

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 type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cable termination | | | PCB termination | | | Application standard | | | | |
| <i>Han-Quick Lock®</i> | <i>IDC</i> | <i>Crimp</i> | <i>THT</i> | <i>SMC</i> | <i>SMT</i> | ECOFAST | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | |
| <i>Screw</i> | <i>Cage clamp</i> | <i>Axial screw</i> | <i>Press-in</i> | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | |
| | | | | | | Housing integration | | | | |
| | | | | | | <i>separate housing</i> | <i>integrated housing</i> | | | |
| | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | | | |

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| | |

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® 3 A 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® 3 A, 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® 3 A 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.



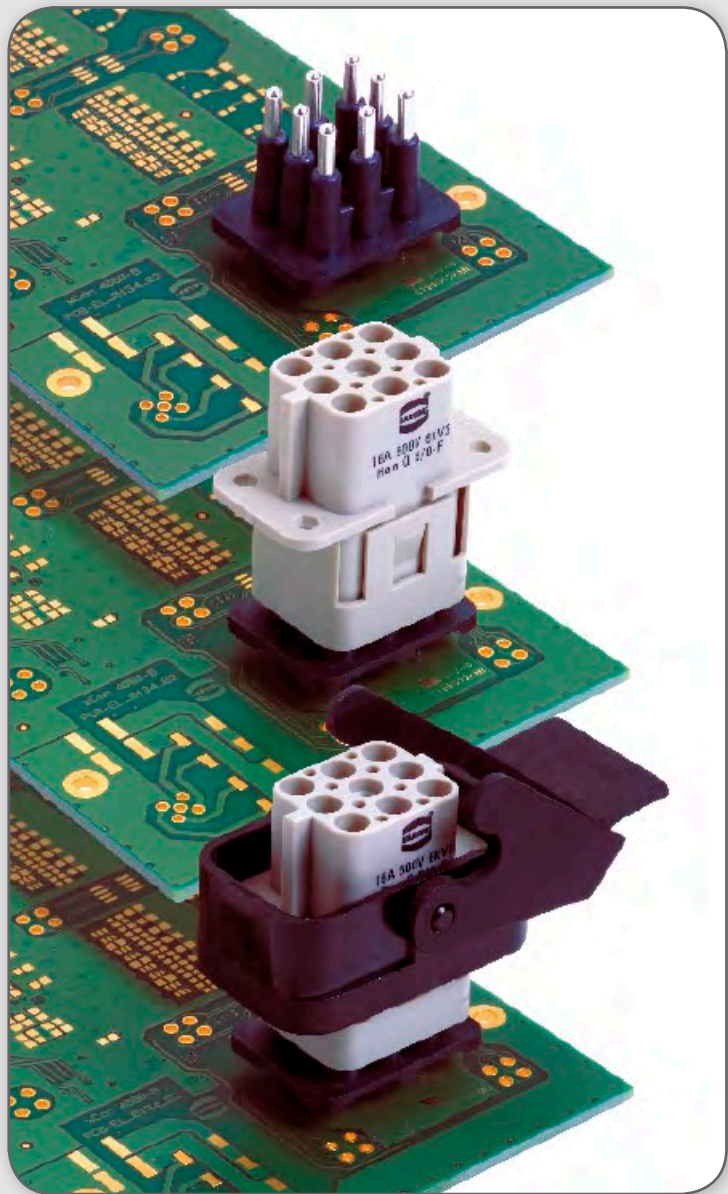
Han® APPLIANCE CONNECTORS:

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[®] 3 A 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 [®] 3 A RJ45 (IP 65 / IP 67) |
| Copper / termination | 1x RJ45 (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 ... +70 °C |
| Housing material | |
| Plastic version | Polycarbonate, black, UL 94 V-0 |
| Metal version | Zinc die-cast, powder coating, grey |

Identification

Part No.

Drawing

Dimensions in mm

Housing bulkhead mounting

Plastic version, black
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 jack
with fixing clip
without fixing clip

09 45 515 0020
09 45 515 0022

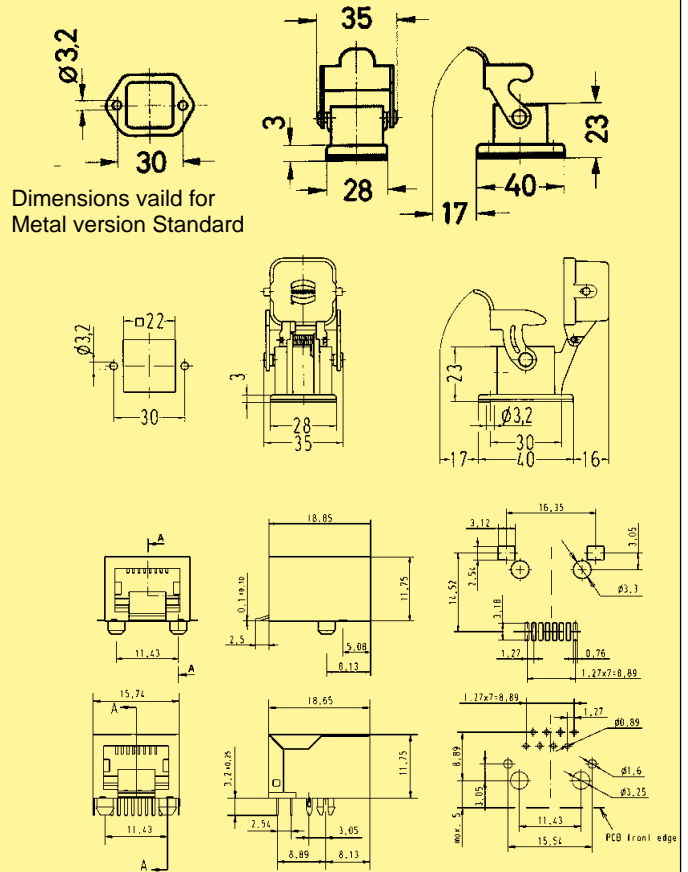
RJ45 jacks Cat. 5

Solder variant SMD,
90° angled

09 45 551 1100¹⁾
09 45 551 1110²⁾

Solder variant overmolded,
90° angled

09 45 551 1102¹⁾



¹⁾ Packaging: Blister à 120 pieces

²⁾ Packaging: Tape & Reel à 130 pieces

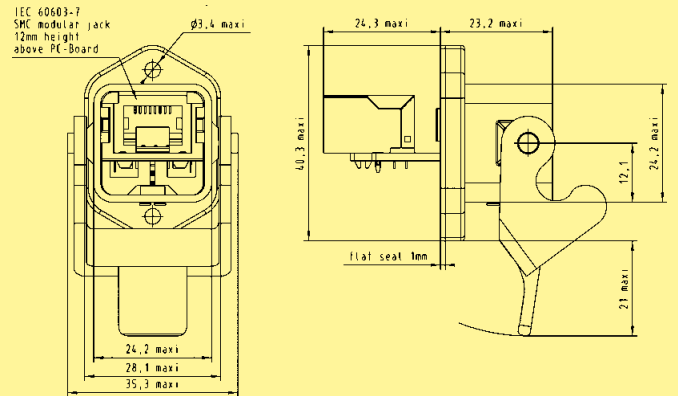


Han® 3 A RJ45-panel feed-throughs and couplings Cat. 5

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

Panel feed-through set, 8-poles

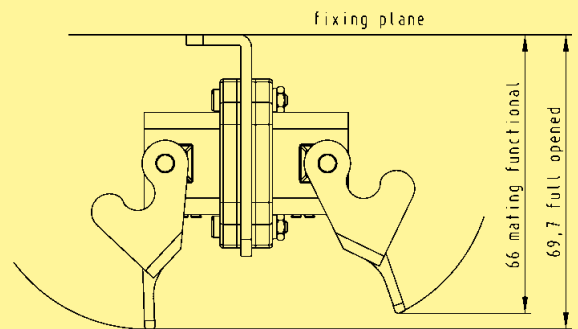
| | | |
|---|-------------------------------|----------------|
| Plastic version, black | straight | 09 45 225 1100 |
| | angled | 09 45 225 1108 |
| Metal version Standard, grey | straight | 09 45 215 1100 |
| | straight, inner vertical jack | 09 45 215 1101 |
| | angled | 09 45 215 1108 |
| Metal version Standard, grey with self-closing protective cap | straight | 09 45 215 1103 |
| Metal version M, black | straight | 09 45 215 1102 |
| | angled | 09 45 215 1109 |
| Coding pin set for 4 different codings | | 09 45 820 0000 |



Dimensions valid for plastic version, straight

Double coupling, 8-poles incl. installation frame metal

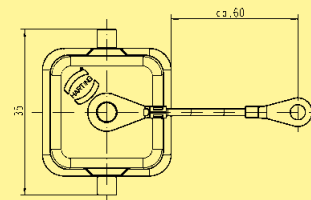
| | |
|--|----------------|
| Plastic version, black | 09 45 225 1107 |
| Metal version Standard, grey | 09 45 215 1107 |
| Metal version M, black | 09 45 215 1110 |
| Coding pin set for 4 different codings | 09 45 820 0000 |



Dimensions valid for plastic version

Protection cover for panel feed-through IP 65 / IP 67 with seal

| | |
|------------------------------|----------------|
| Plastic version, black | 09 20 003 5449 |
| Metal version Standard, grey | 09 20 003 5425 |
| Metal version M, black | 09 37 003 5405 |



Dimensions valid for plastic version



Han® 3 A RJ45 10G Cat. 6 – panel feed throughs

Advantages

- Compact and robust design
- 360° shielding
- Easy mounting
- Transmission category 6, performance class E_A, suitable for 1/10 Gigabit Ethernet
- RJ45 mating compatible
- Coding (4 variants) possible

Technical characteristics

| | |
|--------------------------|--|
| Number of ports | 2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (IP 20) |
| Transmission performance | Category 6 / class E _A acc. to ISO/IEC 11 801:2002, EN 50 173-1 |
| Transmission rate | 10/100 Mbit/s and 1/10 Gbit/s |
| Shielding | Fully shielded, 360° shielding contact |
| Mounting | Screwable to cover plates |
| Degree of protection | IP 65 / IP 67 |
| Mating cycles | min. 500 |
| Temperature range | -40 °C ... + 70 °C |
| Housing material | |
| Plastic version | Polycarbonate, black, UL 94 V-0 |
| Metal version | Zinc die-cast, powder-coated |

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

Panel feed-through set, 8-poles

- Plastic version, black
- Metal version Standard, grey
- Metal version M, black

09 45 225 1560
09 45 215 1560
09 45 215 1561

- Metal version Standard, grey, with self-closing protective cap

09 45 215 1562

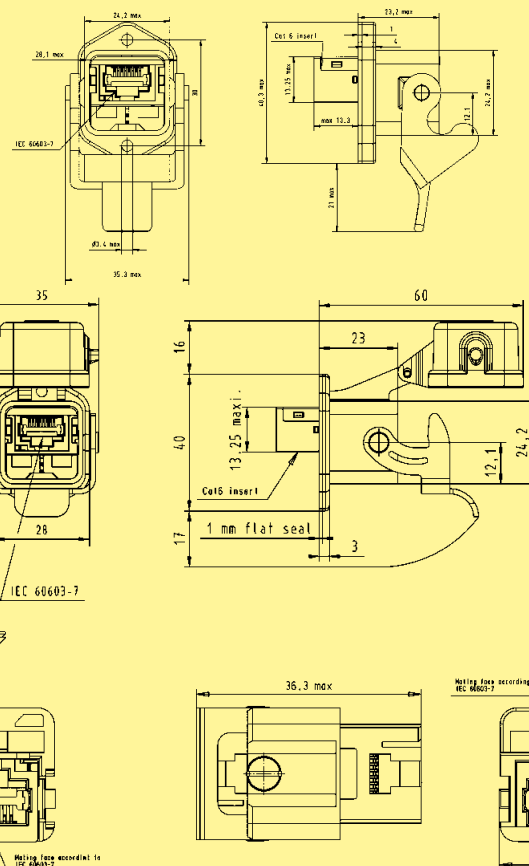
Han® 3 A RJ45 10G insert Cat. 6 (for Han® 3 A housings)

09 45 200 1560

Han® 3 A RJ45 HIFF adapter

to mount HIFF inserts (e.g. HARTING RJ Industrial® 10G RJ45 bulkhead or Ha-VIS preLink® RJ45) in Han® 3 A housings

