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Han
E / EE

Features

- Available in different termination techniques
- Han E covers a wide range of cross core sections
- Wire protection for Han E® screw

Hoods/Housings

Material	aluminium die-cast
Surface	powder-coated
Locking element	Han-Easy Lock®
Flammability acc. to UL 94	V 0
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

Specifications

DIN EN 60 664-1
DIN EN 61 984

Approvals



Inserts

Number of contacts	6, 10, 16, 24, 32 (2x 16), 48 (2x 24) + PE
Electrical data acc. to EN 61 984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Pollution degree 2 also	16 A 400/690 V 6 kV 2
Rated voltage acc. to UL/CSA	600 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-gold plated	2 μm Au over 3 μm Ni
Surface - hard-silver plated	3 μm Ag
Contact resistance	$\leq 1 \text{ m}\Omega$
Crimp terminal - min	0.14 mm ² / AWG 26
Crimp terminal - max	4 mm ² / AWG 12

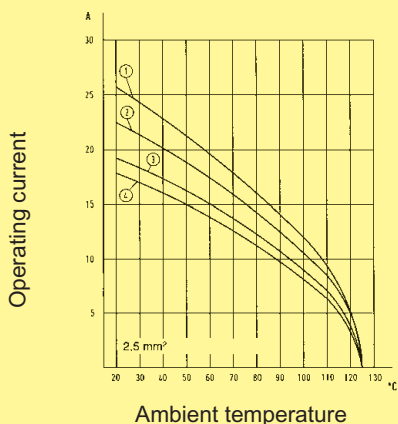
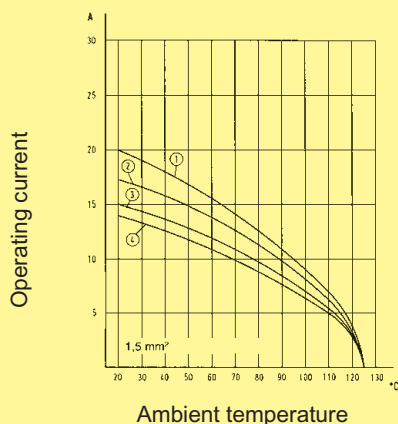
Accessories

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
Assembly plates for test connector	chapter 40
Special insert fixing screws	chapter 40

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

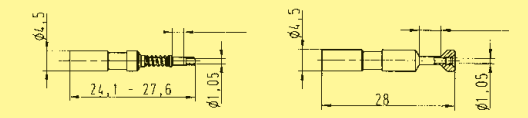


- ① Han® 6 E
- ② Han® 10 E
- ③ Han® 16 E
- ④ Han® 24 E

Identification	Wire gauge (mm²)	Male contact	Female contact	Drawing	Dimensions in mm
Crimp contacts					
Power contacts					
	0.14-0.37	09 33 000 6127	09 33 000 6227		
silver plated	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		
gold plated	0.14-0.37	09 33 000 6117	09 33 000 6217		
	0.5	09 33 000 6122	09 33 000 6222		
	0.75	09 33 000 6115	09 33 000 6215		
	1	09 33 000 6118	09 33 000 6218		
	1.5	09 33 000 6116	09 33 000 6216		
	2.5	09 33 000 6123	09 33 000 6223		
	4	09 33 000 6119	09 33 000 6221		
Relay contact silver plated	0.75-1	09 33 000 6109			
	1.5	09 33 000 6110			
	2.5	09 33 000 6111			
F.O. contacts					
for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321		
Coding pin for crimp inserts only			09 33 000 9954		
					Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Identification	Wire gauge	Stripping length	
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
no groove	0.5 mm²	AWG 20	7.5 mm
1 groove*	0.75 mm²	AWG 18	7.5 mm
1 groove	1 mm²	AWG 18	7.5 mm
2 grooves	1.5 mm²	AWG 16	7.5 mm
3 grooves	2.5 mm²	AWG 14	7.5 mm
wide groove	3 mm²	AWG 12	7.5 mm
no groove	4 mm²	AWG 12	7.5 mm

* on the back crimp collar



Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Features

- High density of crimping contacts

Hoods/Housings



Material	aluminium die-cast
Surface	powder-coated
Locking element	Han-Easy Lock®
Flammability acc. to UL 94	V 0
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

