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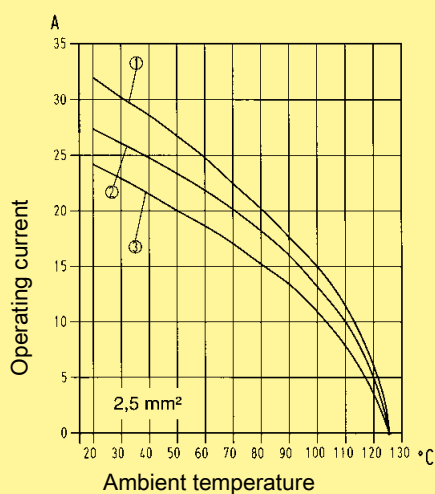
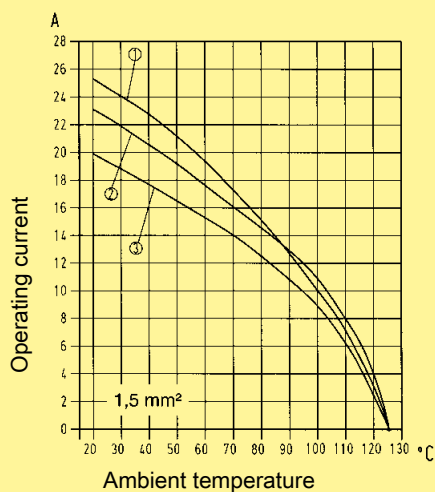
Features

- Designed for application up to 830 V
- Available in several termination techniques
- No special tools required
- Han Hv E® screw requires special Han Hv E® housings

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 according to DIN EN 60 512-5



- ① Han® 3 Hv E
 ② Han® 6 Hv E
 ③ Han® 10 Hv E / Han® 16 Hv E

Technical characteristics

Specifications DIN EN 61 984
 DIN EN 60 664-1

Approvals

Inserts

Number of contacts 3, 6, 10, 12 (2x6), 16, 20 (2x10), 32 (2x16) + PE
 + 2 additional contacts for safe high voltage connections

Electrical data acc. to DIN EN 61 984

Han Hv E® 3, 6, 10, 12, 20 + PE **16 A 830 V 8 kV 3**
 Rated current 16 A
 Rated voltage 830 V
 Rated impulse voltage 8 kV
 Pollution degree 3
 Pollution degree 2 also 16 A 1000 V 8 kV 2
 or 16 A 720/1250 V 8 kV 2
 Relay contacts 16 A 500 V 6 kV 3

Han Hv E® 16, 32 + PE **16 A 400/690 V 6 kV 3**
 Rated current 16 A
 Rated voltage conductor - ground 400 V
 Rated voltage conductor - conductor 690 V
 Rated impulse voltage 6 kV
 Pollution degree 3
 or 16 A 500 V 6 kV 3

Rated voltage acc. to UL/CSA 600 V
 Relay contacts 250 V
 Insulation resistance $\geq 10^{10} \Omega$
 Material polycarbonate
 Limiting temperatures -40 °C ... +125 °C
 Flammability acc. to UL 94 V 0
 Mechanical working life - mating cycles ≥ 500

Contacts

Material copper alloy
 Surface - hard-silver plated 3 μm Ag
 Contact resistance $\leq 1 \text{ m}\Omega$
 Crimp terminal - Wire gauge¹⁾ 0.5 ... 4 mm²
 - AWG 20 ... 12
 Screw terminal - Wire gauge¹⁾ 2.5 mm²
 - AWG 14
 - Tightening/test torque 0.5 Nm

Hoods/Housings

Technical characteristics see page 04.03

Accessories

Crimping tools chapter 99
 Cable clamps chapter 40
 Coding of hoods/housings chapter 40
 Label acc. to CSA-approval chapter 40
 Han-Snap® chapter 11

