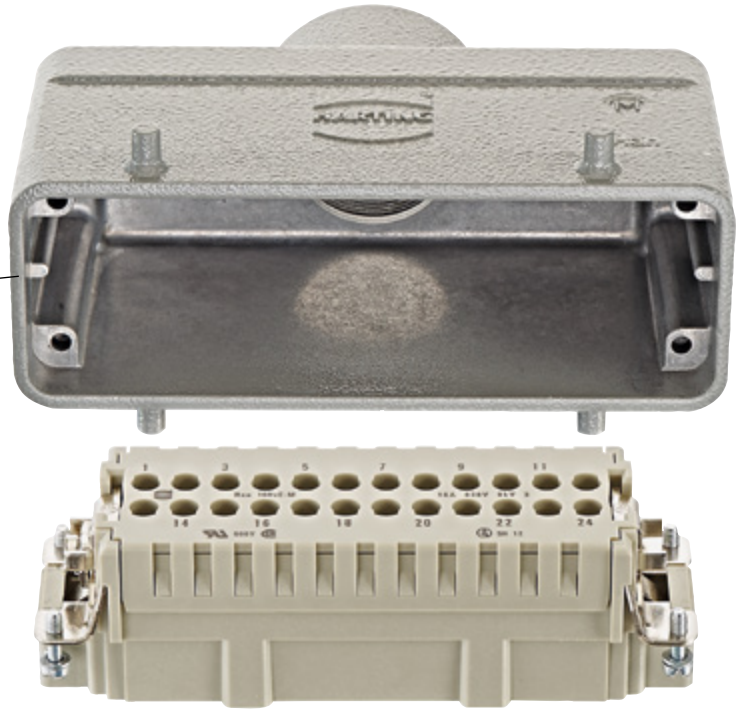
Contents | Page

Difference: Han Hv E® to standard hoods/housings

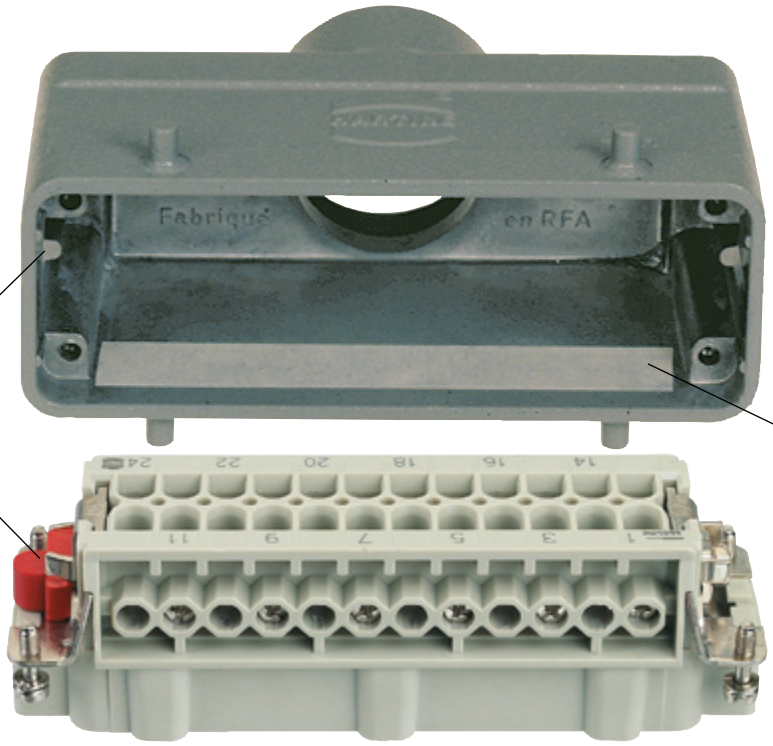
Standard Hoods/Housings Han® B

Suitable for
Han® Hv ES cage-clamp terminal
and Han Hv E® crimp terminal



Special hood/housing Han Hv E®

Suitable for
Han Hv E® screw terminal



Features

- Designed for application up to 830 V
- Available in multiple termination techniques

Technical characteristics

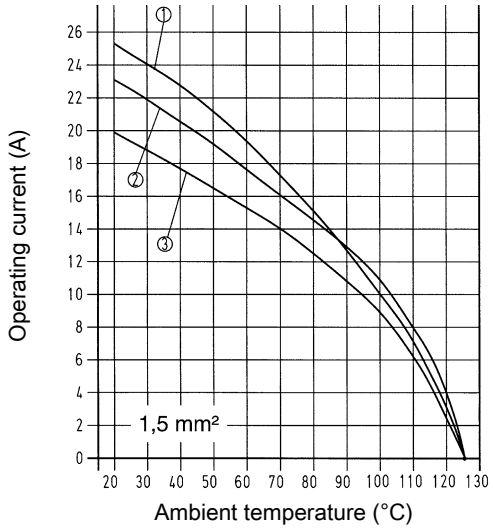
Number of contacts	3, 6, 10, 12, 20
Additional contacts	+ 2 additional relay contacts, + 4 additional relay contacts
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	$>10^{10}$ Ω
Contact resistance	≤1 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, compliant with exemption

