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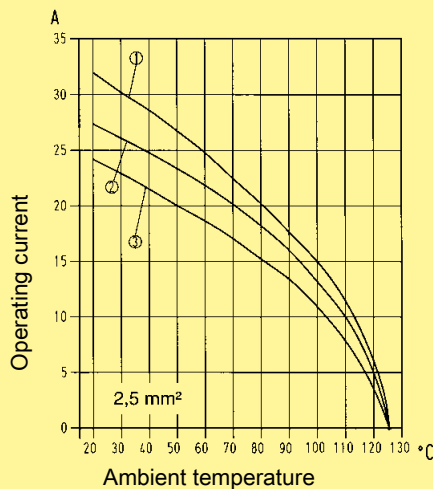
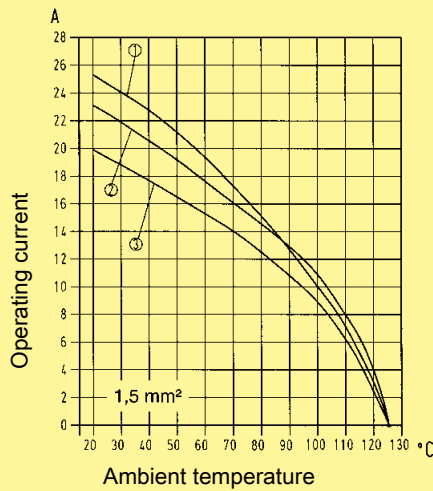
## Features

- 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 **UL, CE**

### 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 **≥ 10<sup>10</sup> 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 3 μm Ag**  
Contact resistance **≤ 1 mΩ**  
Crimp terminal **- Wire gauge<sup>1)</sup> 0.5 ... 4 mm<sup>2</sup>**  
**- AWG 20 ... 12**  
Screw terminal **- Wire gauge<sup>1)</sup> 2.5 mm<sup>2</sup>**  
**- 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**

<sup>1)</sup> geometric wire gauge

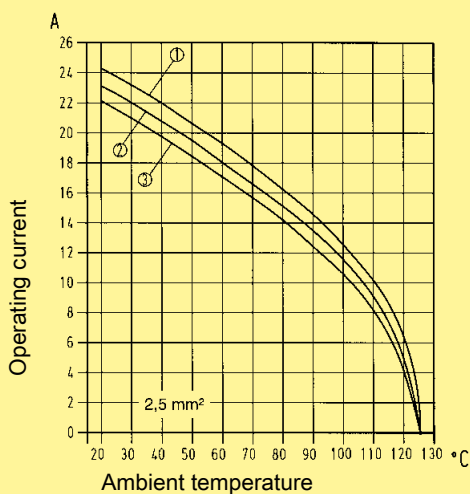
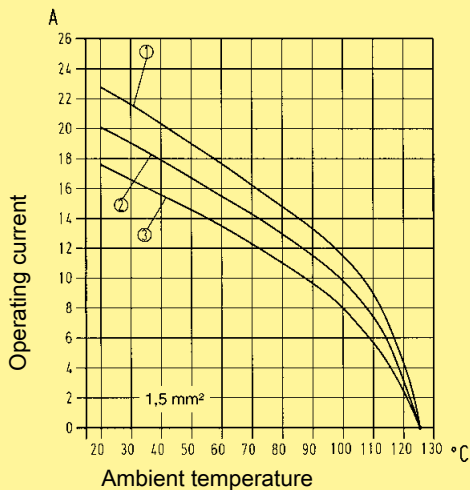
## Features

- 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

<sup>1)</sup> 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	<b>16 A 830 V 8 kV 3</b>
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 <sup>10</sup> 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	3 μm Ag
Contact resistance	≤ 3 mΩ
Cage clamp terminal	
- Wire gauge <sup>1)</sup>	0.14 ... 2.5 mm <sup>2</sup>
- AWG	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 <sup>2</sup> )	Male contacts	Female contacts	Drawing	Dimensions in mm																																
<b>Crimp contacts</b>																																					
Operating contacts silver plated																																					
				<p>Crimp contact identification</p> <table border="1"> <thead> <tr> <th>Identification</th> <th colspan="2">Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.5 mm<sup>2</sup></td> <td>AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm<sup>2</sup></td> <td>AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm<sup>2</sup></td> <td>AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm<sup>2</sup></td> <td>AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm<sup>2</sup></td> <td>AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm<sup>2</sup></td> <td>AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm<sup>2</sup></td> <td>AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>		Identification	Wire gauge		Stripping length	no groove	0.5 mm <sup>2</sup>	AWG 20	7.5 mm	1 groove*	0.75 mm <sup>2</sup>	AWG 18	7.5 mm	1 groove	1 mm <sup>2</sup>	AWG 18	7.5 mm	2 grooves	1.5 mm <sup>2</sup>	AWG 16	7.5 mm	3 grooves	2.5 mm <sup>2</sup>	AWG 14	7.5 mm	wide groove	3 mm <sup>2</sup>	AWG 12	7.5 mm	no groove	4 mm <sup>2</sup>	AWG 12	7.5 mm
Identification	Wire gauge		Stripping length																																		
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Relay contact	0.75-1	09 33 000 6109																																			
	1.5	09 33 000 6110																																			
	2.5	09 33 000 6111																																			

