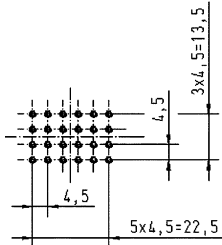


Contents	Page
Han-Fast® Lock .....	<b>Han 20.11</b>
PCB adapter for Han DD® .....	<b>Han 20.13</b>
PCB adapter for Han® DDD module.....	<b>Han 20.16</b>
PCB adapter for Han® 40 A Axial module.....	<b>Han 20.18</b>
PCB adapter for Han E® .....	<b>Han 20.19</b>
PCB adapter for Han® 40 EEE .....	<b>Han 20.20</b>
PCB adapter for Han® Q 4/2 .....	<b>Han 20.21</b>
PCB adapter for Han® Q 5/0 .....	<b>Han 20.24</b>
PCB adapter for Han® Q 7/0 .....	<b>Han 20.27</b>
PCB adapter for Han® Q 8/0 .....	<b>Han 20.30</b>
PCB adapter for Han® Q 12/0 .....	<b>Han 20.33</b>

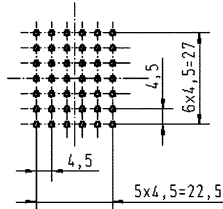
## Layout of PCB

PCB

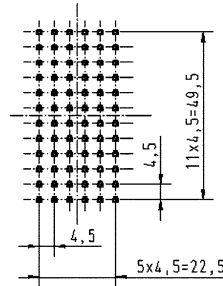
Han<sup>®</sup> 24 DD



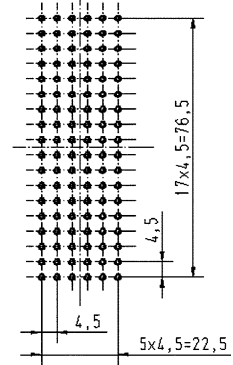
Han<sup>®</sup> 42 DD



Han<sup>®</sup> 72 DD

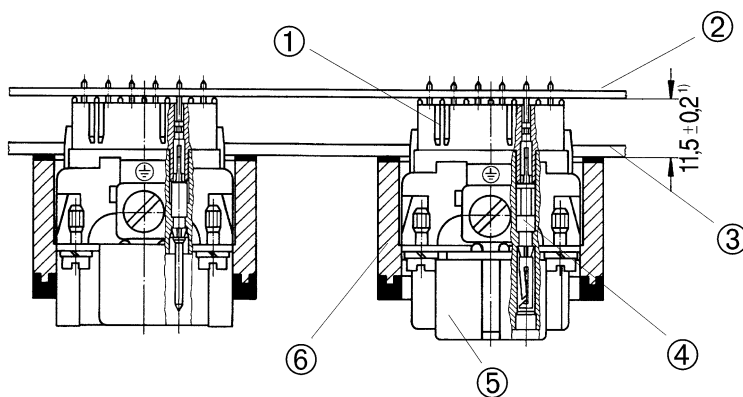


Han<sup>®</sup> 108 DD



Recommended hole diameter: 0.8 mm

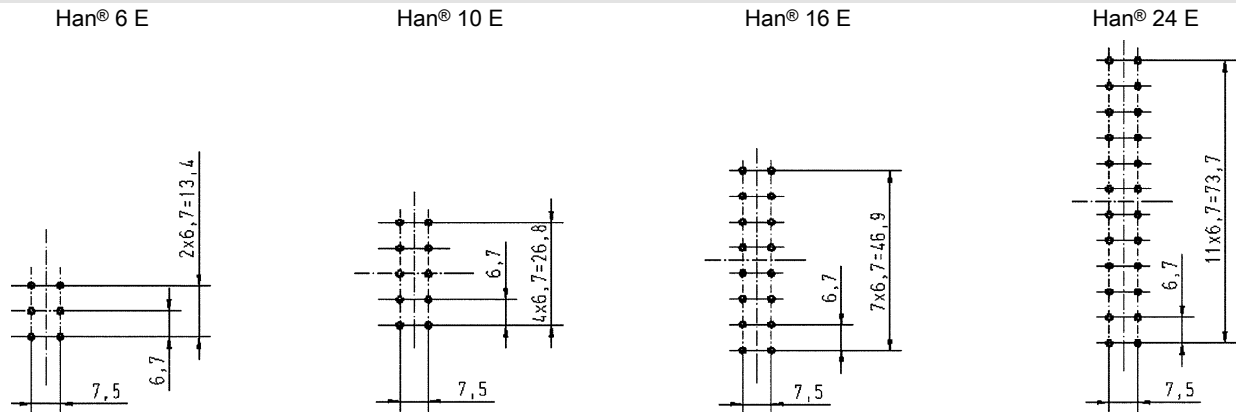
## Assembly situation



- ① PCB adapter
- ② Printed circuit board (PCB)
- ③ Switch board panel
- ④ Han DD<sup>®</sup> double contact
- ⑤ Han DD<sup>®</sup> insert
- ⑥ Han<sup>®</sup> B bulkhead mounted housing

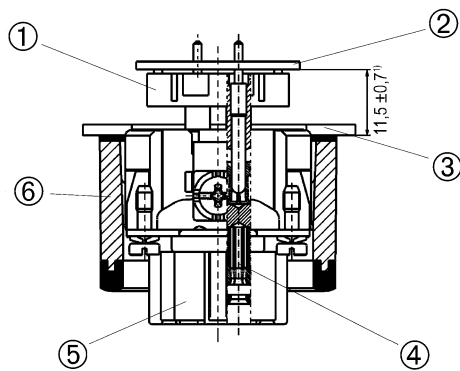
1) for Han<sup>®</sup> B EMC housings spacing of  $12.5 \pm 0.2$  mm is necessary as no flange seal is used