Derating

Current carrying capacity

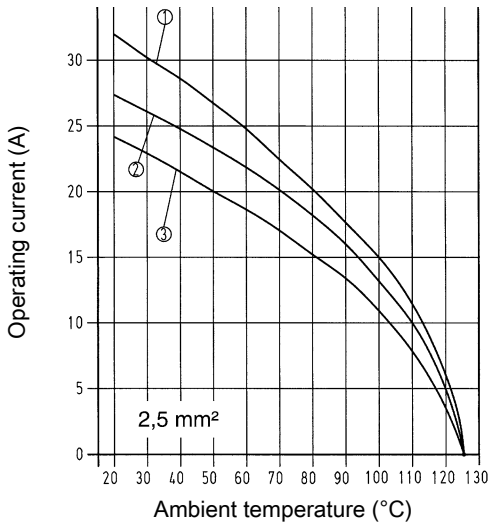
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the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

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



① Han® 3 Hv E
② Han® 6 / 12 Hv E
③ Han® 10 / 16 / 20 / 32 Hv E

Derating



① Han® 3 Hv E
② Han® 6 / 12 Hv E
③ Han® 10 / 16 / 20 / 32 Hv E

Specifications and approvals

EN 60664-1
IEC 61984
UL 1977 ECBT2.E235076

Details

Han Hv E® screw requires special Han Hv E® housings

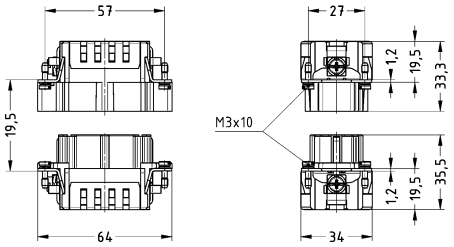
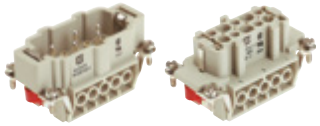
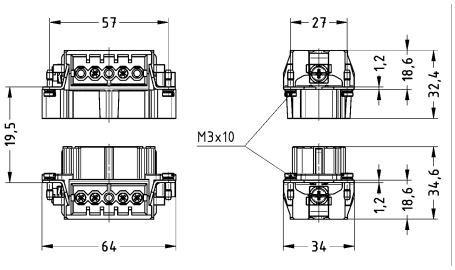
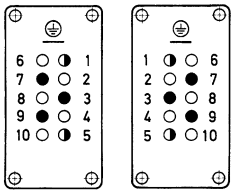
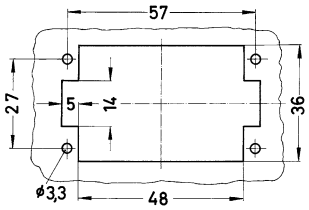
Tightening torque 0.5 Nm

Tightening torque PE screw 1.2 Nm

Number of contacts

3+ ⏚

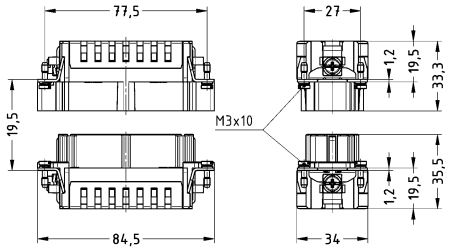
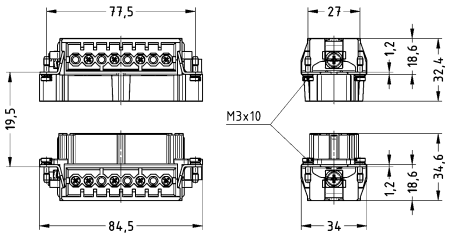
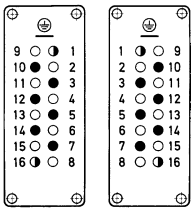
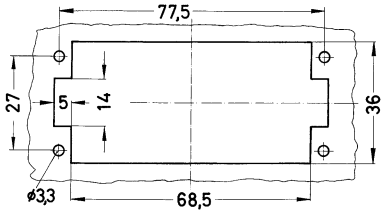
16 A 830 V 8 kV 3
+ 2 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han Hv E®, Crimp termination  Please order crimp contacts separately.	0.5 ... 4	09 34 003 2602	09 34 003 2702	
Han Hv E®, Screw termination, With wire protection, Contact surface: Silver plated 	0.75 ... 2.5	09 34 003 2601	09 34 003 2701	  M F Contact arrangement (view from termination side) Han® 3 Hv E ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