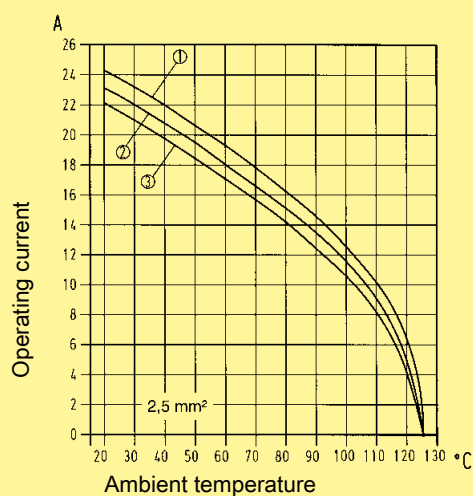
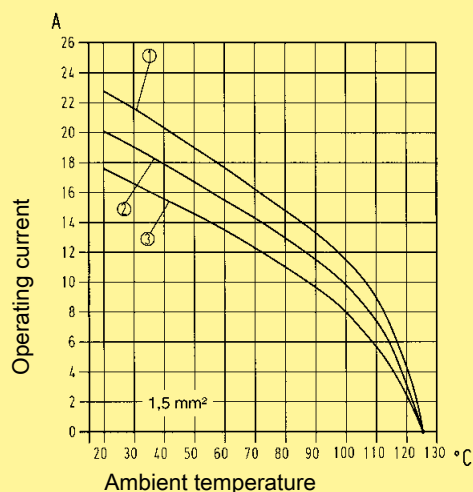
Features

- Designed for application up to 830 V
- Reliable cage clamp termination
- No special tools required
- Vibration proofed
- Not plug compatible to Han Hv E® screw/crimp terminal

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 according to DIN EN 60 512-5



- ① Han® 3 Hv ES
② Han® 6 Hv ES
③ Han® 10 Hv ES

¹⁾ geometric wire gauge

Technical characteristics

Specifications	DIN EN 61 984 DIN EN 60 664-1
Approvals	
Inserts	
Number of contacts	3, 6, 10, 12 (2x6), 20 (2x10) + PE + 2 additional contacts for safe high voltage connections
Electrical data acc. to DIN EN 61 984	16 A 830 V 8 kV 3
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Pollution degree 2 also or	16 A 1000 V 8 kV 2 16 A 720/1250 V 8 kV 2
Relay contacts	16 A 500 V 6 kV 3
Rated voltage acc. to UL/CSA	600 V
Relay contacts	250 V
Insulation resistance	≥ 10 ¹⁰ Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life - mating cycles	≥ 500
Contacts	
Material	copper alloy
Surface	- hard-silver plated
Contact resistance	3 μm Ag ≤ 3 mΩ
Cage clamp terminal	- Wire gauge ¹⁾ - AWG
	0.14 ... 2.5 mm ² 26 ... 14
Hoods/Housings	
Material	aluminium die-cast
Surface	powder-coated RAL 7037
Locking element	Han-Easy Lock®
Hoods/Housings sealing	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529	
for coupled connector	IP 65
Further selection of hoods/housings see chapter 30 / chapter 31	
Accessories	
Cable clamps	chapter 40
Coding of hoods/housings	chapter 40
Label acc. to CSA-approval	chapter 40
Han-Snap®	chapter 11

Identification	Wire gauge (mm ²)	Part number		Drawing	Dimensions in mm																																
		Male contacts	Female contacts																																		
Crimp contacts																																					
Operating contacts silver plated																																					
				Crimp contact identification																																	
				<table><tr><th>Identification</th><th colspan="2">Wire gauge</th><th>Stripping length</th></tr><tr><td>no groove</td><td>0.5 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 groove*</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 groove</td><td>1 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 grooves</td><td>1.5 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 grooves</td><td>2.5 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>wide groove</td><td>3 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>no groove</td><td>4 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></table>		Identification	Wire gauge		Stripping length	no groove	0.5 mm ²	AWG 20	7.5 mm	1 groove*	0.75 mm ²	AWG 18	7.5 mm	1 groove	1 mm ²	AWG 18	7.5 mm	2 grooves	1.5 mm ²	AWG 16	7.5 mm	3 grooves	2.5 mm ²	AWG 14	7.5 mm	wide groove	3 mm ²	AWG 12	7.5 mm	no groove	4 mm ²	AWG 12	7.5 mm
Identification	Wire gauge		Stripping length																																		
no groove	0.5 mm ²	AWG 20	7.5 mm																																		
1 groove*	0.75 mm ²	AWG 18	7.5 mm																																		
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3 grooves	2.5 mm ²	AWG 14	7.5 mm																																		
wide groove	3 mm ²	AWG 12	7.5 mm																																		
no groove	4 mm ²	AWG 12	7.5 mm																																		
	0.5	09 33 000 6121	09 33 000 6220																																		
	0.75	09 33 000 6114	09 33 000 6214																																		
	1	09 33 000 6105	09 33 000 6205																																		
	1.5	09 33 000 6104	09 33 000 6204																																		
	2.5	09 33 000 6102	09 33 000 6202																																		
	3	09 33 000 6106	09 33 000 6206																																		
	4	09 33 000 6107	09 33 000 6207																																		
Relay contact	0.75-1	09 33 000 6109																																			
	1.5	09 33 000 6110																																			
	2.5	09 33 000 6111																																			