## Layout of PCB



PCB

## Assembly situation



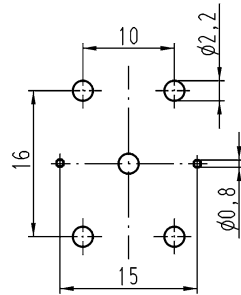
- ① PCB adapter
- ② Printed circuit board (PCB)
- ③ Switch board panel
- ④ Han E® double contact
- ⑤ Han E® insert
- ⑥ Han® B bulkhead mounted housing

1) for Han® B EMC housings spacing of  $12.5 \pm 0.7$  mm is necessary as no flange seal is used

## Layout of PCB

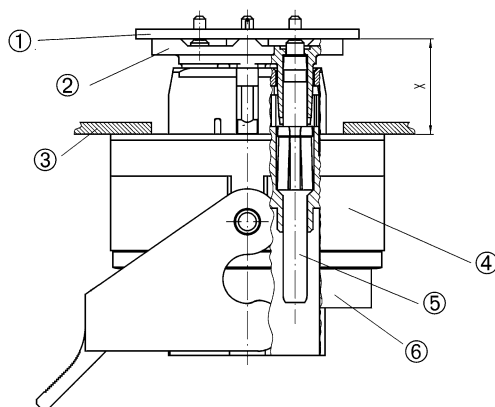
PCB

Dimensions in mm



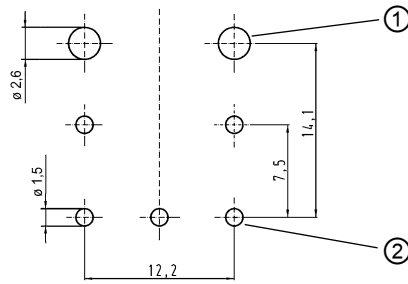
## Assembly situation

X = 16<sup>+1</sup> with signal contact or 16<sup>+2</sup> without signal contact



- ① Printed circuit board (PCB)
- ② PCB adapter
- ③ Switch board panel
- ④ Han-Compact® bulkhead mounted housing
- ⑤ Han® C double contact
- ⑥ Han® Q 4/2 insert

## Layout of PCB

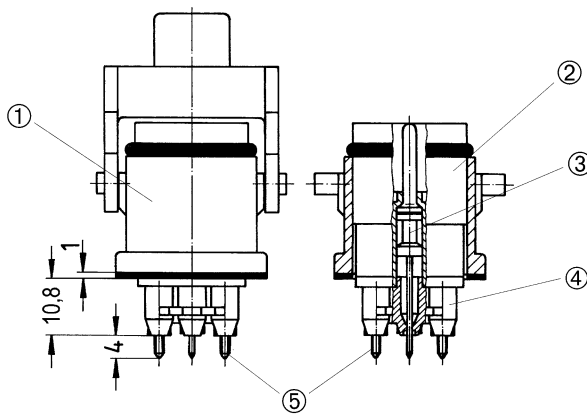


Dimensions in mm

- ① Recommended hole diameter:  
2.6 mm
- ② Recommended hole diameter:  
1.5 mm

PCB

## Assembly situation

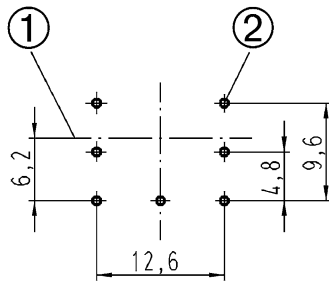


- ① Han® 3 A bulkhead mounting housing
- ② Han® Q 5/0
- ③ Solder contacts
- ④ PCB adapter
- ⑤ Connection to printed circuit board

## Layout of PCB

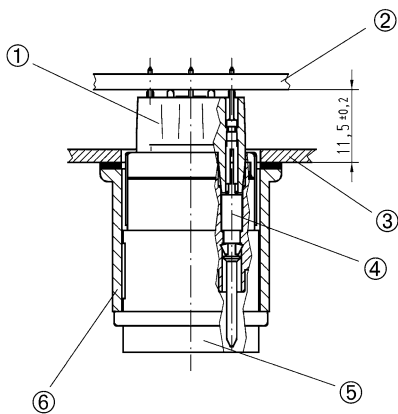
PCB

Dimensions in mm



- ① Median plane of the housing
- ② Recommended hole diameter: 0.8 mm

## Assembly situation

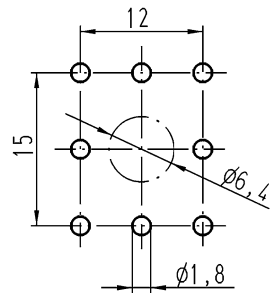


- ① PCB adapter
- ② Printed circuit board (PCB)
- ③ Switch board panel
- ④ Han D® double contact
- ⑤ Han® Q 7/0 Insert
- ⑥ Han® 3 A bulkhead mounting housing

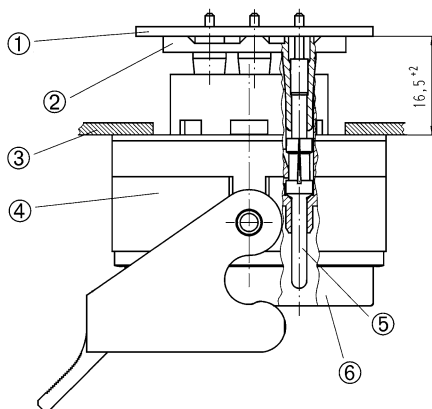
## Layout of PCB

Dimensions in mm

PCB



## Assembly situation

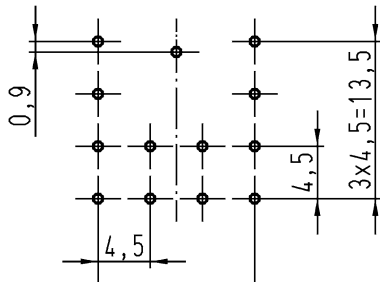


- ① Printed circuit board (PCB)
- ② PCB adapter
- ③ Switch board panel
- ④ Han-Compact<sup>®</sup> bulkhead mounted housing
- ⑤ Han E<sup>®</sup> double contact
- ⑥ Han<sup>®</sup> Q 8/0 Insert

