Han® AV

Contents	Page

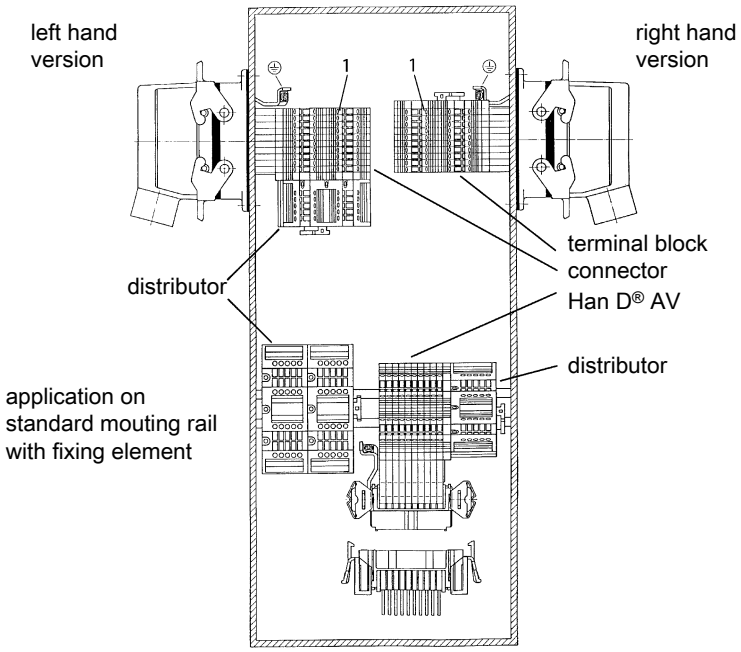
Arrangement in switch cabinet

Terminal block connector in left or right hand version; therefore identical pre-assembled interface cables can be used on both sides.

For application inside of a switch cabinet, on standard mounting rails in conjunction with Han Snap®

Mount the distributor on a standard mounting rail or on the terminal block connector Han D® AV!

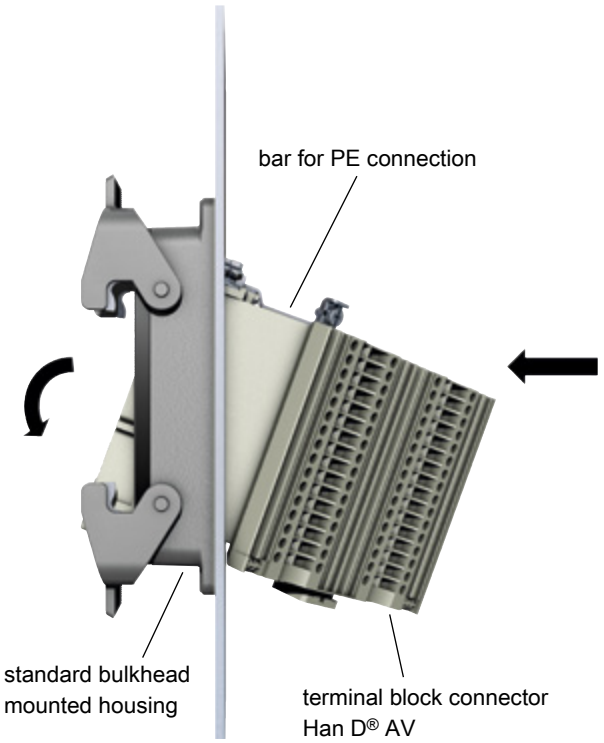
The terminal block connectors can be supplied for left or right hand applications so that the PE terminal as well as the terminal for contact no. 1 will be accessible from the “top” in both types of installation.



Assembly of terminal block connector

A seperate pre-assembly is possible: Therefore, the distributor must be thread from the inside of the switch cabinet into the standard bulkhead mounted housing.

Note:
On one side of the distributor is a bar for PE connection. Insert the distributor – slightly inclined, the side without the PE conductor leading – from the rear into the bulkhead mounted housing!



Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Counterparts

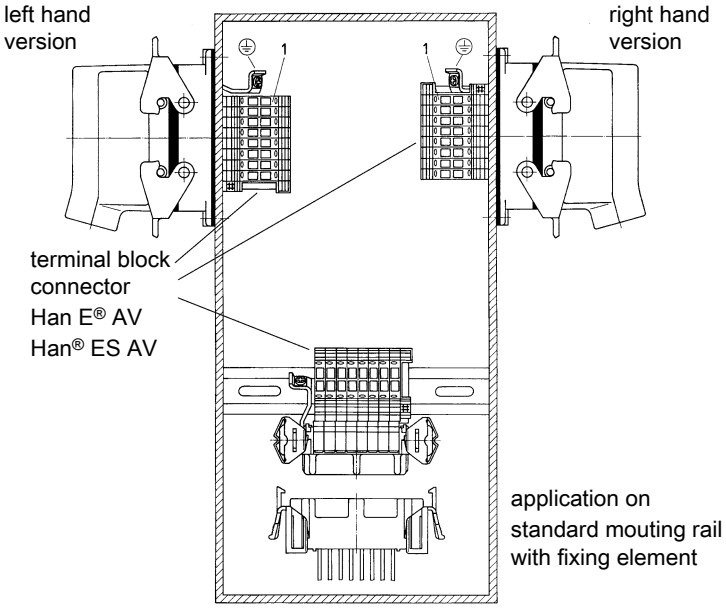
For suitable mating inserts of serie Han D® with crimp termination please refer to the chapter 02.

Arrangement in switch cabinet

Terminal block connector in left or right hand version; therefore identical pre-assembled interface cables can be used on both sides.

For application inside of a switch cabinet, on standard mounting rails in conjunction with Han Snap®

The terminal block connectors can be supplied for left or right hand applications so that the PE terminal as well as the terminal for contact no. 1 will be accessible from the “top” in both types of installation.

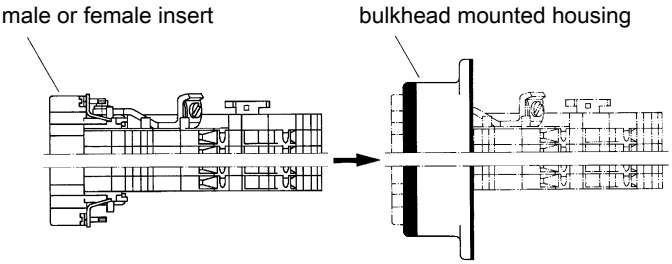


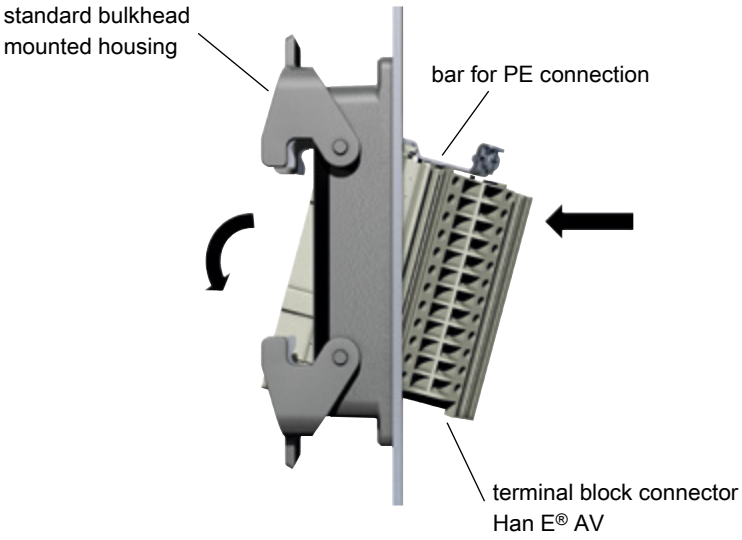
Assembly of terminal block connector

The teminal block connector is inserted into the standard bulkhead mounted housing and fastened – like any standard contact insert – with four fixing screws.