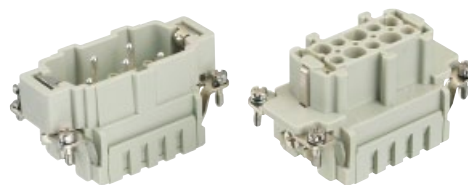
For a fully equipped crimp connector the following contacts are required:

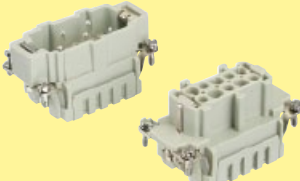
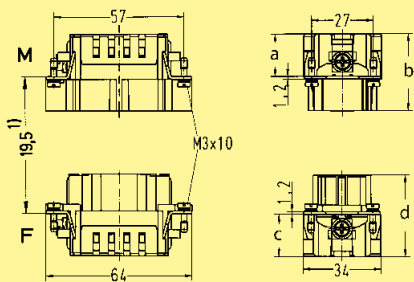

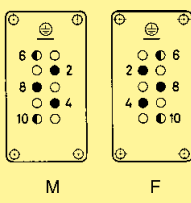
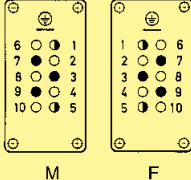
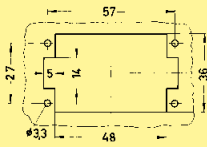
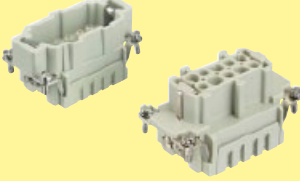
Type	Contacts total	Operating contacts	Relay contacts
Han <sup>®</sup> 3 Hv E	5	3	2
Han <sup>®</sup> 6 Hv E	8	6	2
Han <sup>®</sup> 10 Hv E	12	10	2
Han <sup>®</sup> 12 Hv E	16	12	4
Han <sup>®</sup> 20 Hv E	24	20	4

Number of contacts

3 +

+ 2 additional contacts for safe high voltage connections



Identification	Series	Part number		Drawing	Dimensions in mm																				
		Male insert (M)	Female insert (F)																						
<p>Cage clamp terminal</p>  <p>not plug compatible to screw/crimp terminal</p>	Han® Hv ES			 <table border="1"> <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>		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					
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Screw terminal	18,5	33,5	18	34,5																					
Crimp terminal																									
<p>Screw terminal</p> 	Han Hv E®			<p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement (view from termination side)</p> <p>Han® 3 Hv ES</p>  <p>Han® 3 Hv E</p>  <ul style="list-style-type: none"> <li>● Working contact</li> <li>● Relay contact</li> <li>○ Without contact</li> </ul> <p>Panel cut out for inserts for use without hoods/housings</p> 																					
<p>Crimp terminal</p>  <p>Order crimp contacts separately (see page 04.04)</p>	Han Hv E®																								

Han Hv E

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

Han Hv E

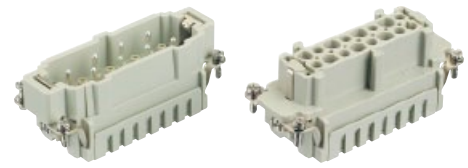
Identification		Part number	M	Drawing	Dimensions in mm
Hoods side entry		19 34 003 0520	20		
Hoods top entry		19 34 003 0420	20		
		<b>19 34 003 0421</b>	25		
Protection covers plastic/metal		09 30 010 5401 <b>09 30 010 5423</b>			

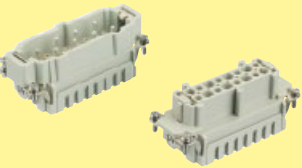
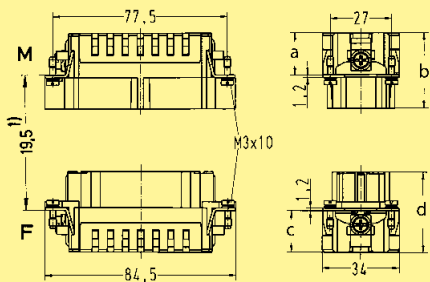