## Layout of PCB

PCB

Dimensions in mm  
Recommended hole diameter: 0.8 mm

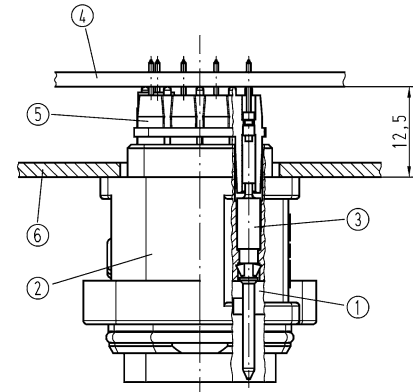
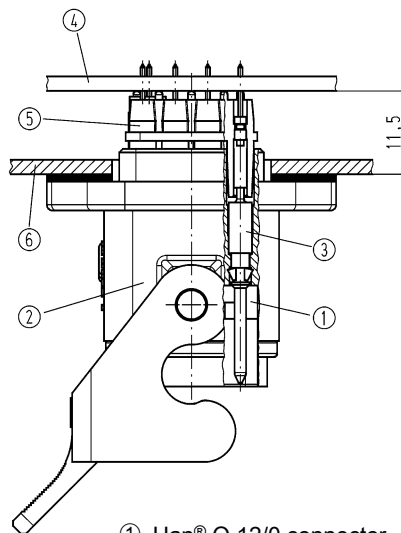
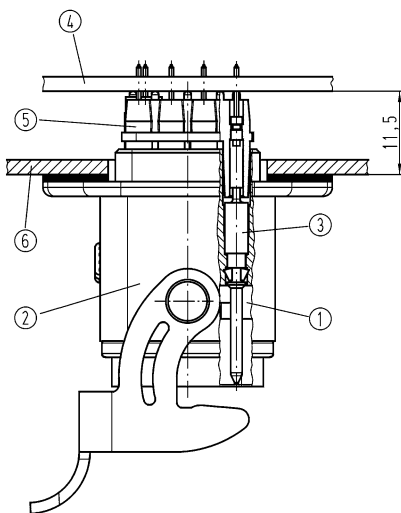


## Assembly situation

Han® 3 A Standard / EMC

Han® 3 A plastic

Han® 3 A HPR



- ① Han® Q 12/0 connector
- ② Han® 3 A housing bulkhead mounting
- ③ R15-double contact

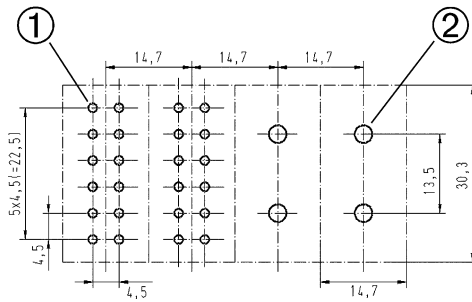
- ④ Printed circuit board (PCB)
- ⑤ PCB adapter
- ⑥ Switch board panel



## Layout of PCB

Dimensions in mm

PCB

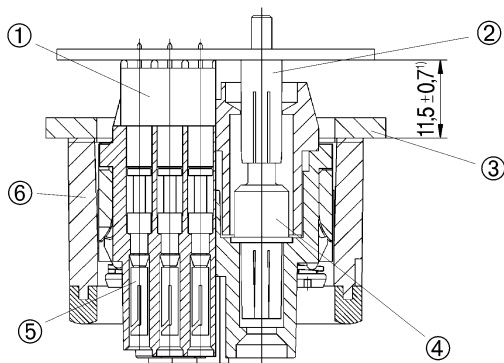


Han DD® module

Han® 40 A module

- ① Recommended hole diameter: 0.8 mm
- ② Recommended hole diameter: 3.2 mm

## Assembly situation

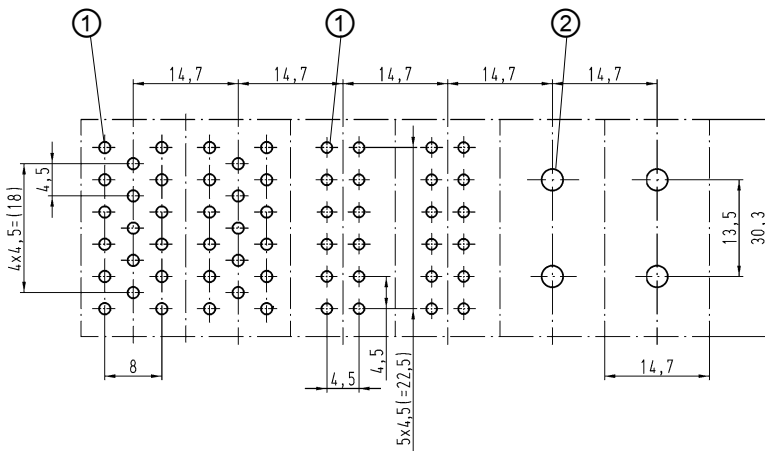


- ① Han DD® PCB-adapter
- ② Han® C solder contact
- ③ Switch board panel
- ④ Module for connection to printed circuit board
- ⑤ Han D® double contact
- ⑥ Han® B bulkhead mounted housing

<sup>1)</sup> for Han® B EMC housings spacing of  $12.5 \pm 0.7$  mm is necessary as no flange seal is used