A seperate pre-assembly is possible with Han E® AV and Han® ES AV, in the variants with 16 and 24 poles.
Therefore, the distributor must be thread from the inside of the switch cabinet into the standard bulkhead mounted housing.

Note:
On one side of the distributor is a bar for PE connection. Insert the distributor – slightly inclined, the side without the PE conductor leading – from the rear into the bulkhead mounted housing!





Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Counterparts

For suitable mating inserts of series Han E® and Han® ES with screw, cage-clamp or crimp termination please refer to the chapter 03.

Features

- for left or right hand applications available
- PE and connecting terminal for contact no.1 are at the top in both types of installation
- Mountable in standard bulkhead mounted housings and on standard rails by using of fixing elements
- Screw termination with wire protection

Technical characteristics

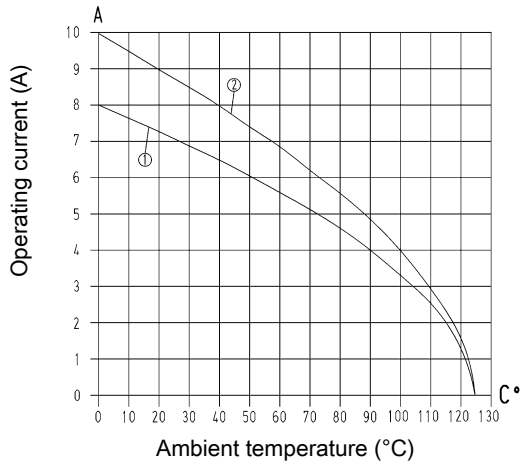
Number of contacts	40, 64
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	>10^{10} Ω
Contact resistance	≤4 mΩ
Limiting temperature	-40 ... +125 °C
Mating cycles	≥500
Material (insert)	Polycarbonate (PC)
Colour (insert)	RAL 7032 (pebble grey)
Material (contacts)	Copper alloy
Material flammability class acc. to UL 94	V-0
RoHS	compliant

Derating

Current carrying capacity

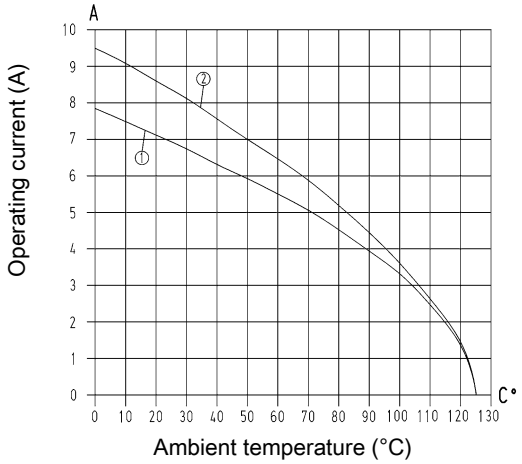
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the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

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



① Han® 40 D AV Conductor cross-section 0.75 mm²
② Han® 40 D AV Conductor cross-section 1.5 mm²

Derating



① Han® 64 D AV Conductor cross-section 0.75 mm²
② Han® 64 D AV Conductor cross-section 1.5 mm²

Specifications and approvals

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

Details

Stripping length 8 ... 11 mm

Tightening torque 0.5 Nm

Hoods/Housings see chapter Han 31

Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Identification strips

Multi contour (MK) the following identification strips may be used

- HARTING – 09 21 000 9971
- Murrplastik – KPX 5/10-5
- Weidmüller – DEK 5
- Phoenix – 4 K – DST 5
- Phoenix – DS 5
- Phoenix – ZB 5
- WAGO – WSB 5

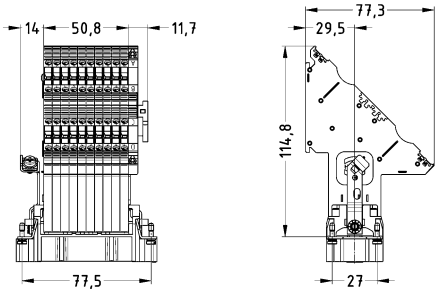
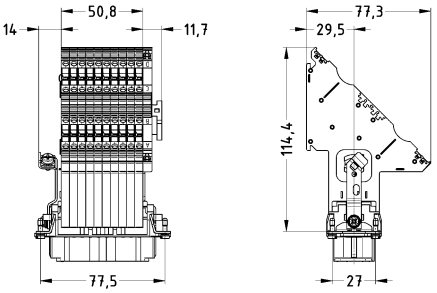
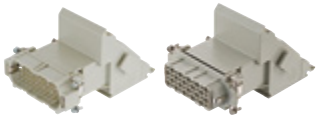
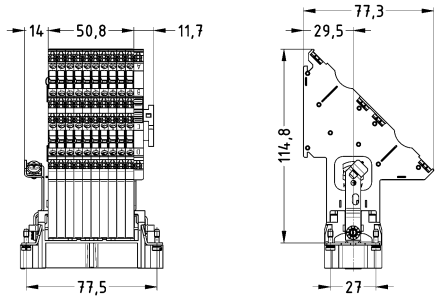
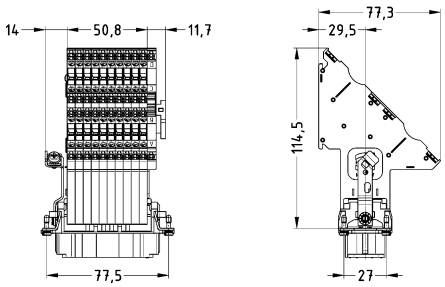
Single contour (SK) the following identification strips may be used

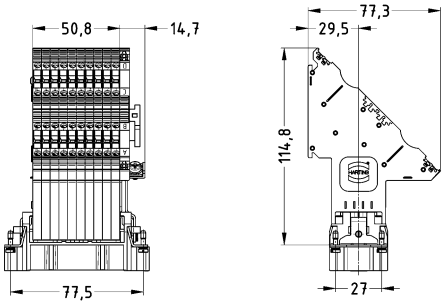
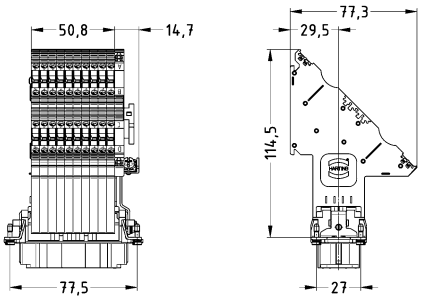
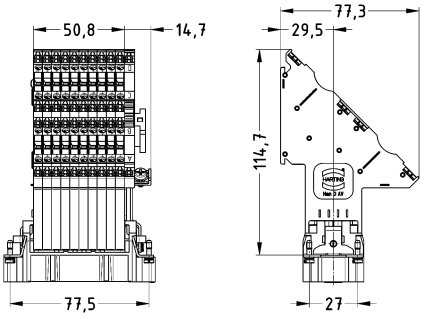
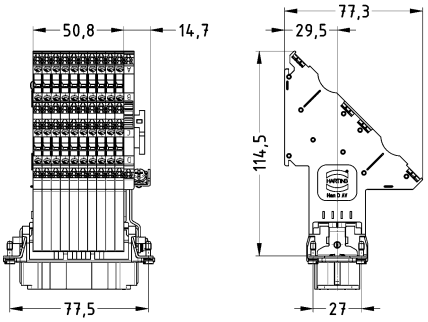
- Murrplastik – KWI 5/10
- Murrplastik – KWI 5/10-5
- Murrplastik – KWI 8.6-5
- Wieland – 9705 A 5/10
- WAGO – Mini - WSB