* on the back crimp collar

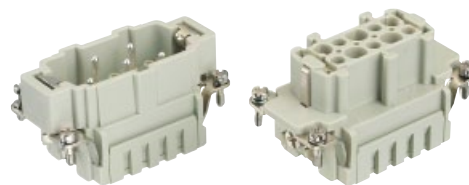
For a fully equipped crimp connector the following contacts are required:

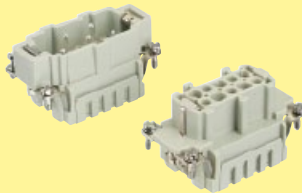
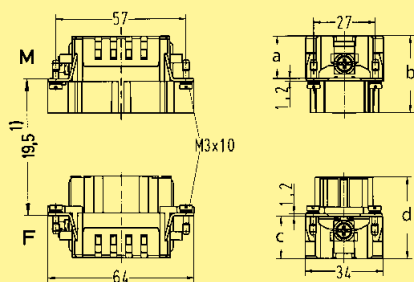
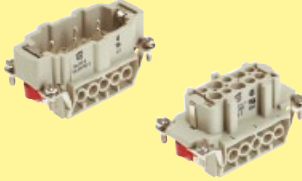
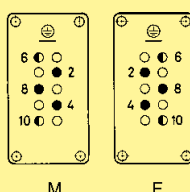
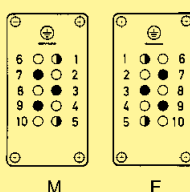
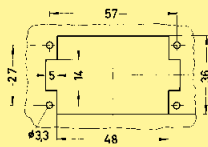
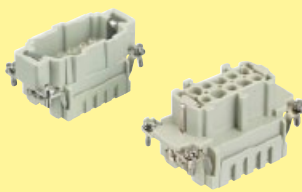
Type	Contacts total	Operating contacts	Relay contacts
Han [®] 3 Hv E	5	3	2
Han [®] 6 Hv E	8	6	2
Han [®] 10 Hv E	12	10	2
Han [®] 12 Hv E	16	12	4
Han [®] 20 Hv E	24	20	4

Number of contacts

3 +

+ 2 additional contacts for safe high voltage connections

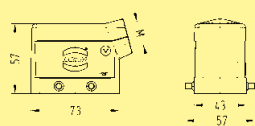
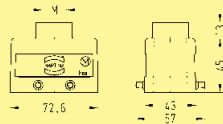
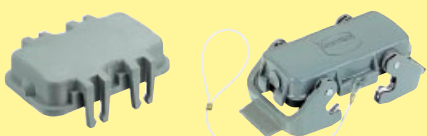
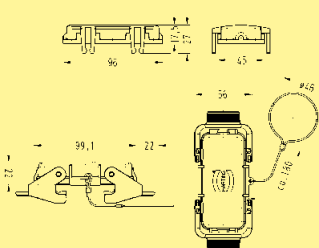
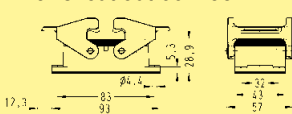
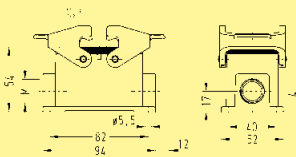
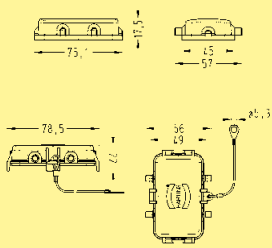
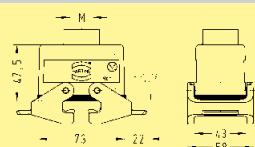
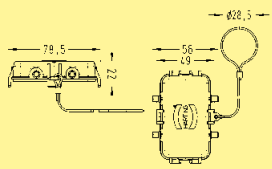