## Layout of PCB

Dimensions in mm

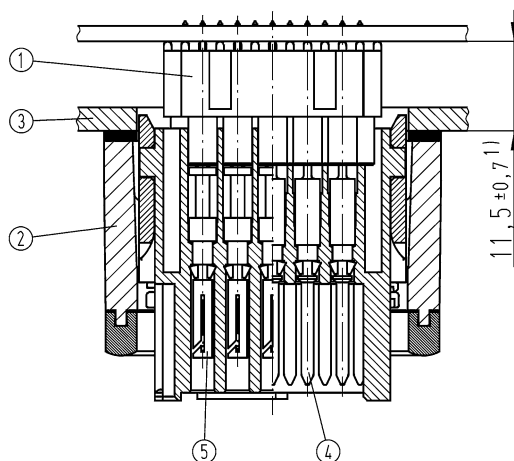


Han® DDD module   Han® DD module   Han® 70 A module

- ① Recommended hole diameter: 0.8 mm
- ② Recommended hole diameter: 3.2 mm

## Assembly situation

Dimensions in mm



- ① Han DDD® PCB adapter 5 pins
- ② Han® B bulkhead mounted housing
- ③ Switch board panel
- ④ Han D® double male contact, 09 15 000 6197
- ⑤ Han D® double female contact, 09 15 000 6291

1) for Han® B EMV hood and housing spacing of  $12.5 \pm 0.7$  mm is necessary as no flange seal is used.

For further information and Han-Modular® frames please refer to chapter 06 (Han-Modular®)

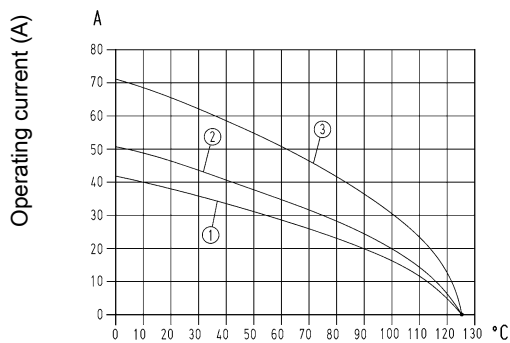
## Features

- Solder free PCB termination
- PCB contact with locking element
- Machine processing
- Flexible in terms of applications
- Practical and easy handling
- Fast assembly to PCB
- Locking directly on the PCB

## Technical characteristics

Contact resistance	≤2 mΩ
Material (locking)	Copper alloy
Surface (locking)	Passivated
Material (contacts)	Copper alloy
RoHS	compliant with exemption
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight

## Derating



Ambient temperature (°C)

- ① Conductor cross-section 4 mm<sup>2</sup>
- ② Conductor cross-section 6 mm<sup>2</sup>
- ③ Conductor cross-section 10 mm<sup>2</sup>

## Specifications and approvals

UL 1977 ECBT2.E235076  
 CSA-C22.2 No. 182.3 ECBT8.E235076

PCB

## Details

PCB thickness 1.6 ... 3.2 mm

Clearance and creepage distances have to be considered for the printed circuit board

Finished hole d= 4.4 mm +0.05/-0.04

The new connection of wires to the PCB offers optimized PCB design, combined with outstanding contact qualities.

The Han-Fast® Lock is flexible and allows a fast and simple PCB connection. The PCB has one drilled hole and a pad.

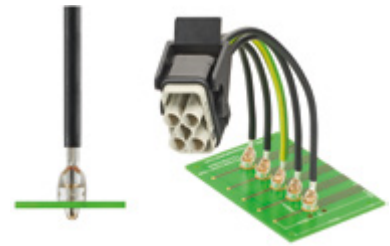
The inner surface of the plated drilled hole serves as the interface. The Han-Fast® Lock is simply inserted into the through-plated PCB hole. The locking pin is pushed in and hence locks the contact into position.

The solder free connection technique is easy to handle and to operate. Maintenance has been made simple with the facility to detach the contact.

Han-Fast® Lock also supports SMD assembly of the PCB.

- Current up to 60 Amps
- Standard drilled hole with pad
- Position independent of connector
- Solder free PCB termination
- Easy locking solution

PCB



Identification	Conductor cross-section (mm <sup>2</sup> )	Part number	Drawing (dimensions in mm)
Han-Fast® Lock, PCB contact, With pin, Pack contents: Single contact Contact surface: Silver plated	1.5 ... 2.5 4 ... 6 10	09 08 000 7122 09 08 000 7123 09 08 000 7124	<p>Stripping length 7.5 mm</p>
Han-Fast® Lock, PCB contact, With pin Angled, Pack contents: Single contact Contact surface: Silver plated	1.5 ... 2.5 4 ... 6 10	09 08 000 7222 09 08 000 7223 09 08 000 7224	<p>Stripping length 7.5 mm</p>
Han-Fast® Lock, PCB contact, With pin, Pack contents: On a reel Contact surface: Silver plated	1.5 ... 2.5 4 ... 6 10	09 08 000 6122 09 08 000 6123 09 08 000 6124	<p>Stripping length 7.5 mm</p>

## Features

- Robust design
- Suitable for standard and EMC hoods and housings
- Low wiring costs
- High density of contacts

## Technical characteristics

Rated current	7.5 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Material (insert)	Polyamide
Material (contacts)	Copper alloy
RoHS	compliant with exemption
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight

