>projected |
|                     | DC |                                 |

|                      |    |                                 |
|----------------------|----|---------------------------------|
| Data: Singlemode GOF | AC | 09 57 508 0501 000<br>projected |
|                      | DC |                                 |







## Han® 3A RJ45, Hybride

### General information

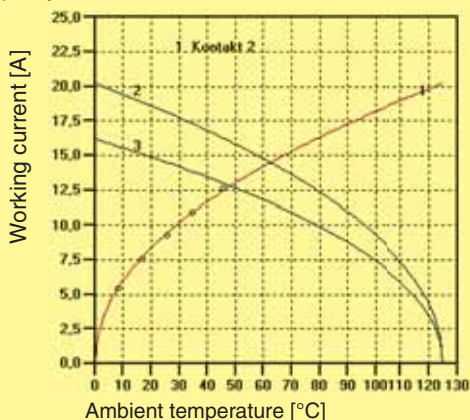
With the RJ Industrial Hybrid connector, HARTING has developed an interface solution that integrates the data lines and the power supply into one connector for hybrid Ethernet networks. The connector's geometry nevertheless maintains a clear separation between the data and the power contacts. This brings a significant reduction in the costs of installation and of field devices suitable for industrial application with hybrid cabling.

The panel feed through is compatible with RJ45 connectors, which means that the standard patch cables for service and test purposes can be used. The data lines are connected at the rear via an RJ45 jack, while the power lines use a cage clamp terminal.

Optional the hybrid interface can be integrated in the device directly, thus preventing the use of rear side data lines.

The four power contacts of the hybrid module have also been designed with HARAX® rapid termination technology, allowing stranded cables of up to 1.5 mm<sup>2</sup> to be connected.

Current carrying capacity „Power contacts“



- 1 Temperature rise
- 2 Derating
- 3 Derating curve at I<sub>max</sub> \* 0,8 (DIN IEC 512)

### Technical characteristics

|                         |  |
|-------------------------|--|
| <b>Connector</b>        |  |
| Degree of protection    | IP 65 / IP 67                                    |
| Mating interface        | RJ45, 4-poles acc. to IEC 60 603-7 plus 4x power |
| Temperature range       | - 40 °C up to + 70 °C                            |
| <b>Housing material</b> |  |
| Plastic version         | UL 94-V0, black                                  |
| Metal version           | Zinc die-cast, grey                              |
| Mating cycles           | min. 500   |
| Mounting                | field-assembly                                   |

|                                 |  |
|---------------------------------|--|
| <b>Data</b>                     |  |
| <b>Transmission performance</b> |  |
|                                 | Category 5 / Class D up to 100 MHz acc. to ISO/IEC 11801:2002, prEN 50 173-1 |
| Transmission rate               | 10/100 Mbit/s  |
| Shielding                       | fully shielded, 360° shielding contact                                       |
| <b>Cable diameter</b>           |  |
| stranded                        | AWG 24/7 - AWG 22/7  |
| solid                           | AWG 23/1 - AWG 22/1  |
| Cable outer diameter            | 10.0 mm – 11.0 mm  |

|                    |   |
|--------------------|---|
| <b>Power</b>       |   |
| Number of contacts | 4 for cable diameter 1,5 mm <sup>2</sup> stranded |
| Working voltage    | 48 V  |
| Working current    | see current carrying capacity                     |



UL approved (E102079)

|                           |  |
|---------------------------|--|
| <b>Panel feed-through</b> |  |
| Mating interface extern:  | RJ45 female acc. to IEC 60603-7 plus 4 x power                                     |
| Mating interface intern:  | RJ45 female acc. to IEC 60603-7 4 x power via cable cage clamp 1.5 mm <sup>2</sup> |



Han® 3A, Hybride, components device side panel feed-throughs

| Identification   | Part No.                                 | Drawing   | Dimensions in mm  |
|--|--|---|---|
| <p>RJ45 female<br/>for direct device integration</p> <p>SMD</p> <p>I</p>   | 09 45 551 1100                           |   | <p>pcb layout</p>   |
| <p>Power module with 4 contacts<br/>for direct device integration</p> <p>II</p>  | 09 45 525 0040                           |   | <p>recommended<br/>PCB power layout (SMD)<br/>scale 4:1</p> |
| <p>Housing bulkhead mounting separate<br/>incl. flat seal<br/>for direct device integration</p> <p>Plastic version<br/>Metal version Standard</p> <p>III</p> | <p>09 45 525 0021<br/>09 45 820 0000</p> | <p>① Han 3A Cover RB 29 00 030 1022<br/>② 1787 Plastic connector housing 95 00 45 00 16</p> | <p>Dimensions valid for plastic version</p>                 |
| <p>panel feed-throughs set<br/>incl. housing bulkhead mounting<br/>and instruction manual</p> <p>Plastic version<br/>Metal version Standard</p> <p>IV</p>    | <p>09 45 225 1300<br/>10 12 005 1002</p> |   |   |
| <p>Protection cover for panel feed-through<br/>IP 65 / IP 67</p> <p>Plastic version, black<br/>Metal version Standard, grey</p>                              | <p>09 20 003 5449<br/>09 20 003 5425</p> |   |   |



## Han® 3A RJ45, Hybride

| Identification   | Part No.       | Drawing | Dimensions in mm |
|--|----------------|---------|------------------|
| <b>Connector set</b><br>Incl. housing and cable gland and instruction manual |                |         |                  |
| Plastic version  | 09 45 125 1300 |         |                  |
| Metal version  | 10 12 005 2001 |         |                  |
| <b>Protection cover for connector</b><br>IP 65 / IP 67 without seal          |                |         |                  |
| Plastic version, black   | 09 20 003 5442 |         |                  |
| Metal version Standard, grey   | 09 20 003 5428 |         |                  |
| Metal version M  | 09 37 003 5402 |         |                  |

Dimensions vaild for plastic version



PROFINET Type B cable, Hybride  
Industrial Cat. 5 Hybride cable, 4-wire + 4x Power  
to make up Hybride system cables

## Advantages

- Robust design for industrial environment
- PROFINET-conform
- Additional power supply
- Hybride Cat. 5 cable, 4-wire + 4x Power

## Technical characteristics

|                          |   |
|--------------------------|---|
| Cable construction       | Twisted Pair + 4 Power cables, double shielded                                    |
| Core structure           | 2 x 2 x AWG 22/7 + 4 x 1.5 mm <sup>2</sup> (conductor 84 x 0.15 mm <sup>2</sup> ) |
| Sheath material          | FRNC  |
| Cable outer diameter     | 10.3 mm   |
| Transmission performance | Category 5 / Class D up to 100 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1       |
| Transmission rate        | 10/100 Mbit/s   |
| Shielding                | Shielding foil and shielding braid  |
| Temperature range        | - 20 °C up to + 70 °C   |
| Standard lengths         | 10 m / 20 m / 50 m / 100 m  |
| Colour                   | green   |
| Printing                 | HARTING specific printing   |

Identification

Part No.

Drawing

Dimensions in mm

PROFINET Type B cable, Hybride  
Industrial Cat. 5 Hybride cable,  
4-wire + 4x Power

10 m ring  
20 m ring  
50 m ring  
100 m ring

09 45 600 0310  
09 45 600 0330  
09 45 600 0340  
09 45 600 0300





## Features

### General Description


The Han-Brid® series allows the connection of a data interface and a power supply in a single space saving connector. This means that it is now possible to provide data transmission and power to devices in a single bus structure. This hybrid connector family includes provision for connection of a max. 50 V, 10 A power supply together with a range of inserts for connection of a variety of data protocols and transmission medias:

- Han-Brid® F.O. for plastic (POF) or for HCS®\* optical fibre
- Han-Brid® Cu for shielded twisted pair.
- Han-Brid® Quintax 3 A for shielded 4 wire bus systems (2 pair STP)
- Han-Brid® RJ45 C for Ethernet application
- Han-Brid® USB / Firewire for fast data transmission

Han-Brid® inserts fit to the standard plastic as well as metal hoods and housings with seal of the Han® 3 A series offering a degree of protection IP 65 according to DIN EN 60 529.

For harsher environments Han® 3 HPR hoods and housings with a degree of protection of IP 68 can be used.

## Power supply

- Han D® male and female with standard crimp contacts
- Rated current 10 A
- Rated voltage 50 V
- Wire gauge 0.14 - 2.5 mm<sup>2</sup>
- Approval 

## Data interfaces

### Han-Brid® F.O.

- Is suitable for all HP Versatile Link (Horizontal Package) transmitters and receivers
- Data rates: Standard 12 Mbit/s, suitable for all common fieldbus systems
- Insert allows integration of HP standard contacts for POF and HCS®\* fibres
- Temperature range                    -40 °C ... +70 °C

### Han-Brid® Cu

- For termination of a shielded twisted pair
- Insert for 2x Han D® male or female contacts
- Connection of the shield by means of shielding plate and fixing clamps
- Connection of the device side can be realized either by a printed circuit board as a modular version or as part of the appliance PCB
- Insert for bulkhead mounted housing or the coupling housing are always equipped with a screening spring

### Bus Terminator

- Active bus terminator in male and female version
- Standard Han® 3 A hoods and housings
- Power supply to the termination network via electrical contacts of Han-Brid®
- Integrated, galvanically separated DC/DC converter 24 V / 5 V

### Han-Brid® Quintax 3 A

- Possibility to terminate shielded 4 wires conductors (2 pair STP)
- Suitable for all 4-wire bus systems
- Suitable for shielded cable conductor diameter 3 – 9.5 mm
- Transmission of shielding separately from the hood's ground
- Connections are carried out acc. to DIN EN 50 173, Cat. 5
- Temperature range                    -40 °C ... +70 °C

### Han-Brid® RJ45 C

- Suitable for standard RJ45 Plug and Jack, shielded version
- Connections provided for conductors acc. to DIN EN 50 173, Cat. 5
- Termination from the device side is carried out via a PCB, two versions are possible: modular version or as part of the appliance PCB
- Assembly with standard tools
- Insert for 2 Han-D® male or female contacts offers the combination with electrical bus connector
- Rated current                                10 A
- Rated voltage                                24 V
- Wire gauge                                    0.14 - 2.5 mm<sup>2</sup>

### Han-Brid® USB

- Insert for all Han® 3 A hoods and housings
- Hood with glued sealing
- Simple and low-cost termination via insert of a patch cable
- Strain-relief via cable tie

### Han-Brid® FireWire

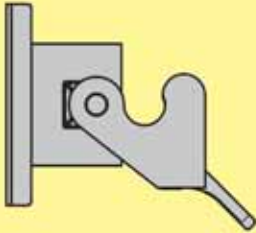
- Insert for all Han® 3 A hoods and housings
- Hood with glued sealing
- Simple and low-cost termination via insert of a patch cable
- Strain-relief via cable tie
- Compatible to IEEE 1394