		Part number																							
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm																				
Cage clamp terminal  not plug compatible to screw/crimp terminal	Han® Hv ES 1-3	09 34 003 2616	09 34 003 2716	 <table><tr><td></td><td>a</td><td>b</td><td>c</td><td>d</td></tr><tr><td>Cage clamp terminal</td><td>18,4</td><td>33,4</td><td>18,4</td><td>35,6</td></tr><tr><td>Screw terminal</td><td>18,5</td><td>33,5</td><td>18</td><td>34,5</td></tr><tr><td>Crimp terminal</td><td></td><td></td><td></td><td></td></tr></table> 1) Distance for contact max. 21 mm		a	b	c	d	Cage clamp terminal	18,4	33,4	18,4	35,6	Screw terminal	18,5	33,5	18	34,5	Crimp terminal					
	a	b	c	d																					
Cage clamp terminal	18,4	33,4	18,4	35,6																					
Screw terminal	18,5	33,5	18	34,5																					
Crimp terminal																									
Screw terminal 	Han Hv E® 1-3	09 34 003 2601	09 34 003 2701	Contact arrangement (view from termination side) Han® 3 Hv ES  M F Han® 3 Hv E  M F ● Working contact ● Relay contact ○ Without contact Panel cut out for inserts for use without hoods/ housings 																					
Crimp terminal  Order crimp contacts separately (see page 04.04)	Han Hv E® 1-3	09 34 003 2602	09 34 003 2702																						

Crimp terminal and cage clamp terminal could also be used with 10 B standard hood/housing

Stock items in bold type

Hoods/Housings, metal with 2 levers on the housing

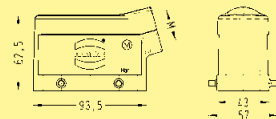
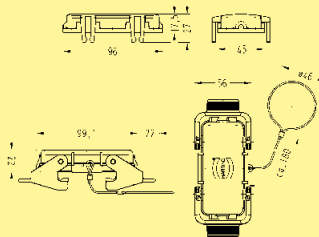
Identification		Part number	M	Drawing	Dimensions in mm
Hoods side entry		19 34 003 0520	20		
Hoods top entry		19 34 003 0420 19 34 003 0421	20 25		
Protection covers plastic/metal		09 30 010 5401 09 30 010 5423			
Identification		Part number	M	Drawing	Dimensions in mm
Housings bulkhead mounting		09 34 003 0301		Panel cut out 60 x 35 mm 	
Housings surface mounting side entry		19 34 003 0270	20		
Protection covers for housings plastic/metal		09 30 010 5407 09 30 010 5425			
Hoods cable to cable top entry		19 34 003 0730 19 34 003 0731	20 25		
Protection covers for hoods cable to cable metal		09 30 010 5427			

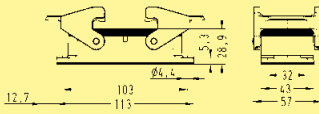
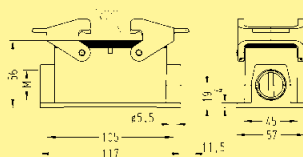
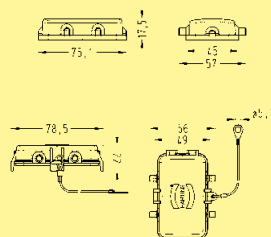
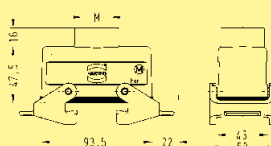
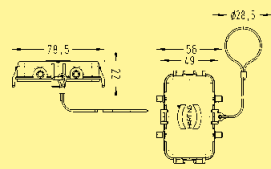
Stock items in bold type

$$6 + \textcircled{\text{⏏}}$$


Han
Hv E

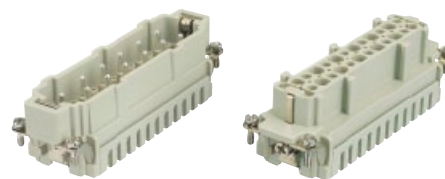
Hoods/Housings, metal with 2 levers on the housing

Identification		Part number	M	Drawing	Dimensions in mm
Hoods top entry		19 34 006 0521	25		
Hoods side entry		19 34 006 0421	25		
Protection covers plastic/metal		09 30 016 5401 09 30 016 5422			

Identification		Part number	M	Drawing	Dimensions in mm
Housings bulkhead mounting		09 34 006 0301		Panel cut out 82 x 35 mm 	
Housings surface mounting side entry		19 34 006 0271	25		
Protection covers for housings plastic/metal		09 30 016 5405 09 30 016 5425			
Hoods cable to cable top entry		19 34 006 0731 19 34 006 0732	25 32		
Protection covers metal		09 30 016 5426			