6+ ⏚

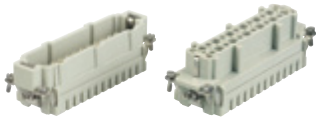
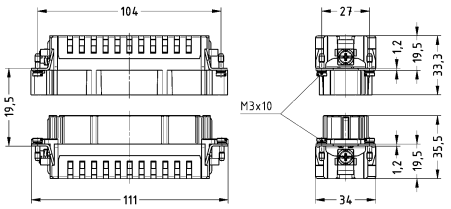
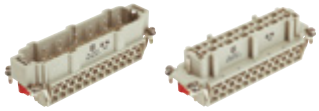
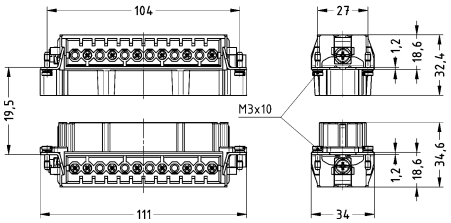
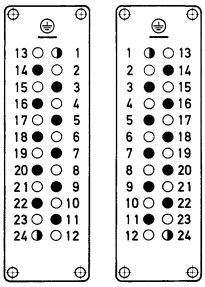
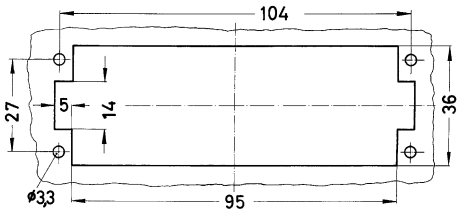
16 A 830 V 8 kV 3
+ 2 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han Hv E®, Crimp termination  Please order crimp contacts separately.	0.5 ... 4	09 34 006 2602	09 34 006 2702	
Han Hv E®, Screw termination, With wire protection, Contact surface: Silver plated 	0.75 ... 2.5	09 34 006 2601	09 34 006 2701	  M F Contact arrangement (view from termination side) Han® 6 Hv E ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

10+ ⏚

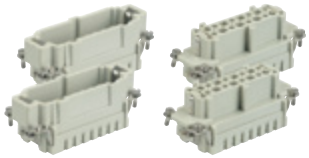
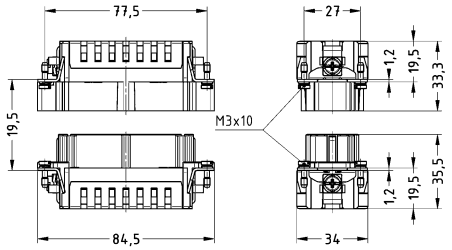
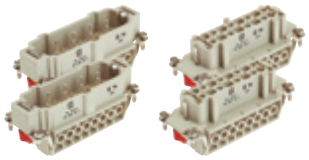
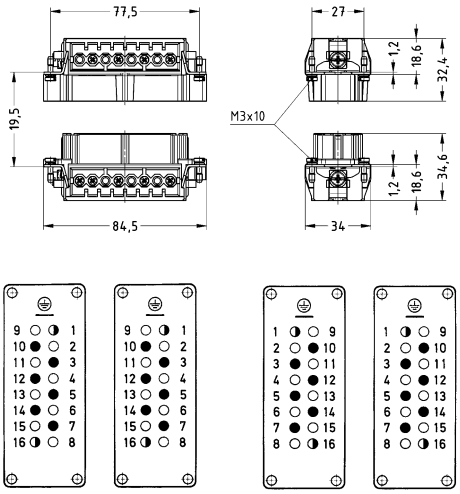
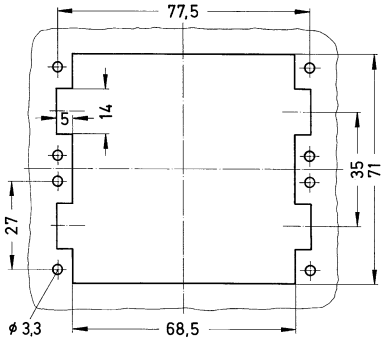
16 A 830 V 8 kV 3
+ 2 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han Hv E®, Crimp termination  Please order crimp contacts separately.	0.5 ... 4	09 34 010 2602	09 34 010 2702	
Han Hv E®, Screw termination, With wire protection, Contact surface: Silver plated 	0.75 ... 2.5	09 34 010 2601	09 34 010 2701	  M F Contact arrangement (view from termination side) Han® 10 Hv E ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

12+ ⏚

16 A 830 V 8 kV 3
+ 4 additional relay contacts

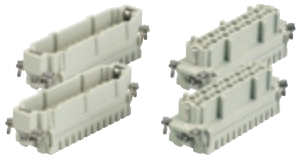
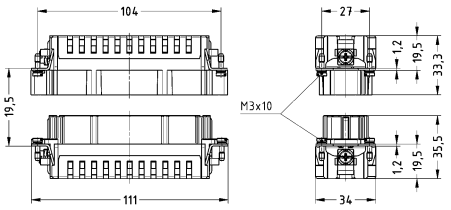
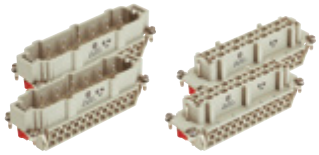
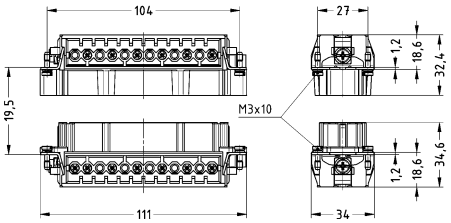
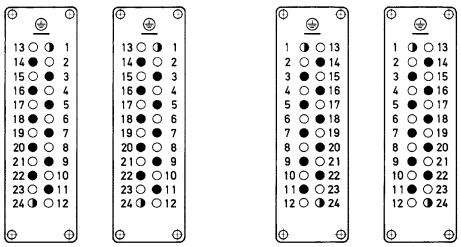
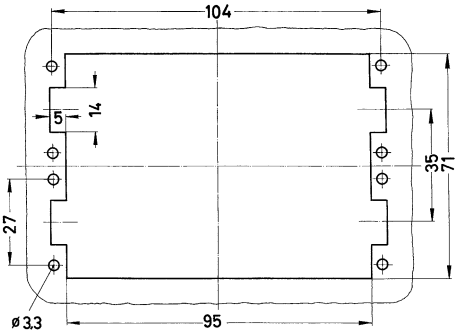
Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han Hv E®, Crimp termination  Please order crimp contacts separately. You need two inserts for a complete assembly!	0.5 ... 4	09 34 006 2602	09 34 006 2702	
Han Hv E®, Screw termination, With wire protection, Contact surface: Silver plated  You need two inserts for a complete assembly!	0.75 ... 2.5	09 34 006 2601	09 34 006 2701	 M F Contact arrangement (view from termination side) Han® 12 Hv E ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Han® 20 Hv E — Size 48 B