Specifications

DIN EN 60 664-1
DIN EN 61 984

Approvals

 SEV, 

Inserts

Number of contacts 10, 18, 32, 46, 64 (2x 32),
92 (2x 46) + PE

Electrical data
acc. to EN 61 984 **16 A 500 V 6 kV 3**
Rated current 16 A
Rated voltage 500 V
Rated impulse voltage 6 kV
Pollution degree 3
Pollution degree 2 also 16 A 830 V 8 kV 2

Rated voltage
acc. to UL/CSA 600 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

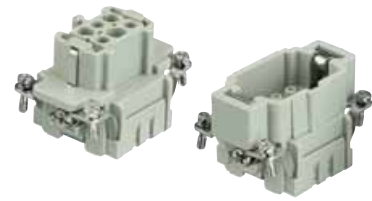
Material copper alloy
Surface - hard-gold plated 2 μm Au over 3 μm Ni
Surface - hard-silver plated 3 μm Ag
Contact resistance $\leq 1 \text{ m}\Omega$
Crimp terminal - min 0.14 mm² / AWG 26
Crimp terminal - max 4 mm² / AWG 12

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
Assembly plates for test connector	chapter 40
Special insert fixing screws	chapter 40


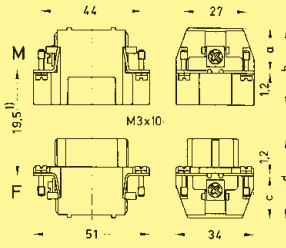
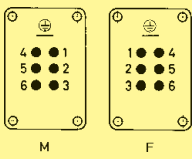
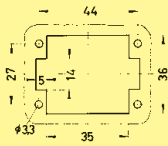



Number of contacts

6 +



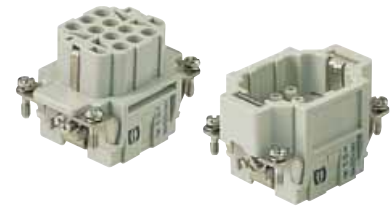
Inserts

Han E / EE

Identification	Series	Part number		Drawing	Dimensions in mm																						
		Male insert (M)	Female insert (F)																								
<p>Crimp terminal</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.03)</p> 	Han E®	09 33 006 2602	09 33 006 2702	 <p>1) Distance for contact max. 21 mm</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>Han E® screw</td> <td>18</td> <td>33</td> <td>18</td> <td>35</td> </tr> <tr> <td>Han® ES / Han E® crimp</td> <td>19</td> <td>34</td> <td>19</td> <td>36</td> </tr> <tr> <td>Han® ESS</td> <td>34</td> <td>49</td> <td>32</td> <td>49</td> </tr> </tbody> </table> <p>Contact arrangement view from termination side</p>  <p>Panel cut out</p> 		a	b	c	d	Han E® screw	18	33	18	35	Han® ES / Han E® crimp	19	34	19	36	Han® ESS	34	49	32	49			
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Han® ESS	34	49	32	49																							
<p>Screw terminal with wire protection</p> 	Han E®	09 33 006 2601	09 33 006 2701																								
<p>Cage-clamp terminal</p> 	Han® ES	09 33 006 2616	09 33 006 2716																								
<p>Cage-clamp terminal two terminals per contact</p> 	Han® ESS	09 33 006 2672	09 33 006 2772																								

Number of contacts

10 +



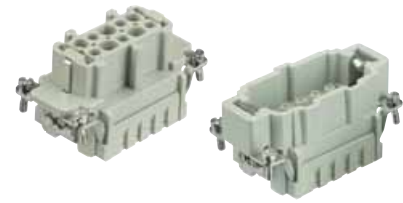
Inserts

Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Crimp termination</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.05)</p>	Han® EE	09 32 010 3001	09 32 010 3101	<p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement view from termination side</p> <p>Panel cut out</p>	