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

## Overview (Sample: Han-Brid® Cu)

Thermoplastic  
 09 20 003 0320 (light grey)  
 09 20 003 0327 (black)

Metal  
 09 20 003 0301

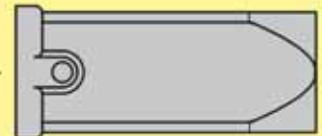
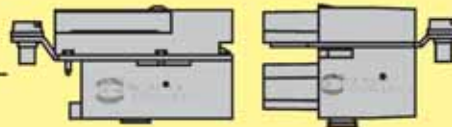


Device side  
 09 12 006 2611  
 09 12 006 2695  
 09 12 006 2694

Cable side  
 09 12 006 3111

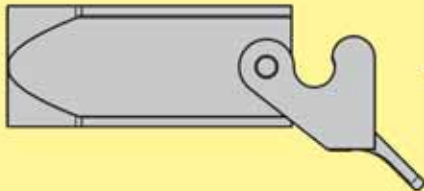
Thermoplastic  
 09 20 003 0423 (light grey)  
 09 20 003 0426 (black)  
 19 20 003 0423 (light grey)  
 19 20 003 0427 (black)

Metal  
 09 20 003 1443  
 19 20 003 1443



Thermoplastic  
 09 20 003 0720 (light grey)  
 09 20 003 0727 (black)  
 19 20 003 0720 (light grey)  
 19 20 003 0727 (black)

Metal  
 09 20 003 1750  
 19 20 003 1750

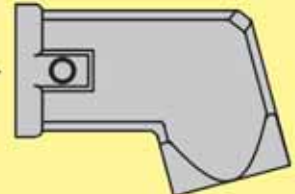
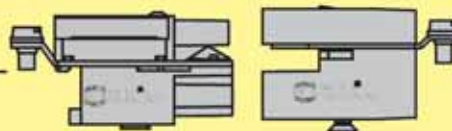


Device side  
 09 12 006 2701  
 09 12 006 2795  
 09 12 006 2794

Cable side  
 09 12 006 3001

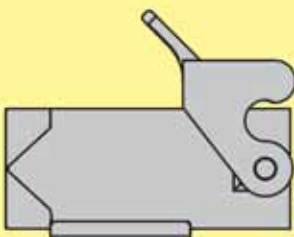
Thermoplastic  
 09 20 003 0623 (light grey)  
 09 20 003 0626 (black)  
 19 20 003 0623 (light grey)  
 19 20 003 0627 (black)

Metal  
 09 20 003 1643  
 19 20 003 1643







Thermoplastic  
 09 20 003 0220 (light grey)  
 09 20 003 0227 (light grey)  
 19 20 003 0220 (light grey)  
 19 20 003 0227 (black)

Metal  
 09 20 003 1250  
 19 20 003 1250


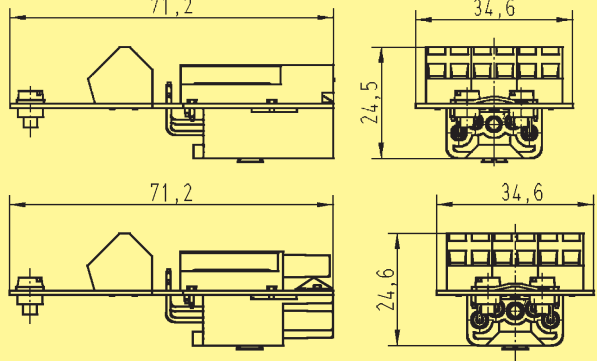
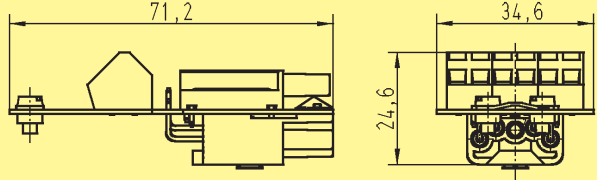

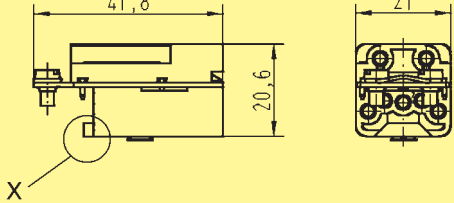
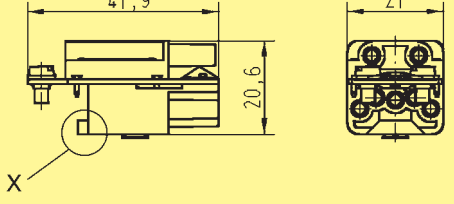


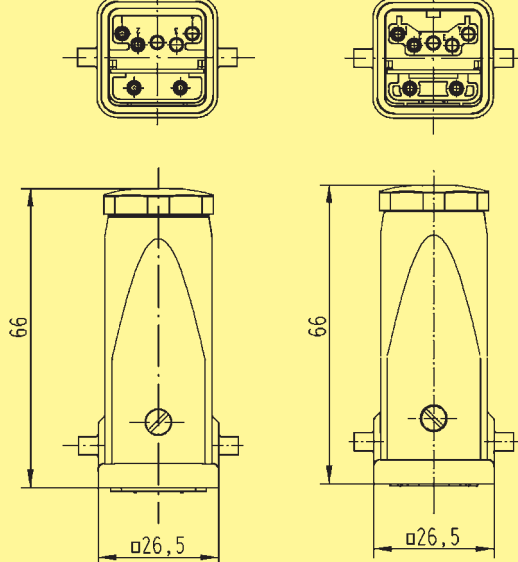


Hybrid field bus connector  
for shielded twisted pair  
+ 4 electrical contacts 10 A  
+ option for PE



| Identification   | Part number   |   | Drawing                           | Dimensions in mm |
|--|---|---|-----------------------------------|------------------|
|  | Male insert (M)   | Female insert (F)   |                                   |                  |
| <p>Cable side<br/>Female insert</p>     | <b>09 12 006 3111</b>   |   | <p>View from termination side</p> |                  |
| <p>Device side<br/>Male insert</p>     | <p>09 12 006 2611</p> <p>Also available as single part</p> <p>loaded<br/>09 12 002 2611<br/>unloaded<br/>09 12 002 3011</p> | <p>Also available as single part</p> <p>unloaded<br/>09 12 004 3011</p> |                                   |                  |
| <p>Cable side<br/>Male insert</p>     | <b>09 12 006 3001</b>   |   | <p>View from termination side</p> |                  |
| <p>Device side<br/>Female insert</p>  | <p>09 12 006 2701</p> <p>Also available as single part</p> <p>loaded<br/>09 12 002 2701<br/>unloaded<br/>09 12 002 3101</p> | <p>Also available as single part</p> <p>unloaded<br/>09 12 004 3101</p> |                                   |                  |

Han

| Identification   | Part number           |                       | Drawing  | Dimensions in mm |
|--|-----------------------|-----------------------|--|------------------|
|  | Male insert (M)       | Female insert (F)     |  |                  |
| <p>Panel feed through with cage clamp</p>   | <b>09 12 006 2695</b> |                       |    |                  |
|  |                       | <b>09 12 006 2795</b> |    |                  |
| <p>Coupling / Panel feed through</p>  <p>X = Cutting off the fin allows the use in cable to cable housings</p>  | <b>09 12 006 2694</b> |                       |    |                  |
|  |                       | <b>09 12 006 2794</b> |   |                  |
| <p>Bus terminator</p> <p>Plastic hoods/housings</p>  <p>Hoods/Housings, metal</p>  | <b>09 12 006 2691</b> |                       |  |                  |
|  |                       | <b>09 12 006 2791</b> |  |                  |
|  | <b>09 12 006 2692</b> |                       |  |                  |
|  |                       | <b>09 12 006 2792</b> |  |                  |

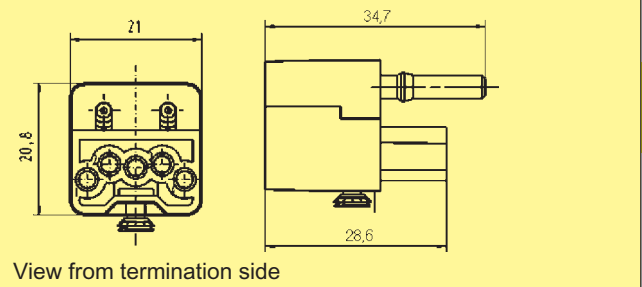
Hybrid field bus connector  
with F.O. transmitter and receiver  
+ 4 electrical contacts 10 A  
+ option for PE



| Identification | Part number     |                   | Drawing | Dimensions in mm |
|----------------|-----------------|-------------------|---------|------------------|
|                | Male insert (M) | Female insert (F) |         |                  |

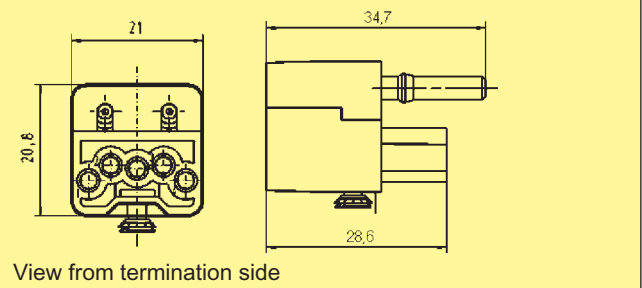
**Cable side**  
F.O. (m) + Han D® (f)

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Also available as single part       | Also available as single part       |
| for POF<br>09 12 004 2711           | for POF<br>09 12 004 3111           |
| for POF crimpless<br>09 12 004 2713 | for POF crimpless<br>09 12 004 3113 |
| for HCS®* fibre<br>09 12 004 2716   | for HCS®* fibre<br>09 12 004 3116   |



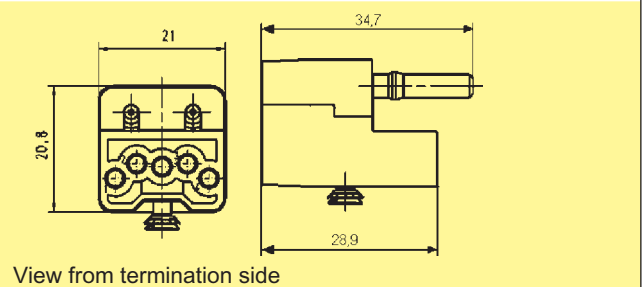
**Device side**  
F.O. (f) + Han D® (m)

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| for POF<br>09 12 004 2611           | for POF<br>09 12 004 3011           |
| for POF crimpless<br>09 12 004 2611 | for POF crimpless<br>09 12 004 3011 |
| for HCS®* fibre<br>09 12 004 2611   | for HCS®* fibre<br>09 12 004 3011   |