Number of contacts

20+ ⏚

16 A 830 V 8 kV 3
+ 4 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han Hv E®, Crimp termination  Please order crimp contacts separately. You need two inserts for a complete assembly!	0.5 ... 4	09 34 010 2602	09 34 010 2702	
Han Hv E®, Screw termination, With wire protection, Contact surface: Silver plated  You need two inserts for a complete assembly!	0.75 ... 2.5	09 34 010 2601	09 34 010 2701	  M F Contact arrangement (view from termination side) Han® 20 Hv E ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Features

- Designed for application up to 690 V
- No special tools required

Technical characteristics

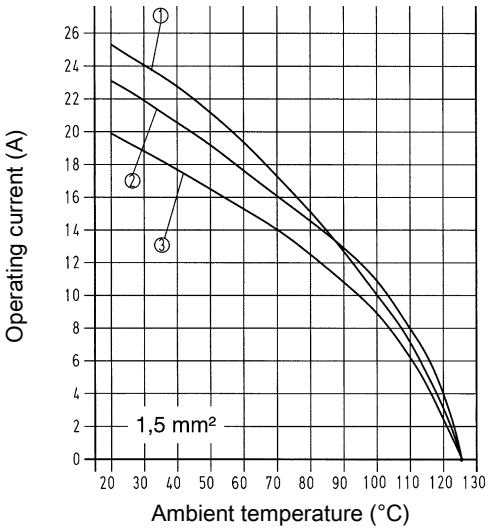
Number of contacts	16, 32
Additional contacts	+ 2 additional relay contacts, + 4 additional relay contacts
Rated current	16 A
Rated voltage conductor-earth	400 V
Rated voltage conductor-con-ductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	>10^{10} Ω
Contact resistance	≤1 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

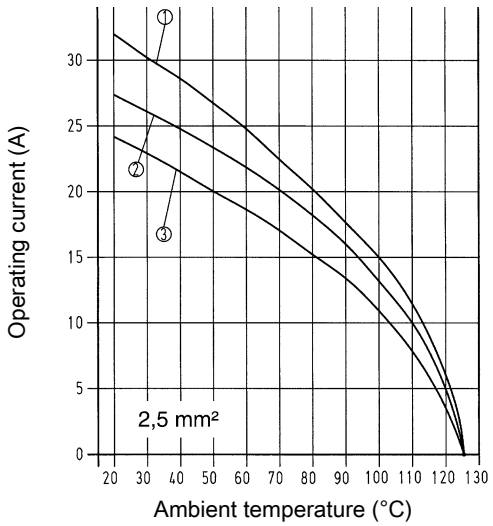
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the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

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



① Han® 3 Hv E
② Han® 6 / 12 Hv E
③ Han® 10 / 16 / 20 / 32 Hv E

Derating



① Han® 3 Hv E
② Han® 6 / 12 Hv E
③ Han® 10 / 16 / 20 / 32 Hv E

Specifications and approvals

EN 60664-1
IEC 61984
UL 1977 ECBT2.E235076

Details

Han Hv E® screw requires special Han Hv E® housings

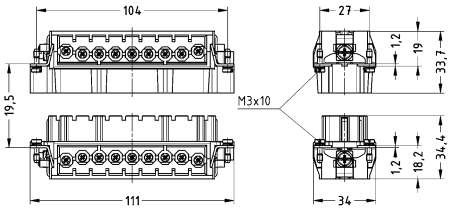
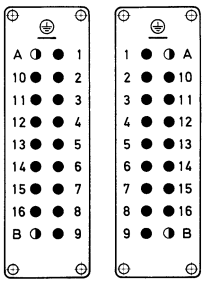
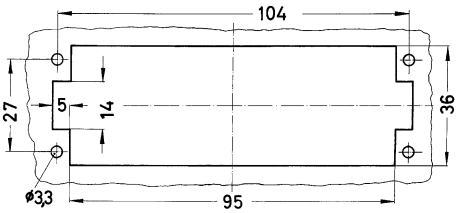
Tightening torque 0.5 Nm