Han
E / EE


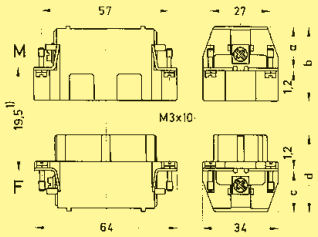
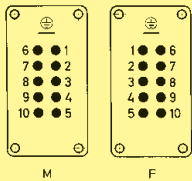
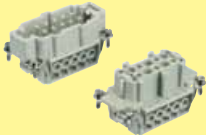
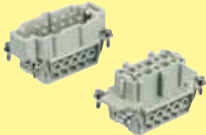
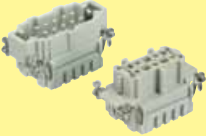

Number of contacts

10 +



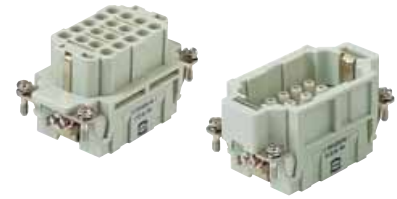
Inserts

Han E / EE


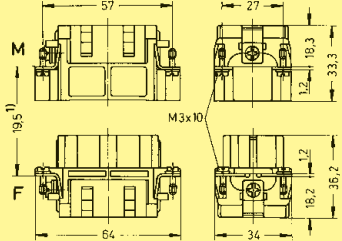
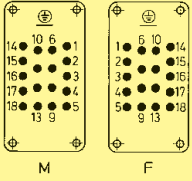
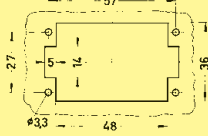
Identification	Series	Part number		Drawing	Dimensions in mm																						
		Male insert (M)	Female insert (F)																								
<p>Crimp terminal</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.03)</p> 	Han E®	09 33 010 2602	09 33 010 2702	 <p>1) Distance for contact max. 21 mm</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>Han E® screw</td> <td>18</td> <td>33</td> <td>18</td> <td>35</td> </tr> <tr> <td>Han® ES / Han E® crimp</td> <td>19</td> <td>34</td> <td>19</td> <td>36</td> </tr> <tr> <td>Han® ESS</td> <td>34</td> <td>49</td> <td>32</td> <td>49</td> </tr> </tbody> </table> <p>Contact arrangement view from termination side</p>  <p>Panel cut out</p> 		a	b	c	d	Han E® screw	18	33	18	35	Han® ES / Han E® crimp	19	34	19	36	Han® ESS	34	49	32	49			
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Han® ESS	34	49	32	49																							
<p>Screw terminal with wire protection</p> 	Han E®	09 33 010 2601	09 33 010 2701																								
<p>Cage-clamp terminal</p> 	Han® ES	09 33 010 2616	09 33 010 2716																								
<p>Cage-clamp terminal two terminals per contact</p> 	Han® ESS	09 33 010 2672	09 33 010 2772																								

Number of contacts

18 +



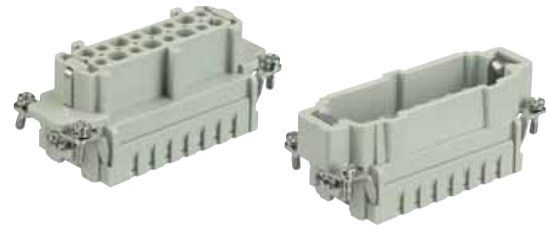
Inserts

Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Crimp termination</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.05)</p> 	Han® EE	09 32 018 3001	09 32 018 3101	 <p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement view from termination side</p>  <p>Panel cut out</p> 	

Han
E / EE


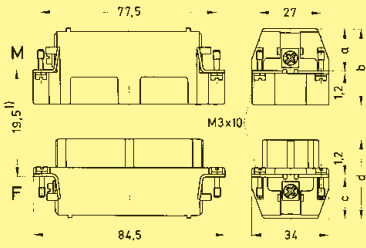
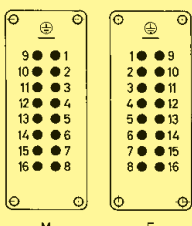
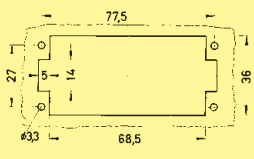
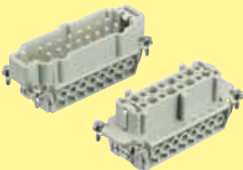
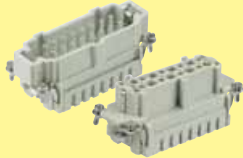
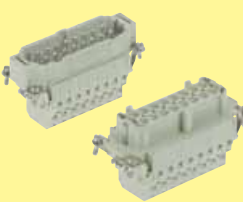
Number of contacts