Number of contacts

40+ ⏚

10 A 250 V 4 kV 3

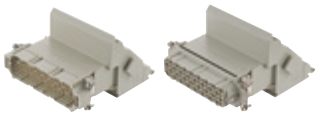
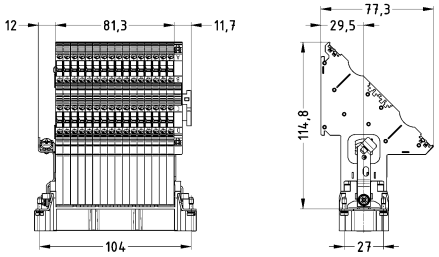
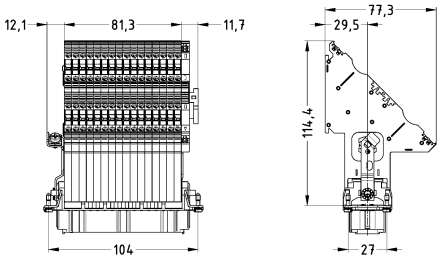
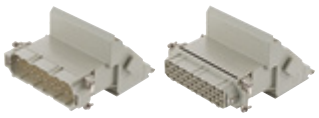
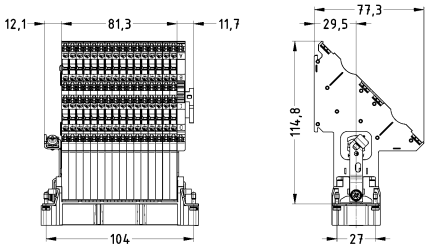
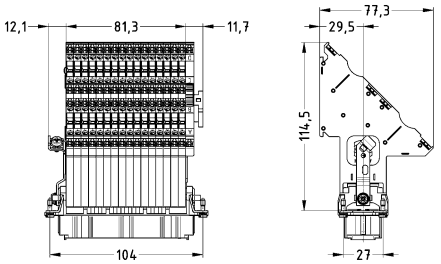
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han D® AV, Terminal block connector, Left hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 040 4601	09 21 040 4701	 
Han D® AV, Terminal block connector, Left hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 040 4602	09 21 040 4702	 

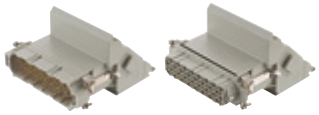
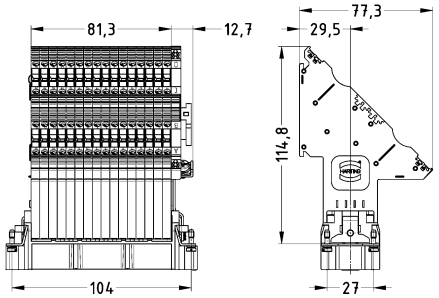
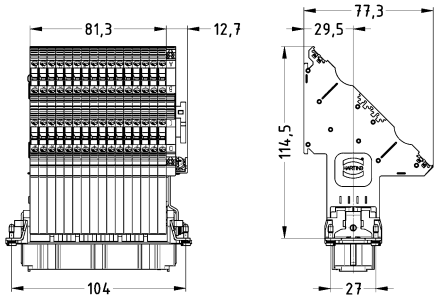
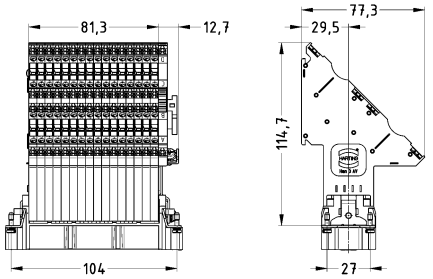
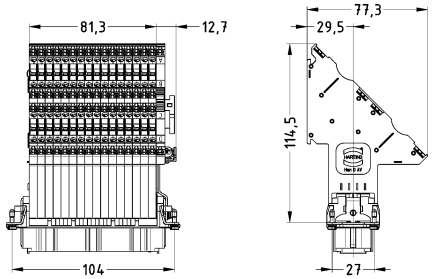
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han D® AV, Terminal block connector, Right hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 040 4611	09 21 040 4711	 
Han D® AV, Terminal block connector, Right hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 040 4612	09 21 040 4712	 

Number of contacts

64+ ⏚

10 A 250 V 4 kV 3

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han D® AV, Terminal block connector, Left hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 064 4601	09 21 064 4701	 
Han D® AV, Terminal block connector, Left hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 064 4602	09 21 064 4702	 

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han D® AV, Terminal block connector, Right hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 064 4611	09 21 064 4711	 
Han D® AV, Terminal block connector, Right hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 21 064 4612	09 21 064 4712	 

Han D® AV distributor

Features

- Easy mounting direct adjacent to terminal block connector Han D® AV
- By using of fixing elements mountable on standard rails
- Screw termination with wire protection

Technical characteristics

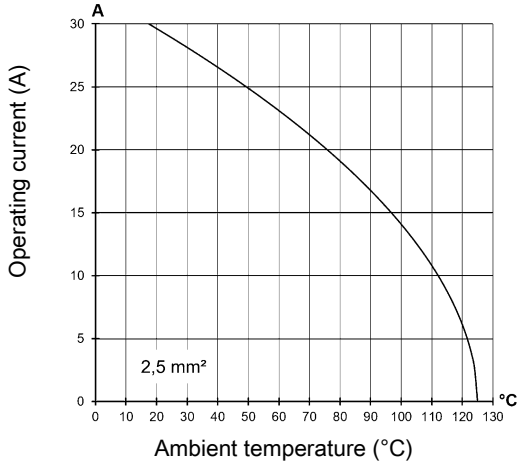
Rated current	16 A
Rated voltage conductor-earth	400 V
Rated voltage conductor-conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	$>10^{10}$ Ω
Limiting temperature	-40 ... +125 °C
Material (insert)	Polycarbonate (PC)
Colour (insert)	RAL 7032 (pebble grey)
Material (contacts)	Copper alloy
Material flammability class acc. to UL 94	V-0
RoHS	not compliant, compliant