Tightening torque PE screw 1.2 Nm

Number of contacts

16+ ⏚

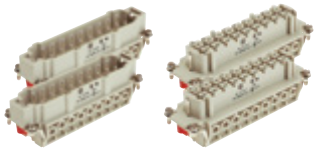
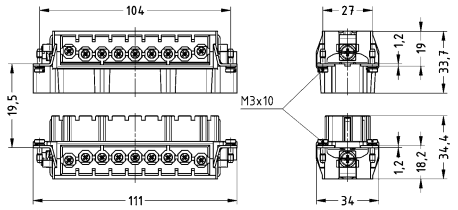
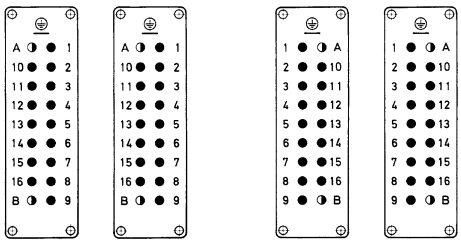
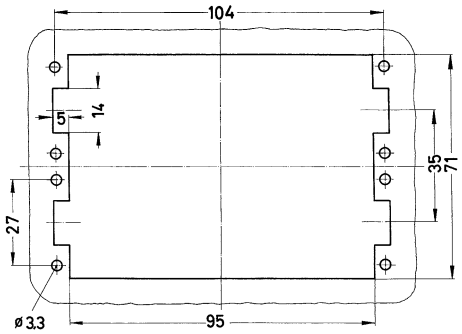
16 A 400/690 V 6 kV 3
+ 2 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han Hv E®, Screw termination, With wire protection, Contact surface: Silver plated 	0.75 ... 2.5	09 34 016 2601	09 34 016 2701	  M F Contact arrangement (view from termination side) Han® 16 Hv E ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

32+ ⏚

16 A 400/690 V 6 kV 3
+ 4 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han Hv E®, Screw termination, With wire protection, Contact surface: Silver plated  You need two inserts for a complete assembly!	0.75 ... 2.5	09 34 016 2601	09 34 016 2701	  M F Contact arrangement (view from termination side) Han® 32 Hv E ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Features

- Designed for application up to 830 V
- Reliable cage clamp termination
- No special tools required
- Vibration-proved

Technical characteristics

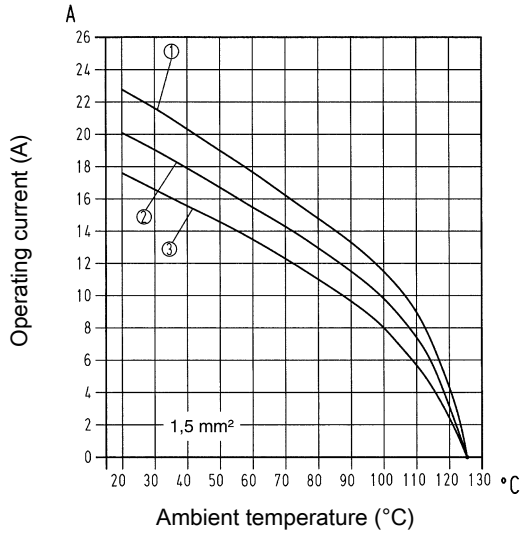
Number of contacts	3, 6, 10, 12, 20
Additional contacts	+ 2 additional relay contacts, + 4 additional relay contacts
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	>10^{10} Ω
Contact resistance	≤3 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

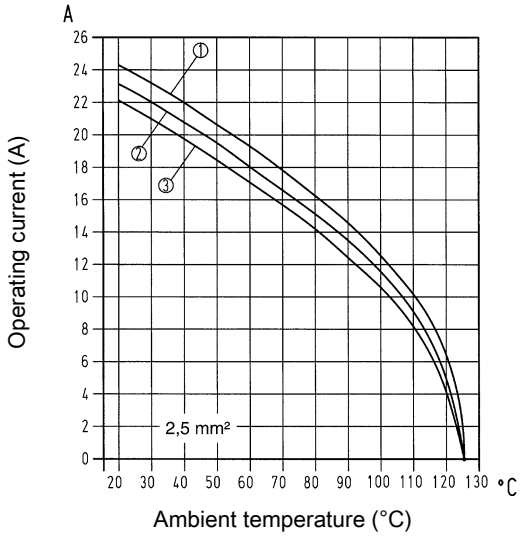
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the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

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



① Han® 3 Hv ES
② Han® 6 Hv ES / Han® 12 Hv ES
③ Han® 10 Hv ES / Han® 20 Hv ES

Derating



① Han® 3 Hv ES
② Han® 6 Hv ES / Han® 12 Hv ES
③ Han® 10 Hv ES / Han® 20 Hv ES

Specifications and approvals

EN 60664-1
IEC 61984
UL 1977 ECBT2.E235076

Details

Not mating compatible to Han Hv E® screw/crimp termination

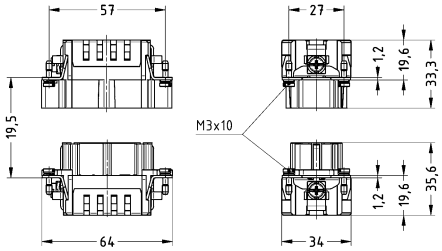
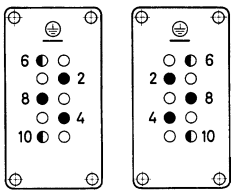
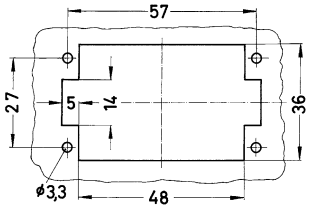
Tightening torque 0.5 Nm