16 +



Inserts

Han E / EE

Identification	Series	Part number		Drawing	Dimensions in mm																						
		Male insert (M)	Female insert (F)																								
<p>Crimp terminal</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.03)</p> 	Han E®	09 33 016 2602	09 33 016 2702	 <p>1) Distance for contact max. 21 mm</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>Han E® screw</td> <td>18</td> <td>33</td> <td>18</td> <td>35</td> </tr> <tr> <td>Han® ES / Han E® crimp</td> <td>19</td> <td>34</td> <td>19</td> <td>36</td> </tr> <tr> <td>Han® ESS</td> <td>34</td> <td>49</td> <td>32</td> <td>49</td> </tr> </tbody> </table> <p>Contact arrangement view from termination side</p>  <p>Panel cut out</p> 		a	b	c	d	Han E® screw	18	33	18	35	Han® ES / Han E® crimp	19	34	19	36	Han® ESS	34	49	32	49			
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<p>Cage-clamp terminal</p> 	Han® ES	09 33 016 2616	09 33 016 2716																								
<p>Cage-clamp terminal two terminals per contact</p> 	Han® ESS	09 33 016 2672	09 33 016 2772																								

Number of contacts

32 +



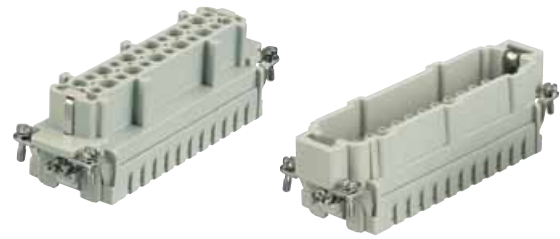
Inserts

Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Crimp termination</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.05)</p>	Han® EE	09 32 032 3001	09 32 032 3101	<p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement view from termination side</p> <p>Panel cut out</p>	

Han E / EE

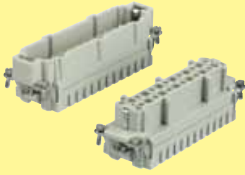
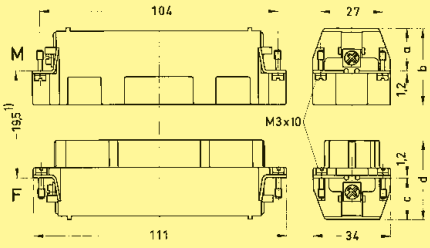
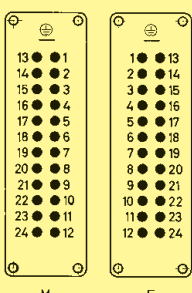
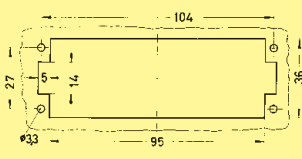
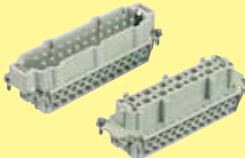
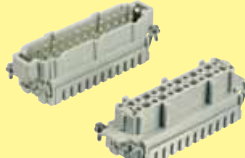
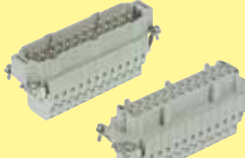
Number of contacts

24 +



Inserts

Han E / EE

Identification	Series	Part number		Drawing	Dimensions in mm																						
		Male insert (M)	Female insert (F)																								
<p>Crimp terminal</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.03)</p> 	Han E®	09 33 024 2602	09 33 024 2702	 <p>1) Distance for contact max. 21 mm</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>Han E® screw</td> <td>18</td> <td>33</td> <td>18</td> <td>35</td> </tr> <tr> <td>Han® ES / Han E® crimp</td> <td>19</td> <td>34</td> <td>19</td> <td>36</td> </tr> <tr> <td>Han® ESS</td> <td>34</td> <td>49</td> <td>32</td> <td>49</td> </tr> </tbody> </table> <p>Contact arrangement view from termination side</p>  <p>Panel cut out</p> 		a	b	c	d	Han E® screw	18	33	18	35	Han® ES / Han E® crimp	19	34	19	36	Han® ESS	34	49	32	49			
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<p>Cage-clamp terminal two terminals per contact</p> 	Han® ESS	09 33 024 2672	09 33 024 2772																								