09 45 515 0024





Han® 3 A connector RJ45, 4-poles, Cat. 5

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 reconductable
- PROFINET compatible
- Min. 500 mating cycles

Technical characteristics

| | |
|--------------------------|---|
| Connector type | Han® 3 A 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 11 801:2002, EN 50 173-1 |
| Transmission rate | 10/100 Mbit/s |
| Shielding | fully shielded, 360° shielding contact |
| Cable termination | tool-less with IDC contacts |
| Conductor cross section | |
| stranded | AWG 24/7 - AWG 22/7 |
| solid | AWG 23/1 - AWG 22/1 |
| Conductor diameter | max. 1.6 mm |
| Cable outer diameter | 6.5 mm – 9.5 mm |
| Degree of protection | IP 65 / IP 67 |
| Temperature range | -40 °C ... +70 °C |
| Housing material | |
| Plastic version | Polycarbonate, UL 94 V-0, 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® 3 A connector set RJ45, 4-poles
incl. housing, cable gland
and instruction manual

Plastic version, black

straight
angled

09 45 125 1100
09 45 125 1104

Metal version Standard, grey

straight
angled

09 45 115 1100
09 45 115 1104

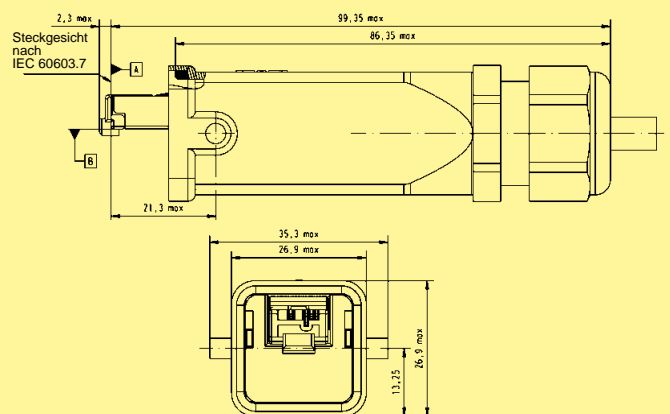
Metal version M, black

straight
angled

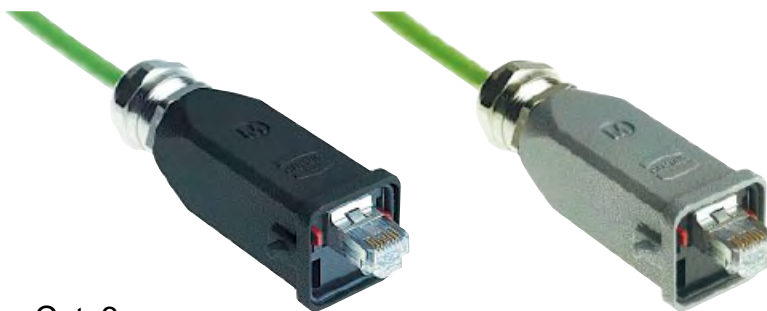
09 45 115 1102
09 45 115 1106

Coding pin set

09 45 820 0000



Dimensions valid for plastic version, straight



Han® 3 A connector set RJ45, 8-poles, Cat. 6

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 one 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

| | |
|--------------------------|--|
| Connector type | Han® 3 A Connector RJ45 |
| Number of contacts | 8 |
| Transmission performance | Category 6 / Class E up to 250 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 |
| Cable termination | with piercing contacts |
| Conductor cross section | AWG 28/7 - AWG 24/7, stranded |
| Conductor diameter | max. 1.05 mm |
| Cable outer diameter | 6.5 mm – 9.5 mm |
| Degree of protection | IP 65 / IP 67 |
| Temperature range | -40 °C ... +70 °C |
| Housing material | |
| Plastic version | Polycarbonate, UL 94 V-0, 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® 3 A connector set RJ45, 8-poles
incl. housing, cable gland
and instruction manual

| | | |
|---------------------------|----------------------------------|----------------|
| Plastic version, black | Wire manager white | 09 45 125 1500 |
| | Wire manager blue | 09 45 125 1510 |
| | New Cat. 6 _A version* | 09 45 125 1520 |

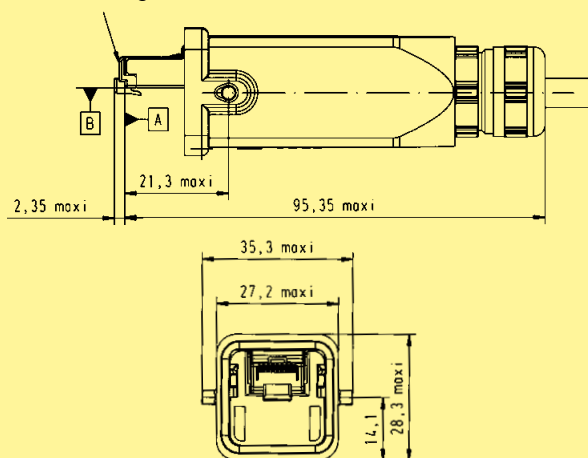
| | | |
|------------------------------|----------------------------------|----------------|
| Metal version Standard, grey | Wire manager white | 09 45 115 1500 |
| | Wire manager blue | 09 45 115 1510 |
| | New Cat. 6 _A version* | 09 45 115 1620 |

| | | |
|---------------------------|--------------------|----------------|
| Metal version M, black | Wire manager white | 09 45 115 1502 |
| | Wire manager blue | 09 45 115 1512 |

| | | |
|----------------------------------|--------------------|----------------|
| New Cat. 6 _A version* | Wire manager white | 09 45 115 1520 |
| | Wire manager blue | 09 45 100 1520 |

| | | |
|----------------|--|----------------|
| Coding pin set | | 09 45 820 0000 |
|----------------|--|----------------|

Mating face acc. to IEC 60 603-7



Dimensions valid for metal version Standard



Han® 3 A RJ45 10G connector, 8-poles, Cat. 6

Advantages

- RJ45 Ethernet-Data connector suitable for industry
- Tool-less field-assembly with HARAX® rapid termination in IDC technology
- Category of transmission Cat. 6
- Compact design and very robust housing
- Suitable for termination of solid and stranded cables
- PROFINET compatible
- Min. 500 mating cycles

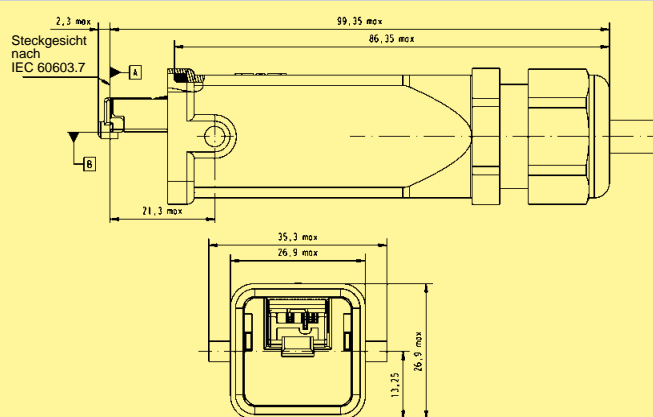
Technical characteristics

| | |
|--------------------------|--|
| Connector type | Han® 3 A Connector RJ45 acc. to IEC 61076-3-106 variant 5 |
| Number of contacts | 8 |
| Transmission performance | Category 6 / Class E _A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1 |
| Transmission rate | 10/100 Mbit/s / 1/10 Gbit/s |
| Shielding | fully shielded, 360° shielding contact |
| Cable termination | tool-less with IDC contacts |
| Conductor cross section | |
| stranded | AWG 27/7 - AWG 22/7 |
| solid | AWG 24/1 - AWG 22/1 |
| Conductor diameter | max. 1.6 mm |
| Cable outer diameter | 6.5 mm – 9.5 mm |
| Degree of protection | IP 65 / IP 67 |
| Temperature range | -40 °C ... +70 °C |
| Housing material | |
| Plastic version | Polycarbonate, UL 94 V-0, black |
| Metal versions | |
| Standard | Zinc die-cast, powder coating grey |

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

Han® 3 A RJ45 connector, 8-poles
incl. housing, cable gland
and instruction manual

| | | |
|--------------------------------|----------|----------------|
| Plastic version, black | straight | 09 45 125 1560 |
| Metal version Standard, grey | straight | 09 45 115 1560 |
| Han® 3 A RJ45 connector insert | straight | 09 45 100 1560 |
| Coding pin set | | 09 45 820 0000 |



Dimensions valid for plastic version, straight



Han® 3 A 2 x 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 ... +70 °C |
| Housing material | Zinc die-cast powder coating black |

Identification

Part No.

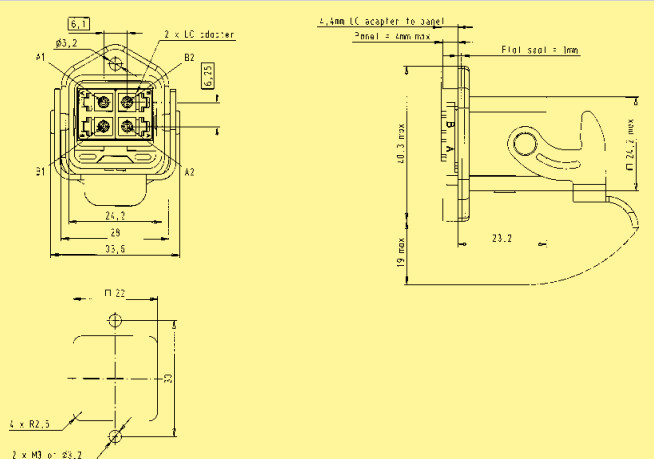
Drawing

Dimensions in mm

Components device side

Multimode GOF
Singlemode GOF

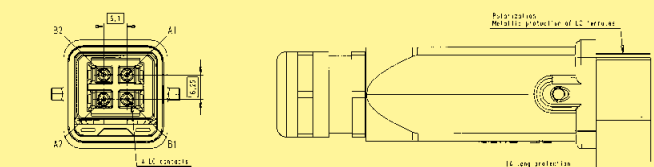
09 57 467 0004 000
09 57 467 0005 000



Connector

Multimode GOF
Singlemode GOF

09 57 407 0001 000
09 57 407 0002 000





Han® 3 A RJ45 Hybrid

Advantages

- RJ45 Ethernet-Data connector suitable for industry with Power contacts for hybrid 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 cable 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 ... +70 °C |
| Housing material | Zinc die-cast, powder coating black |
| Data | |
| 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 |
| Cable diameter stranded | AWG 28/7 - AWG 24/7 |
| 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 (see current carrying capacity Han D® contacts) |
| Cable diameter | 2.5 mm ² |

| Identification | Part No. | Drawing | Dimensions in mm |
|--|--------------------|---------|------------------|
| Components device side incl. 3x Han D® female contacts | | | |
| AC version | 09 57 368 0500 000 | | |
| DC version | 09 57 368 0501 000 | | |
| Cable side Connector incl. 3x Han D® male contacts | | | |
| AC version | 09 57 308 0500 000 | | |
| DC version | 09 57 308 0501 000 | | |

Han



Hybrid cable assembly

| Identification | Part No. | Drawing | Dimensions in mm |
|--|---|--|------------------|
| <p>Hybrid cable, double ended, 4 x 2 x AWG 26/7 + 3 x 2.5 mm²</p> <p>Length: 1 m AC version DC version</p> <p>Length: 5 m AC version DC version</p> <p>Length: 10 m AC version DC version</p> <p>Length: 20 m AC version DC version</p> | <p>33 57 211 0010 001 33 57 211 0010 002</p> <p>33 57 211 0050 001 33 57 211 0050 002</p> <p>33 57 211 0100 001 33 57 211 0100 002</p> <p>33 57 211 0200 001 33 57 211 0200 002</p> | <p>double ended</p> <p>a = length</p> | |
| <p>Hybrid cable, single ended, 4 x 2 x AWG 26/7 + 3 x 2.5 mm²</p> <p>Length: 1 m AC version DC version</p> <p>Length: 5 m AC version DC version</p> <p>Length: 10 m AC version DC version</p> <p>Length: 20 m AC version DC version</p> | <p>33 57 111 0010 002 33 57 111 0010 001</p> <p>33 57 111 0050 002 33 57 111 0050 001</p> <p>33 57 111 0100 002 33 57 111 0100 001</p> <p>33 57 111 0200 002 33 57 111 0200 001</p> | <p>Protection level: IP 65 / IP 67</p> <p>Data part: Transmission properties in accordance with ISO/IEC 11 801:2002: Class D</p> <p>single ended</p> <p>a = length</p> | |
| <p>Hybrid outdoor cable</p> <p>Length: 10 m</p> <p>Length: 20 m</p> <p>Length: 500 m</p> | <p>33 57 851 0100 001</p> <p>33 57 851 0200 001</p> <p>33 57 851 5000 001</p> | <p>PVC jacket</p> <p>4 x 2 x AWG 26/7 + 3 x 2.5 mm²</p> <p>Outer diameter: 12 mm</p> <p>Min. bending radius: single: 5 x OD repeated: 10 x OD</p> | |