Tightening torque PE screw 1.2 Nm

Number of contacts

3+ ⏚

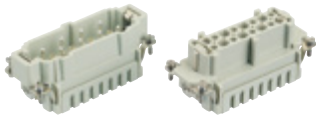
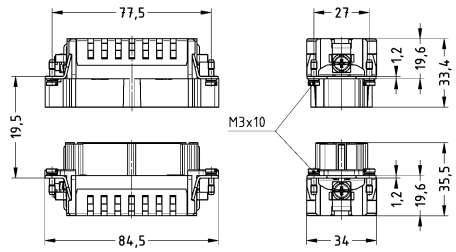
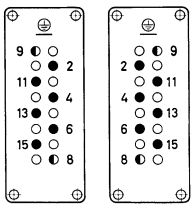
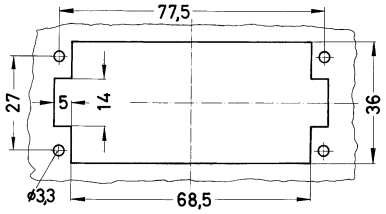
16 A 830 V 8 kV 3
+ 2 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® Hv ES, Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 34 003 2616	09 34 003 2716	  M F Contact arrangement (view from termination side) Han® 3 Hv ES ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

6+ ⏚

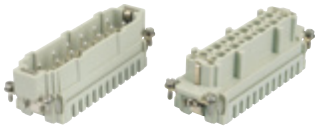
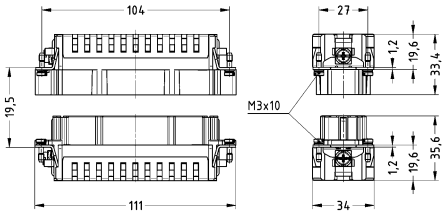
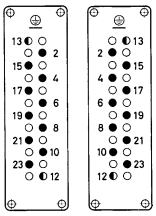
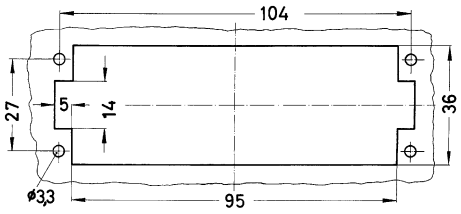
16 A 830 V 8 kV 3
+ 2 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® Hv ES, Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 34 006 2616	09 34 006 2716	  M F Contact arrangement (view from termination side) Han® 6 Hv ES ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

10+ ⏚

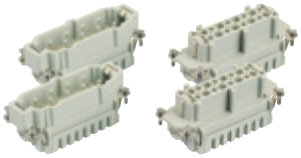
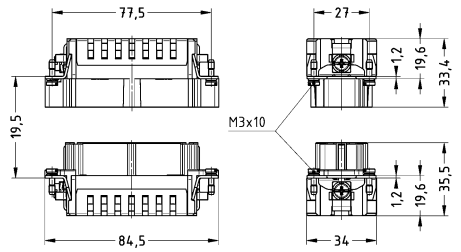
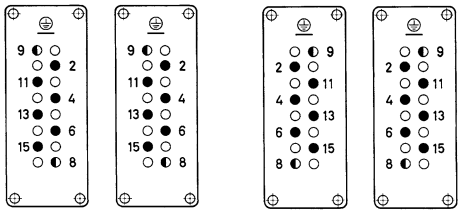
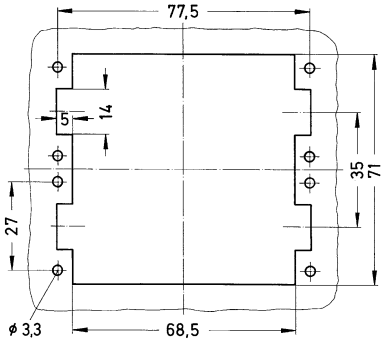
16 A 830 V 8 kV 3
+ 2 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® Hv ES, Cage-clamp termination, Contact surface: Silver plated 	0.14 ... 2.5	09 34 010 2616	09 34 010 2716	  Contact arrangement (view from termination side) Han® 10 Hv ES ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

12+ ⏚

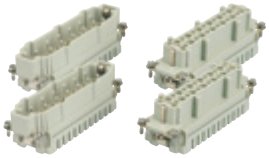
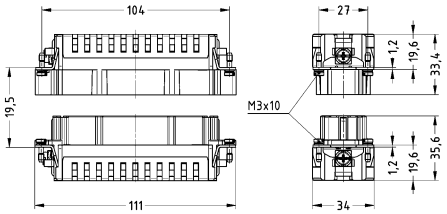
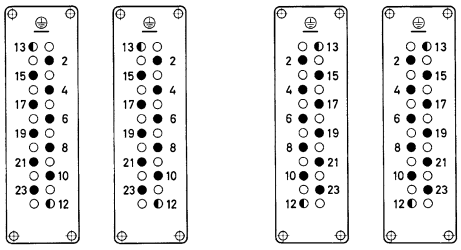
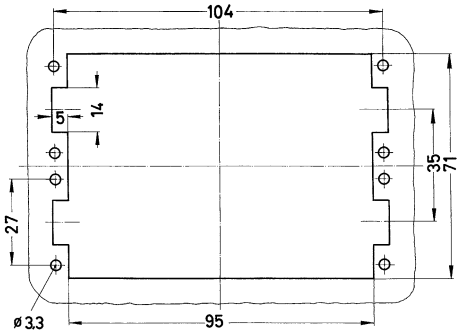
16 A 830 V 8 kV 3
+ 4 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® Hv ES, Cage-clamp termination, Contact surface: Silver plated  You need two inserts for a complete assembly!	0.14 ... 2.5	09 34 006 2616	09 34 006 2716	  M F Contact arrangement (view from termination side) Han® 12 Hv ES ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Number of contacts