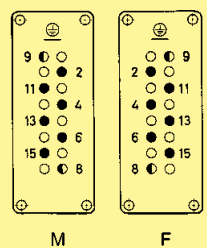
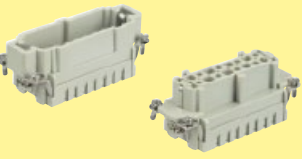
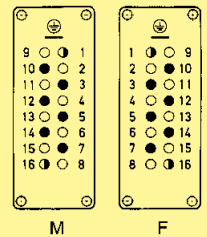
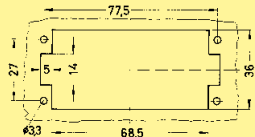
Identification		Part number	M	Drawing	Dimensions in mm
Housings bulkhead mounting		09 34 003 0301		Panel cut out 60 x 35 mm 	
Housings surface mounting side entry		19 34 003 0270	20		
Protection covers for housings plastic/metal		09 30 010 5407 <b>09 30 010 5425</b>			
Hoods cable to cable top entry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

Number of contacts

6 +

+ 2 additional contacts for safe high voltage connections



Identification	Series	Part number		Drawing	Dimensions in mm																				
		Male insert (M)	Female insert (F)																						
<p>Cage-clamp terminal</p>  <p>not plug compatible to screw/crimp terminal</p>	<p>Han® Hv ES</p> <p>1-6</p>	<p>09 34 006 2616</p>	<p>09 34 006 2716</p>	 <table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> <th>c</th> <th>d</th> </tr> </thead> <tbody> <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>32,4</td> <td>18</td> <td>34,6</td> </tr> <tr> <td>Crimp terminal</td> <td>18,5</td> <td>34,2</td> <td>18</td> <td>37</td> </tr> </tbody> </table> <p>1) Distance for contact max. 21 mm</p>		a	b	c	d	Cage clamp terminal	18,4	33,4	18,4	35,6	Screw terminal	18,5	32,4	18	34,6	Crimp terminal	18,5	34,2	18	37	<p>Dimensions in mm</p>
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Screw terminal	18,5	32,4	18	34,6																					
Crimp terminal	18,5	34,2	18	37																					
<p>Screw terminal</p> 	<p>Han Hv E®</p> <p>1-6</p>	<p>09 34 006 2601</p>	<p>09 34 006 2701</p>	<p>Contact arrangement (view from termination side) Han® 6 Hv ES</p> 																					
<p>Crimp terminal</p>  <p>Order crimp contacts separately (see page 04.04)</p>	<p>Han Hv E®</p> <p>1-6</p>	<p>09 34 006 2602</p>	<p>09 34 006 2702</p>	<p>Han® 6 Hv E</p>  <ul style="list-style-type: none"> <li>● Working contact</li> <li>◐ Relay contact</li> <li>○ Without contact</li> </ul> <p>Panel cut out for inserts for use without hoods/housings</p> 																					

Han  
Hv E

Crimp terminal and cage clamp terminal could also be used with 16 B standard hood/housing

Stock items in bold type

Hoods/Housings, metal with 2 levers on the housing

Han  
Hv E

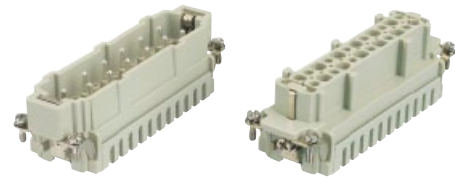
Identification		Part number	M	Drawing	Dimensions in mm
Hoods top entry		19 34 006 0521	25		
Hoods side entry		19 34 006 0421	25		
Protection covers plastic/metal		09 30 016 5401 <b>09 30 016 5422</b>			
Identification		Part number	M	Drawing	Dimensions in mm
Housings bulkhead mounting		09 34 006 0301		Panel cut out 82 x 35 mm 	
Housings surface mounting side entry		19 34 006 0271	25		
Protection covers for housings plastic/metal		<b>09 30 016 5405</b> <b>09 30 016 5425</b>			
Hoods cable to cable top entry		19 34 006 0731 19 34 006 0732	25 32		
Protection covers metal		<b>09 30 016 5426</b>			