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



Specifications and approvals

EN 60664-1
IEC 61984
UL 1977 ECBT2.E235076

Details

Stripping length 8 ... 11 mm

Tightening torque 0.5 Nm

Identification

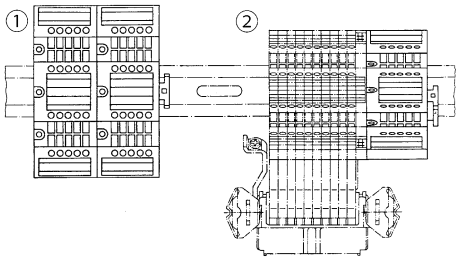
The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Identification strips

Multi contour (MK) the following identification strips may be used

- HARTING – 09 21 000 9971
- Murrplastik – KPX 5/10-5
- Phoenix – 4 K – DST 5
- Phoenix – ZB 5
- Phoenix – DS 5

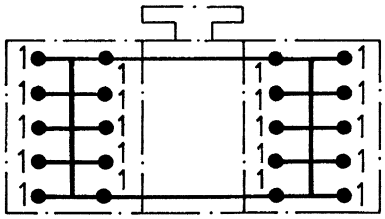
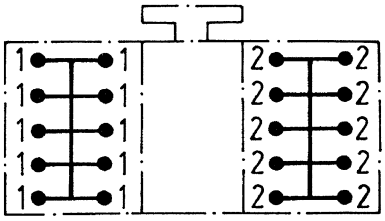
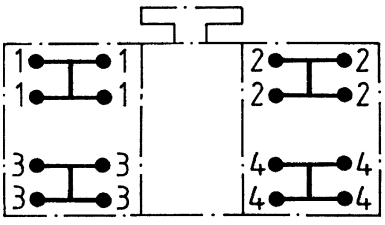
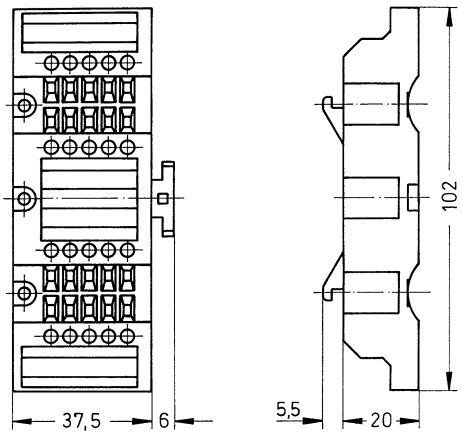
Mounting example



① Distributor On standard rail
② Distributor With teminal block connector Han D® AV

Han D® AV distributor

16 A 400/690 V 6 kV 3

Identification	Conductor cross-section (mm²)	Part number	Drawing (dimensions in mm)
Han D® AV, Distributor, 20 termination points, Screw termination, Contact surface: Tin plated Optionally mountable to terminal block connectors	0.2 ... 2.5	09 42 020 0111	
Han D® AV, Distributor, 2 x10 termination points, Screw termination, Contact surface: Tin plated Optionally mountable to terminal block connectors	0.2 ... 2.5	09 42 020 0121	
Han D® AV, Distributor, 4x 4 termination points, Screw termination, Contact surface: Tin plated Optionally mountable to terminal block connectors	0.2 ... 2.5	09 42 020 0131	 

Features

- for left or right hand applications available
- PE and connecting terminal for contact no.1 are at the top in both types of installation
- Mountable in standard bulkhead mounted housings and on standard rails by using of fixing elements
- Screw termination with wire protection

Technical characteristics

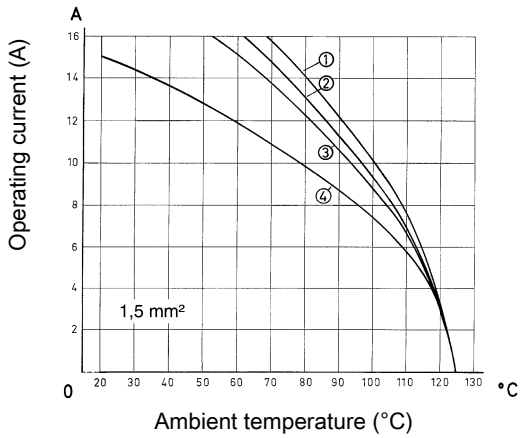
Number of contacts	6, 10, 16, 24
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	>10^{10} Ω
Contact resistance	≤4 mΩ
Limiting temperature	-40 ... +125 °C
Mating cycles	≥500
Material (insert)	Polycarbonate (PC)
Colour (insert)	RAL 7032 (pebble grey)
Material (contacts)	Copper alloy
Material flammability class acc. to UL 94	V-0
RoHS	compliant with exemption

Derating

Current carrying capacity

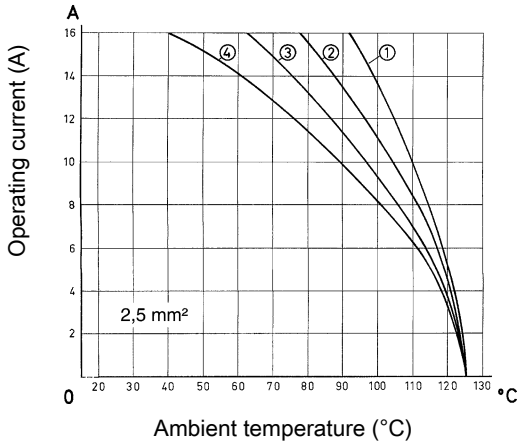
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the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

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



① Han® 6 E AV
② Han® 10 E AV
③ Han® 16 E AV
④ Han® 24 E AV

Derating



① Han® 6 E AV
② Han® 10 E AV
③ Han® 16 E AV
④ Han® 24 E AV

Specifications and approvals

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

Details

Stripping length 8 ... 11 mm

Tightening torque 0.5 Nm

Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Identification strips

Multi contour (MK) the following identification strips may be used

- HARTING 6 x 10 – 09 33 000 9971
- Murrplastik – KPX 6 / 10
- Weidmüller – DEK 6.5
- Phoenix – 4 K – DST 6

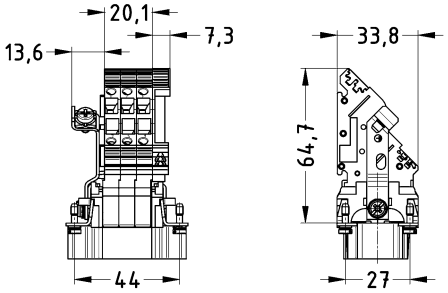
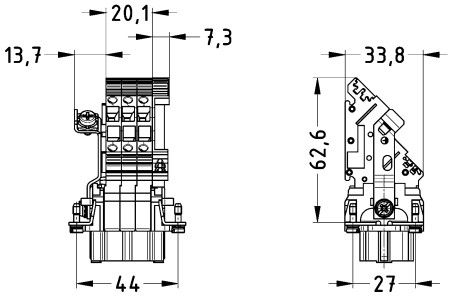
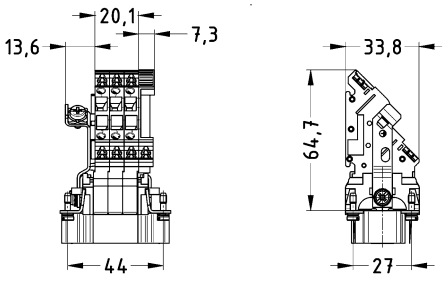
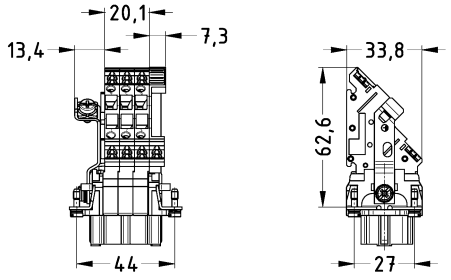
Single contour (SK) the following identification strips may be used