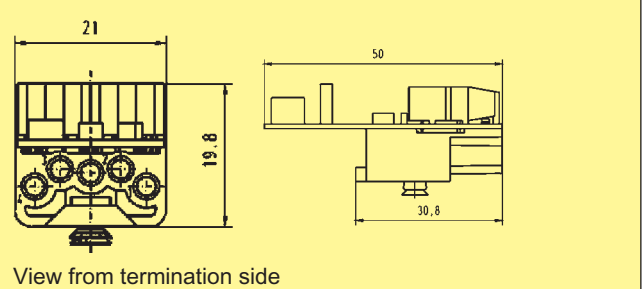
**Cable side**  
F.O. (m) + Han D® (m)

|  |  |
|--|--|
| Also available as single part              | Also available as single part            |
| for POF<br>09 12 004 2601                  | for POF<br>09 12 004 3001                |
| for POF crimpless<br><b>09 12 004 2603</b> | for POF crimpless<br>09 12 004 3003      |
| for HCS®* fibre<br>09 12 004 2606          | for HCS®* fibre<br><b>09 12 004 3006</b> |



**Device side**  
F.O. (f) + Han D® (f)

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| for POF<br>09 12 004 2701           | for POF<br>09 12 004 3101           |
| for POF crimpless<br>09 12 004 2701 | for POF crimpless<br>09 12 004 3101 |
| for HCS®* fibre<br>09 12 004 2701   | for HCS®* fibre<br>09 12 004 3101   |



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

4 contacts + shielding  
 + 2 power contacts  
 suitable in Han® 3 A metric  
 hoods and housings

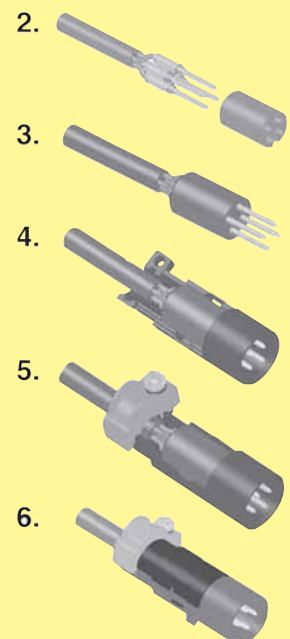
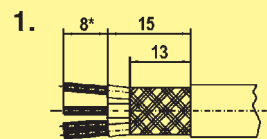


| Identification   | Part number           |                       | Drawing | Dimensions in mm |
|--|-----------------------|-----------------------|---------|------------------|
|  | Male insert (M)       | Female insert (F)     |         |                  |
| <b>Quintax insert</b><br>  | <b>09 15 003 3001</b> | <b>09 15 003 3101</b> |         |                  |
| <b>Quintax contacts</b><br>Zinc alloy<br>Order crimp contacts separately<br>(see page )06.55<br><br>Special clamp for cable diameter 3 - 6 and 6 - 9.5 mm included in delivery range | <b>09 15 004 3013</b> | <b>09 15 004 3113</b> |         |                  |

## Assembly instructions

### Quintax-Z-contact

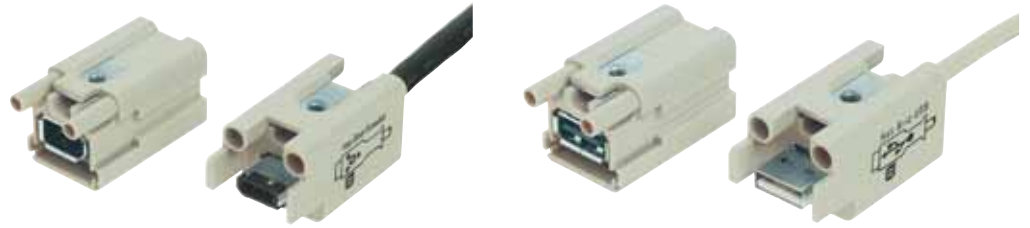
- Strip cable acc. to drawing 1 and fold the shielding over the cable.
- Crimp Han D® contacts onto the wires.
- Insert Han D® contacts into corresponding cavities of insulator until they are snapped in.
- Fit the insert including the cable into the opened shielded bushing. The coding pin of the shielded bushing has to meet the groove of the insulator.
- Clamp the tilt over the shielding onto the cable by means of the special clamp (small opening for cable diameter of 3 - 6 mm, large opening for cable diameter of 6 - 9.5 mm).
- Check the wiring.
- Close the shielded bushing with the cover and insert it into the corresponding cavity of the Quintax Module as usual.









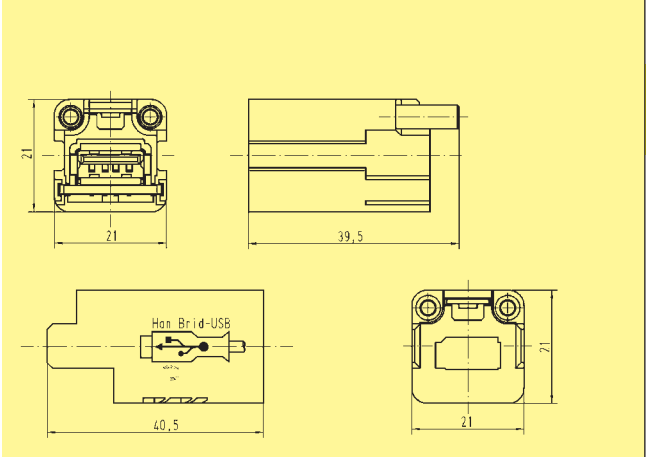


| Identification | Part number     |                   | Drawing | Dimensions in mm |
|----------------|-----------------|-------------------|---------|------------------|
|                | Male insert (M) | Female insert (F) |         |                  |



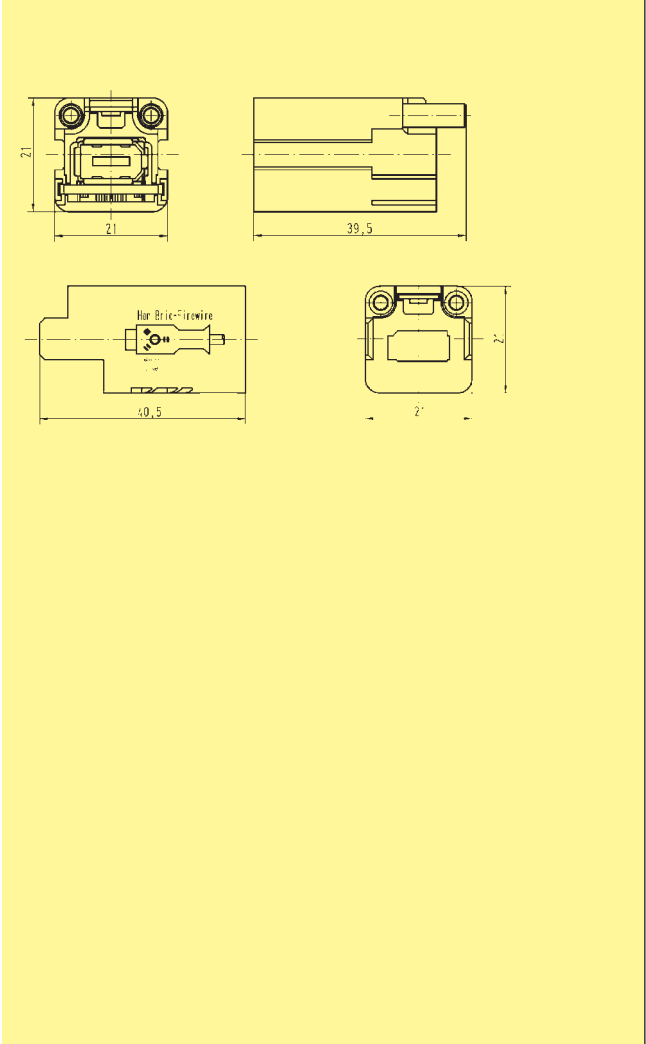
|                       |  |
|-----------------------|--|
| <b>09 12 001 2794</b> |  |
|-----------------------|--|

|  |                       |
|--|-----------------------|
|  | <b>09 12 001 3091</b> |
|--|-----------------------|



|                       |  |
|-----------------------|--|
| <b>09 12 001 2774</b> |  |
|-----------------------|--|

|  |                       |
|--|-----------------------|
|  | <b>09 12 001 3071</b> |
|--|-----------------------|



Han



| Insert   | Part No.              |                       | Drawing | Dimensions in mm |
|--|-----------------------|-----------------------|---------|------------------|
|  | Male insert (M)       | Female insert (F)     |         |                  |
| Order contacts separately                            | <b>09 12 005 3001</b> | <b>09 12 005 3101</b> |         |                  |
| <p><sup>1)</sup> Distance for contact max. 21 mm</p> |                       |                       |         |                  |

| PCB-adapter                          | Part No.              |  | Drawing        | Dimensions in mm        |
|--------------------------------------|-----------------------|--|----------------|-------------------------|
| with PE contact panel for Han® Q 5/0 | <b>09 12 000 9905</b> |  | <p>Adapter</p> | <p>PE contact panel</p> |

| Solder contacts            | Part No.              |                       | Drawing | Dimensions in mm |
|----------------------------|-----------------------|-----------------------|---------|------------------|
|                            | Male contact          | Female contact        |         |                  |
| to connect the PCB-adapter | <b>09 33 000 6195</b> | <b>09 33 000 6295</b> |         |                  |

| Housing | bulkead mounting | Part No.              | Drawing                         | Dimensions in mm |
|---------|------------------|-----------------------|---------------------------------|------------------|
|         |                  | <b>09 62 003 0304</b> | <p>Panel cut out 22 x 22 mm</p> |                  |

Further informations see HARTING catalogue "Industrial Connectors Han®, chapter Q"

Han

Device side

Cable side

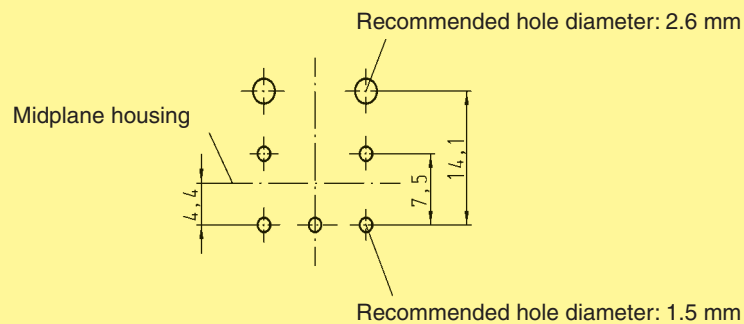
## Features

- ❑ Robust design
- ❑ Suitable for EMC housings
- ❑ Low wiring costs
- ❑ Additional robust and secure PE-connection between housing and PCB