## Specifications and approvals

EN 60664-1  
 IEC 61984  
 UL 1977 ECBT2.E235076  
 CSA-C22.2 No. 182.3 ECBT8.E235076

## Details


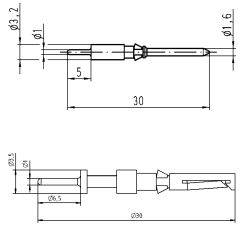

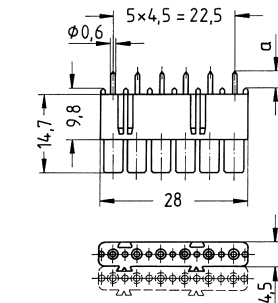

**Han DD® crimp inserts** see chapter 02


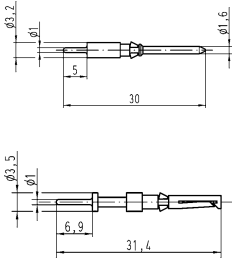

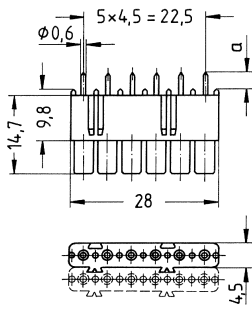

**Modules** see chapter 06

**Han® B bulkhead mounted housings** see chapter 31

**Crimping tools** see chapter 90

PCB

Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
<p>Han D<sup>®</sup>, PCB contact, Contact surface: Silver plated</p> 	09 15 000 6191	09 15 000 6291	
<p>PCB adapter, In the Han DD<sup>®</sup> crimp insert, In the Han DD<sup>®</sup> module, In the Han<sup>®</sup> DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p>  <p>for PCB's up to 1.6 mm</p>	09 16 000 9905	09 16 000 9905	 <p>09 16 000 9905 a= 2.6 09 16 000 9908 a= 3.4</p>
<p>PCB adapter, In the Han DD<sup>®</sup> crimp insert, In the Han DD<sup>®</sup> module, In the Han<sup>®</sup> DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p>  <p>for PCB's up to 2.4 mm</p>	09 16 000 9908	09 16 000 9908	

Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
<p>Han D<sup>®</sup>, PCB contact, Contact surface: Silver plated</p> 	09 15 000 6191	09 15 000 6294	
<p>PCB adapter, In the Han DD<sup>®</sup> crimp insert, In the Han DD<sup>®</sup> module, In the Han<sup>®</sup> DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p>  <p>for PCB's up to 1.6 mm</p>	09 16 000 9905	09 16 000 9905	 <p>09 16 000 9905 a= 2.6 09 16 000 9908 a= 3.4</p>
<p>PCB adapter, In the Han DD<sup>®</sup> crimp insert, In the Han DD<sup>®</sup> module, In the Han<sup>®</sup> DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p>  <p>for PCB's up to 2.4 mm</p>	09 16 000 9908	09 16 000 9908	

## Features

- Robust design
- Suitable for standard and EMC hoods and housings
- Low wiring costs
- High density of contacts

## Technical characteristics

Rated current	7.5 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Pollution degree	3
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Material (insert)	Polyamide
Material (contacts)	Copper alloy
RoHS	compliant with exemption
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight

## Specifications and approvals

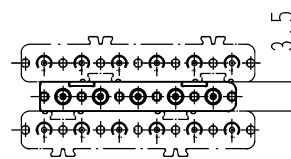
EN 60664-1  
 IEC 61984  
 UL 1977 ECBT2.E235076  
 CSA-C22.2 No. 182.3 ECBT8.E235076

## Details

**Modules** see chapter 06

**Han® B bulkhead mounted housings** see chapter 31


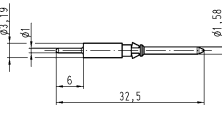
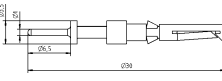

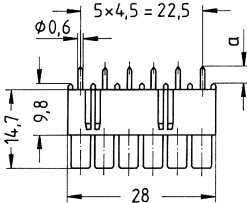
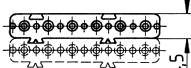


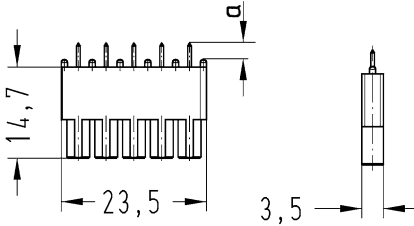

**Crimping tools** see chapter 90



For a 17-pin PCB termination with the Han® DDD module two 6-pin and one 5-pin PCB adapters are necessary.

PCB



Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
<p>Han D®, PCB contact, Contact surface: Silver plated</p> 	09 15 000 6197	09 15 000 6291	 
<p>PCB adapter, In the Han DD® crimp insert, In the Han DD® module, In the Han® DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p>  <p>for PCB's up to 1.6 mm</p>	09 16 000 9905	09 16 000 9905	  <p>09 16 000 9905 a= 2.6 09 16 000 9908 a= 3.4</p>
<p>PCB adapter, In the Han DD® crimp insert, In the Han DD® module, In the Han® DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p>  <p>for PCB's up to 2.4 mm</p>	09 16 000 9908	09 16 000 9908	
<p>PCB adapter, 5-pin, In the Han® DDD module</p>  <p>for PCB's up to 1.6 mm</p>	09 16 000 9915	09 16 000 9915	 <p>09 16 000 9915 a= 2.6 09 16 000 9918 a= 3.4</p>
<p>PCB adapter, 5-pin, In the Han® DDD module</p>  <p>for PCB's up to 2.4 mm</p>	09 16 000 9918	09 16 000 9918	

PCB

## Features

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

## Technical characteristics

Rated current	40 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Material (insert)	Polycarbonate
Material (contacts)	Copper alloy
RoHS	compliant with exemption
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight

## Specifications and approvals

EN 60664-1  
IEC 61984

## Details

**Hinged frames** see chapter 06

Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
Han® C, PCB contact, Contact surface: Silver plated	09 32 000 6295		
PCB adapter, In the Han® 40 A Axial module	09 14 002 2603	09 14 002 2703	

## Features

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

## Technical characteristics

Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Material (insert)	Polycarbonate
Material (contacts)	Copper alloy
RoHS	compliant with exemption
RoHS exemptions	<b>6c</b> : Copper alloy containing up to 4 % lead by weight

## Specifications and approvals


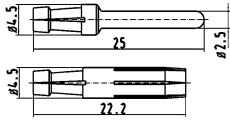

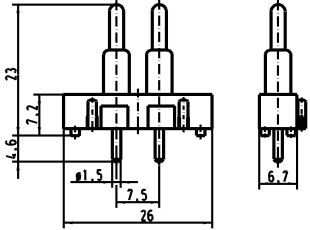
EN 60664-1  
IEC 61984

## Details

**Han E® crimp inserts** see chapter 03

**Hoods/Housings** see chapter 31

**Crimping tools** see chapter 90

Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
Han E®, PCB contact, Contact surface: Silver plated  	09 33 000 6180	09 33 000 6280	
PCB adapter, In the Han E® crimp insert  	09 33 000 9996	09 33 000 9996	