Stock items in bold type

+ 2 additional contacts for
safe high voltage connections



Han
Hv E

Hoods/Housings, metal with 2 levers on the housing

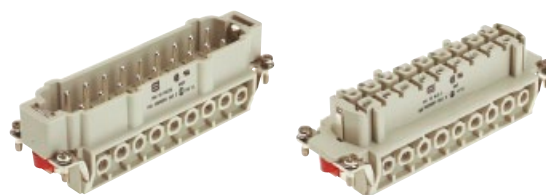
Identification	Part number	M	Drawing	Dimensions in mm
Housings surface mounting side entry	19 34 010 0521	25		
Hoods top entry	19 34 010 0422	32		
Protection covers plastic/metal	09 30 024 5401 09 30 024 5422			
Identification	Part number	M	Drawing	Dimensions in mm
Housings bulkhead mounting	09 34 010 0301		Panel cut out 108 x 35 mm 	
Housings surface mounting top entry	19 34 010 0271	25		
Protection covers for housings plastic/metal	09 30 024 5405 09 30 024 5425			
Hoods cable to cable top entry	19 34 010 0732	32		
Protection covers metal	09 30 024 5426			

Stock items in bold type

Number of contacts

16 +

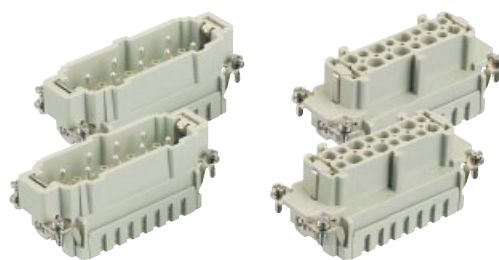
+ 2 additional contacts for safe high voltage connections

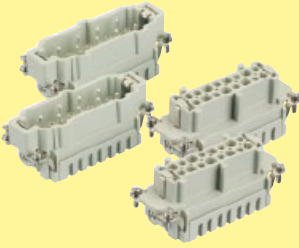
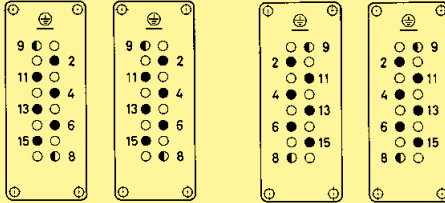
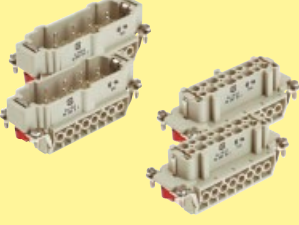
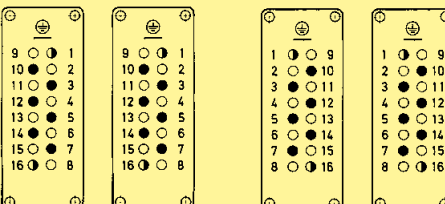
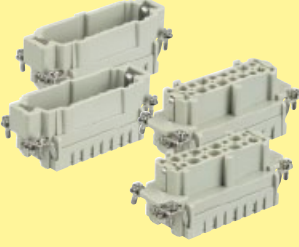
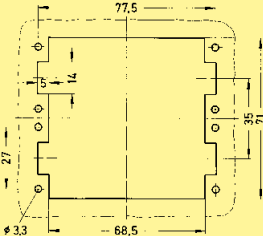


Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Screw terminal	Han Hv E®				
		1-16			
		09 34 016 2601	09 34 016 2701		
				1) Distance for contact max. 21 mm Contact arrangement (view from termination side) Han® 16 Hv E ● Working contact ◐ Relay contact ○ Without contact Panel cut out for inserts for use without hoods/housings	

Number of contacts

12 +

+ 4 additional contacts for
safe high voltage connectionsHan
Hv E

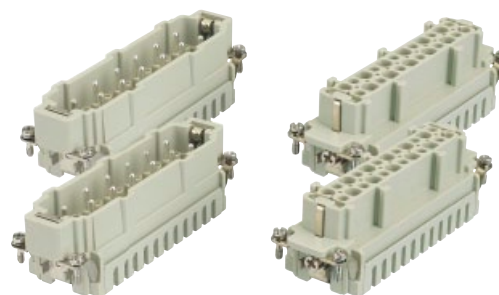
Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Cage-clamp terminal  not plug compatible to screw/crimp terminal	Han® Hv ES 1-6 1-6	09 34 006 2616 09 34 006 2616	09 34 006 2716 09 34 006 2716	Dimensions for inserts see page 04.07 Contact arrangement (view from termination side) Han® 12 Hv ES  M F	
Screw terminal 	Han Hv E® 1-6 1-6	09 34 006 2601 09 34 006 2601	09 34 006 2701 09 34 006 2701	Han® 12 Hv E  M F • Working contact ◐ Relay contact ○ Without contact	
Crimp terminal  Order crimp contacts separately (see page 04.04)	Han Hv E® 1-6 1-6	09 34 006 2602 09 34 006 2602	09 34 006 2702 09 34 006 2702	Panel cut out for inserts for use without hoods/ housings 	