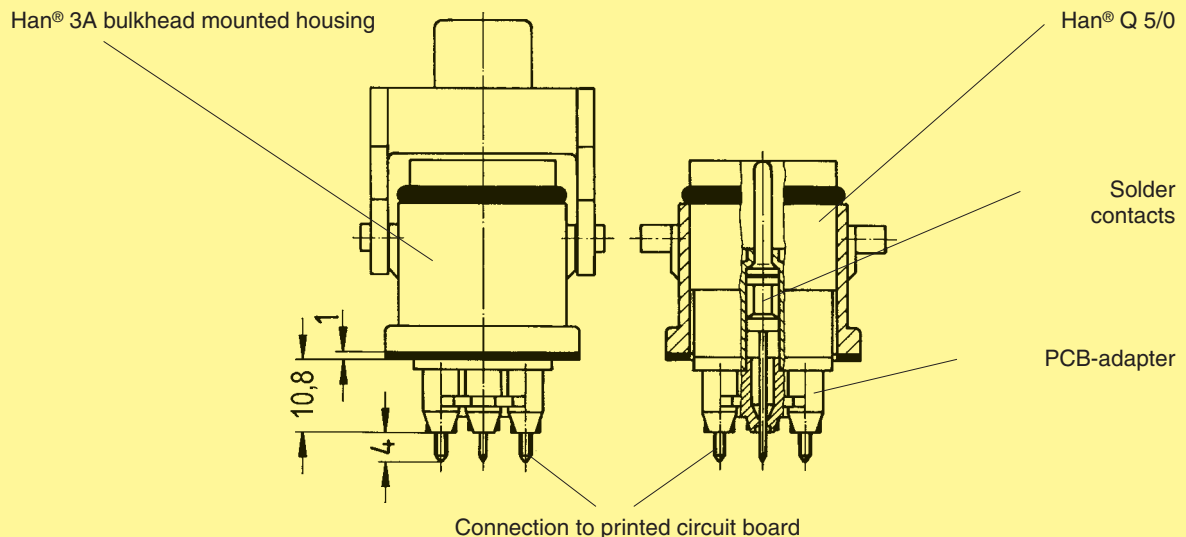
## Technical characteristics

|                                       |                              |
|---------------------------------------|------------------------------|
| Approvals                             |                              |
| Inserts                               |                              |
| Number of contacts                    | 5                            |
| Electrical data acc. to DIN EN 61 984 | <b>10 A 230/400 V 4 kV 3</b> |
| Working current                       | 10 A                         |
| Working voltage conductor – ground    | 230/400 V                    |
| Working voltage conductor – conductor | 4 kV                         |
| Rated impulse voltage                 | 3                            |
| Pollution degree                      |                              |
| - pollution degree 2 also             | 10 A 320/500 V 4 kV 2        |
| Working voltage acc. to UL/CSA        | 400 V                        |
| Insulation resistance                 | $\geq 10^{10} \Omega$        |
| Material                              | Polycarbonate                |
| Limiting temperatures                 | - 40 °C ... +125 °C          |
| Flammability acc. to UL 94            | V 0                          |
| Mechanical working life               |                              |
| - Mating cycles                       | $\geq 500$                   |

## Layout of printed circuit boards



## Assembly situation



Han



Han

Device side

Cable side

| Insert                    | Part No.              |                       | Drawing | Dimensions in mm |
|---------------------------|-----------------------|-----------------------|---------|------------------|
|                           | Male insert (M)       | Female insert (F)     |         |                  |
| Order contacts separately |                       |                       |         |                  |
|                           | <b>09 12 007 3001</b> | <b>09 12 007 3101</b> |         |                  |
| Coding                    | <b>09 12 000 9901</b> | <b>09 12 000 9902</b> |         |                  |

| PCB-adapter          | Part No.              | Drawing | Dimensions in mm |
|----------------------|-----------------------|---------|------------------|
| for PCB up to 2.4 mm |                       |         |                  |
|                      | <b>09 12 000 9908</b> |         |                  |

| Solder contacts            | Part No.              |                       | Drawing | Dimensions in mm |
|----------------------------|-----------------------|-----------------------|---------|------------------|
|                            | Male contact          | Female contact        |         |                  |
| to connect the PCB-adapter |                       |                       |         |                  |
|                            | <b>09 15 000 6190</b> | <b>09 15 000 6290</b> |         |                  |

| Housing | bulkead mounting | Part No.              | Drawing                     | Dimensions in mm |
|---------|------------------|-----------------------|-----------------------------|------------------|
|         |                  | <b>09 20 003 0301</b> | Panel cut out<br>22 x 22 mm |                  |

Further informations see HARTING catalogue "Industrial Connectors Han®, chapter Q"

## Features

- ❑ Robust design
- ❑ Suitable for standard and EMC housings
- ❑ Low cost wiring
- ❑ High contact density

## Technical characteristics

### Approvals



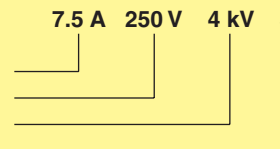
### Inserts

Number of contacts 7

Electrical data  
acc. to DIN EN 61 984

7.5 A 250 V 4 kV 3

Working current  
Working voltage  
Rated impulse voltage  
Pollution degree

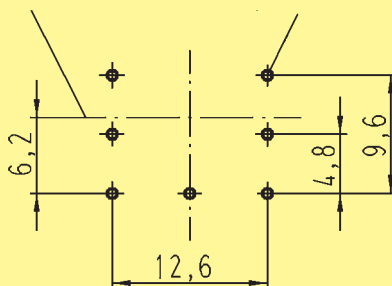


Insulation resistance  $\geq 10^{10} \Omega$   
Material Polycarbonate  
Limiting temperatures - 40 °C ... +125 °C  
Flammability acc. to UL 94 V 0  
Mechanical working life  
- Mating cycles  $\geq 500$

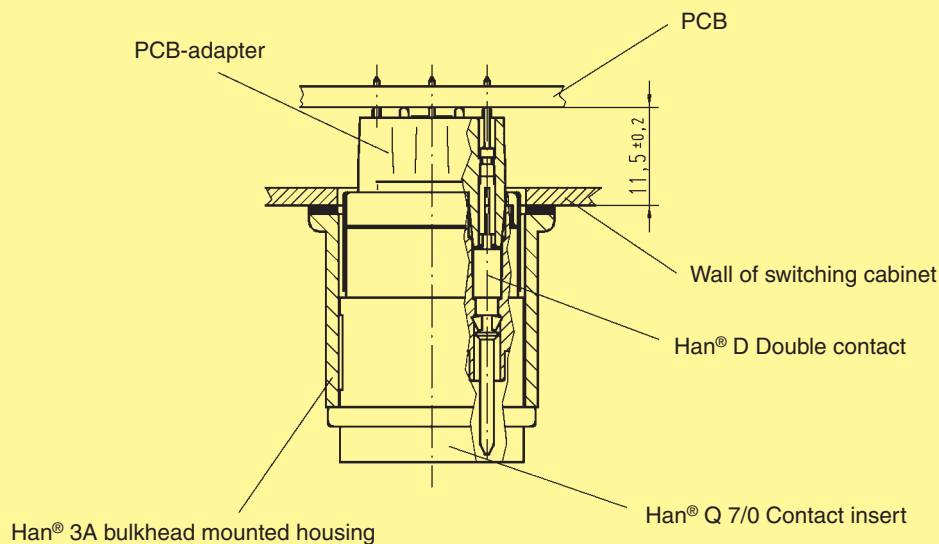
## Layout of printed circuit boards

Midplane housing

Recommended hole diameter: 0.8 mm



## Assembly situation



| Identification                 |  | Part No.   | M  | Drawing | Dimensions in mm |
|--------------------------------|--|--|----|---------|------------------|
| Hoods                          | Hood side-entry  | <b>19 20 003 1640</b>  | 20 |         |                  |
|                                | Hood top-entry   | <b>19 20 003 1440</b>  | 20 |         |                  |
|                                | Protection covers for hoods  | <b>09 20 003 5422<sup>1)</sup></b><br><b>09 20 003 5421<sup>2)</sup></b> |    |         |                  |
| Housings                       | Housings bulkhead mounting   | <b>09 20 003 0301</b>  |    |         |                  |
|                                | with fixed cover   | <b>09 20 003 0305<sup>1)</sup></b>                                       |    |         |                  |
|                                | without sealing  | <b>09 20 003 0306<sup>2)</sup></b>                                       |    |         |                  |
|                                | with sealing   | <b>09 20 003 0801</b>  |    |         |                  |
|                                | Housing surface mounting   |  |    |         |                  |
|                                | 1 side-entry   | <b>19 20 003 1250</b>  | 20 |         |                  |
|                                | bottom closed  | <b>19 20 003 1252</b>  | 20 |         |                  |
| Housing screw mounting         | <b>19 20 003 1150</b>  | 20   |    |         |                  |
| Hood cable to cable            | <b>19 20 003 1750</b>  | 20   |    |         |                  |
| Protection covers for housings | <b>09 20 003 5426<sup>1)</sup></b><br><b>09 20 003 5425<sup>2)</sup></b> |  |    |         |                  |
| for hoods cable to cable       | <b>09 20 003 5428<sup>1)</sup></b><br><b>09 20 003 5427<sup>2)</sup></b> |  |    |         |                  |

Han

<sup>1)</sup> for mounted male insert    <sup>2)</sup> for mounted female insert

Stock items in bold type

| Identification |                                | Part No.  | M   | Drawing | Dimensions in mm |          |  |  |
|----------------|--------------------------------|---|---|---------|------------------|----------|--|--|
| Hoods          | Hoods side-entry               | grey<br>19 20 003 0620<br>black<br>19 20 003 0627   | 20<br>20  |         |                  |          |  |  |
|                | Hoods top-entry                | grey<br>19 20 003 0420<br>black<br>19 20 003 0427   | 20<br>20  |         |                  |          |  |  |
|                | Protection covers for hoods    | 09 20 003 5442 <sup>1)</sup><br>09 20 003 5441 <sup>2)</sup>  |   |         |                  |          |  |  |
| Housings       | Housings bulkhead mounting     | grey<br>09 20 003 0320<br>black<br>09 20 003 0327   | —<br>—  |         |                  |          |  |  |
|                |                                | grey<br>09 20 003 0820<br>black<br>09 20 003 0827   | —<br>—  |         |                  |          |  |  |
|                |                                | Housings surface mounting 1 side-entry  | grey<br>19 20 003 0220<br>black<br>19 20 003 0227 |         |                  | 20<br>20 |  |  |
|                |                                | Hoods cable to cable  | grey<br>19 20 003 0720<br>black<br>19 20 003 0727 |         |                  | 20<br>20 |  |  |
|                | Protection covers for housings | A<br>09 20 003 5407 <sup>1)</sup><br><b>09 20 003 5408<sup>2)</sup></b><br>B<br>09 20 003 5445 <sup>2)</sup><br>09 20 003 5446 <sup>1)</sup><br>09 20 003 5447 <sup>2)</sup><br>C<br>09 20 003 5448 <sup>1)</sup><br>09 20 003 5449 <sup>2)</sup> |   |         |                  |          |  |  |