Han® 3 A LC duplex Hybrid

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

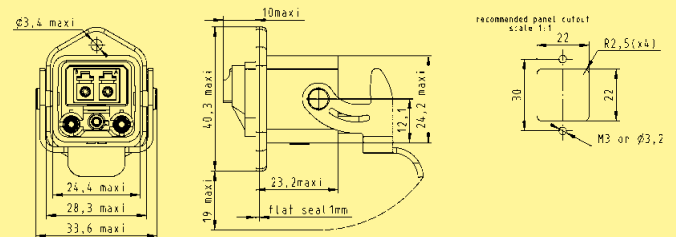
| | |
|----------------------|-------------------------------------|
| Degree of protection | IP 65 / IP 67 |
| Temperature range | -40 °C ... +70 °C |
| Data | |
| Mating module | LC duplex (2 fibres) |
| Cable diameter | 6.0 ... 9.0 mm |
| Power | |
| Number of contacts | 3 (AC: L1, PE, N / DC: V+, 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

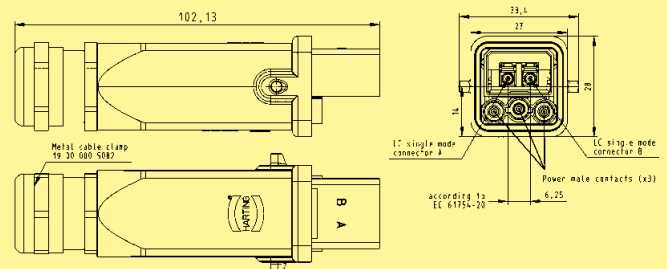
| | | |
|----------------------|----|--------------------|
| Data: Multimode GOF | AC | 09 57 568 0500 000 |
| | DC | 09 57 568 0510 000 |
| Data: Singlemode GOF | AC | 09 57 568 0501 000 |
| | DC | 09 57 568 0511 000 |



Connector

Power: 3x Han D® female contacts

| | | |
|----------------------|----|--------------------|
| Data: Multimode GOF | AC | 09 57 508 0500 000 |
| | DC | 09 57 508 0510 000 |
| Data: Singlemode GOF | AC | 09 57 508 0501 000 |
| | DC | 09 57 508 0511 000 |



Han



LC duplex IP 20 adapter for device integration

Advantages

- Small form factor (compared to SC and ST®)
- Compact, space-saving Design
- High packing density
- A & B parts identification according to TIA 568 standard
- Complement adapter for IP 67 connector on device side

Technical characteristics

| | |
|----------------------|---------------------------|
| Degree of protection | IP 20 |
| Mating interface | LC duplex with two fibres |
| Temperature range | -40 °C ... +70 °C |

| Identification | Part No. | Drawing | Dimensions in mm | | | | | | | | | | | | | | | |
|---|--|---------|--|--|------|------|---|-------|-------|---|------|------|---|-------|-------|---|-------|-------|
| Device side Adapter Multimode GOF Singlemode GOF | 09 57 400 0003 000 09 57 400 0004 000 | | <table border="1"> <thead> <tr> <th></th> <th>min.</th> <th>max.</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>26.60</td> <td>26.80</td> </tr> <tr> <td>H</td> <td>9.35</td> <td>9.45</td> </tr> <tr> <td>J</td> <td>12.80</td> <td>12.90</td> </tr> <tr> <td>K</td> <td>15.24</td> <td>15.34</td> </tr> </tbody> </table> | | min. | max. | G | 26.60 | 26.80 | H | 9.35 | 9.45 | J | 12.80 | 12.90 | K | 15.24 | 15.34 |
| | min. | max. | | | | | | | | | | | | | | | | |
| G | 26.60 | 26.80 | | | | | | | | | | | | | | | | |
| H | 9.35 | 9.45 | | | | | | | | | | | | | | | | |
| J | 12.80 | 12.90 | | | | | | | | | | | | | | | | |
| K | 15.24 | 15.34 | | | | | | | | | | | | | | | | |
| Connector LC duplex Multimode GOF Singlemode GOF | 09 57 400 0001 000 09 57 400 0002 000 | | | | | | | | | | | | | | | | | |



Han® 3 A RJ45, Hybrid

General information

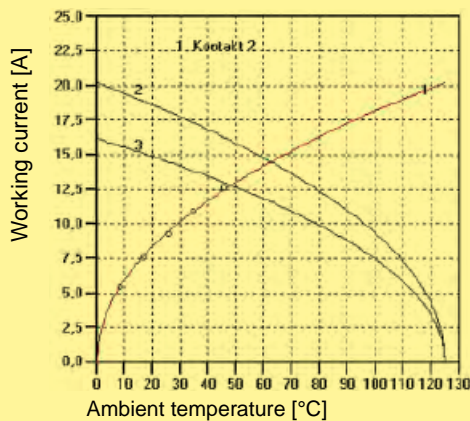
With the RJ Industrial Hybrid connector, HARTING has developed an interface solution that integrates the data lines and the power supply into one connector for hybrid Ethernet networks. The connector's geometry nevertheless maintains a clear separation between the data and the power contacts. This brings 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 mm² to be connected.

Current carrying capacity „Power contacts“

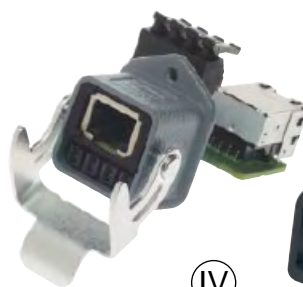
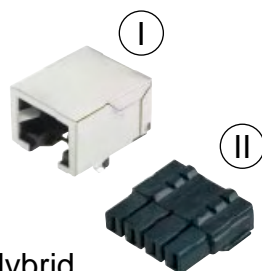


- 1 Temperature rise
- 2 Derating
- 3 Derating curve at $I_{max} * 0.8$ (DIN IEC 512)

Technical characteristics

| | |
|-------------------------------------|--|
| Connector | |
| 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 ... +70 °C |
| Housing material | |
| Plastic version | UL 94 V-0, black |
| Metal version | Zinc die-cast, grey |
| Mating cycles | min. 500 |
| Mounting | field-assembly |
| Data Cat. 5, 4-poles | |
| Transmission performance | |
| | Category 5 / Class D up to 100 MHz acc. to ISO/IEC 11 801:2002, prEN 50 173-1 |
| Transmission rate | 10/100 Mbit/s |
| Cable diameter | |
| stranded | AWG 24/7 - AWG 22/7 |
| solid | AWG 23/1 - AWG 22/1 |
| Data Cat. 6, 8-poles | |
| Transmission performance | |
| | Category 6 / Class EA up to 500 MHz acc. to ISO/IEC 11 801:2002, prEN 50 173-1 |
| Transmission rate | 10/100 Mbit/s / 1 Gbit/s |
| Cable diameter | |
| stranded / solid | AWG 27 - AWG 22 |
| Both, data Cat. 5 and Cat. 6 | |
| Shielding | fully shielded, 360° shielding contact |
| Cable outer diameter | 10.0 mm – 11.0 mm |
| Power | |
| Number of contacts | 4 for cable diameter 1.5 mm ² stranded |
| Working voltage | 48 V |
| Working current | 16 A, see current carrying capacity |
| | UL approved (E102079) |
| Panel feed-through | |
| 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 ² |

Han® 3 A RJ45 Hybrid



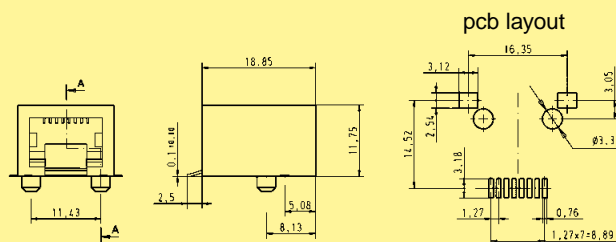
Han® 3 A, Hybrid,
components device side
panel feed-throughs

Identification Part No. Drawing Dimensions in mm

RJ45 female
for direct device integration
solder variant SMD
90° angled

(I)

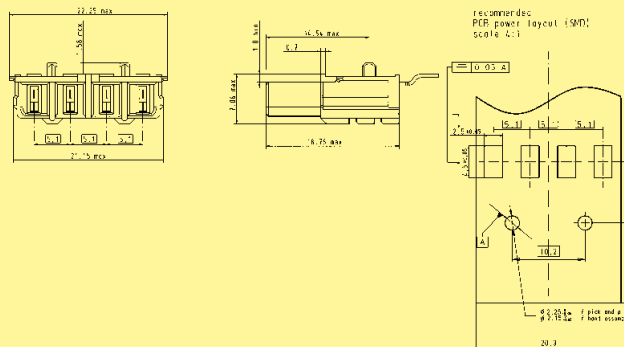
09 45 551 1100¹⁾
09 45 551 1110²⁾



Power module with 4 contacts
for direct device integration

(II)

09 45 525 0040

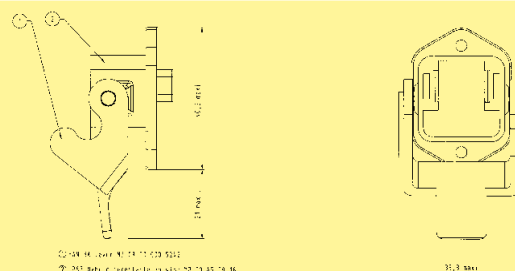


Housing bulkhead mounting separate
incl. flat seal
for direct device integration

Plastic version, black
Metal version Standard, grey

(III)

09 45 525 0021
10 12 005 1004



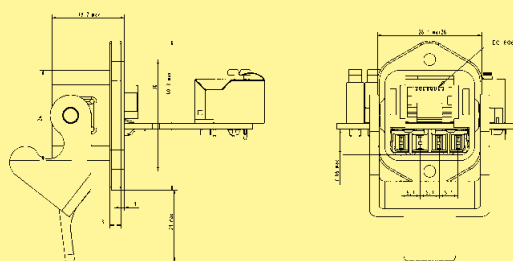
Dimensions valid for plastic version

Panel feed-through set
incl. housing bulkhead mounting
and instruction manual

Plastic version, black
Metal version Standard, grey
Metal version M, black

(IV)

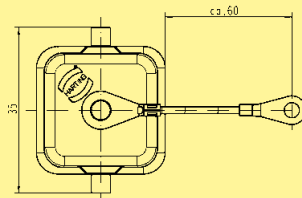
09 45 225 1300
10 12 005 1002
09 45 215 1301



Protection cover for panel feed-through
IP 65 / IP 67

Plastic version, black
Metal version Standard, grey
Metal version M, black

09 20 003 5449
09 20 003 5425
09 37 003 5405



Han

1) Packaging: Blister à 120 pieces
2) Packaging: Tape & Reel à 130 pieces
Technical characteristics and general informations see page 04.15

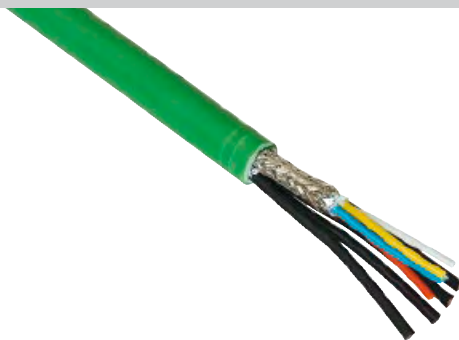
Han® 3 A RJ45 Hybrid



Han® 3 A RJ45, Hybrid

| Identification | Part No. | Drawing | Dimensions in mm |
|--|----------------|---------|------------------|
| <p>Connector, Cat. 5, 4 + 4-poles (IDC termination for RJ45 insert)</p> <p>Plastic version, black</p> | 09 45 125 1300 | | |
| <p>Metal version Standard, grey</p> | 10 12 005 2001 | | |
| <p>Connector, Cat. 6, 8 + 4-poles (IDC termination for RJ45 insert)</p> <p>Plastic version, black</p> | 09 45 125 1760 | | |
| <p>Metal version Standard, grey</p> | 09 45 115 1760 | | |
| <p>Connector insert for Han® 3 A housings</p> | 09 45 100 1760 | | |
| <p>New Cat. 6_A version with piercing connection AWG 28/7 - 24/7 (available Q3/2012)</p> | 09 45 100 1720 | | |
| <p>Protection cover for connector IP 65 / IP 67 without seal</p> <p>Plastic version, black</p> | 09 20 003 5442 | | |
| <p>Metal version Standard, grey</p> | 09 20 003 5422 | | |
| <p>Metal version M</p> | 09 37 003 5402 | | |

Dimensions valid for plastic version



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

Advantages

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

Technical characteristics

| | |
|--------------------------|---|
| Cable construction | Star quad + 4 Power cables, double shielded |
| Core structure | 4 x AWG 22/7 + 4 x 1.5 mm ² (conductor 84 x 0.15 mm ²) |
| Sheath material | FRNC |
| Cable outer diameter | 9.7 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 ... +70 °C |
| Standard lengths | 10 m / 20 m / 50 m / 100 m |
| Colour | green |

Identification

Part No.