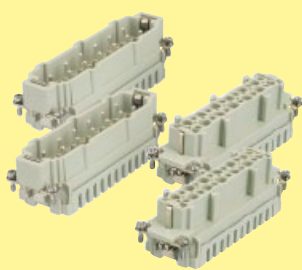
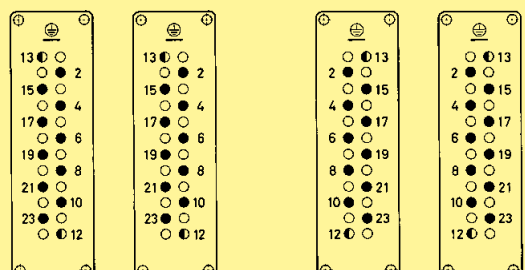
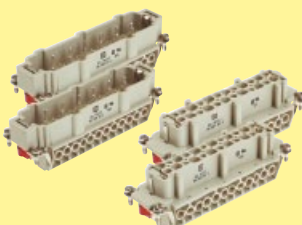
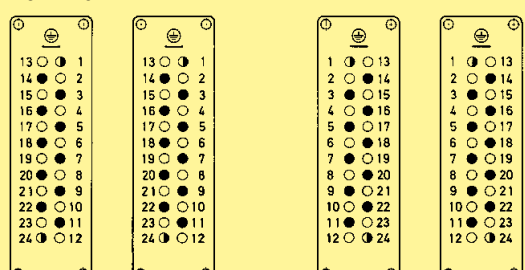
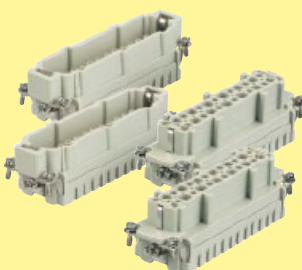
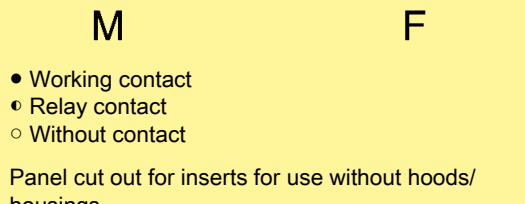
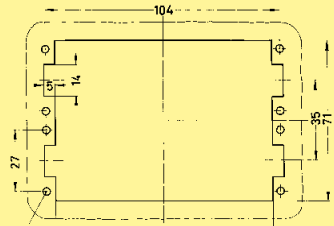
Stock items in bold type

Number of contacts

20 +

+ 4 additional contacts for safe high voltage connections



Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Cage clamp terminal  not plug compatible to screw/crimp terminal	Han® Hv ES 1-10 1-10	09 34 010 2616 09 34 010 2616	09 34 010 2716 09 34 010 2716	Dimensions for inserts see page 04.09 Contact arrangement (view from termination side) Han® 20 Hv ES 	
Screw terminal 	Han Hv E® 1-10 1-10	09 34 010 2601 09 34 010 2601	09 34 010 2701 09 34 010 2701	Han® 20 Hv E 	
Crimp terminal  Order crimp contacts separately (see page 04.04)	Han Hv E® 1-10 1-10	09 34 010 2602 09 34 010 2602	09 34 010 2702 09 34 010 2702	 ● Working contact ● Relay contact ○ Without contact Panel cut out for inserts for use without hoods/housings 	