Number of contacts

# 40

16 A 500 V 6 kV 3

PCB

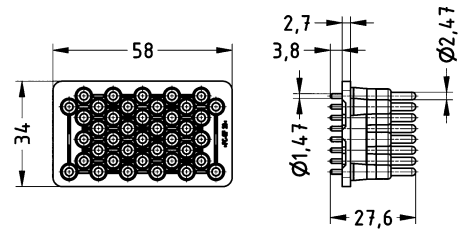
## Technical characteristics

Number of contacts	40
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV

## Technical characteristics

Pollution degree	3
Limiting temperature	-40 ... +125 °C
Material (insert)	Polycarbonate
Material (contacts)	Copper alloy

Identification	Size	Part number		Drawing (dimensions in mm)
		Male	Female	
PCB adapter, In the Han® 40 EEE crimp insert, Contact surface: Silver plated	16 B	09 33 000 9880	09 33 000 9880	



## Features

- Robust design
- Low wiring costs
- High density of contacts
- Suitable for Han-Compact<sup>®</sup> hoods and housings

## Technical characteristics

Rated current	30 A
Rated voltage conductor-earth	400 V
Rated voltage conductor-conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	2
Rated current (signal)	7.5 A
Rated voltage (signal)	250 V
Rated impulse voltage (signal)	4 kV
Pollution degree (signal)	2
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Degree of protection acc. to IEC 60529	IP65
Type rating acc. to UL 50 / UL 50E	4, 12
Material (insert)	LCP
Material (hood/housing)	Polycarbonate
Colour (hood/housing)	RAL 9005 (jet black)
Material (seal)	NBR
Material (locking)	Polyamide
Colour (locking)	RAL 9005 (jet black)
Material (contacts)	Copper alloy
Material flammability class acc. to UL 94	V-0
Material flammability class acc. to UL 94 (locking levers)	V-0
RoHS	compliant with exemption, compliant
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight

## Specifications and approvals

EN 60664-1  
 IEC 61984  
 UL 1977 ECBT2.E235076  
 CSA-C22.2 No. 182.3 ECBT8.E235076  
 DNV GL

## Details

**Han<sup>®</sup> Q inserts** see chapter 13


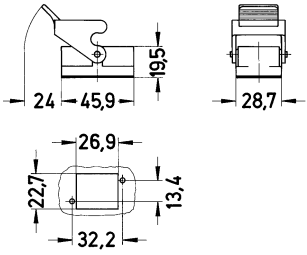
**Crimping tools** see chapter 90

PCB

Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
Han® C, PCB contact, Contact surface: Silver plated	09 32 000 6180	09 32 000 6280	
Han D®, PCB contact, Contact surface: Silver plated	09 15 000 6191	09 15 000 6293	
PCB adapter, In the Han® Q 4/2  for PCB's up to 2.4 mm	09 12 006 9901	09 12 006 9901	

Hoods/housings for industrial applications  
Single locking lever

PCB

Identification	Part number	Drawing (dimensions in mm)
<p>Han-Compact®, Bulkhead mounted housings, Straight</p> 	<p>09 12 008 0327</p>	

PCB

## Features

- Robust design
- Suitable only for EMC housings size Han® 3 A
- Additional robust and secure PE-connection between housing and PCB

## Technical characteristics

Rated current	10 A
Rated voltage conductor-earth	230 V
Rated voltage conductor-conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Degree of protection acc. to IEC 60529	IP44, IP65 / IP67, with seal screw 09 20 000 9918
Type rating acc. to UL 50 / UL 50E	12
Material (insert)	Polycarbonate
Material (hood/housing)	Zinc die-cast
Surface (hood/housing)	Uncoated
Colour (hood/housing)	Unpainted
Material (seal)	PTFE
Material (locking)	Steel
Surface (locking)	Zinc plated
Material (contacts)	Copper alloy
RoHS	compliant with exemption, compliant
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight, <b>6a:</b> Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0.35 % lead by weight

## Specifications and approvals

EN 60664-1  
IEC 61984  
UL 1977 ECBT2.E235076  
DNV GL

## Details

**Han® Q inserts** see chapter 13

**Crimping tools** see chapter 90



Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
Han E®, PCB contact, Contact surface: Silver plated	09 33 000 6195	09 33 000 6295	
PCB adapter, 5-pin, In the Han® Q 5/0  for PCB's up to 2.4 mm	09 12 000 9905	09 12 000 9905	<p>Adapter PE contact panel</p>



Hoods/Housings for higher EMC requirements  
Single locking lever

PCB

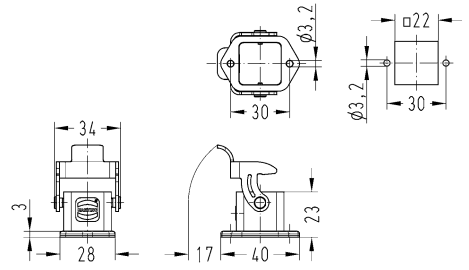
Identification

Part number

Drawing  
(dimensions in mm)

Han<sup>®</sup> EMC,  
Bulkhead mounted housings,  
Straight,  
for PCB termination with Han<sup>®</sup> Q 5/0

09 62 003 0304



## Features

- Robust design
- Suitable for standard and EMC hoods and housings
- High density of contacts

## Technical characteristics

Rated current	7.5 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Degree of protection acc. to IEC 60529	IP44, IP65 / IP67, with seal screw 09 20 000 9918
Type rating acc. to UL 50 / UL 50E	12
Material (insert)	Polycarbonate
Material (hood/housing)	Zinc die-cast
Surface (hood/housing)	Powder-coated
Colour (hood/housing)	RAL 7037 (dust grey)
Material (seal)	NBR
Material (locking)	Steel
Surface (locking)	Zinc plated
Material (contacts)	Copper alloy
RoHS	compliant with exemption
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight, <b>6a:</b> Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0.35 % lead by weight