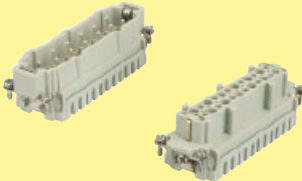
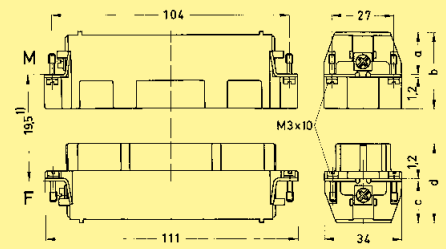
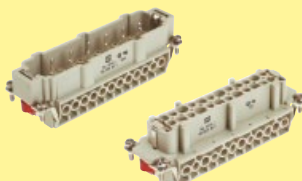
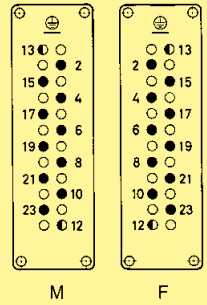
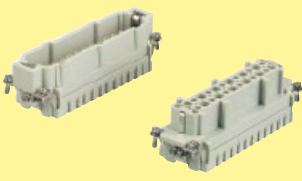
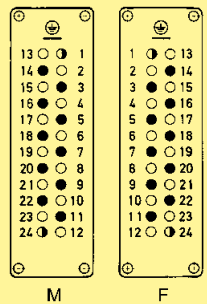
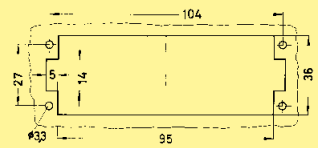


Number of contacts

10 +

+ 2 additional contacts for safe high voltage connections



Identification	Series	Part number		Drawing	Dimensions in mm																				
		Male insert (M)	Female insert (F)																						
<p>Cage-clamp terminal</p>  <p>not plug compatible to screw/crimp terminal</p>	Han® Hv ES	1-10	09 34 010 2616	09 34 010 2716	 <table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> <th>c</th> <th>d</th> </tr> </thead> <tbody> <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>35</td> <td>18,5</td> <td>35</td> </tr> <tr> <td>Crimp terminal</td> <td>18,5</td> <td>35</td> <td>18,5</td> <td>35</td> </tr> </tbody> </table> <p>1) Distance for contact max. 21 mm</p>		a	b	c	d	Cage clamp terminal	18,4	33,4	18,4	35,6	Screw terminal	18,5	35	18,5	35	Crimp terminal	18,5	35	18,5	35
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Crimp terminal	18,5	35	18,5	35																					
<p>Screw terminal</p> 	Han Hv E®	1-10	09 34 010 2601	09 34 010 2701	<p>Contact arrangement (view from termination side)</p> <p>Han® 10 Hv ES</p>  <p>M F</p>																				
<p>Crimp terminal</p>  <p>Order crimp contacts separately (see page 04.04)</p>	Han Hv E®	1-10	09 34 010 2602	09 34 010 2702	<p>Han® 10 Hv E</p>  <p>M F</p> <ul style="list-style-type: none"> <li>● Working contact</li> <li>○ Relay contact</li> <li>○ Without contact</li> </ul> <p>Panel cut out for inserts for use without hoods/housings</p> 																				

Han Hv E

Crimp terminal and cage clamp terminal could also be used with 24 B standard hood/housing

Stock items in bold type

Hoods/Housings, metal with 2 levers on the housing

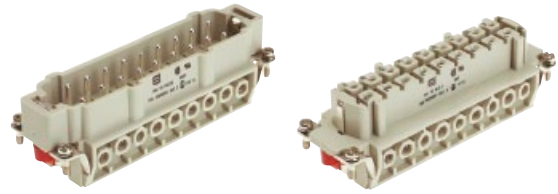
Han Hv E

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

Number of contacts

16 +

+ 2 additional contacts for safe high voltage connections



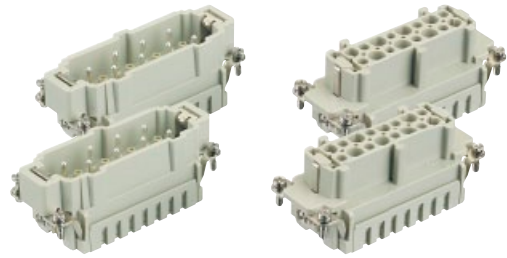
Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Screw terminal</p>	<p>Han Hv E®</p> <p>1-16</p>	<p><b>09 34 016 2601</b></p>	<p><b>09 34 016 2701</b></p>	<p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement (view from termination side) Han® 16 Hv E</p> <ul style="list-style-type: none"> <li>● Working contact</li> <li>◐ Relay contact</li> <li>○ Without contact</li> </ul> <p>Panel cut out for inserts for use without hoods/housings</p>	<p>Dimensions in mm</p>