Han


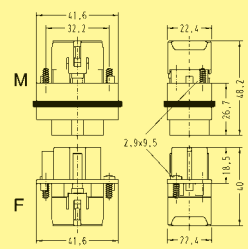
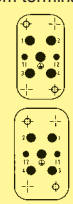
1) for mounted male insert  
2) for mounted female or Han-Brid® insert  
3) for metal housings and cable to cable hoods also

Stock items in bold type






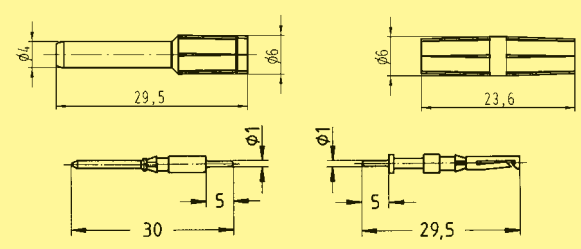

| Insert | Part No.        |                   | Drawing | Dimensions in mm |
|--------|-----------------|-------------------|---------|------------------|
|        | Male insert (M) | Female insert (F) |         |                  |

|  |                       |                       |  |  |
|--|-----------------------|-----------------------|--|--|
| Order contacts separately<br> | <b>09 12 006 3041</b> | <b>09 12 006 3141</b> |  | Contact arrangement<br>View from termination side<br> |
|--|-----------------------|-----------------------|--|--|


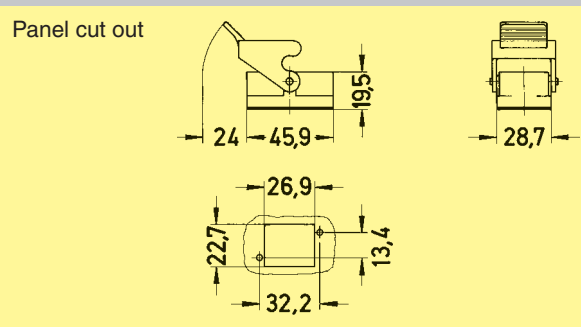
| PCB-adapter | Part No. | Drawing | Dimensions in mm |
|-------------|----------|---------|------------------|
|-------------|----------|---------|------------------|

|  |                       |   |  |
|--|-----------------------|---|--|
| for PCBs up to 2.4 mm<br> | <b>09 12 006 9901</b> |  |  |
|--|-----------------------|---|--|

| Han® Q 4/2 double contacts | Part No.     |                | Drawing | Dimensions in mm |
|----------------------------|--------------|----------------|---------|------------------|
|                            | Male contact | Female contact |         |                  |

|  |                       |                       |  |  |
|--|-----------------------|-----------------------|--|--|
| to connect the PCB adapter<br>Power contact<br> | <b>09 32 000 6180</b> | <b>09 32 000 6280</b> |  |  |
| Signal contact<br>                              | <b>09 15 000 6191</b> | <b>09 15 000 6293</b> |  |  |

| Housing bulkead mounting | Part No. | Drawing | Dimensions in mm |
|--------------------------|----------|---------|------------------|
|--------------------------|----------|---------|------------------|

|  |                       |   |  |
|--|-----------------------|---|--|
| Plastic<br> | <b>09 12 008 0327</b> | Panel cut out<br> |  |
|--|-----------------------|---|--|

Further informations see HARTING catalogue "Industrial Connectors Han®, chapter Q"

Han

Device side

Cable side

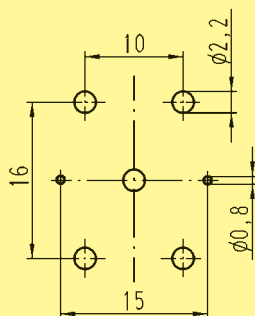
## Features

- ❑ Robust Design
- ❑ Suitable for Han-Compact® hoods and housings
- ❑ Low wiring costs
- ❑ High contact density

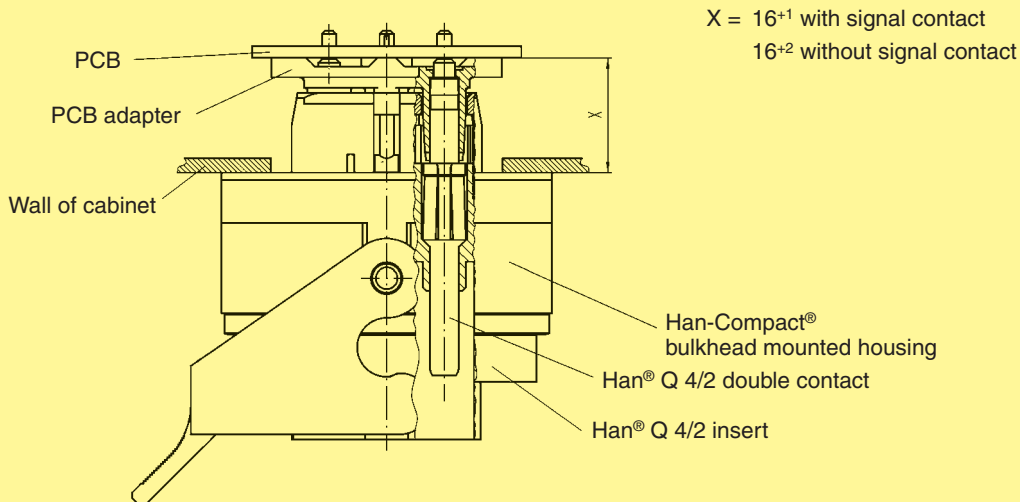
## Technical characteristics

|  |                          |
|--|--------------------------|
| Approvals                                |                          |
| Number of contacts                       | 4/2 + PE                 |
| Electrical data acc. to<br>DIN EN 61 984 |                          |
| Power area                               | 30 A 400/690 V 6 kV 2    |
| Rated current                            | 30 A                     |
| Rated voltage                            |                          |
| conductor - ground                       | 400 V                    |
| conductor - conductor                    | 690 V                    |
| Rated impulse voltage                    | 6 kV                     |
| Pollution degree                         | 2                        |
| Signal area                              | 7.5 A 250 V 4 kV 2       |
| Rated current                            | 7.5 A                    |
| Rated voltage                            | 250 V                    |
| Rated impulse voltage                    | 4 kV                     |
| Pollution degree                         | 2                        |
| Insulation resistance                    | $\geq 10^{10} \Omega$    |
| Material                                 | LCP                      |
| Limiting temperatures                    | -40 °C ... +125 °C       |
| Flammability acc. to UL 94               | V 0                      |
| Mechanical working life                  | $\geq 500$ mating cycles |

## Layout of printed circuit boards



## Assembly situation



Han



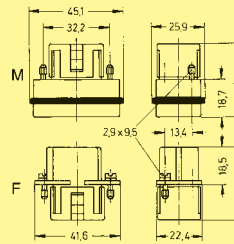
| Insert | Part No.        |                   | Drawing | Dimensions in mm |
|--------|-----------------|-------------------|---------|------------------|
|        | Male insert (M) | Female insert (F) |         |                  |

Order contacts separately



**09 12 008 3001**

**09 12 008 3101**



Contact arrangement  
View from termination side

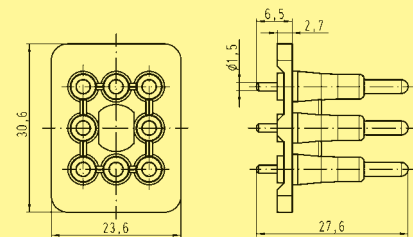


| PCB-adapter | Part No. | Drawing | Dimensions in mm |
|-------------|----------|---------|------------------|
|-------------|----------|---------|------------------|

for PCBs up to 1.6 mm



**09 12 008 9901**

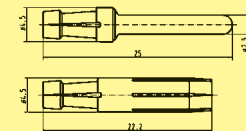


| Han® Q 8/0 double contacts<br>to connect the PCB adapter | Part No.     |                | Drawing | Dimensions in mm |
|--|--------------|----------------|---------|------------------|
|  | Male contact | Female contact |         |                  |



**09 33 000 6180**

**09 33 000 6280**



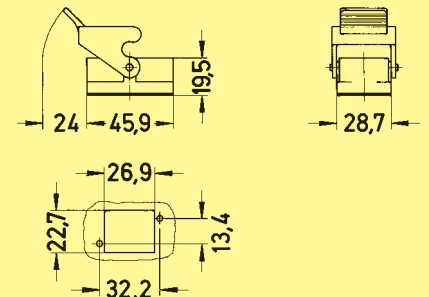
| Housing | bulkead mounting | Part No. | Drawing | Dimensions in mm |
|---------|------------------|----------|---------|------------------|
|---------|------------------|----------|---------|------------------|

Plastic



**09 12 008 0327**

Panel cut out



Further informations see HARTING catalogue "Industrial Connectors Han®, chapter Q"

Stock items in bold type

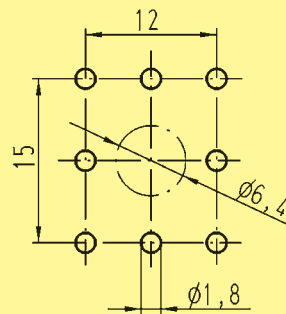
## Features

- ❑ Robust Design
- ❑ Suitable for Han-Compact® hoods and housings
- ❑ Low wiring costs
- ❑ High contact density

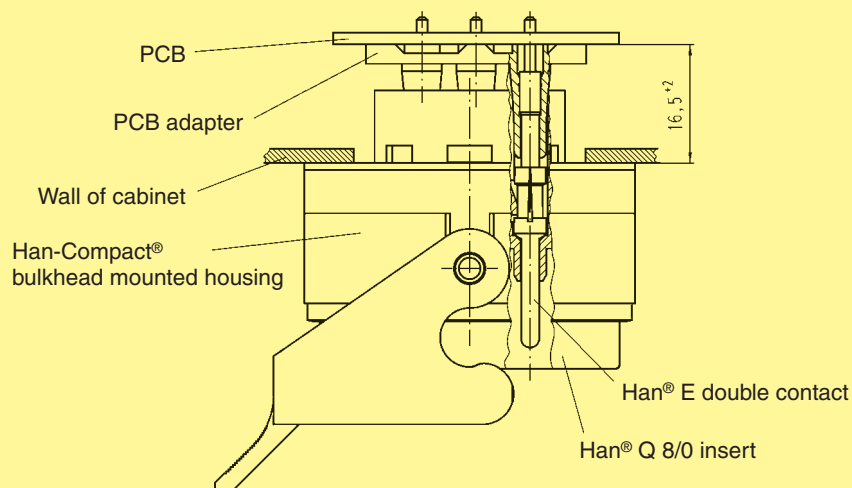
## Technical characteristics

|  |                          |
|--|--------------------------|
| Approvals                                |                          |
| Number of contacts                       | 8                        |
| Electrical data acc. to<br>DIN EN 61 984 | 16 A 230/400 V 4 kV 2    |
| Rated current                            | 16 A                     |
| Rated voltage                            | 230 V                    |
| conductor - ground                       | 400 V                    |
| conductor - conductor                    | 4 kV                     |
| Rated impulse voltage                    | 2                        |
| Pollution degree                         |                          |
| Insulation resistance                    | $\geq 10^{10} \Omega$    |
| Material                                 | LCP                      |
| Limiting temperatures                    | -40 °C ... +125 °C       |
| Flammability acc. to UL 94               | V 0                      |
| Mechanical working life                  | $\geq 500$ mating cycles |