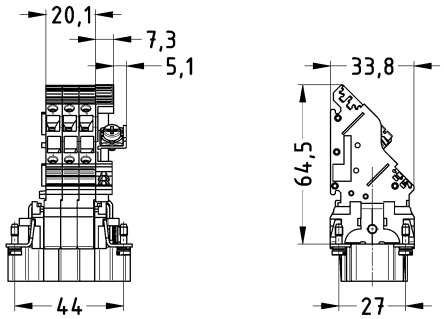
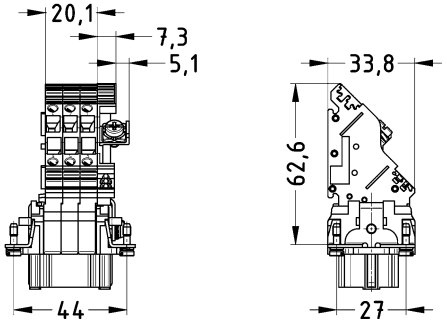
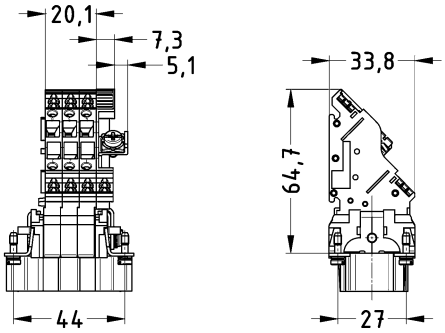
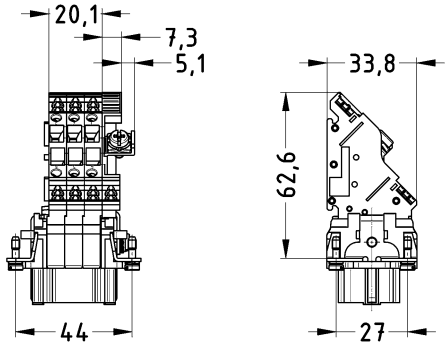
- Murrplastik – KWI 6/10
- Wieland – 9705 A/6.7

Number of contacts

6+ ⏚

16 A 500 V 6 kV 3

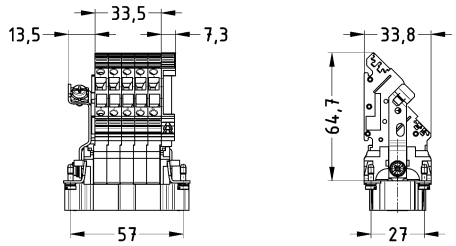
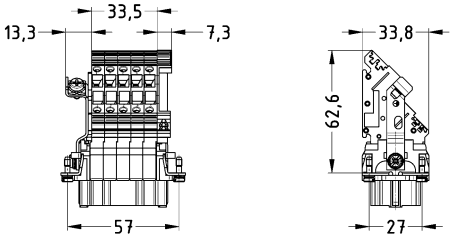
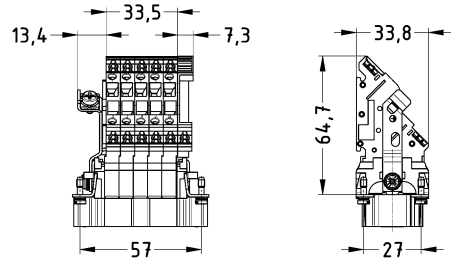
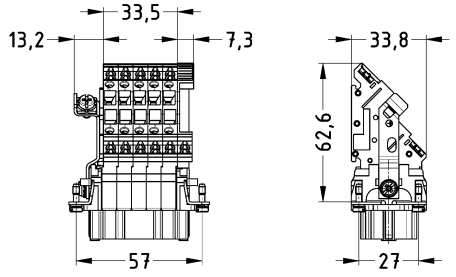
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Left hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 006 4625	09 33 006 4725	 
Han E® AV, Terminal block connector, Left hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 006 4626	09 33 006 4726	 

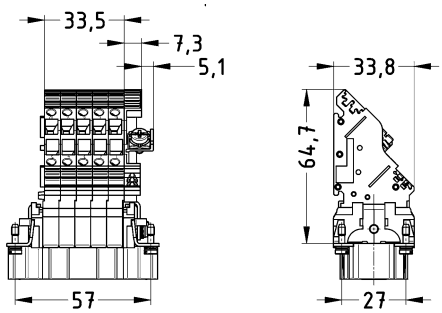
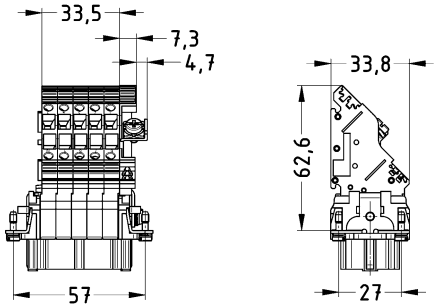
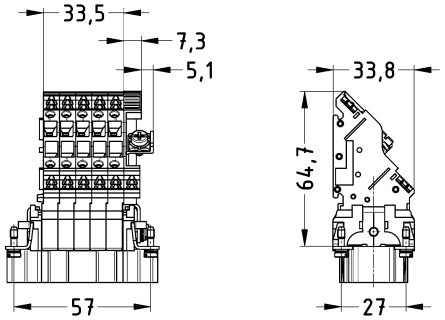
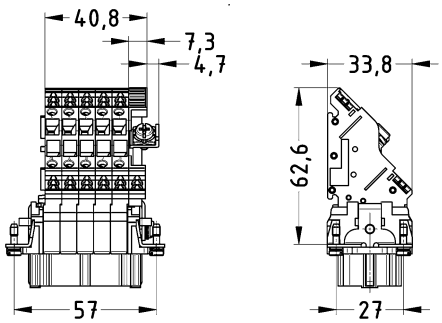
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Right hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 006 4635	09 33 006 4735	 
Han E® AV, Terminal block connector, Right hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 006 4636	09 33 006 4736	 