Han Hv E

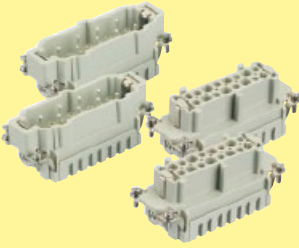
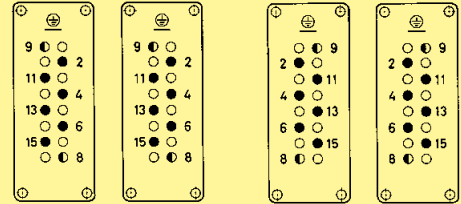
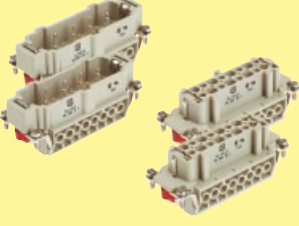
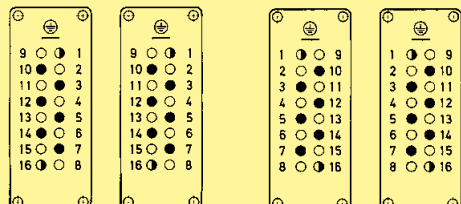
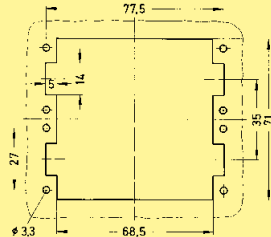
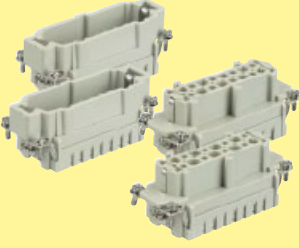
Number of contacts

12 +

+ 4 additional contacts for safe high voltage connections



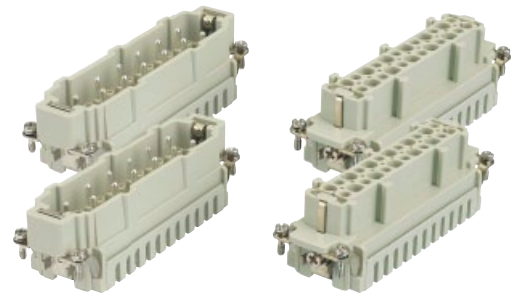
Han Hv E

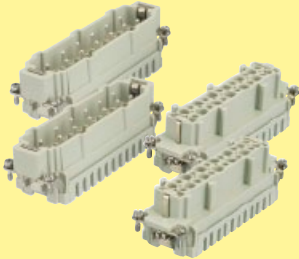
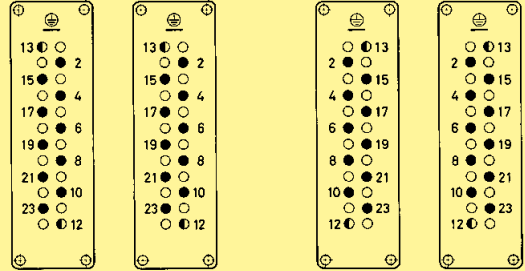
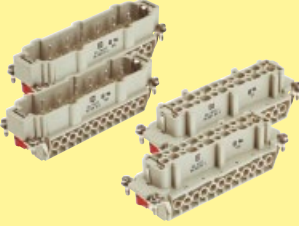
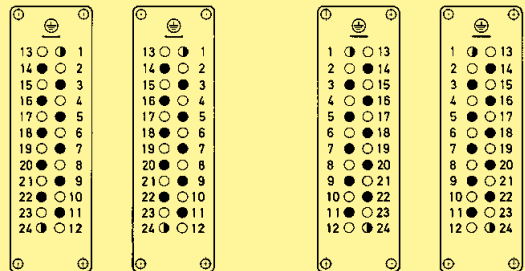
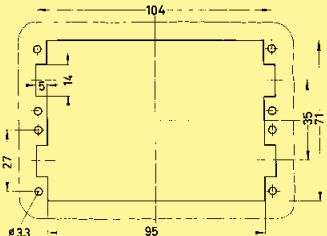
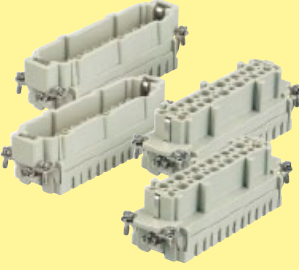
Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Cage-clamp terminal</p>  <p>not plug compatible to screw/crimp terminal</p>	<p>Han® Hv ES</p> <p>1-6</p> <p>1-6</p>	<p>09 34 006 2616</p> <p>09 34 006 2616</p>	<p>09 34 006 2716</p> <p>09 34 006 2716</p>	<p>Dimensions for inserts see page 04.07</p> <p>Contact arrangement (view from termination side)</p> <p>Han® 12 Hv ES</p>  <p>M F</p>	
<p>Screw terminal</p> 	<p>Han Hv E®</p> <p>1-6</p> <p>1-6</p>	<p>09 34 006 2601</p> <p>09 34 006 2601</p>	<p>09 34 006 2701</p> <p>09 34 006 2701</p>	<p>Han® 12 Hv E</p>  <p>M F</p> <ul style="list-style-type: none"> <li>● Working contact</li> <li>◐ Relay contact</li> <li>○ Without contact</li> </ul> <p>Panel cut out for inserts for use without hoods/housings</p> 	
<p>Crimp terminal</p>  <p>Order crimp contacts separately (see page 04.04)</p>	<p>Han Hv E®</p> <p>1-6</p> <p>1-6</p>	<p>09 34 006 2602</p> <p>09 34 006 2602</p>	<p>09 34 006 2702</p> <p>09 34 006 2702</p>		