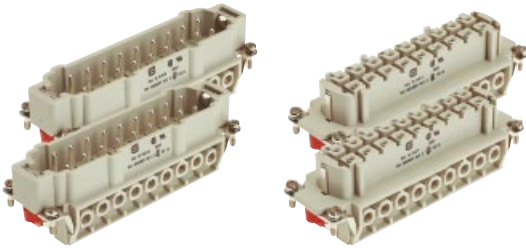
Han
Hv E



Number of contacts

32 +

+ 4 additional contacts for safe high voltage connections



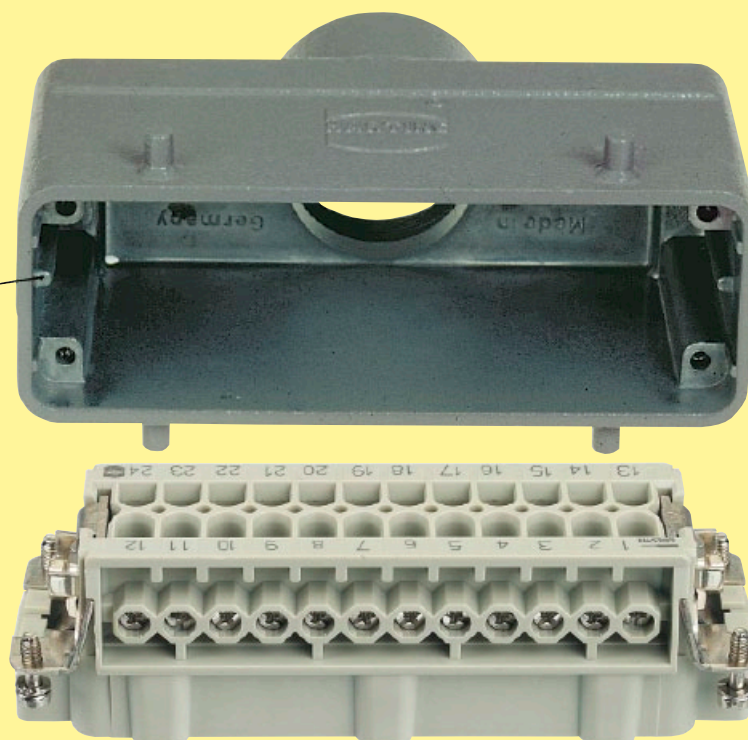
Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Han Hv E Screw terminal	Han Hv E® 1-16 1-16	09 34 016 2601 09 34 016 2601	09 34 016 2701 09 34 016 2701	Dimensions for inserts see page 04.11 Contact arrangement (view from termination side) Han® 32 Hv E 1 2 3 4 5 6 7 8 9 A 10 11 12 13 14 15 16 B 1 2 3 4 5 6 7 8 9 A 10 11 12 13 14 15 16 B 1 2 3 4 5 6 7 8 9 A 10 11 12 13 14 15 16 B 1 2 3 4 5 6 7 8 9 A 10 11 12 13 14 15 16 B M F ● Working contact ● Relay contact ○ Without contact Panel cut out for inserts for use without hoods/housings	

Stock items in bold type

Standard Hoods/Housings Han® B

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

Coding bar

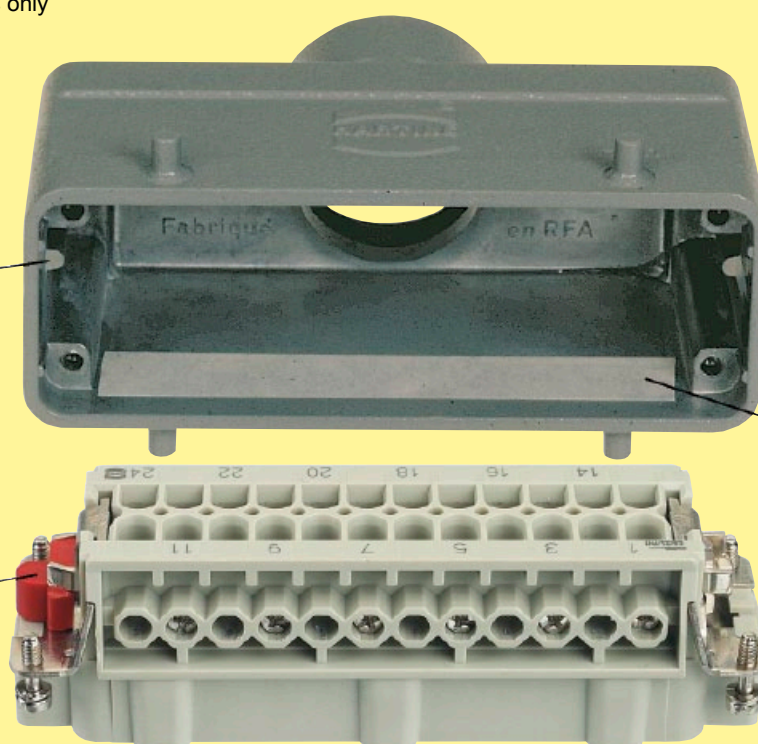


Special hood/housing Han Hv E®

Han Hv E® inserts may be used
together with the corresponding
Han Hv E® hoods/housings only