Drawing

Dimensions in mm

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

- 10 m ring
- 20 m ring
- 50 m ring
- 100 m ring
- 500 m reel

- 09 45 600 0310
- 09 45 600 0330
- 09 45 600 0340
- 09 45 600 0300
- 09 45 600 0320





Industrial Cat. 6 Hybrid
Installation cable, 8-wire

Advantages

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

Technical characteristics

| | |
|-----------------------------|--|
| Cable structure | 4 x 2, Twisted Pair, shielded, PIMF 4 power cores |
| Core structure | 4 x 2 x AWG 28/7, stranded 4x 84 * 0.15 mm (cord 1.5 mm ²), stranded |
| Sheath material | PUR |
| Cable sheath diameter | 10 ... 10.6 mm |
| Transmission performance | Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1 |
| Transmission rate | 10/100/1000 Mbit/s |
| Shielding | Paired shielded with additional cable shield |
| Operating temperature range | -20 °C ... +80 °C |
| Supply lengths | 20 m / 50 m / 100 m other lengths on request |
| Colour | black |

Identification

Part No.

Drawing

Dimensions in mm

Industrial Cat. 6 Hybrid
installation cable,
8-wire
PUR

20 m ring
50 m ring
100 m drum

09 45 600 0332
09 45 600 0342
09 45 600 0302



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 mm²
- 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 mm²

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

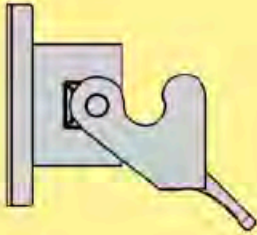
- Insert for all Han® 3 A hoods and housings
- Hood with glued sealing
- Simple and low-cost termination via insert of a patch cable
- Strain-relief via cable tie
- Compatible to IEEE 1394

* 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

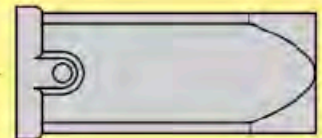
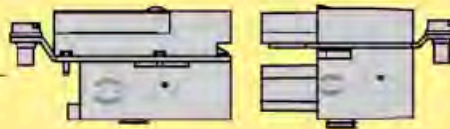


Device side
 09 12 006 2611
 09 12 006 2695
 09 12 006 2694

Cable side
 09 12 006 3111

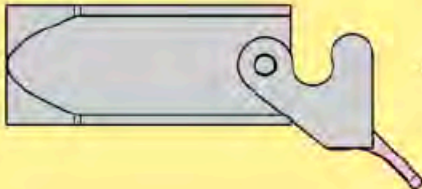
Thermoplastic
 09 20 003 0423 (light grey)
 09 20 003 0426 (black)
 19 20 003 0423 (light grey)
 19 20 003 0427 (black)

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

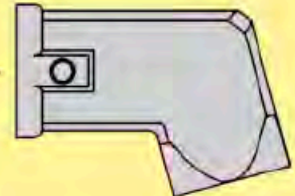


Device side
 09 12 006 2701
 09 12 006 2795
 09 12 006 2794

Cable side
 09 12 006 3001

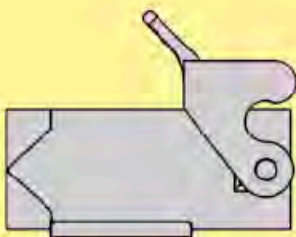
Thermoplastic
 09 20 003 0623 (light grey)
 09 20 003 0626 (black)
 19 20 003 0623 (light grey)
 19 20 003 0627 (black)

Metal
 09 20 003 1643
 19 20 003 1643

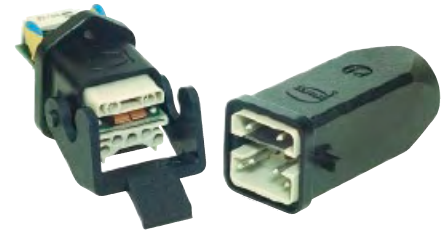



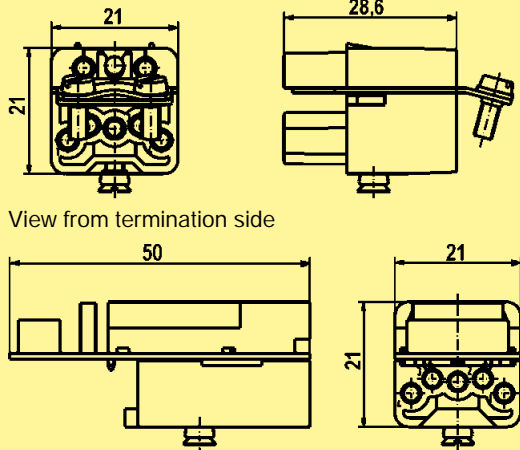


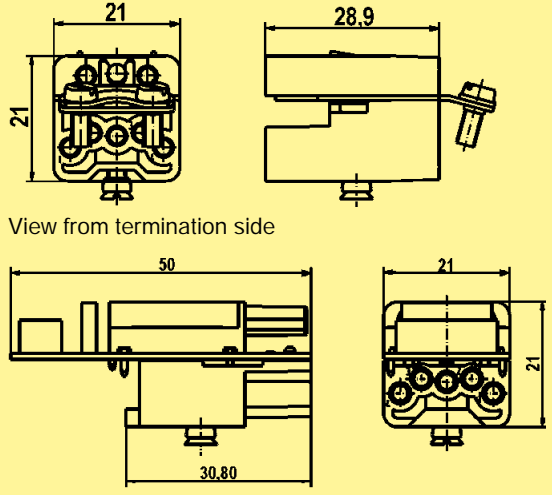

Thermoplastic
 09 20 003 0220 (light grey)
 09 20 003 0227 (light grey)
 19 20 003 0220 (light grey)
 19 20 003 0227 (black)

Metal
 09 20 003 1250
 19 20 003 1250


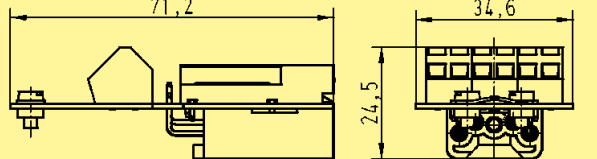
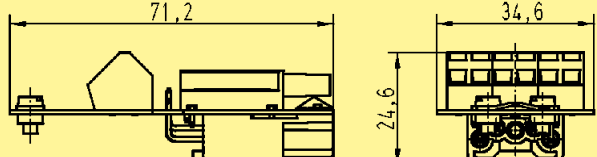

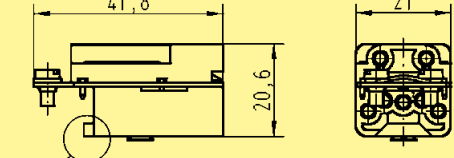
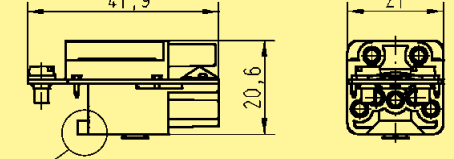


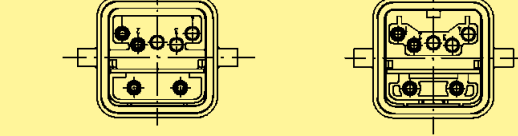


Hybrid field bus connector
for shielded twisted pair
+ 4 electrical contacts 10 A
+ option for PE

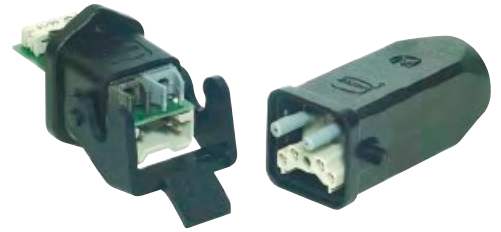


| Identification | Part No. | | Drawing | Dimensions in mm |
|--|---|---|--|------------------|
| | Male insert (M) | Female insert (F) | | |
| <p>Cable side Female insert</p>  | 09 12 006 3111 | |  <p>View from termination side</p> | |
| <p>Device side Male insert</p>  | <p>09 12 006 2611</p> <p>Also available as single part</p> <p>loaded 09 12 002 2611 unloaded 09 12 002 3011</p> | <p>Also available as single part</p> <p>unloaded 09 12 004 3011</p> | | |
| <p>Cable side Male insert</p>  | 09 12 006 3001 | |  <p>View from termination side</p> | |
| <p>Device side Female insert</p>  | <p>09 12 006 2701</p> <p>Also available as single part</p> <p>loaded 09 12 002 2701 unloaded 09 12 002 3101</p> | <p>Also available as single part</p> <p>unloaded 09 12 004 3101</p> | | |

Han

| Identification | Part No. | | Drawing | Dimensions in mm |
|--|-----------------------|-----------------------|--|------------------|
| | Male insert (M) | Female insert (F) | | |
| <p>Panel feed through with cage clamp</p>  | 09 12 006 2695 | |  | |
| | | 09 12 006 2795 |  | |
| <p>Coupling / Panel feed through</p>  <p>X = Cutting off the fin allows the use in cable to cable housings</p> | 09 12 006 2694 | |  | |
| | | 09 12 006 2794 |  | |
| <p>Bus terminator</p> <p>Plastic hoods/housings</p>  <p>Hoods/Housings, metal</p>  | 09 12 006 2691 | |  | |
| | | 09 12 006 2791 | | |
| | 09 12 006 2692 | | | |
| | | 09 12 006 2792 | | |

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




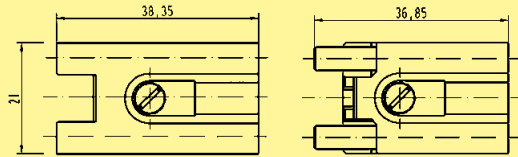

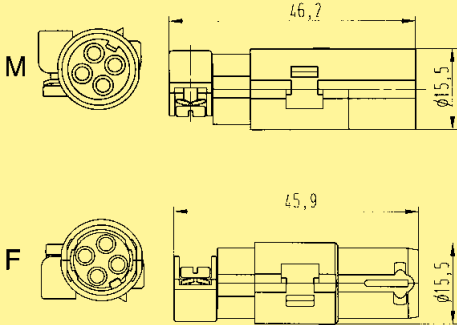
| Identification | Part No. | | Drawing | Dimensions in mm |
|--|---|---|-----------------------------------|------------------|
| | Male insert (M) | Female insert (F) | | |
| <p>Cable side F.O. (m) + Han D® (f)</p> | <p>Also available as single part</p> <p>for POF 09 12 004 2711</p> <p>for POF crimpless 09 12 004 2713</p> <p>for HCS®* fibre 09 12 004 2716</p> | <p>Also available as single part</p> <p>for POF 09 12 004 3111</p> <p>for POF crimpless 09 12 004 3113</p> <p>for HCS®* fibre 09 12 004 3116</p> | <p>View from termination side</p> | |
| <p>Device side F.O. (f) + Han D® (m)</p> | <p>for POF 09 12 004 2611</p> <p>for POF crimpless 09 12 004 2611</p> <p>for HCS®* fibre 09 12 004 2611</p> | <p>for POF 09 12 004 3011</p> <p>for POF crimpless 09 12 004 3011</p> <p>for HCS®* fibre 09 12 004 3011</p> | <p>View from termination side</p> | |
| <p>Cable side F.O. (m) + Han D® (m)</p> | <p>Also available as single part</p> <p>for POF 09 12 004 2601</p> <p>for POF crimpless 09 12 004 2603</p> <p>for HCS®* fibre 09 12 004 2606</p> | <p>Also available as single part</p> <p>for POF 09 12 004 3001</p> <p>for POF crimpless 09 12 004 3003</p> <p>for HCS®* fibre 09 12 004 3006</p> | <p>View from termination side</p> | |
| <p>Device side F.O. (f) + Han D® (f)</p> | <p>for POF 09 12 004 2701</p> <p>for POF crimpless 09 12 004 2701</p> <p>for HCS®* fibre 09 12 004 2701</p> | <p>for POF 09 12 004 3101</p> <p>for POF crimpless 09 12 004 3101</p> <p>for HCS®* fibre 09 12 004 3101</p> | <p>View from termination side</p> | |