Number of contacts

20 +

+ 4 additional contacts for safe high voltage connections



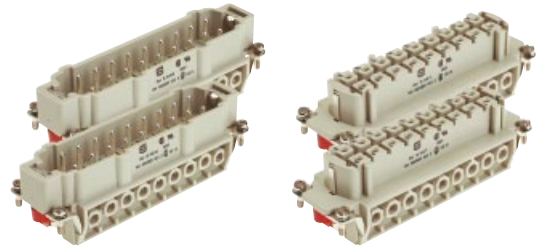
Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Cage clamp terminal</p>  <p>not plug compatible to screw/crimp terminal</p>	<p>Han® Hv ES</p> <p>1-10 1-10</p>	<p>09 34 010 2616 09 34 010 2616</p>	<p>09 34 010 2716 09 34 010 2716</p>	<p>Dimensions for inserts see page 04.09</p> <p>Contact arrangement (view from termination side)</p> <p>Han® 20 Hv ES</p>  <p><b>M</b> <b>F</b></p>	
<p>Screw terminal</p> 	<p>Han Hv E®</p> <p>1-10 1-10</p>	<p>09 34 010 2601 09 34 010 2601</p>	<p>09 34 010 2701 09 34 010 2701</p>	<p>Han® 20 Hv E</p>  <p><b>M</b> <b>F</b></p> <ul style="list-style-type: none"> <li>● Working contact</li> <li>● Relay contact</li> <li>○ Without contact</li> </ul> <p>Panel cut out for inserts for use without hoods/housings</p> 	
<p>Crimp terminal</p>  <p>Order crimp contacts separately (see page 04.04)</p>	<p>Han Hv E®</p> <p>1-10 1-10</p>	<p>09 34 010 2602 09 34 010 2602</p>	<p>09 34 010 2702 09 34 010 2702</p>		

Han Hv E


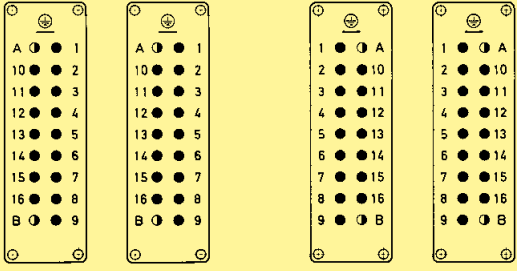
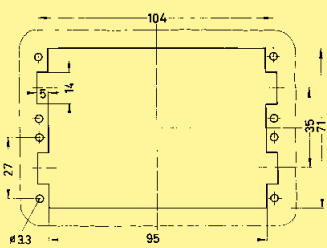
Number of contacts