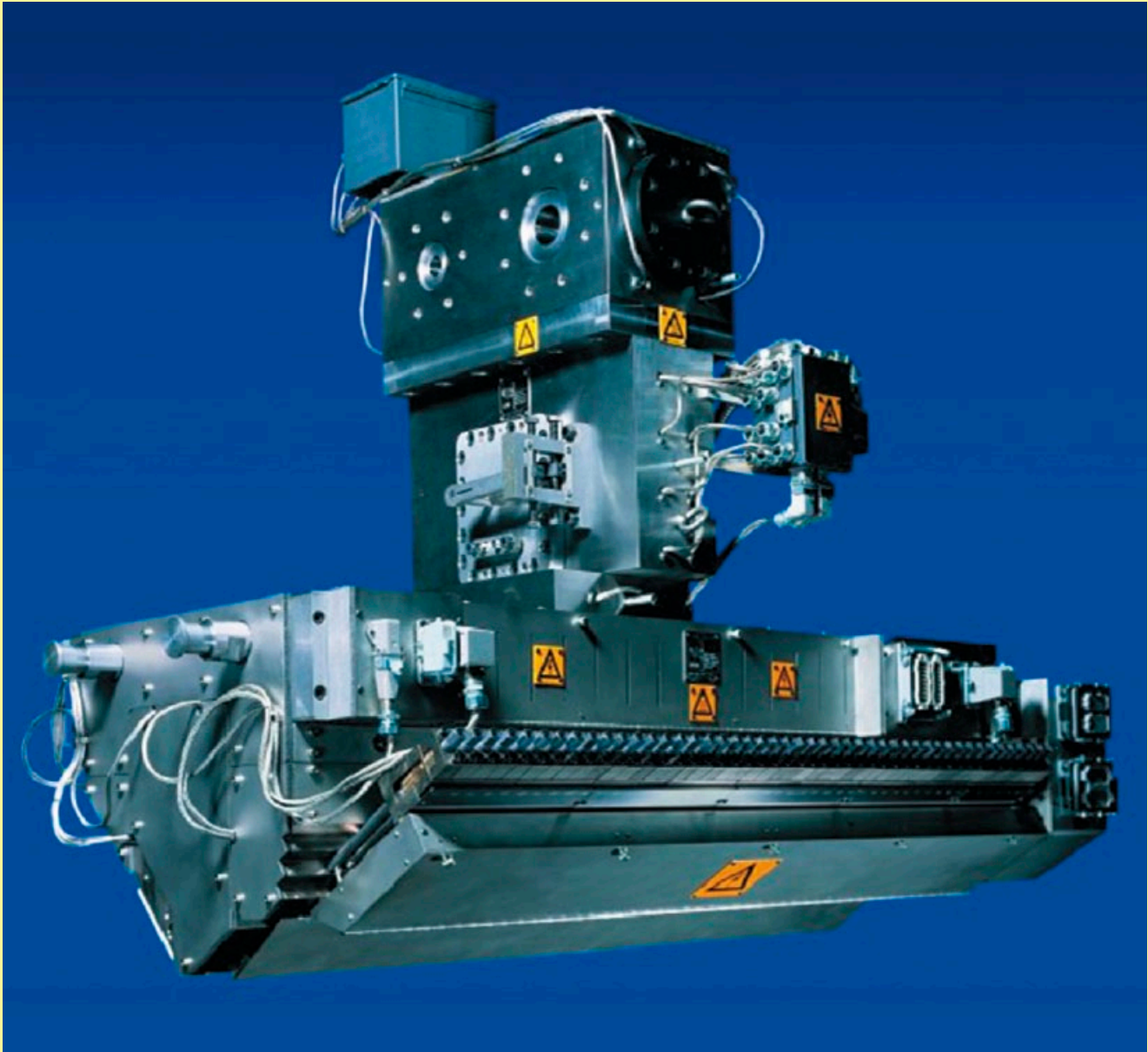
Milled
coding bar

Coding pin



Insulation tape

Han
Hv E



Biaxially oriented film die. Cloeren Inc., Orange (TX), USA