Number of contacts

10+ ⏚

16 A 500 V 6 kV 3

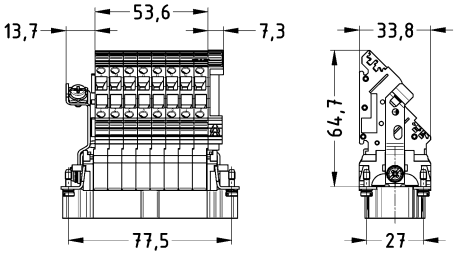
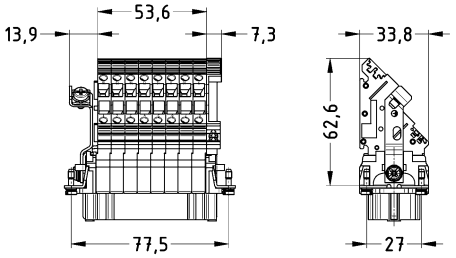
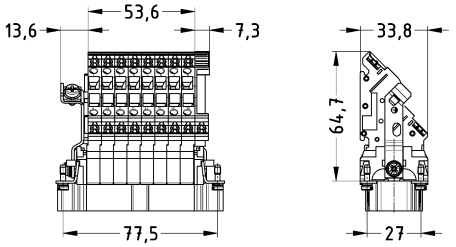
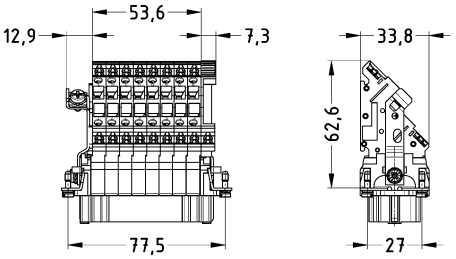
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Left hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 010 4625	09 33 010 4725	 
Han E® AV, Terminal block connector, Left hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 010 4626	09 33 010 4726	 

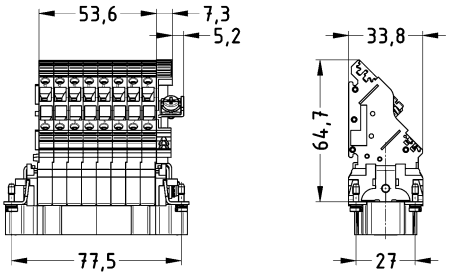
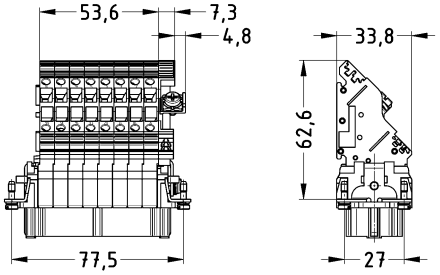
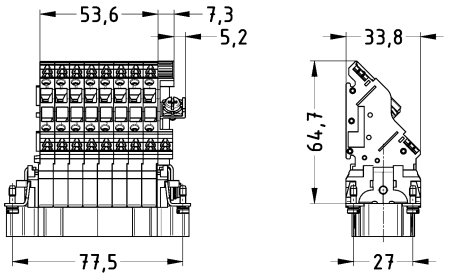
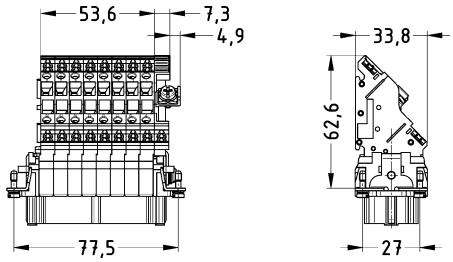
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Right hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 010 4635	09 33 010 4735	 
Han E® AV, Terminal block connector, Right hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 010 4636	09 33 010 4736	 

Number of contacts

16+

16 A 500 V 6 kV 3

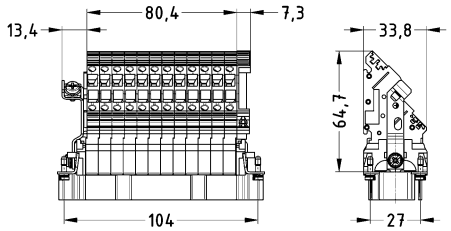
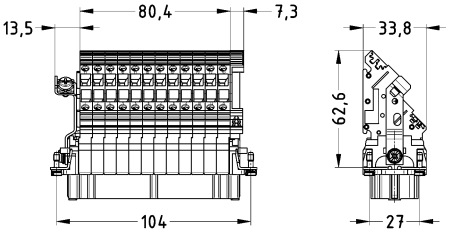
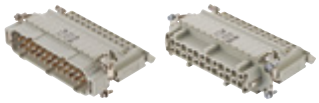
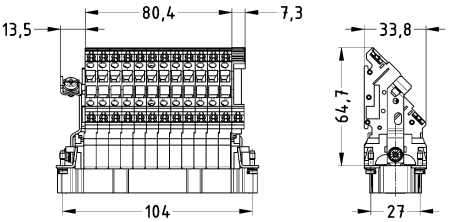
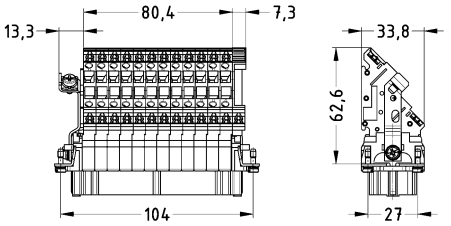
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Left hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 016 4625	09 33 016 4725	 
Han E® AV, Terminal block connector, Left hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 016 4626	09 33 016 4726	 

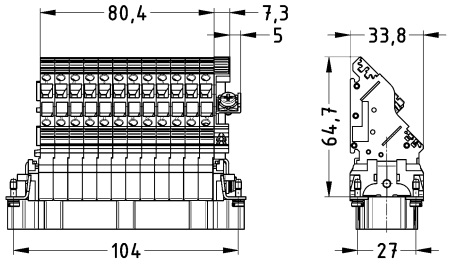
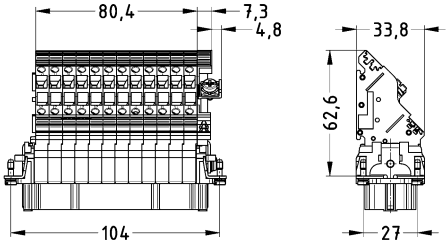
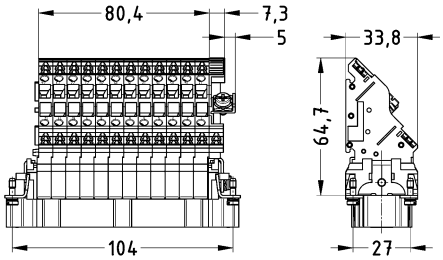
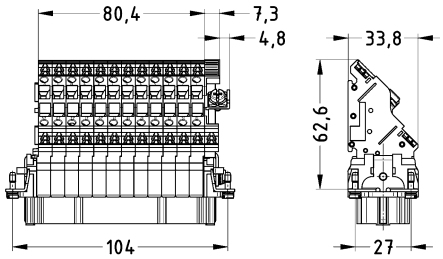
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Right hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 016 4635	09 33 016 4735	 
Han E® AV, Terminal block connector, Right hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 016 4636	09 33 016 4736	 

Number of contacts

24+ ⏚

16 A 500 V 6 kV 3

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Left hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 024 4625	09 33 024 4725	 
Han E® AV, Terminal block connector, Left hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 024 4626	09 33 024 4726	 

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E® AV, Terminal block connector, Right hand version, Multi contour (MK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 024 4635	09 33 024 4735	 
Han E® AV, Terminal block connector, Right hand version, Single contour (SK), Screw termination, Contact surface: Silver plated 	0.2 ... 2.5	09 33 024 4636	09 33 024 4736	 

Features

- for left or right hand applications available
- PE and connecting terminal for contact no.1 are at the top in both types of installation
- Mountable in standard bulkhead mounted housings and on standard rails by using of fixing elements
- Reliable cage clamp termination