Han

* 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

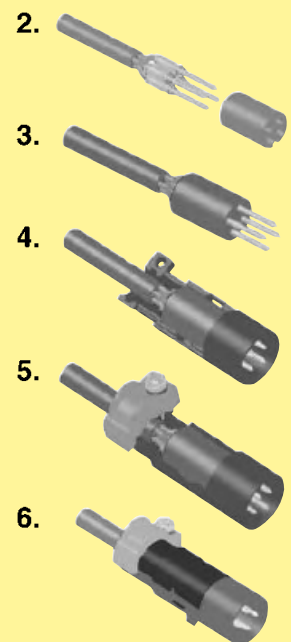
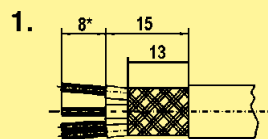


| Identification | Part No. | | Drawing | Dimensions in mm |
|--|-----------------------|-----------------------|---|------------------|
| | Male insert (M) | Female insert (F) | | |
| Quintax insert  | 09 15 003 3001 | 09 15 003 3101 |  | |
| Quintax contacts Zinc alloy Order crimp contacts separately  Special clamp for cable diameter 3 - 6 and 6 - 9.5 mm included in delivery range | 09 15 004 3013 | 09 15 004 3113 |  | |

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.





Hybrid network connector
+ 2 electrical contacts 10 A

Identification

Part No.

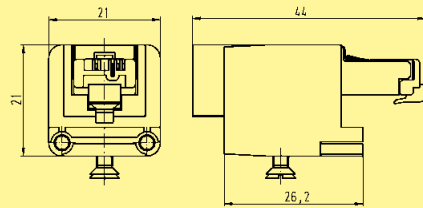
Drawing

Dimensions in mm

Han-Brid® RJ45 C
with RJ Industrial



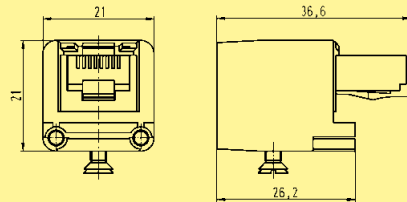
09 12 003 3011



Han-Brid® RJ45 C
with Stewart RJ45



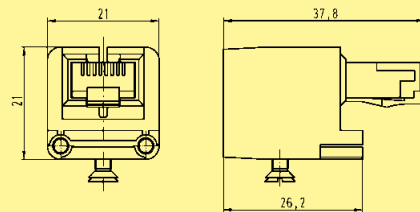
09 12 003 3021



Han-Brid® RJ45 C
with HIROSE RJ45



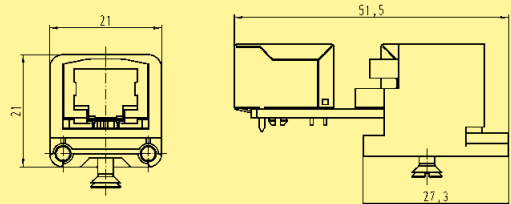
09 12 003 3031



Panel feed through
straight



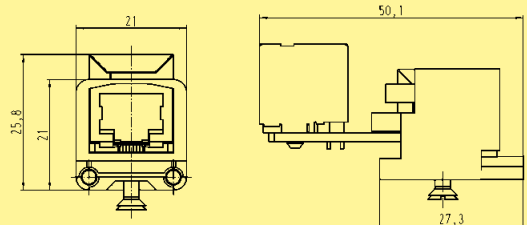
09 12 003 2774



Panel feed through
angled



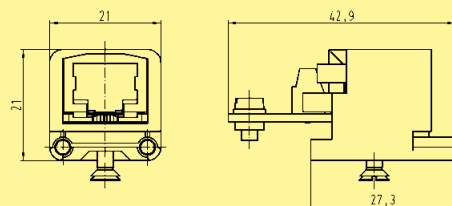
09 12 003 2776



Panel feed through
with 4-pole terminal block



09 12 003 2770



Han-Brid® USB

Features

- 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

Technical characteristics

USB style A, 2.0 Standard

| | |
|--|-------------------------------|
| Specifications | DIN VDE 0110 DIN EN 61 984 |
| 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 |
| Material | Polycarbonate |
| Insulation resistance | ≥ 10 ¹⁰ Ω |
| Contact resistance | ≥ 4 mΩ |
| Temperature range | -40 °C ... 85 °C |
| Flammability acc. to UL 94 | V 0 |
| Mechanical working life - mating cycles | ≥ 500 |

Han-Brid® FireWire

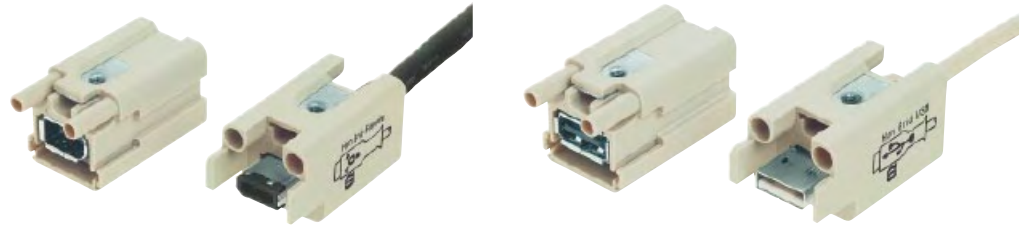
Features

- 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

Technical characteristics

Firewire IEEE 1394

| | |
|--|-------------------------------|
| Specifications | DIN VDE 0110 DIN EN 61 984 |
| 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 |
| Material | Polycarbonate |
| Insulation resistance | ≥ 10 ¹⁰ Ω |
| Contact resistance | ≥ 4 mΩ |
| Temperature range | -40 °C ... 85 °C |
| Flammability acc. to UL 94 | V 0 |
| Mechanical working life - mating cycles | ≥ 500 |



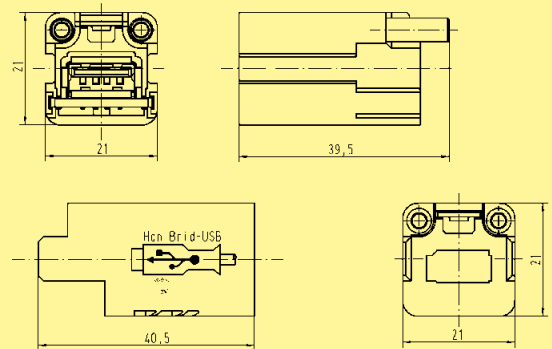
| Identification | Part No. | | Drawing | Dimensions in mm |
|----------------|-----------------|-------------------|---------|------------------|
| | Male insert (M) | Female insert (F) | | |

Han-Brid® USB



09 12 001 2794

09 12 001 3091

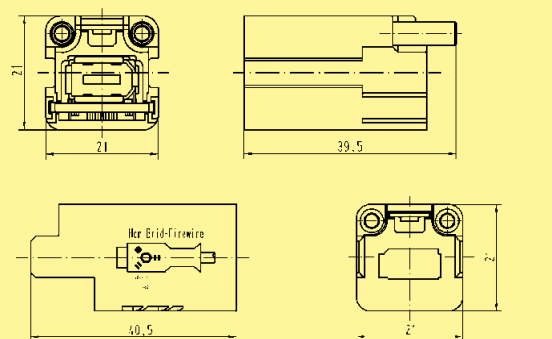


Han-Brid® FireWire



09 12 001 2774

09 12 001 3071



Han



Han

Device side

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

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

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

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

Cable side

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

Features

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

Technical characteristics

Approvals



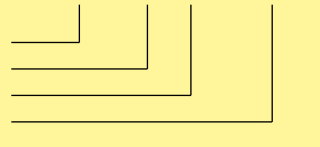
Inserts

Number of contacts 5

Electrical data acc. to DIN EN 61 984

10 A 230/400 V 4 kV 3

Working current
 Working voltage conductor – ground
 Working voltage conductor – conductor
 Rated impulse voltage
 Pollution degree

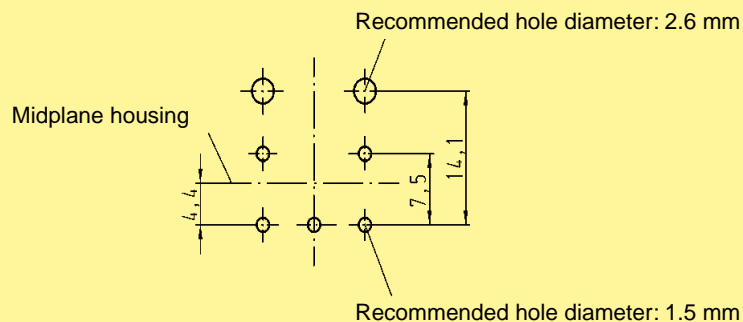


- pollution degree 2 also 10 A 320/500 V 4 kV 2

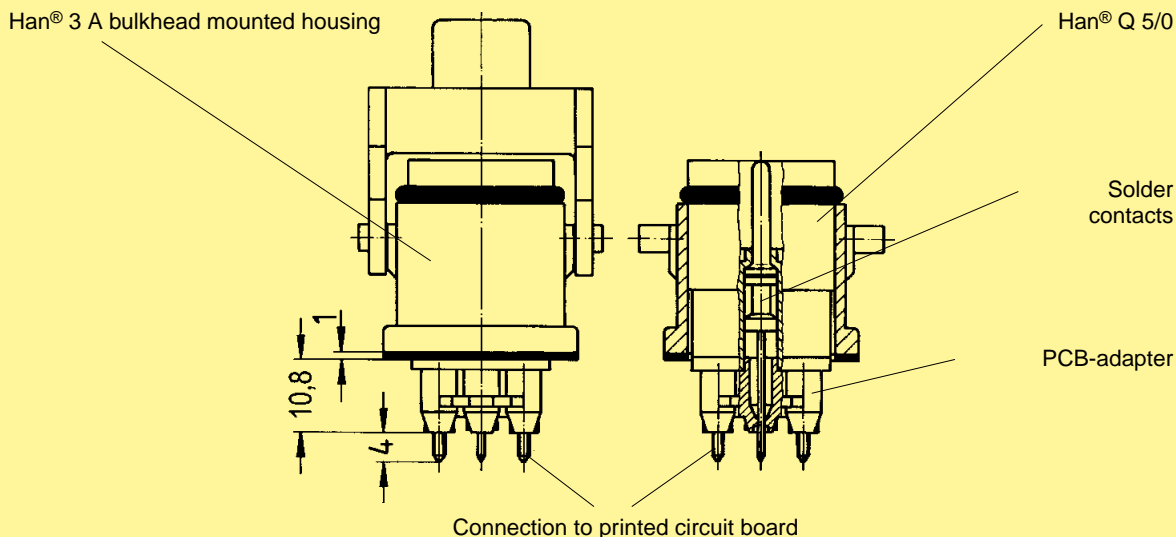
Working voltage acc. to UL/CSA 400 V

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

Layout of printed circuit boards



Assembly situation





Han

Device side

Cable side

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

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

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

| Housing | bulkead mounting | Part No. | Drawing | Dimensions in mm |
|---------|------------------|-----------------------|---------------------------------|------------------|
| | | 09 20 003 0301 | Panel cut out 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



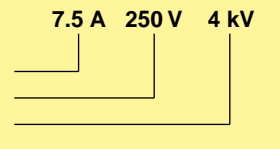
Inserts

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

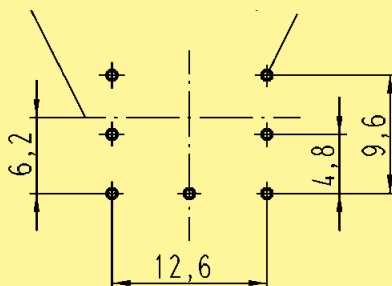


Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures $-40 \text{ °C} \dots +125 \text{ °C}$
Flammability acc. to UL 94 V 0
Mechanical working life
- Mating cycles ≥ 500