## Layout of printed circuit boards



## Assembly situation





thermoplastic / metal

| Identification  | Part number  | Drawing                      | Dimensions in mm   |  |       |  |      |      |                |         |       |                |       |       |
|---|--|------------------------------|--|--|-------|--|------|------|----------------|---------|-------|----------------|-------|-------|
| <b>Hoods</b><br>Hoods<br>Metal side-entry<br>Cable gland order separately | <b>19 12 008 0526</b>  | M 25                         |  |  |       |  |      |      |                |         |       |                |       |       |
| <b>Hoods</b><br>Metal side-entry<br>Cable gland order separately          | black chromated<br>19 12 008 0501<br><br>black powder coated<br>19 12 708 0501<br><br>matt nickel plated<br>19 12 008 0502 | M 25<br><br>M 25<br><br>M 25 |  |  |       |  |      |      |                |         |       |                |       |       |
| <b>Hoods</b><br>Metal top-entry<br>Cable gland order separately           | <b>19 12 008 0426</b>  | M 25                         |  |  |       |  |      |      |                |         |       |                |       |       |
| <b>Cable seal</b><br>Metal for hoods<br>Thrust bolt and insert            | 19 12 000 5057<br><b>19 12 000 5058</b>  | M 25<br>M 25                 | <br><table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">cable</th> </tr> <tr> <th>min.</th> <th>max.</th> </tr> </thead> <tbody> <tr> <td>19 12 000 5057</td> <td>10.5 mm</td> <td>14 mm</td> </tr> <tr> <td>19 12 000 5058</td> <td>14 mm</td> <td>17 mm</td> </tr> </tbody> </table> |  | cable |  | min. | max. | 19 12 000 5057 | 10.5 mm | 14 mm | 19 12 000 5058 | 14 mm | 17 mm |
|   | cable  |                              |  |  |       |  |      |      |                |         |       |                |       |       |
|   | min.   | max.                         |  |  |       |  |      |      |                |         |       |                |       |       |
| 19 12 000 5057  | 10.5 mm  | 14 mm                        |  |  |       |  |      |      |                |         |       |                |       |       |
| 19 12 000 5058  | 14 mm  | 17 mm                        |  |  |       |  |      |      |                |         |       |                |       |       |


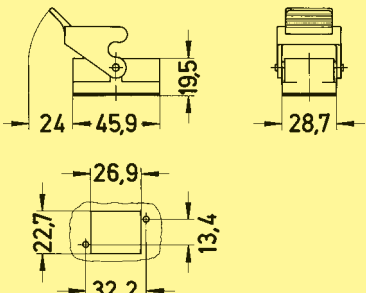
| Identification  | Part number                       |                                | Drawing | Dimensions in mm |
|---|-----------------------------------|--------------------------------|---------|------------------|
|   | for male insert                   | for female insert              |         |                  |
| <b>Protection covers</b><br>Thermoplastic for male insert | without sealing<br>09 12 008 5407 | with sealing<br>09 12 008 5408 |         |                  |

Han


thermoplastic / metal


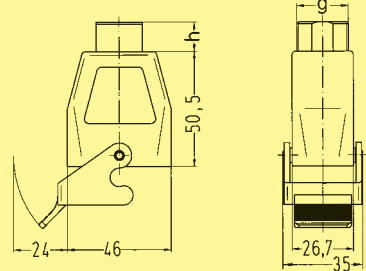
| Identification | Part number | Drawing | Dimensions in mm |
|----------------|-------------|---------|------------------|
|----------------|-------------|---------|------------------|

|   |                              |              |   |
|---|------------------------------|--------------|---|
| <p><b>Housings</b></p> <p>Housings, bulkhead mounting</p> <p>Thermoplastic angled</p>  | <p><b>09 12 008 0902</b></p> | <p>Pg 16</p> |  |
|---|------------------------------|--------------|---|

|   |                              |              |   |
|---|------------------------------|--------------|---|
| <p>Housings, bulkhead mounting</p> <p>Thermoplastic</p>  | <p><b>09 12 008 0327</b></p> | <p>Pg 16</p> |  |
|---|------------------------------|--------------|---|


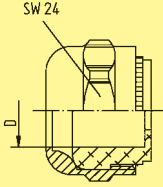

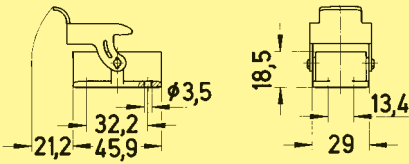
|  |                              |              |   |
|--|------------------------------|--------------|---|
| <p>Gasket for housings bulkhead mounting</p> <p>Han® Q 8/0</p>  | <p><b>09 12 000 9912</b></p> | <p>Pg 16</p> |  |
|--|------------------------------|--------------|---|

|   |                              |              |   |
|---|------------------------------|--------------|---|
| <p>Housings, surface mounting</p> <p>Thermoplastic angled</p> <p>Cable gland order separately</p>  | <p><b>09 12 008 0901</b></p> | <p>Pg 16</p> |  |
|---|------------------------------|--------------|---|

|   |  |                       |   |   |   |    |       |    |          |
|---|--|-----------------------|---|---|---|----|-------|----|----------|
| <p>Hoods, cable to cable</p> <p>Thermoplastic</p> <p>Cable gland order separately</p>  | <p><b>09 12 008 0727</b><br/><b>19 12 008 0729</b></p> | <p>Pg 16<br/>M 25</p> | <br><table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>h</td> <td>g</td> </tr> <tr> <td>13</td> <td>Pg 16</td> </tr> <tr> <td>14</td> <td>M 25x1.5</td> </tr> </table> | h | g | 13 | Pg 16 | 14 | M 25x1.5 |
| h   | g  |                       |   |   |   |    |       |    |          |
| 13  | Pg 16  |                       |   |   |   |    |       |    |          |
| 14  | M 25x1.5   |                       |   |   |   |    |       |    |          |

Han

thermoplastic / metal

| Identification   | Part number   | Drawing      | Dimensions in mm  |  |       |  |      |      |                |         |         |
|--|---|--------------|---|--|-------|--|------|------|----------------|---------|---------|
| <p><b>Housings</b></p> <p><b>Cable seal</b></p> <p>Thermoplastic for housings<br/>Thrust bolt and insert</p>  | <p>09 00 000 5058</p>   | <p>Pg 16</p> |  <table border="1" data-bbox="1010 566 1398 658"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">cable</th> </tr> <tr> <th>min.</th> <th>max.</th> </tr> </thead> <tbody> <tr> <td>09 00 000 5058</td> <td>11.5 mm</td> <td>15.5 mm</td> </tr> </tbody> </table> |  | cable |  | min. | max. | 09 00 000 5058 | 11.5 mm | 15.5 mm |
|  | cable   |              |   |  |       |  |      |      |                |         |         |
|  | min.  | max.         |   |  |       |  |      |      |                |         |         |
| 09 00 000 5058   | 11.5 mm   | 15.5 mm      |   |  |       |  |      |      |                |         |         |
| <p><b>Housings, bulkhead mounting</b></p> <p>Metal</p>    | <p>black chromated<br/><b>09 12 008 0301</b></p> <p>black powder coated<br/><b>09 12 708 0301</b></p> <p>matt nickel plated<br/><b>09 12 008 0303</b></p> |              |    |  |       |  |      |      |                |         |         |

Han





Han

| Insert                    | Size | Part No.              |                       | Drawing | Dimensions in mm  |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
|---------------------------|------|-----------------------|-----------------------|---------|---|--|---|---|-------|----|----|-------|----|----|-------|------|------|--------|-----|-----|
|                           |      | Male insert (M)       | Female insert (F)     |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| Order contacts separately |      |                       |                       |         | 1) Distance for contact max. 21 mm<br><table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr> <td>24 DD</td> <td>44</td> <td>51</td> </tr> <tr> <td>42 DD</td> <td>57</td> <td>64</td> </tr> <tr> <td>72 DD</td> <td>77.5</td> <td>84.5</td> </tr> <tr> <td>108 DD</td> <td>104</td> <td>111</td> </tr> </tbody> </table> |  | a | b | 24 DD | 44 | 51 | 42 DD | 57 | 64 | 72 DD | 77.5 | 84.5 | 108 DD | 104 | 111 |
|                           | a    | b                     |                       |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| 24 DD                     | 44   | 51                    |                       |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| 42 DD                     | 57   | 64                    |                       |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| 72 DD                     | 77.5 | 84.5                  |                       |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| 108 DD                    | 104  | 111                   |                       |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| Han <sup>®</sup> 24 DD    | 6 B  | <b>09 16 024 3001</b> | <b>09 16 024 3101</b> |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| Han <sup>®</sup> 42 DD    | 10 B | <b>09 16 042 3001</b> | <b>09 16 042 3101</b> |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| Han <sup>®</sup> 72 DD    | 16 B | <b>09 16 072 3001</b> | <b>09 16 072 3101</b> |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |
| Han <sup>®</sup> 108 DD   | 24 B | <b>09 16 108 3001</b> | <b>09 16 108 3101</b> |         |   |  |   |   |       |    |    |       |    |    |       |      |      |        |     |     |

| Han DD <sup>®</sup> double contacts to connect the PCB-adapter | Part No.              |                       | Drawing | Dimensions in mm |
|--|-----------------------|-----------------------|---------|------------------|
|  | Male contacts         | Female contacts       |         |                  |
|  | <b>09 15 000 6191</b> | <b>09 15 000 6291</b> |         |                  |