Technical characteristics

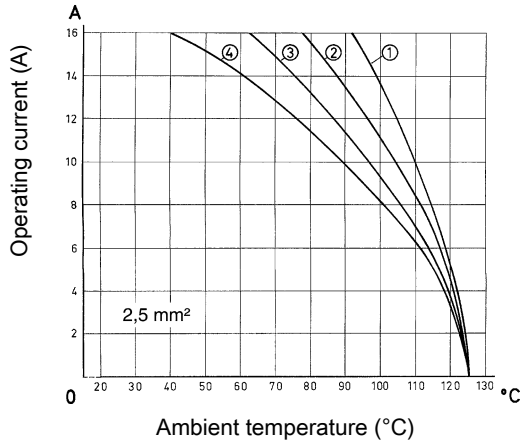
Number of contacts	6, 10, 16, 24
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated current acc. to UL	12 A
Rated current acc. to CSA	12 A
Rated voltage acc. to UL	600 V
Insulation resistance	>10^{10} Ω
Contact resistance	≤4 mΩ
Limiting temperature	-40 ... +125 °C
Mating cycles	≥500
Material (insert)	Polycarbonate (PC)
Colour (insert)	RAL 7032 (pebble grey)
Material (contacts)	Copper alloy
Material flammability class acc. to UL 94	V-0
RoHS	compliant with exemption

Derating

Current carrying capacity

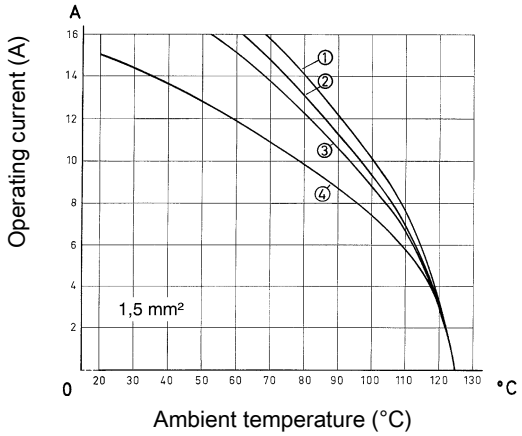
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the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

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



① Han® 6 ES AV
② Han® 10 ES AV
③ Han® 16 ES AV
④ Han® 24 ES AV

Derating



① Han® 6 ES AV
② Han® 10 ES AV
③ Han® 16 ES AV
④ Han® 24 ES AV

Specifications and approvals

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

Details

Stripping length 8 ... 11 mm

Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Identification strips

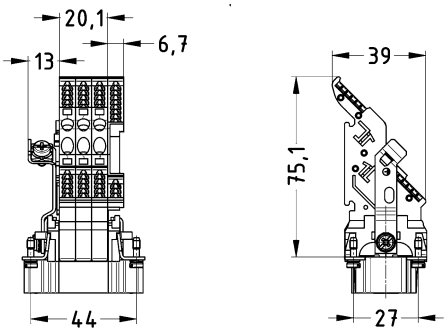
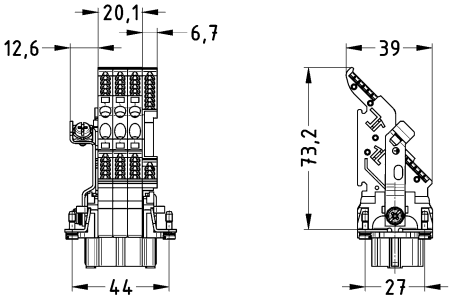
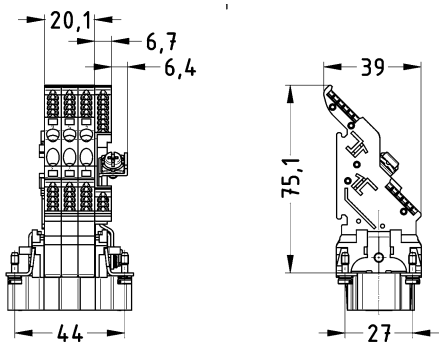
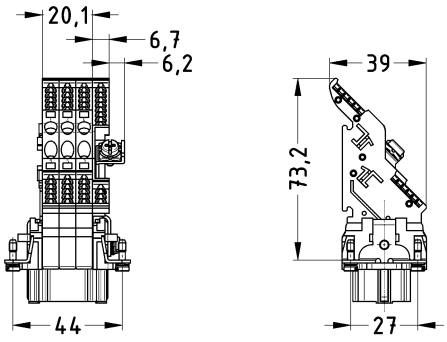
Single contour (SK) the following identification strips may be used

- HARTING – 09 33 000 9973 (6 x 15)
- Murrplastik – KWI 6/15
- Wieland – 9705 A/6.7

Number of contacts

6+ ⏚

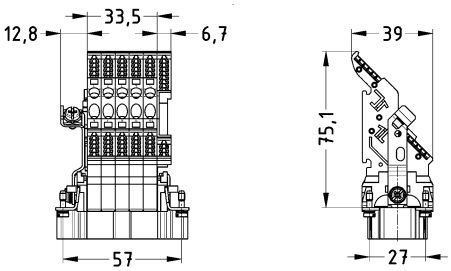
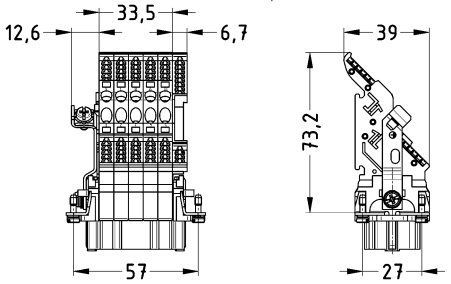
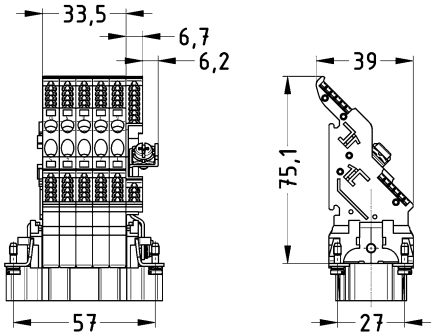
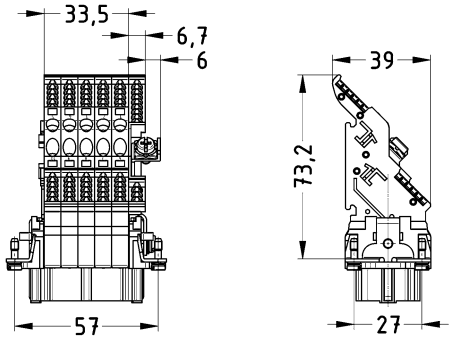
16 A 500 V 6 kV 3

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® ES AV, Terminal block connector, Left hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 006 4629	09 33 006 4729	 
Han® ES AV, Terminal block connector, Right hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 006 4639	09 33 006 4739	 