32 +

+ 4 additional contacts for safe high voltage connections

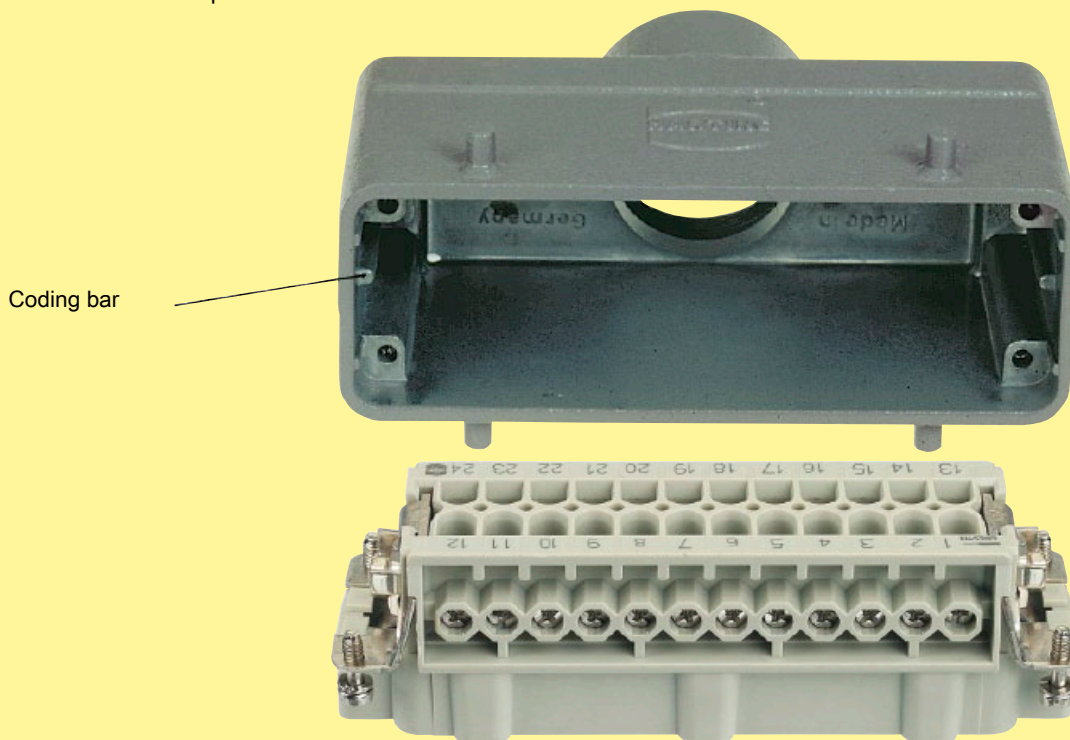


Han Hv E

Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Screw terminal 	Han Hv E®  1-16 1-16	<b>09 34 016 2601</b> <b>09 34 016 2601</b>	<b>09 34 016 2701</b> <b>09 34 016 2701</b>	Dimensions for inserts see page 04.11  Contact arrangement (view from termination side) Han® 32 Hv E  <p style="text-align: center;"><b>M</b>                      <b>F</b></p> <ul style="list-style-type: none"> <li>● Working contact</li> <li>● Relay contact</li> <li>○ Without contact</li> </ul> Panel cut out for inserts for use without hoods/housings 	

## Standard Hoods/Housings Han<sup>®</sup> B

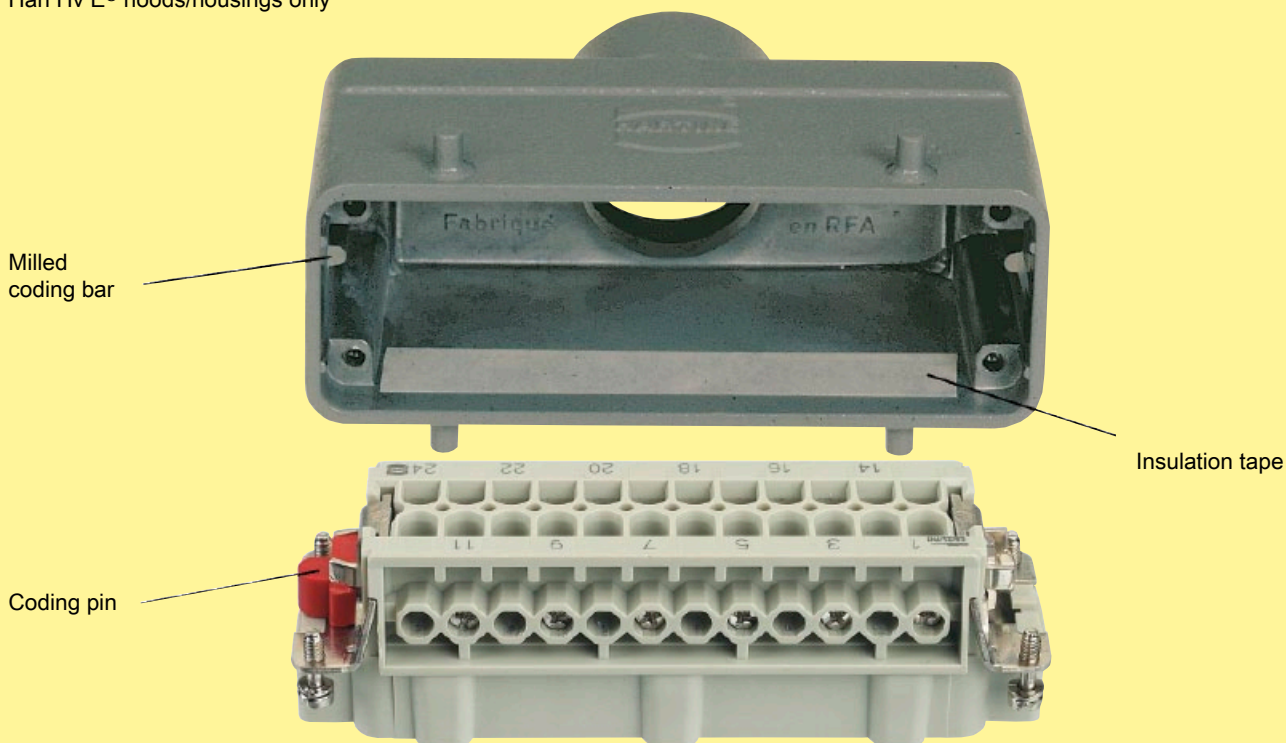
Suitable for inserts  
Han<sup>®</sup> Hv ES cage-clamp terminal  
and Han Hv E<sup>®</sup> crimp terminal