Device side

| PCB adapter for PCBs up to 1.6 mm for PCBs up to 2.4 mm | Part No.              |                       | Drawing | Dimensions in mm  |  |   |                       |     |                       |     |
|---|-----------------------|-----------------------|---------|---|--|---|-----------------------|-----|-----------------------|-----|
|   |                       |                       |         |   |  |   |                       |     |                       |     |
|   | <b>09 16 000 9905</b> | <b>09 16 000 9908</b> |         | <table border="1"> <thead> <tr> <th></th> <th>a</th> </tr> </thead> <tbody> <tr> <td><b>09 16 000 9905</b></td> <td>2.6</td> </tr> <tr> <td><b>09 16 000 9908</b></td> <td>3.4</td> </tr> </tbody> </table> |  | a | <b>09 16 000 9905</b> | 2.6 | <b>09 16 000 9908</b> | 3.4 |
|   | a                     |                       |         |   |  |   |                       |     |                       |     |
| <b>09 16 000 9905</b>                                   | 2.6                   |                       |         |   |  |   |                       |     |                       |     |
| <b>09 16 000 9908</b>                                   | 3.4                   |                       |         |   |  |   |                       |     |                       |     |

| Housing | Size                        | Part No.   | Drawing       | Dimensions in mm   |      |   |   |               |     |    |    |         |      |    |    |         |      |     |     |         |      |     |     |          |
|---------|-----------------------------|--|---------------|--|------|---|---|---------------|-----|----|----|---------|------|----|----|---------|------|-----|-----|---------|------|-----|-----|----------|
|         |                             |  |               |  |      |   |   |               |     |    |    |         |      |    |    |         |      |     |     |         |      |     |     |          |
|         | 6 B<br>10 B<br>16 B<br>24 B | <b>09 30 006 0301</b><br><b>09 30 010 0301</b><br><b>09 30 016 0301</b><br><b>09 30 024 0301</b> |               | <table border="1"> <thead> <tr> <th>Size</th> <th>a</th> <th>b</th> <th>Panel cut out</th> </tr> </thead> <tbody> <tr> <td>6 B</td> <td>70</td> <td>80</td> <td>48 x 35</td> </tr> <tr> <td>10 B</td> <td>83</td> <td>93</td> <td>60 x 35</td> </tr> <tr> <td>16 B</td> <td>103</td> <td>113</td> <td>82 x 35</td> </tr> <tr> <td>24 B</td> <td>130</td> <td>140</td> <td>108 x 35</td> </tr> </tbody> </table> <p>Size 6 B with 1 locking lever</p> | Size | a | b | Panel cut out | 6 B | 70 | 80 | 48 x 35 | 10 B | 83 | 93 | 60 x 35 | 16 B | 103 | 113 | 82 x 35 | 24 B | 130 | 140 | 108 x 35 |
| Size    | a                           | b  | Panel cut out |  |      |   |   |               |     |    |    |         |      |    |    |         |      |     |     |         |      |     |     |          |
| 6 B     | 70                          | 80   | 48 x 35       |  |      |   |   |               |     |    |    |         |      |    |    |         |      |     |     |         |      |     |     |          |
| 10 B    | 83                          | 93   | 60 x 35       |  |      |   |   |               |     |    |    |         |      |    |    |         |      |     |     |         |      |     |     |          |
| 16 B    | 103                         | 113  | 82 x 35       |  |      |   |   |               |     |    |    |         |      |    |    |         |      |     |     |         |      |     |     |          |
| 24 B    | 130                         | 140  | 108 x 35      |  |      |   |   |               |     |    |    |         |      |    |    |         |      |     |     |         |      |     |     |          |

Cable side

Further informations see HARTING catalogue "Industrial Connectors Han<sup>®</sup>, chapter DD"

## Features

- ❑ Robust design
- ❑ Suitable for standard and EMC housing
- ❑ Low wiring costs
- ❑ Higher contact density

## Technical characteristics

### Approvals



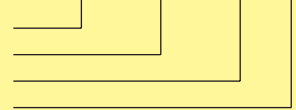
### Inserts

Number of contacts 24, 42, 72, 108

Electrical data  
acc. to DIN VDE 0627

**7.5 A 250 V 4 kV 3**

Working current  
Working voltage  
Rated impulse voltage  
Pollution degree



Working voltage  
acc. to UL

250 V

Testing voltage  $U_{rms}$   
Insulation resistance

2 kV  
 $\geq 10^{10} \Omega$

Material  
Limiting temperatures  
Flammability acc. to UL 94

Polyamide  
- 40 °C / +125 °C  
HB

Mechanical working life  
- Mating cycles

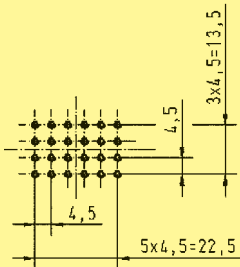
$\geq 500$

Wire gauge

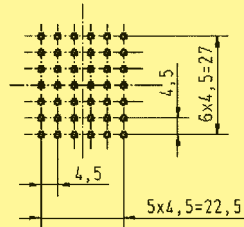
0.14 - 2.5 mm<sup>2</sup>

## Layout of printed circuit boards

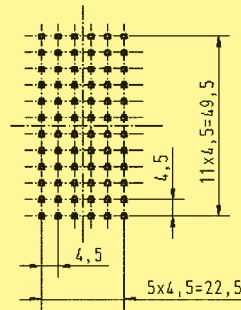
Han<sup>®</sup> 24 DD



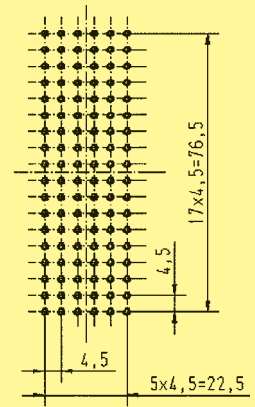
Han<sup>®</sup> 42 DD



Han<sup>®</sup> 72 DD

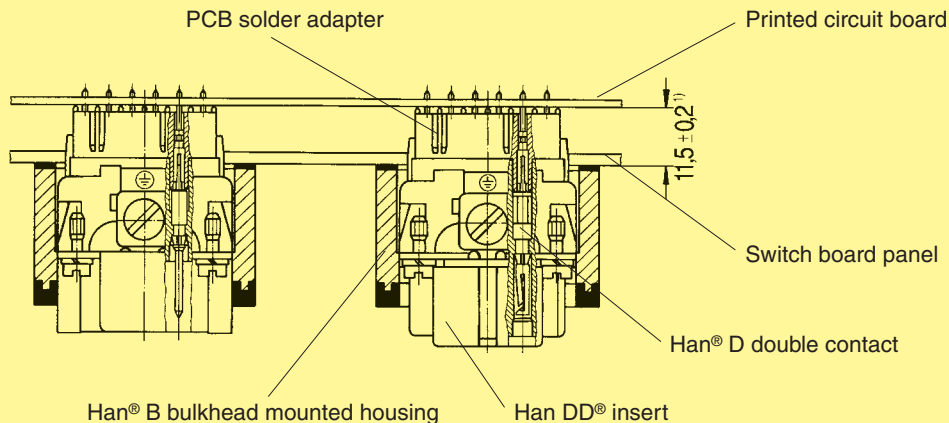


Han<sup>®</sup> 108 DD



Recommended hole diameter: 0.8 mm

## Assembly situation



<sup>1)</sup> for Han<sup>®</sup> B EMC hoods/housings spacing of  $12.5 \pm 0.2$  is necessary as no flange seal is used.

Han



## Features

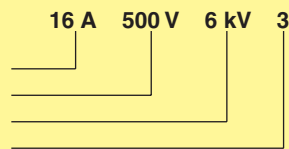
- ❑ Robust design
- ❑ Suitable for standard and EMC housings
- ❑ Low wiring costs
- ❑ Counter connector available with screw, crimp or cage clamp termination

## Technical characteristics

### Inserts

Number of contacts 6, 10, 16, 24

Electrical data  
acc. to DIN EN 61 984



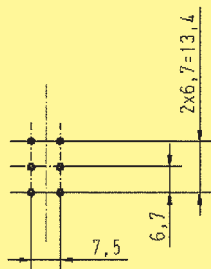
Working current  
Working voltage  
Rated impulse voltage  
Pollution degree

Insulation resistance  
Material  
Limiting temperatures  
Flammability acc. to UL 94  
Mechanical working life  
- Mating cycles  
Wire gauge

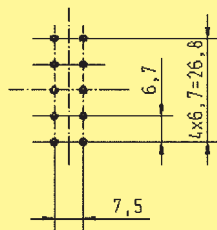
$\geq 10^{10} \Omega$   
Polycarbonate  
- 40 °C / +125 °C  
V 0  
 $\geq 500$   
0.5 - 4 mm<sup>2</sup>

## Layout of printed circuit boards

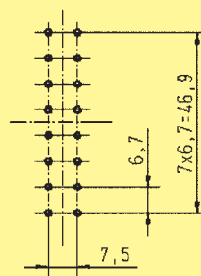
Han<sup>®</sup> 6 E



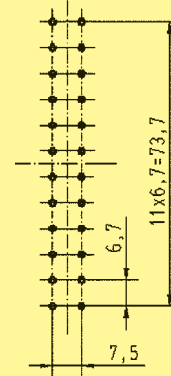
Han<sup>®</sup> 10 E



Han<sup>®</sup> 16 E

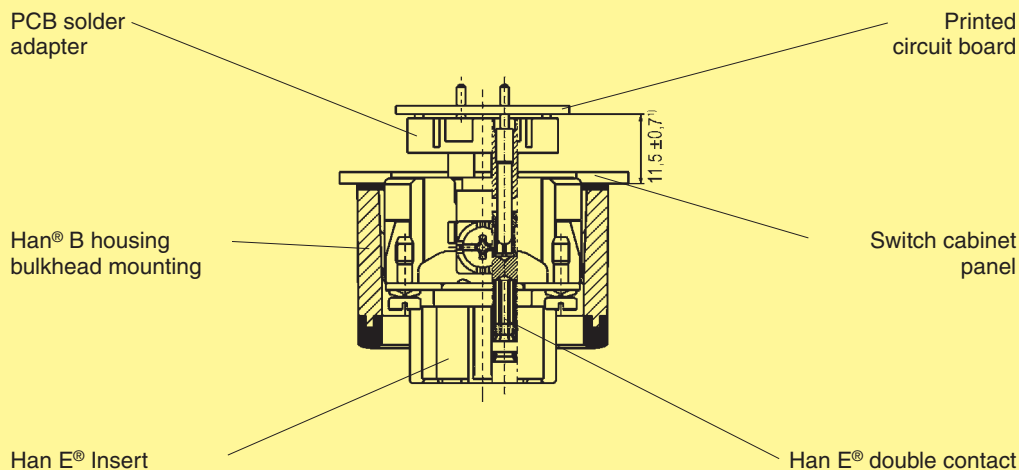


Han<sup>®</sup> 24 E



Recommended hole diameter: 1.8 mm

## Assembly situation



<sup>1)</sup> for Han<sup>®</sup> B EMC hoods/housings spacing of 12.5 ± 0.7 is necessary as no flange seal is used