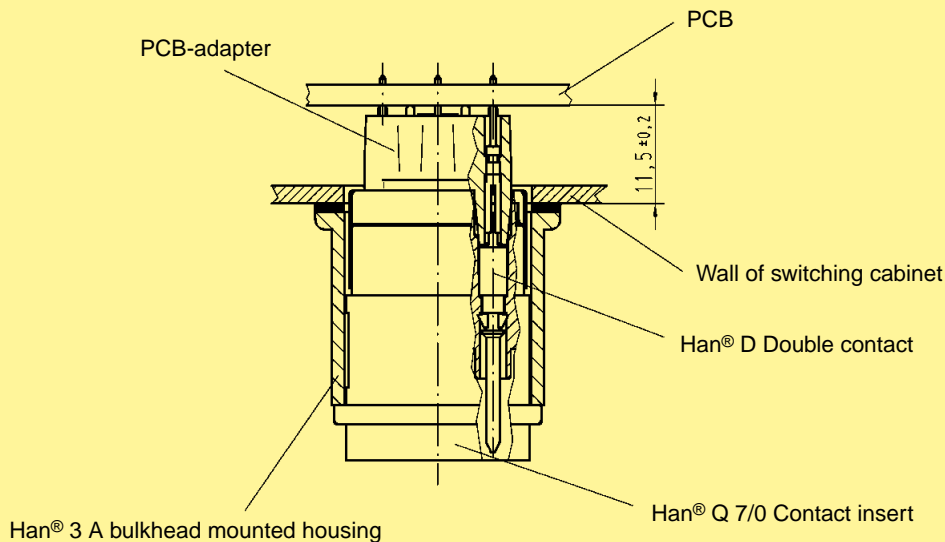
Layout of printed circuit boards

Midplane housing

Recommended hole diameter: 0.8 mm



Assembly situation



| Identification | | Part No. | M | Drawing | Dimensions in mm |
|--------------------------------|--|--|----|---------|------------------|
| Hoods | Hood side-entry | 19 20 003 1640 | 20 | | |
| | Hood top-entry | 19 20 003 1440 | 20 | | |
| | Protection covers for hoods | 09 20 003 5422¹⁾ 09 20 003 5421²⁾ | | | |
| Housings | Housings bulkhead mounting | 09 20 003 0301 | | | |
| | with fixed cover | 09 20 003 0305¹⁾ | | | |
| | without sealing | 09 20 003 0306²⁾ | | | |
| | with sealing | 09 20 003 0801 | | | |
| | Housing surface mounting | | | | |
| | 1 side-entry | 19 20 003 1250 | 20 | | |
| | bottom closed | 19 20 003 1252 | 20 | | |
| Housing screw mounting | 19 20 003 1150 | 20 | | | |
| Hood cable to cable | 19 20 003 1750 | 20 | | | |
| Protection covers for housings | 09 20 003 5426¹⁾ 09 20 003 5425²⁾ | | | | |
| for hoods cable to cable | 09 20 003 5428¹⁾ 09 20 003 5427²⁾ | | | | |

Han

¹⁾ for mounted male insert
²⁾ for mounted female insert

Stock items in bold type


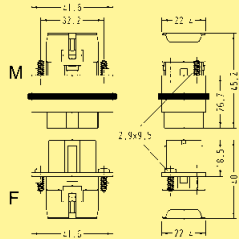
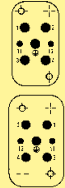
| Identification | | Part No. | M | Drawing | Dimensions in mm | | | |
|----------------|--------------------------------|---|---|---------|------------------|--|--|--|
| Hoods | Hoods side-entry | grey 19 20 003 0620 black 19 20 003 0627 | 20 20 | | | | | |
| | Hoods top-entry | grey 19 20 003 0420 black 19 20 003 0427 | 20 20 | | | | | |
| | Protection covers for hoods | 09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾ | | | | | | |
| Housings | Housings bulkhead mounting | grey 09 20 003 0320 black 09 20 003 0327 | — — | | | | | |
| | | grey 09 20 003 0820 black 09 20 003 0827 | — — | | | | | |
| | | Housings surface mounting 1 side-entry | grey 19 20 003 0220 black 19 20 003 0227 | | | 20 20 | | |
| | | | Hoods cable to cable | | | grey 19 20 003 0720 black 19 20 003 0727 | | |
| | Protection covers for housings | A 09 20 003 5407 ¹⁾ 09 20 003 5408²⁾ B 09 20 003 5445²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾ C 09 20 003 5448 ¹⁾ 09 20 003 5449 ²⁾ | | | | | | |


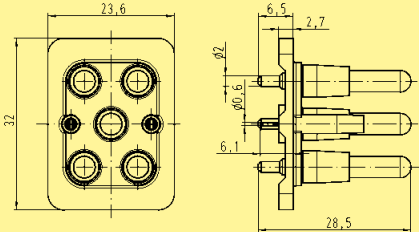
Han

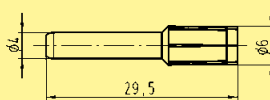
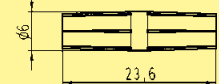
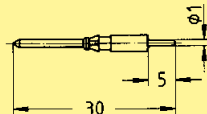
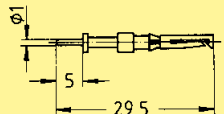
1) for mounted male insert
2) for mounted female or Han-Brid® insert
3) for metal housings and cable to cable hoods also


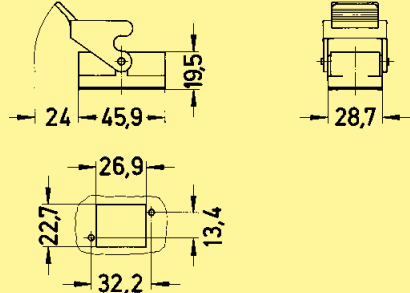
Stock items in bold type



| Insert | Part No. | | Drawing | Dimensions in mm |
|---|-----------------------|-----------------------|--|---|
| | Male insert (M) | Female insert (F) | | |
| Order contacts separately | | | | |
|  | 09 12 006 3041 | 09 12 006 3141 |  | Contact arrangement View from termination side  |

| PCB-adapter | Part No. | Drawing | Dimensions in mm |
|---|-----------------------|---|------------------|
| for PCBs up to 2.4 mm | | | |
|  | 09 12 006 9901 |  | |

| Han® Q 4/2 double contacts | Part No. | | Drawing | Dimensions in mm |
|----------------------------|-----------------------|-----------------------|--|---|
| | Male contact | Female contact | | |
| to connect the PCB adapter | | | | |
| Power contact | 09 32 000 6180 | 09 32 000 6280 |  |  |
| Signal contact | 09 15 000 6191 | 09 15 000 6293 |  |  |

| 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

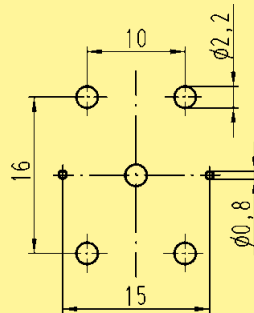
Features

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

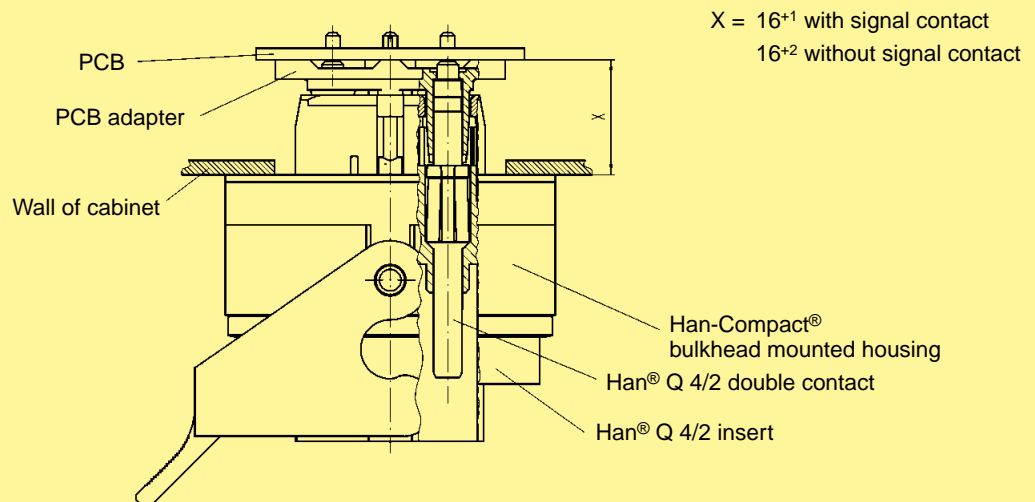
Technical characteristics

| | |
|--|--------------------------|
| Approvals | |
| Number of contacts | 4/2 + PE |
| Electrical data acc. to 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 | ≥ 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 | | <p>Contact arrangement View from termination side</p> |

| 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 to connect the PCB adapter | Part No. | | Drawing | Dimensions in mm |
|--|-----------------------|-----------------------|---------|------------------|
| | Male contact | Female contact | | |
| | 09 33 000 6180 | 09 33 000 6280 | | |

| Housing | Part No. | Drawing | Dimensions in mm |
|-----------------------------|-----------------------|-------------------|------------------|
| bulkead mounting Plastic | 09 12 008 0327 | Panel cut out | |

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

Stock items in bold type

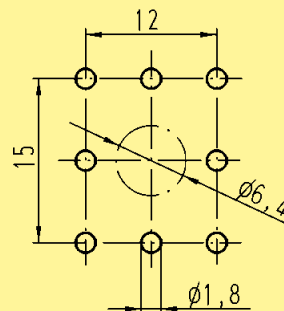
Features

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

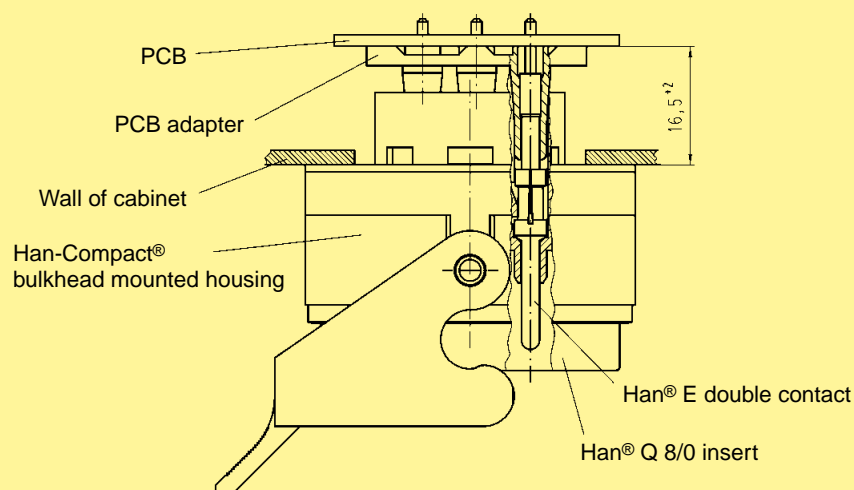
Technical characteristics

| | |
|--|--------------------------|
| Approvals | |
| Number of contacts | 8 |
| Electrical data acc. to 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 | 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 | ≥ 500 mating cycles |

Layout of printed circuit boards



Assembly situation



thermoplastic / metal

Identification

Part No.