## Specifications and approvals

EN 60664-1  
IEC 61984  
DNV GL

PCB

## Details

**Han® Q inserts** see chapter 13


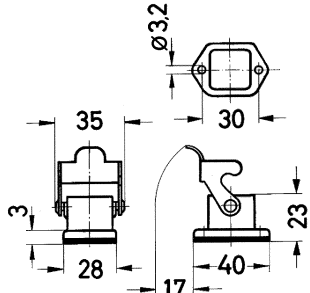
**Crimping tools** see chapter 90

PCB

Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
Han D®, PCB contact, Contact surface: Silver plated	09 15 000 6190	09 15 000 6290	
PCB adapter, In the Han® Q 7/0  for PCB's up to 2.4 mm		09 12 000 9908	

Standard Hoods/housings for industrial applications  
Single locking lever

PCB

Identification	Part number	Drawing (dimensions in mm)
<p>Han A®, Bulkhead mounted housings, Straight</p> 	<p>09 20 003 0301</p>	 <p>Panel cut out 22 x 22 mm</p>

## Features

- Robust design
- Suitable for Han-Compact® hoods and housings
- Low wiring costs
- High density of contacts

## Technical characteristics

Rated current	16 A
Rated voltage conductor-earth	230 V
Rated voltage conductor-conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	2
Contact resistance	≤3 mΩ
Limiting temperature	-40 ... +125 °C
Degree of protection acc. to IEC 60529	IP65
Type rating acc. to UL 50 / UL 50E	4, 12
Material (insert)	LCP
Material (hood/housing)	Polycarbonate
Colour (hood/housing)	RAL 9005 (jet black)
Material (seal)	NBR
Material (locking)	Polyamide
Colour (locking)	RAL 9005 (jet black)
Material (contacts)	Copper alloy
Material flammability class acc. to UL 94	V-0
Material flammability class acc. to UL 94 (locking levers)	V-0
RoHS	compliant with exemption, compliant
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight

## Specifications and approvals

EN 60664-1  
 IEC 61984  
 UL 1977 ECBT2.E235076  
 CSA-C22.2 No. 182.3 ECBT8.E235076  
 DNV GL

## Details

**Han® Q inserts** see chapter 13

**Crimping tools** see chapter 90

Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
Han E®, PCB contact, Contact surface: Silver plated	09 33 000 6180	09 33 000 6280	
PCB adapter, In the Han® Q 8/0	09 12 008 9901		
for PCB's up to 1.6 mm			



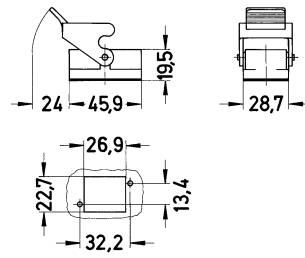
Hoods/housings for industrial applications  
Single locking lever

PCB

Identification	Part number	Drawing (dimensions in mm)
----------------	-------------	----------------------------

Han-Compact®,  
Bulkhead mounted housings,  
Straight

09 12 008 0327





## Features

- Robust design
- Suitable for standard and EMC hoods and housings
- High density of contacts

## Technical characteristics

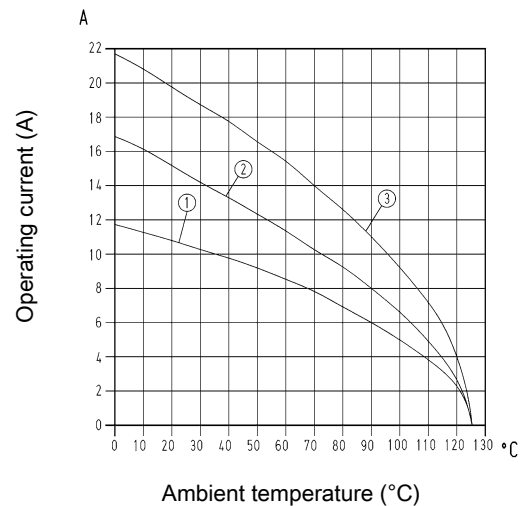
Number of contacts	12
Rated current	7.5 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Insulation resistance	$\geq 10^{10} \Omega$
Contact resistance	$\leq 3 \text{ m}\Omega$
Limiting temperature	-40 ... +125 °C
Mating cycles	$\geq 500$
Material (insert)	Polycarbonate
Colour (insert)	RAL 7032 (pebble grey)
Material (contacts)	Copper alloy
Material flammability class acc. to UL 94	V-0
RoHS	compliant with exemption
RoHS exemptions	<b>6c:</b> Copper alloy containing up to 4 % lead by weight

## Derating

### Current carrying capacity

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

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Conductor cross-section 0.75 mm<sup>2</sup>
- ② Conductor cross-section 1.5 mm<sup>2</sup>
- ③ Conductor cross-section 2.5 mm<sup>2</sup>

## Specifications and approvals

EN 60664-1  
IEC 61984  
UL 1977 ECBT2.E235076  
CSA-C22.2 No. 182.3 ECBT8.E235076  
DNV GL

## Details


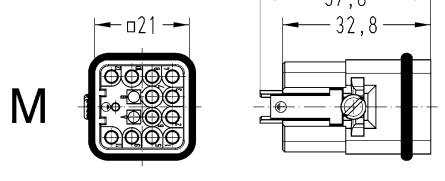
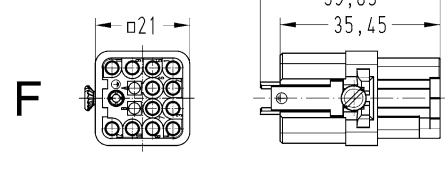