| Hinged frame | No. of modules | Part No.              |                       | Size | Figure   |
|--------------|----------------|-----------------------|-----------------------|------|--|
|              |                | Male insert (M)       | Female insert (F)     |      |  |
|              | 1              | <b>09 14 000 0304</b> | <b>09 14 000 0304</b> | 10 A | Drawings and further details see HARTING catalogue "Industrial Connectors Han®, chapter 06". |
|              | 2              | <b>09 14 006 0303</b> | <b>09 14 006 0313</b> | 6 B  |  |
|              | 3              | <b>09 14 010 0303</b> | <b>09 14 010 0313</b> | 10 B |  |
|              | 4              | <b>09 14 016 0303</b> | <b>09 14 016 0313</b> | 16 B |  |
|              | 4              | <b>09 14 016 0303</b> | <b>09 14 016 0313</b> | 16 B |  |
|              | 6              | <b>09 14 024 0303</b> | <b>09 14 024 0313</b> | 24 B |  |

| Identification   | Part No.                                       |                       | Drawing   | Dimensions in mm |   |                       |     |                       |     |  |
|--|--|-----------------------|---|------------------|---|-----------------------|-----|-----------------------|-----|--|
|  | Male insert (M)                                | Female insert (F)     |   |                  |   |                       |     |                       |     |  |
| <b>Han DD® module</b><br>PCB termination/<br>crimp termination       | <b>09 14 012 3001</b>                          | <b>09 14 012 3101</b> |   |                  |   |                       |     |                       |     |  |
| <b>Han D® double contacts</b><br>to connect the PCB                  | <b>09 15 000 6191</b>                          | <b>09 15 000 6291</b> |   |                  |   |                       |     |                       |     |  |
| <b>PCB adapter</b><br>for PCBs up to 1.6 mm<br>for PCBs up to 2.4 mm | <b>09 16 000 9905</b><br><b>09 16 000 9908</b> |                       | <table border="1"> <tr> <td></td> <td>a</td> </tr> <tr> <td><b>09 16 000 9905</b></td> <td>2.6</td> </tr> <tr> <td><b>09 16 000 9908</b></td> <td>3.4</td> </tr> </table> |                  | a | <b>09 16 000 9905</b> | 2.6 | <b>09 16 000 9908</b> | 3.4 |  |
|  | a  |                       |   |                  |   |                       |     |                       |     |  |
| <b>09 16 000 9905</b>  | 2.6  |                       |   |                  |   |                       |     |                       |     |  |
| <b>09 16 000 9908</b>  | 3.4  |                       |   |                  |   |                       |     |                       |     |  |

| Han® axial screw module                      | Part No.              |                       | Drawing | Dimensions in mm |
|--|-----------------------|-----------------------|---------|------------------|
|  | Male insert (M)       | Female insert (F)     |         |                  |
| <b>Axial screw termination</b><br>Cable side | <b>09 14 002 2601</b> | <b>09 14 002 2701</b> |         |                  |
| <b>PCB adaption</b><br>Device side           | <b>09 14 002 2603</b> | <b>09 14 002 2703</b> |         |                  |
| <b>Solder contact</b>                        | <b>09 32 000 6295</b> |                       |         |                  |

Stock items in bold type

## Features

- ❑ Modular assembly
- ❑ Robust design
- ❑ Suitable for standard and EMC housings
- ❑ Low wiring costs

## Technical characteristics

### Han DD® module with PCB-adapter

|                    |                            |
|--------------------|----------------------------|
| Number of contacts | 12                         |
| Working current    | 7.5 A                      |
| Working voltage    | 250 V                      |
| Wire gauge         | 0.14 - 2.5 mm <sup>2</sup> |

### Han® axial screw module for PCB adaptations

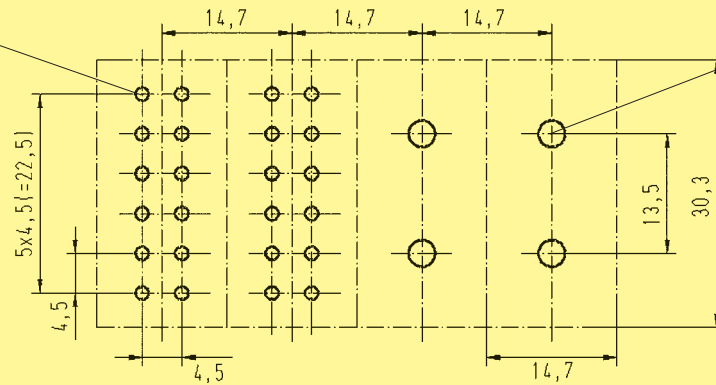
|                    |                          |
|--------------------|--------------------------|
| Number of contacts | 2                        |
| Working current    | 40 A                     |
| Working voltage    | 500 V                    |
| Wire gauge         | 2.5 - 10 mm <sup>2</sup> |

## Layout of printed circuit boards

Depiction

Recommended hole diameter: 0,8 mm

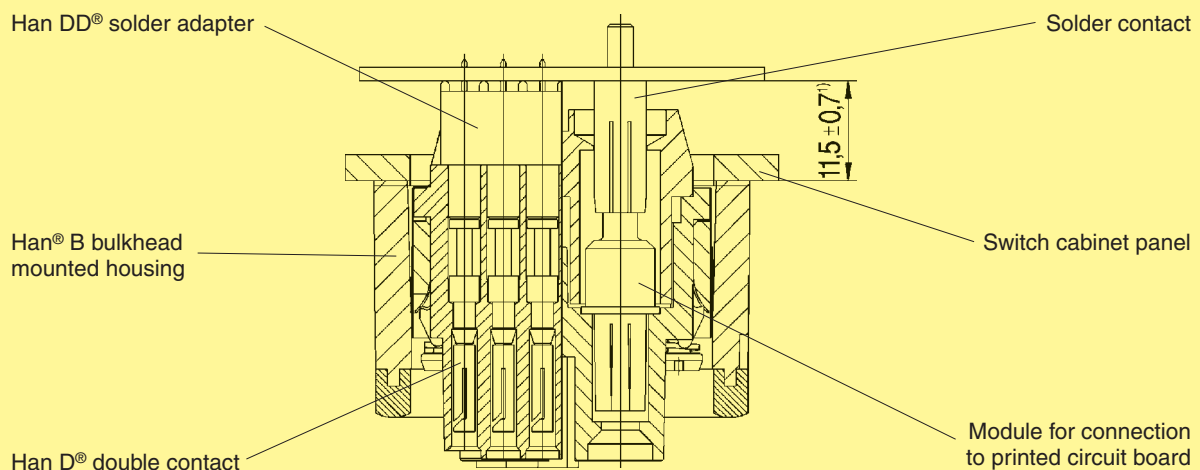
Recommended hole diameter: 3,2 mm



Han DD® module

Han® axial screw module 40 A

## Assembly situation



<sup>1)</sup> for Han® B EMC hoods/housings spacing of 12.5 ± 0.7 is necessary as no flange seal is used

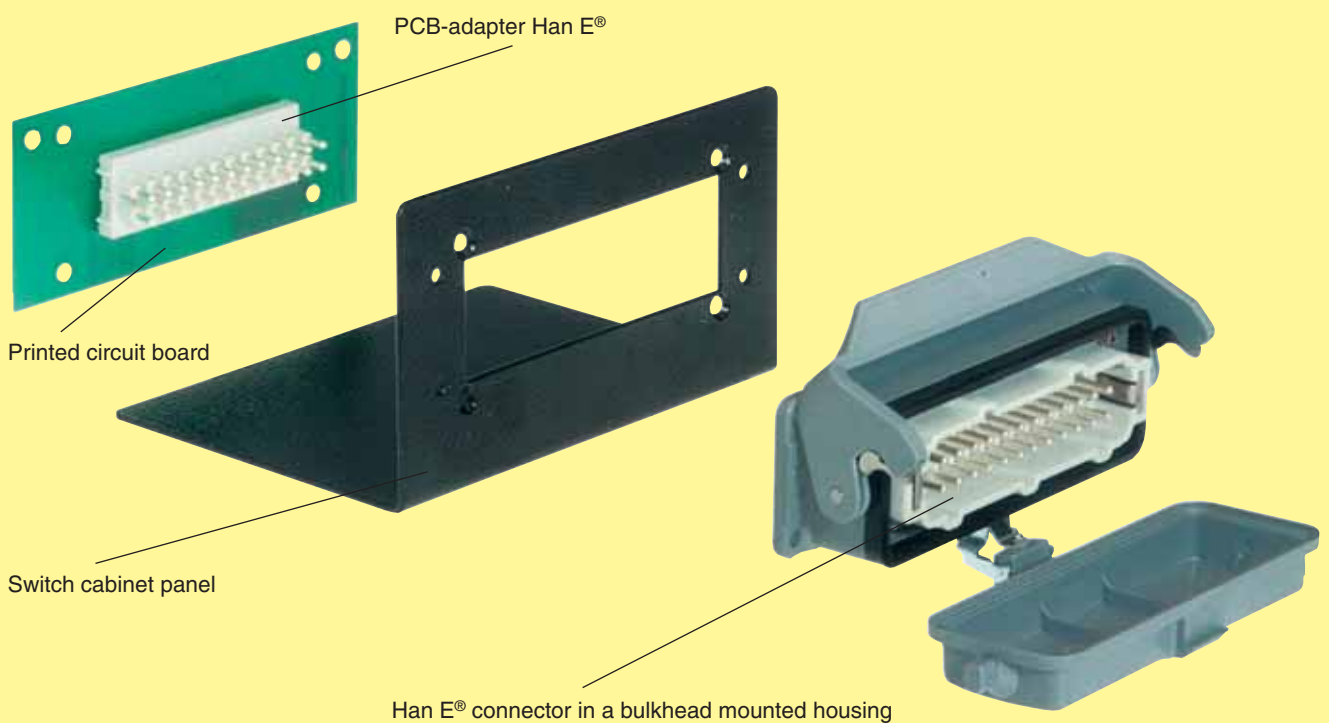
- Secondary mating between industrial connector and printed circuit board.
- No higher force is applied on the soldering joint when mating the industrial connector due to an additional mating point.
- No wiring between printed circuit board and industrial connector necessary.
- thus no wiring faults  
⇒ no testing, no costs
- Connecting times are minimized.
- Easy handling is time and cost saving.
- The production of mechanical and electrical / electronical components can be completely separated.
- Possibility to reach a higher degree of automation in the production (i. e. wave soldering of the PCBs).



Han DD® and Han® Q 5/0 PCB-adapter  
Wilhelm Fette GmbH, Germany



Han E® PCB-adapter



Han E® connector in a bulkhead mounted housing