Drawing

Dimensions in mm

Hoods

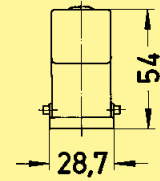
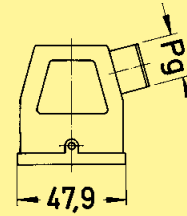
Hoods

Thermoplastic
side-entry
Cable gland order separately



09 12 008 0527

Pg 16



Han

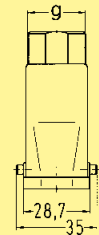
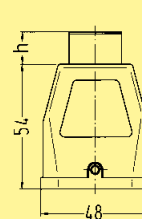
Hoods

Thermoplastic
top-entry
Cable gland order separately



19 12 008 0429
09 12 008 0427
09 12 008 0429

M 25
Pg 16
Pg 21



| h | g |
|----|----------|
| 14 | M 25x1.5 |
| 13 | Pg 16 |
| 13 | Pg 21 |

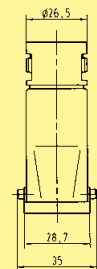
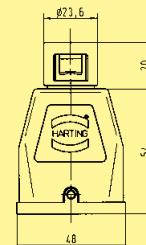
Hoods

Thermoplastic
top-entry
Cable gland order separately



09 12 008 0428

Pg 16



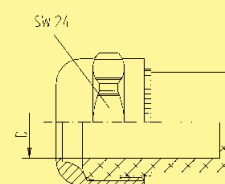
Cable seal

Thermoplastic
for hoods
Thrust bolt and insert




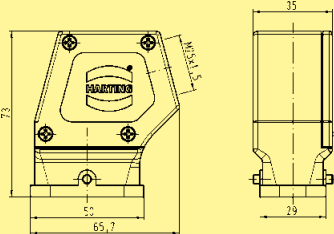

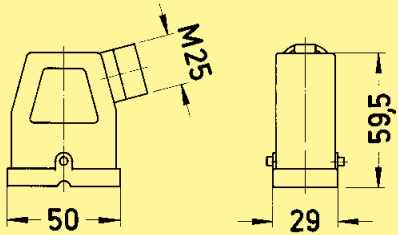

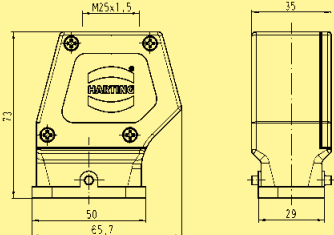

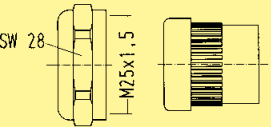
09 00 000 5059
19 12 000 5157
19 12 000 5158
09 00 000 5157
09 00 000 5158


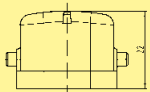
Pg 16
M 25
M 25
Pg 21
Pg 21



| | cable | |
|----------------|---------|---------|
| | min. | max. |
| 09 00 000 5059 | 11.5 mm | 15.5 mm |
| 19 12 000 5157 | 10.5 mm | 14 mm |
| 19 12 000 5158 | 14 mm | 17 mm |
| 09 00 000 5157 | 14 mm | 18 mm |
| 09 00 000 5158 | 17 mm | 20.5 mm |


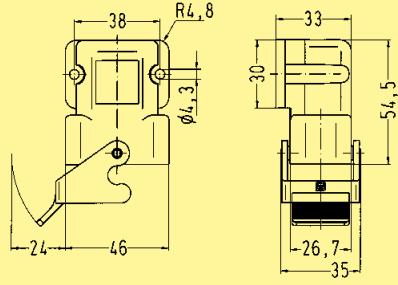

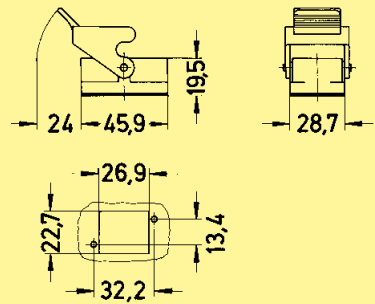

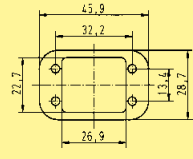

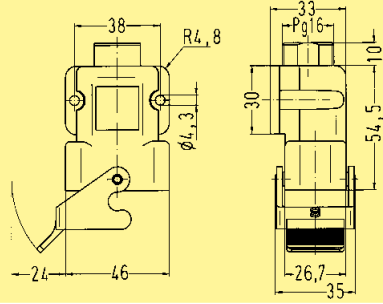

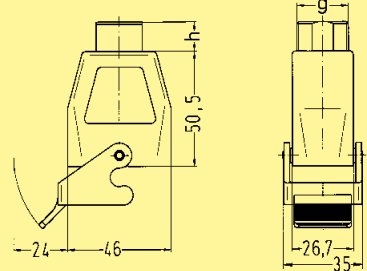
thermoplastic / metal

| Identification | Part No. | Drawing | Dimensions in mm | | | | | | | | | | | |
|---|---|----------------------|---|--|-------|--|------|------|-----------------------|---------|-------|-----------------------|-------|-------|
| <p>Hoods</p> <p>Hoods</p> <p>Metal side-entry</p> <p>Cable gland order separately</p>  | 19 12 008 0526 | M 25 |  | | | | | | | | | | | |
| <p>Hoods</p> <p>Metal side-entry</p> <p>Cable gland order separately</p>  | <p>black chromated 19 12 008 0501</p> <p>black powder coated 19 12 708 0501</p> <p>matt nickel plated 19 12 008 0502</p> | M 25 M 25 M 25 |  | | | | | | | | | | | |
| <p>Hoods</p> <p>Metal top-entry</p> <p>Cable gland order separately</p>  | 19 12 008 0426 | M 25 |  | | | | | | | | | | | |
| <p>Cable seal</p> <p>Metal for hoods</p> <p>Thrust bolt and insert</p>  | <p>19 12 000 5057</p> <p>19 12 000 5058</p> | M 25 M 25 |  <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 | | | | | | | | | | | | |


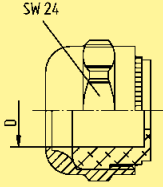

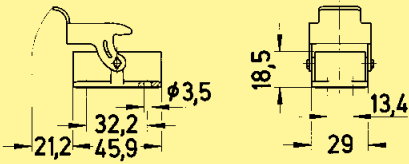
| Identification | Part No. | | Drawing | Dimensions in mm |
|---|--|---|---|------------------|
| | for male insert | for female insert | | |
| <p>Protection covers</p> <p>Thermoplastic for male insert</p>  | <p>without sealing 09 12 008 5407</p> | <p>with sealing 09 12 008 5408</p> |  | |

Han

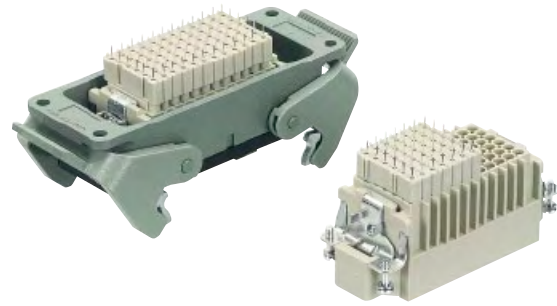
thermoplastic / metal

| Identification | Part No. | Drawing | Dimensions in mm | | | | | | |
|---|--|---------------|--|---|---|----|-------|----|----------|
| <p>Housings</p> <p>Housings, bulkhead mounting</p> <p>Thermoplastic angled</p>  | 09 12 008 0902 | Pg 16 |  | | | | | | |
| <p>Housings, bulkhead mounting</p> <p>Thermoplastic</p>  | 09 12 008 0327 | Pg 16 |  | | | | | | |
| <p>Gasket for housings bulkhead mounting</p> <p>Han® Q 8/0</p>  | 09 12 000 9912 | |  | | | | | | |
| <p>Housings, surface mounting</p> <p>Thermoplastic angled</p> <p>Cable gland order separately</p>  | 09 12 008 0901 | Pg 16 |  | | | | | | |
| <p>Hoods, cable to cable</p> <p>Thermoplastic</p> <p>Cable gland order separately</p>  | 09 12 008 0727 19 12 008 0729 | Pg 16 M 25 |  <table border="1" data-bbox="973 1960 1165 2060"> <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 | | | | | | | | |

thermoplastic / metal

| Identification | Part No. | Drawing | Dimensions in mm | | | | | | | | |
|---|---|--------------|---|----------------|-------|--|------|------|--|---------|---------|
| <p>Housings</p> <p>Cable seal</p> <p>Thermoplastic for housings</p> <p>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">09 00 000 5058</th> <th colspan="2">cable</th> </tr> <tr> <th>min.</th> <th>max.</th> </tr> </thead> <tbody> <tr> <td></td> <td>11.5 mm</td> <td>15.5 mm</td> </tr> </tbody> </table> | 09 00 000 5058 | cable | | min. | max. | | 11.5 mm | 15.5 mm |
| 09 00 000 5058 | cable | | | | | | | | | | |
| | min. | max. | | | | | | | | | |
| | 11.5 mm | 15.5 mm | | | | | | | | | |
| <p>Housings, bulkhead mounting</p> <p>Metal</p>  | <p>black chromated 09 12 008 0301</p> <p>black powder coated 09 12 708 0301</p> <p>matt nickel plated 09 12 008 0303</p> | |  | | | | | | | | |

Han



Han

| Insert | Size | Part No. | | Drawing | Dimensions in mm | | | | | | | | | | | | | | | |
|---------------------------|------|-----------------------|-----------------------|---------|---|--|---|---|-------|----|----|-------|----|----|-------|------|------|--------|-----|-----|
| | | Male insert (M) | Female insert (F) | | | | | | | | | | | | | | | | | |
| Order contacts separately | | | | | <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 [®] 24 DD | 6 B | 09 16 024 3001 | 09 16 024 3101 | | | | | | | | | | | | | | | | | |
| Han [®] 42 DD | 10 B | 09 16 042 3001 | 09 16 042 3101 | | | | | | | | | | | | | | | | | |
| Han [®] 72 DD | 16 B | 09 16 072 3001 | 09 16 072 3101 | | | | | | | | | | | | | | | | | |
| Han [®] 108 DD | 24 B | 09 16 108 3001 | 09 16 108 3101 | | | | | | | | | | | | | | | | | |

| Han DD [®] double contacts to connect the PCB-adapter | Part No. | | Drawing | Dimensions in mm |
|---|-----------------------|-----------------------|---------|------------------|
| | Male contacts | Female contacts | | |
| | 09 15 000 6191 | 09 15 000 6291 | | |

Device side

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

| Housing | Size | Part No. | Drawing | Dimensions in mm | | | | | | | | | | | | | | | | | | | | |
|---------|-----------------------------|--|---------------|--|------|---|---|---------------|-----|----|----|---------|------|----|----|---------|------|-----|-----|---------|------|-----|-----|----------|
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | 6 B 10 B 16 B 24 B | 09 30 006 0301 09 30 010 0301 09 30 016 0301 09 30 024 0301 | | <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[®], chapter DD"

Features

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

Technical characteristics

Approvals



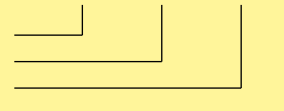
Inserts

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

Polyamide

Limiting temperatures

-40 °C / +125 °C

Flammability acc. to UL 94

HB

Mechanical working life

≥ 500

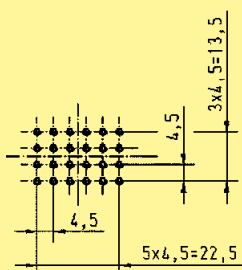
- Mating cycles

Wire gauge

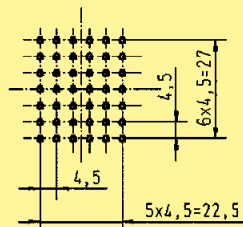
0.14 - 2.5 mm²

Layout of printed circuit boards

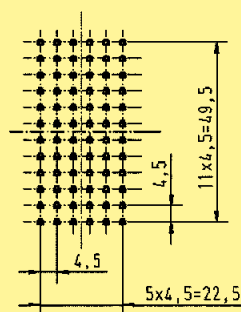
Han[®] 24 DD



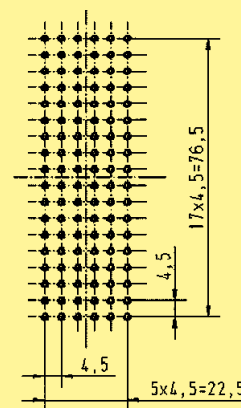
Han[®] 42 DD



Han[®] 72 DD

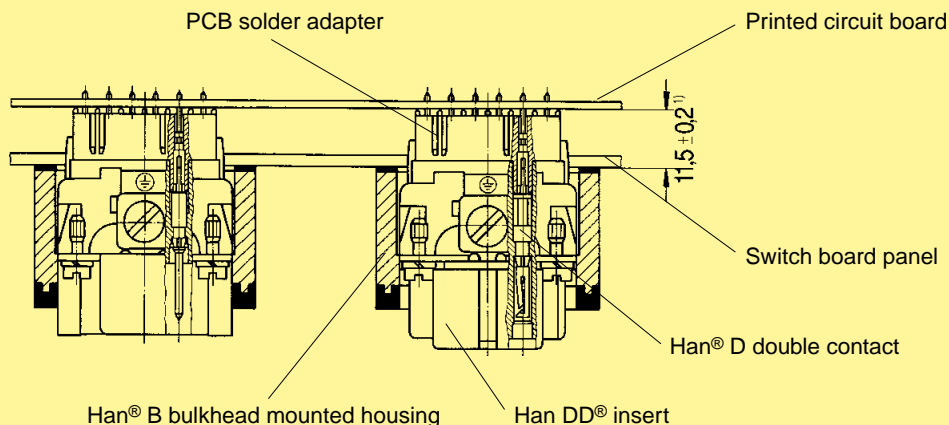


Han[®] 108 DD

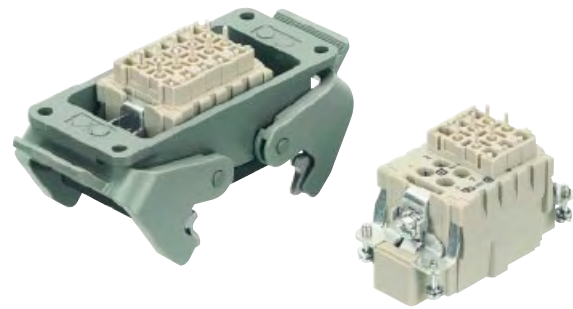


Recommended hole diameter: 0.8 mm

Assembly situation



¹⁾ for Han[®] B EMC hoods/housings spacing of 12.5 ± 0.2 is necessary as no flange seal is used.