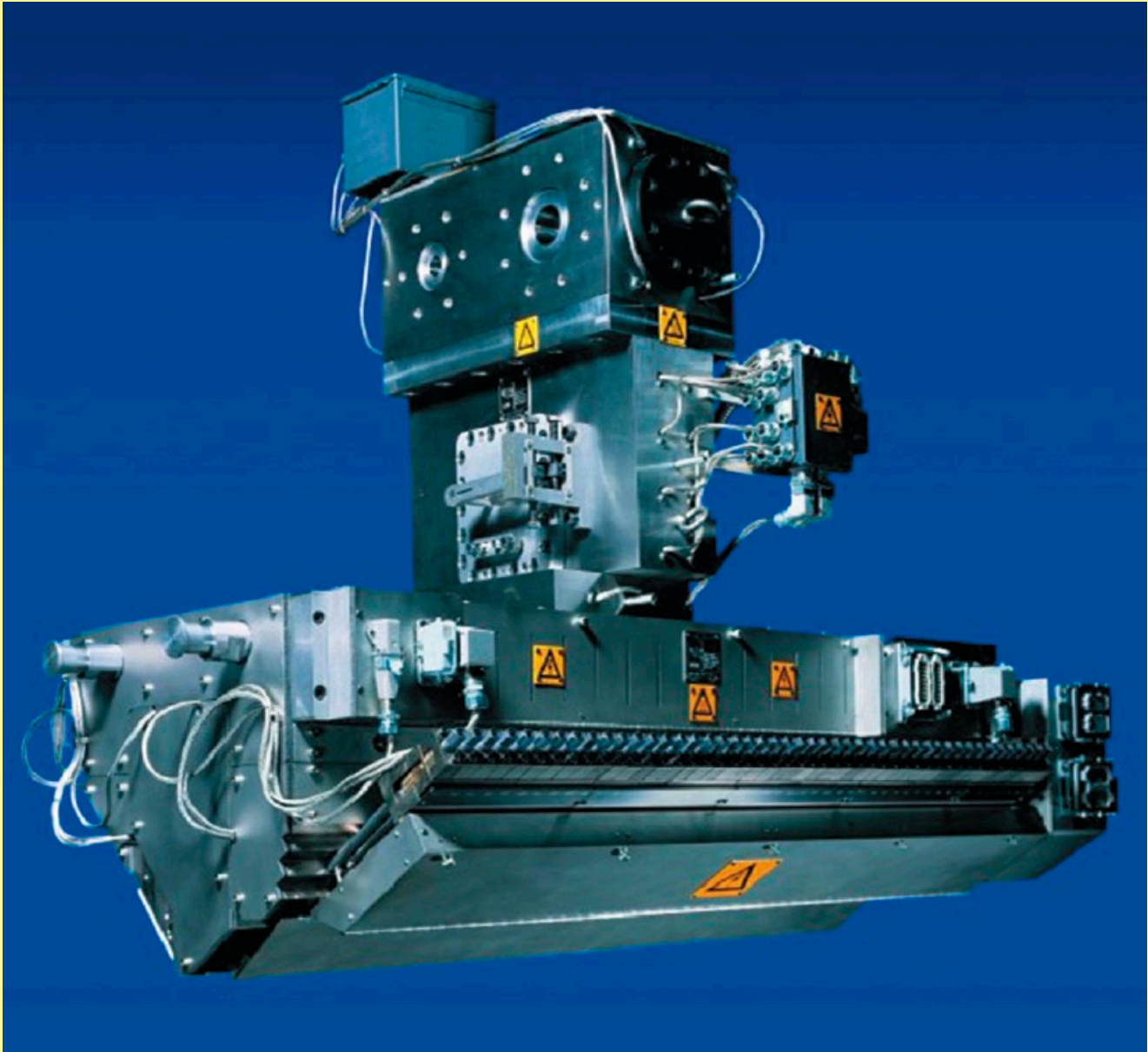


Han  
Hv E

## Special hood/housing Han Hv E<sup>®</sup>

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





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

Han  
Hv E