20+ ⏚

16 A 830 V 8 kV 3
+ 4 additional relay contacts

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han® Hv ES, Cage-clamp termination, Contact surface: Silver plated  You need two inserts for a complete assembly!	0.14 ... 2.5	09 34 010 2616	09 34 010 2716	  Contact arrangement (view from termination side) Han® 20 Hv ES ◆ Power contacts ◐ Relay contact ○ Without contact  Panel cut out for use without Hoods/Housings

Technical characteristics

Contact resistance	≤1 mΩ
Material (contacts)	Copper alloy
RoHS	compliant with exemption

Specifications and approvals

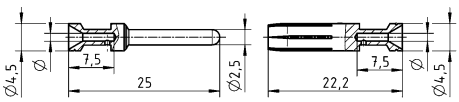
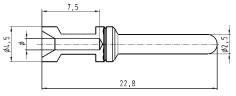
EN 60664-1
IEC 61984

Details

Crimping tools see chapter Han 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Conductor cross-section (mm²)	Part number Male	Part number Female	Drawing (dimensions in mm)
Han E®, Crimp contact, Contact surface: Silver plated	0.5 0.75 1 1.5 2.5 3 4	09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207	
Han E®, Crimp contact, Relay contact, Contact surface: Silver plated	0.75 ... 1 1.5 2.5	09 33 000 6109 09 33 000 6110 09 33 000 6111		

Conductor cross-section		Identification
0.14-0.37 mm²	AWG 26-22	no groove
0.5 mm²	AWG 20	no groove
0.75 mm²	AWG 18	1 groove*
1 mm²	AWG 18	1 groove
1.5 mm²	AWG 16	2 groove
2.5 mm²	AWG 14	3 groove
3 mm²	AWG 12	wide groove
4 mm²	AWG 12	no groove
* on the back crimp collar		

Stripping length 7.5 mm

Conductor cross-section		ø	Stripping length
0.75-1 mm²	AWG 18	1.45 mm	7.5 mm
1.5 mm²	AWG 16	1.75 mm	7.5 mm
2.5 mm²	AWG 14	2.25 mm	7.5 mm

Technical characteristics

Limiting temperature	-40 ... +125 °C
Degree of protection acc. to IEC 60529	IP65
Type rating acc. to UL 50 / UL 50E	4, 4X, 12
Material (hood/housing)	Aluminium die-cast
Surface (hood/housing)	Powder-coated
Colour (hood/housing)	RAL 7037 (dust grey)
Material (seal)	NBR
Material (locking)	Polycarbonate (PC), Stainless steel
Colour (locking)	RAL 7037 (dust grey)
Material flammability class acc. to UL 94 (locking levers)	V-0
RoHS	compliant

Specifications and approvals

DNV GL

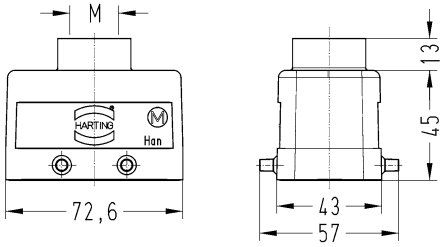
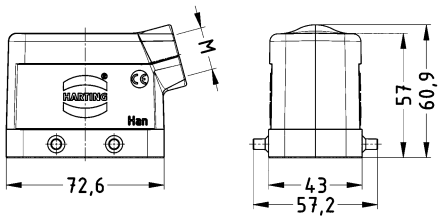
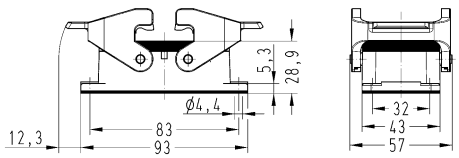
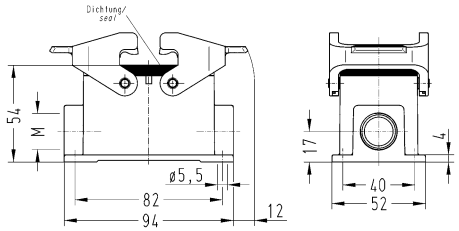
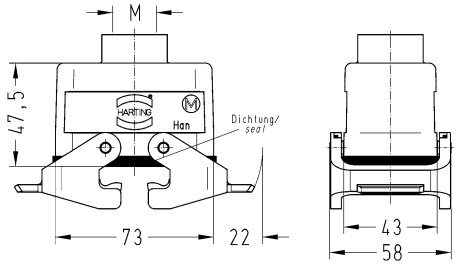
CE