Han

Device side

Cable side

| Inserts | Size | Part No. | | Drawing | Dimensions in mm | | | | | | | | | | | | | | | |
|---------------------------|------|-----------------------|-----------------------|---------|---|--|---|---|-----|----|----|------|----|----|------|------|------|------|-----|-----|
| | | Male insert (M) | Female insert (F) | | | | | | | | | | | | | | | | | |
| Order contacts separately | | | | | <table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr> <td>6 E</td> <td>44</td> <td>51</td> </tr> <tr> <td>10 E</td> <td>57</td> <td>64</td> </tr> <tr> <td>16 E</td> <td>77.5</td> <td>84.5</td> </tr> <tr> <td>24 E</td> <td>104</td> <td>111</td> </tr> </tbody> </table> | | a | b | 6 E | 44 | 51 | 10 E | 57 | 64 | 16 E | 77.5 | 84.5 | 24 E | 104 | 111 |
| | a | b | | | | | | | | | | | | | | | | | | |
| 6 E | 44 | 51 | | | | | | | | | | | | | | | | | | |
| 10 E | 57 | 64 | | | | | | | | | | | | | | | | | | |
| 16 E | 77.5 | 84.5 | | | | | | | | | | | | | | | | | | |
| 24 E | 104 | 111 | | | | | | | | | | | | | | | | | | |
| Han [®] 6 E | 6 B | 09 33 006 2602 | 09 33 006 2702 | | | | | | | | | | | | | | | | | |
| Han [®] 10 E | 10 B | 09 33 010 2602 | 09 33 010 2702 | | | | | | | | | | | | | | | | | |
| Han [®] 16 E | 16 B | 09 33 016 2602 | 09 33 016 2702 | | | | | | | | | | | | | | | | | |
| Han [®] 24 E | 24 B | 09 33 024 2602 | 09 33 024 2702 | | | | | | | | | | | | | | | | | |

| Han E [®] double contacts to connect the PCB-adapter | Part No. | | Drawing | Dimensions in mm |
|---|-----------------------|-----------------------|---------|------------------|
| | Male contacts | Female contacts | | |
| | 09 33 000 6180 | 09 33 000 6280 | | |

| PCB adapter | Part No. | Drawing | Dimensions in mm |
|-------------|-----------------------|---------|------------------|
| | 09 33 000 9996 | | |

| Housing | Size | Part No. | Drawing | Dimensions in mm | | | | | | | | | | | | | | | | | | | | |
|---------|-----------------------------|--|---------------|--|------|---|---|---------------|-----|----|----|---------|------|----|----|---------|------|-----|-----|---------|------|-----|-----|----------|
| | 6 B 10 B 16 B 24 B | 09 30 006 0301 09 30 010 0301 09 30 016 0301 09 30 024 0301 | | <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 | | | | | | | | | | | | | | | | | | | | | |

Further informations see HARTING catalogue "Industrial Connectors Han[®], chapter E"

Stock items in bold type

Features

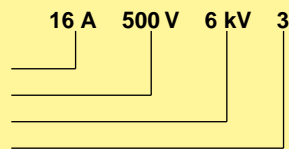
- ❑ Robust design
- ❑ Suitable for standard and EMC housings
- ❑ Low wiring costs
- ❑ Counter connector available with screw, crimp or cage clamp termination

Technical characteristics

Inserts

Number of contacts 6, 10, 16, 24

Electrical data acc. to DIN EN 61 984

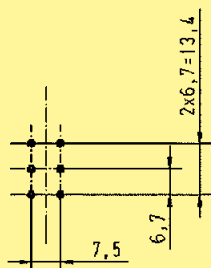


Working current
Working voltage
Rated impulse voltage
Pollution degree

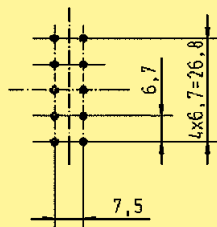
Insulation resistance $\geq 10^{10} \Omega$
Material Polycarbonate
Limiting temperatures $-40 \text{ }^\circ\text{C} / +125 \text{ }^\circ\text{C}$
Flammability acc. to UL 94 V 0
Mechanical working life
- Mating cycles ≥ 500
Wire gauge 0.5 - 4 mm²

Layout of printed circuit boards

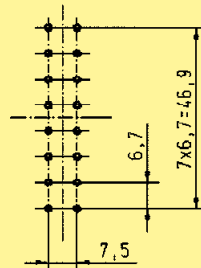
Han[®] 6 E



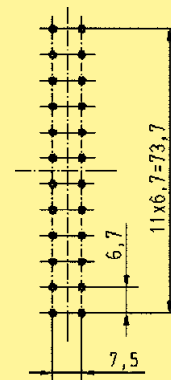
Han[®] 10 E



Han[®] 16 E

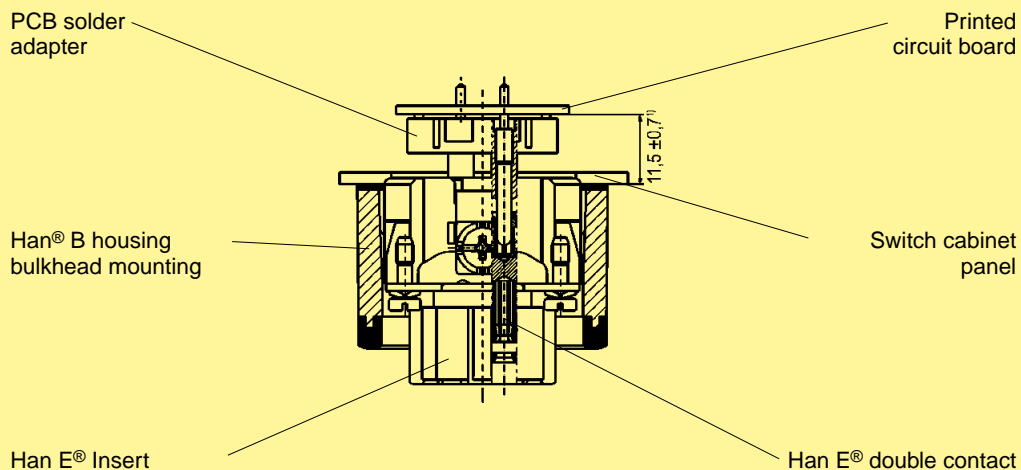


Han[®] 24 E



Recommended hole diameter: 1.8 mm

Assembly situation



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

Han

| Hinged frame | No. of modules | Part No. | | Size | Figure |
|--------------|----------------|-----------------------|-----------------------|------|--|
| | | Male insert (M) | Female insert (F) | | |
| | 1 | 09 14 000 0304 | 09 14 000 0304 | 10 A | Drawings and further details see HARTING catalogue "Industrial Connectors Han®, chapter 06". |
| | 2 | 09 14 006 0303 | 09 14 006 0313 | 6 B | |
| | 3 | 09 14 010 0303 | 09 14 010 0313 | 10 B | |
| | 4 | 09 14 016 0303 | 09 14 016 0313 | 16 B | |
| | 5 | 09 14 024 0303 | 09 14 024 0313 | 24 B | |
| | 6 | 09 14 024 0303 | 09 14 024 0313 | 24 B | |

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

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

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 ² |

Han® axial screw module for PCB adaptations

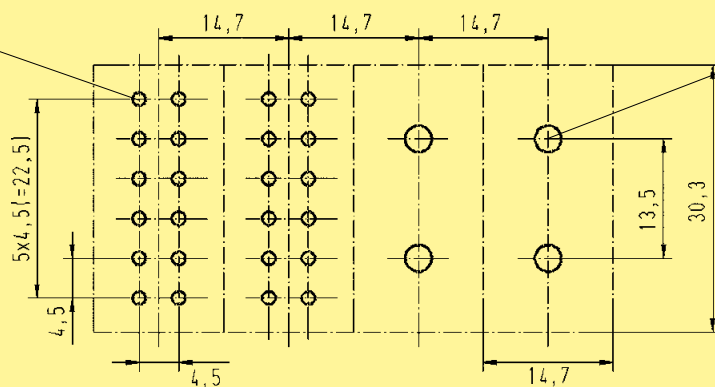
| | |
|--------------------|--------------------------|
| Number of contacts | 2 |
| Working current | 40 A |
| Working voltage | 500 V |
| Wire gauge | 2.5 - 10 mm ² |

Layout of printed circuit boards

Depiction

Recommended hole diameter: 0.8 mm

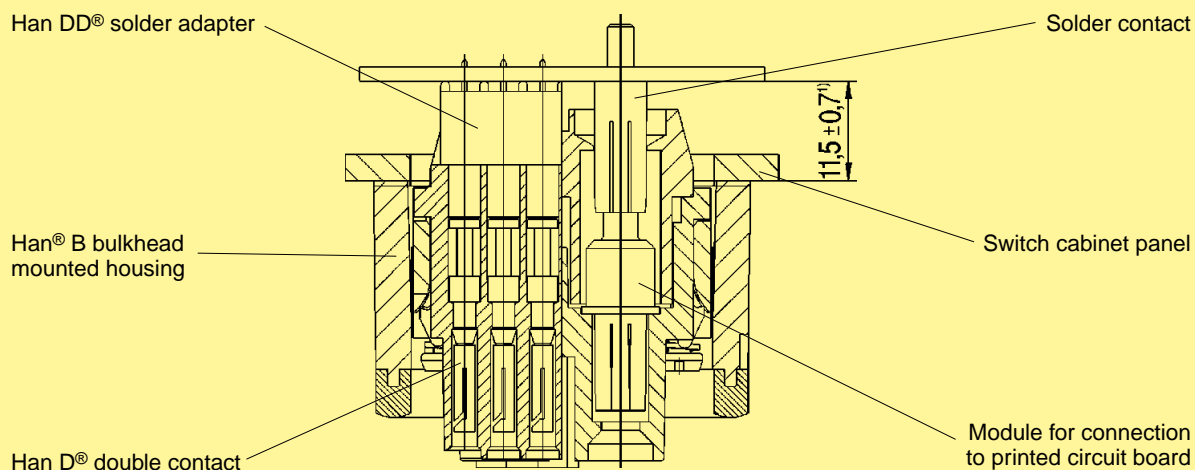
Recommended hole diameter: 3.2 mm



Han DD® module

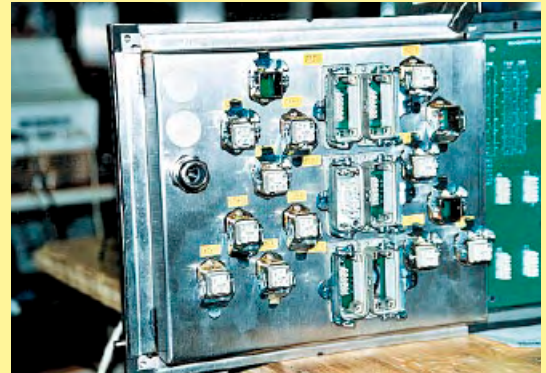
Han® axial screw module 40 A

Assembly situation



¹⁾ 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