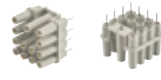
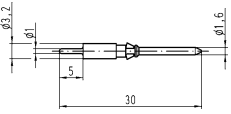
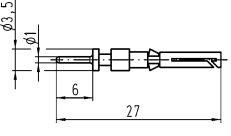
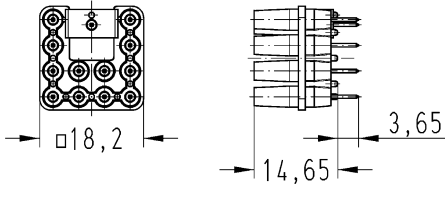
**Crimping tools** see chapter 90

Number of contacts

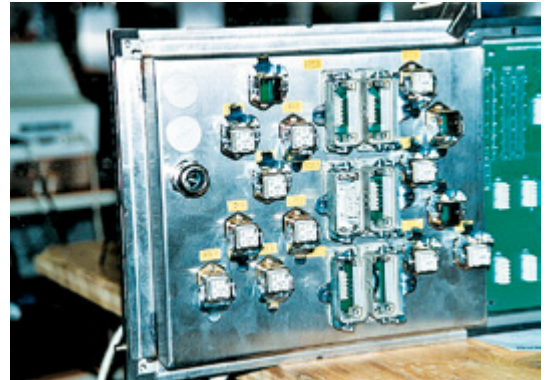
**12+**

7.5 A 250 V 4 kV 3

PCB

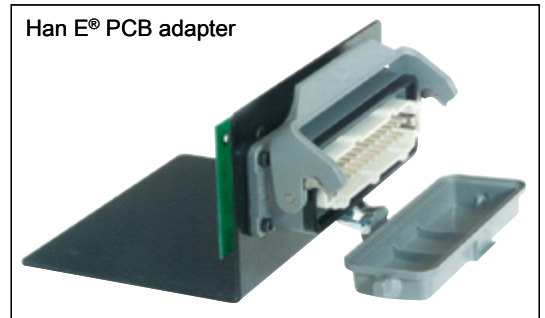
Identification	Part number		Drawing (dimensions in mm)
	Male	Female	
<p>Han® Q, for PCB adapter, Solder termination</p>  <p>Please order contacts separately.</p>	09 12 012 3002	09 12 012 3102	<p><b>M</b></p>  <p><b>F</b></p> 
<p>Han D®, PCB contact, Contact surface: Silver plated</p>  <p>PCB adapter, In the Han® Q 12/0</p>  <p>for PCB's up to 2.4 mm</p>	09 15 000 6191	09 15 000 6297  09 12 012 9901	  

- 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.
- This means 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 (e.g. wave soldering of the PCBs).

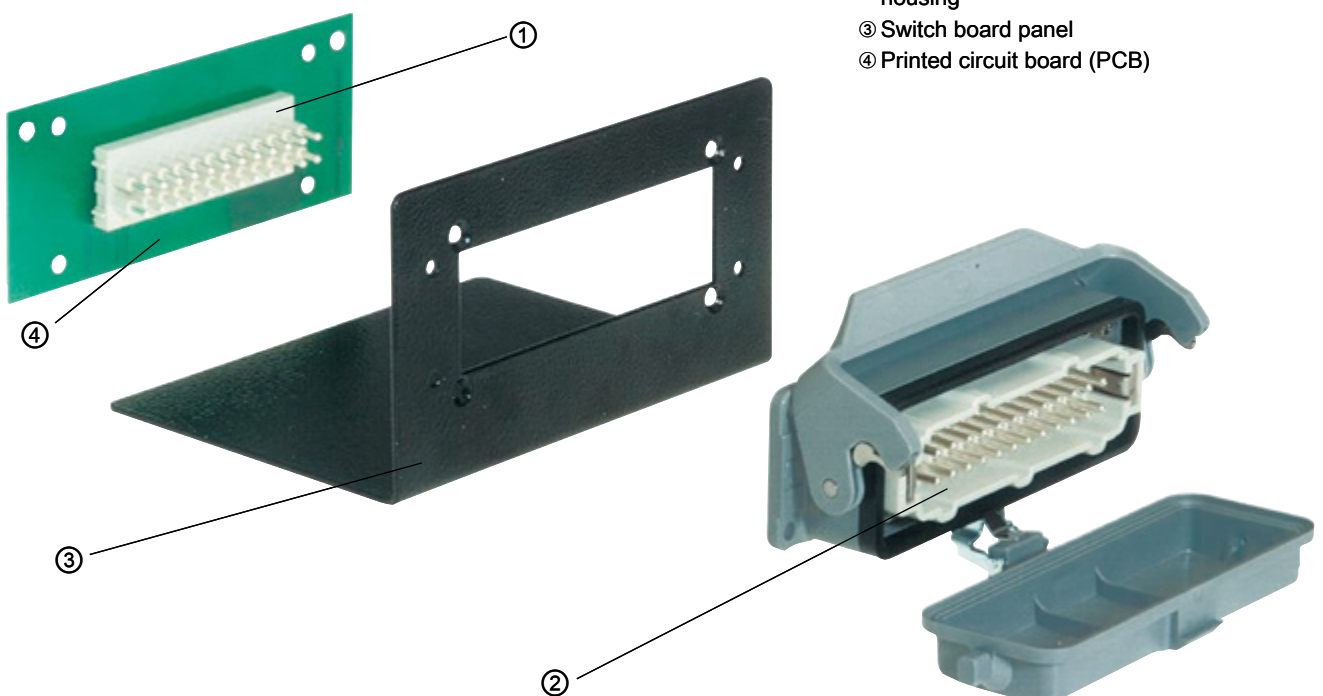


Han DD® and Han® Q 5/0 PCB adapter  
Wilhelm Fette GmbH, Germany

PCB



Han E® PCB adapter



- ① PCB adapter for Han E®
- ② Han E® connector in a bulkhead mounted housing
- ③ Switch board panel
- ④ Printed circuit board (PCB)