Number of contacts

10+ ⏚

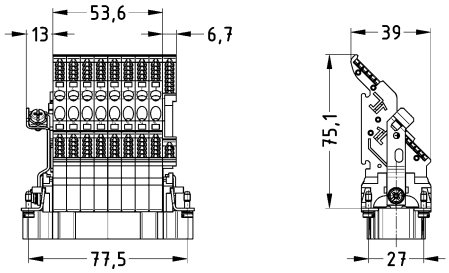
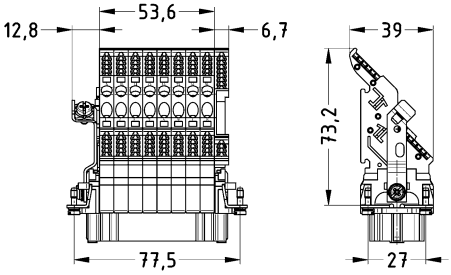
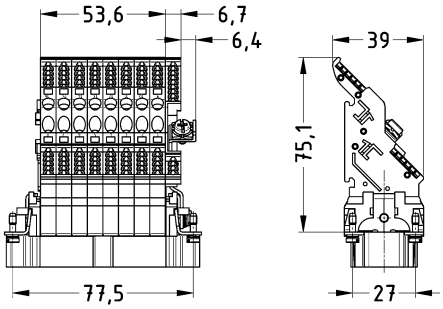
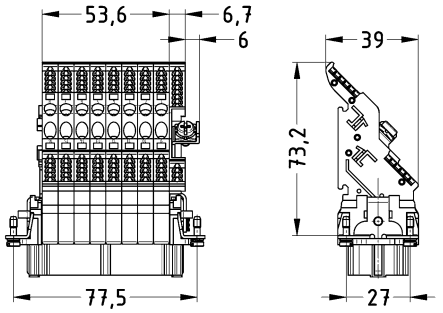
16 A 500 V 6 kV 3

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® ES AV, Terminal block connector, Left hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 010 4629	09 33 010 4729	 
Han® ES AV, Terminal block connector, Right hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 010 4639	09 33 010 4739	 

Number of contacts

16+ ⏚

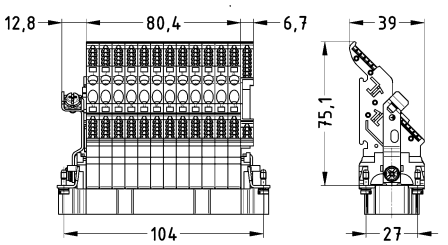
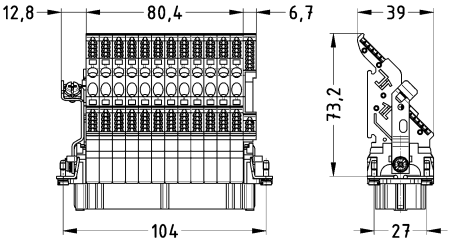
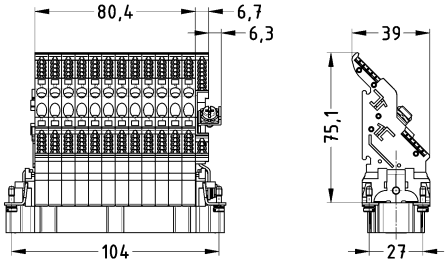
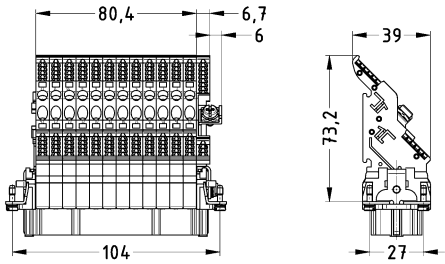
16 A 500 V 6 kV 3

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® ES AV, Terminal block connector, Left hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 016 4629	09 33 016 4729	 
Han® ES AV, Terminal block connector, Right hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 016 4639	09 33 016 4739	 

Number of contacts

24+ ⏚

16 A 500 V 6 kV 3

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® ES AV, Terminal block connector, Left hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 024 4629	09 33 024 4729	 
Han® ES AV, Terminal block connector, Right hand version, Single contour (SK), Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 33 024 4639	09 33 024 4739	 

Technical characteristics

RoHS	compliant

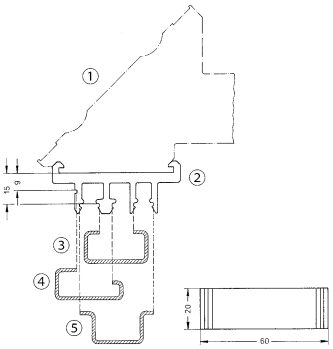
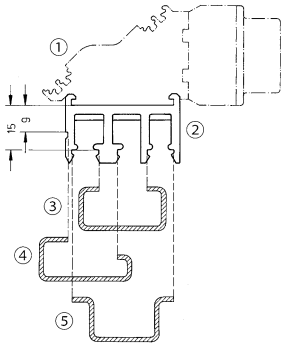
Details

There are moulded slots at the rear of the terminal block connectors and distributors to accept the fixing elements. When used these elements, for example, can be used to secure the connectors inside the switch cabinets on standard rails.

Details

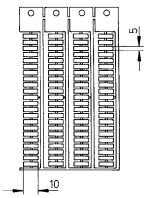
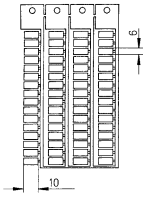
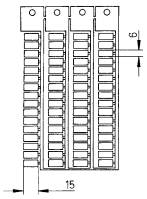
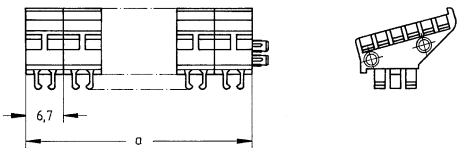
For mounting

Terminal block connector Han E® AV / Han® ES AV
Han® 6 E AV, Han® 6 ES AV = 1 fixing element
Han® 10/16/24 E AV, Han® 10/16/24 ES AV = 2 fixing elements
Terminal block connector Han D® AV
Han® 40/64 D AV = 2 fixing elements
Distributor = 1 fixing element

Identification	Part number	Drawing (dimensions in mm)
Han D® AV, Han D® AV Distributor, Fixing element 	09 33 000 9928	 ① Terminal block connector Han D® AV ② Fixing element ③ C-rail IEC 60715-C30 ④ G-rail IEC 60715-G32 ⑤ Rail IEC 60715-35 x 7.5 or -35 x 15
Han E® AV, Han® ES AV, Fixing element 	09 33 000 9929	 ① Terminal block connector Han E® AV ② Fixing element ③ C-rail IEC 60715-C30 ④ G-rail IEC 60715-G32 ⑤ Rail IEC 60715-35 x 7.5 or -35 x 15

Technical characteristics

RoHS	compliant

Identification	Part number	Drawing (dimensions in mm)
Han D® AV, Identification strip, Multi contour (MK), Pack contents: 88 pieces in one block 	09 21 000 9971	
Han E® AV, Identification strip, Multi contour (MK), Pack contents: 64 pieces in one block 	09 33 000 9971	
Han® ES AV, Identification strip, Single contour (SK), Pack contents: 64 pieces in one block 	09 33 000 9973	
Adapter, To fit identification strips, Single contour (SK), Fixing on terminal block connector 	09 33 000 9964 09 33 000 9965 09 33 000 9966 09 33 000 9967	 09 33 000 9964 Han® 6 E AV a = 26.8 mm 09 33 000 9965 Han® 10 E AV a = 40.2 mm 09 33 000 9966 Han® 16 E AV a = 60.3 mm 09 33 000 9967 Han® 24 E AV a = 87.4 mm