Details

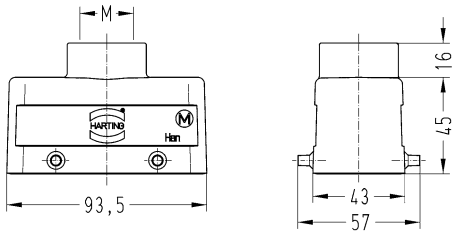
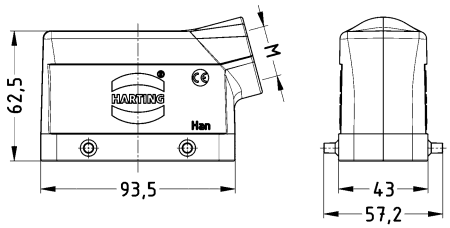
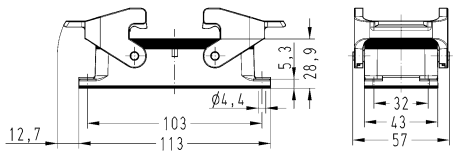
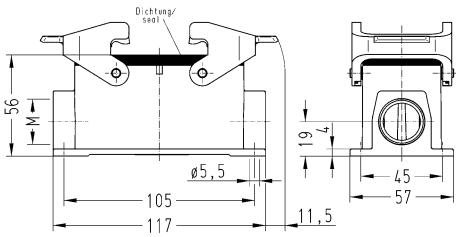
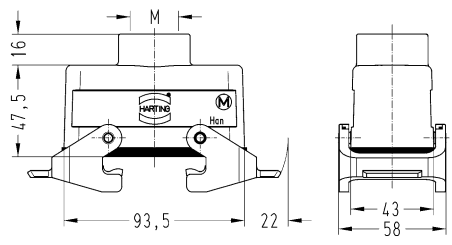
Special hoods/housings for Han Hv E® screw terminal

Standard hoods/housings see chapter Han 31

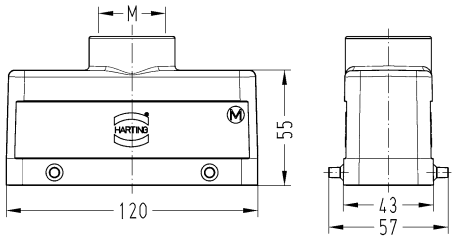
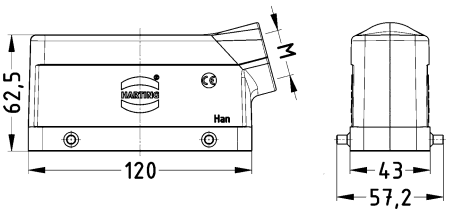
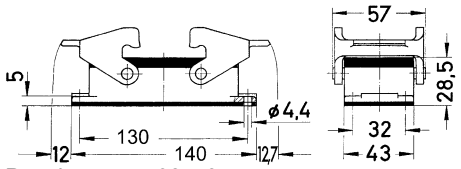
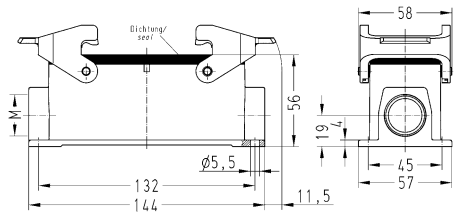
Special hoods/housings for Han Hv E® screw terminal
Double locking lever

Identification	Cable entry	Part number Low construc-tion	Drawing (dimensions in mm)
Han Hv E®, Hood, Top entry, IP65 	1x M20 1x M25	19 34 003 0420 19 34 003 0421	
Han Hv E®, Hood, Side entry, IP65 	1x M20	19 34 003 0520	
Han Hv E®, Bulkhead mounted housing, Han-Easy Lock®, IP65 		09 34 003 0301	 Panel cut out 60 x 35 mm
Han Hv E®, Surface mounted housing, Side entry, Han-Easy Lock®, IP65 	2x M20	19 34 003 0270	
Han Hv E®, Cable to cable housing, Top entry, Han-Easy Lock®, IP65 	1x M20 1x M25	19 34 003 0730 19 34 003 0731	

Special hoods/housings for Han Hv E® screw terminal
Double locking lever

Identification	Cable entry	Part number Low construc-tion	Drawing (dimensions in mm)
Han Hv E®, Hood, Top entry, IP65 	1x M25	19 34 006 0421	
Han Hv E®, Hood, Side entry, IP65 	1x M25	19 34 006 0521	
Han Hv E®, Bulkhead mounted housing, Han-Easy Lock®, IP65 		09 34 006 0301	 Panel cut out 82 x 35mm
Han Hv E®, Surface mounted housing, Side entry, Han-Easy Lock®, IP65 	2x M25	19 34 006 0271	
Han Hv E®, Cable to cable housing, Top entry, Han-Easy Lock®, IP65 	1x M25 1x M32	19 34 006 0731 19 34 006 0732	

Special hoods/housings for Han Hv E® screw terminal
Double locking lever

Identification	Cable entry	Part number Low construction	Drawing (dimensions in mm)
Han Hv E®, Hood, Top entry, IP65 	1x M32	19 34 010 0422	
Han Hv E®, Hood, Side entry, IP65 	1x M25	19 34 010 0521	
Han Hv E®, Bulkhead mounted housing, Han-Easy Lock®, IP65 		09 34 010 0301	 Panel cut out 108 x 35 mm
Han Hv E®, Surface mounted housing, Side entry, Han-Easy Lock®, IP65 	2x M25	19 34 010 0271	
Han Hv E®, Cable to cable housing, Top entry, Han-Easy Lock®, IP65 	1x M32	19 34 010 0732