Number of contacts

46 +



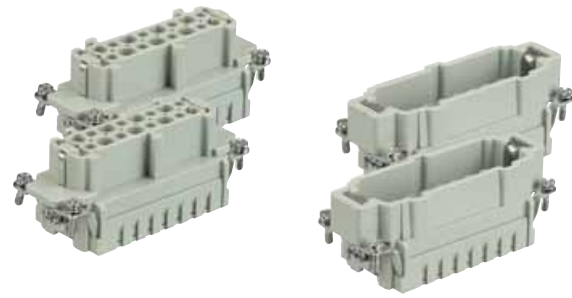
Inserts

Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Crimp termination</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.05)</p>	Han® EE	09 32 046 3001	09 32 046 3101	<p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement view from termination side</p> <p>Panel cut out</p>	

Han
E / EE

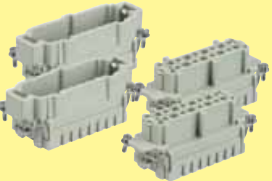
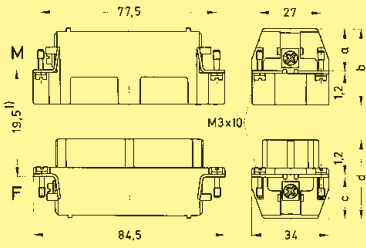
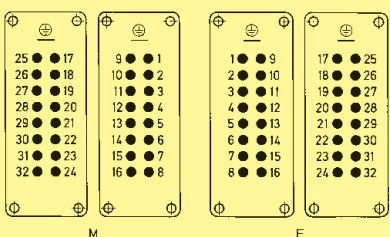
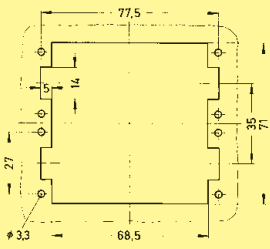
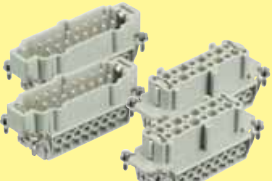
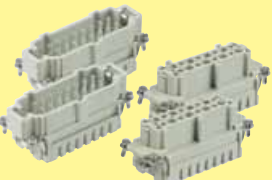
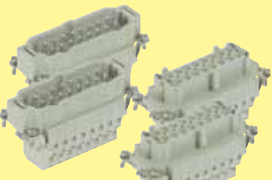
Number of contacts

32 +



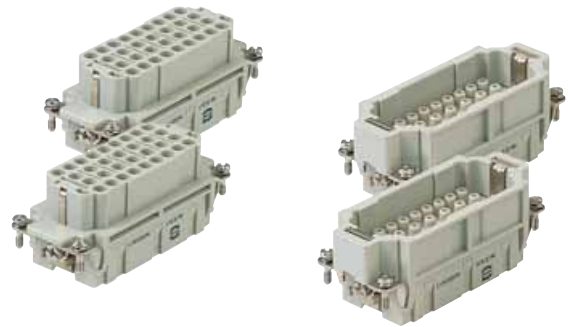
Inserts

Han E / EE

Identification	Series	Part number		Drawing	Dimensions in mm																						
		Male insert (M)	Female insert (F)																								
<p>Crimp terminal</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.03)</p> 	Han E®			 <p>1) Distance for contact max. 21 mm</p> <table border="1" data-bbox="949 929 1444 1052"> <thead> <tr> <th></th> <th>a</th> <th>b</th> <th>c</th> <th>d</th> </tr> </thead> <tbody> <tr> <td>Han E® screw</td> <td>18</td> <td>33</td> <td>18</td> <td>35</td> </tr> <tr> <td>Han® ES / Han E® crimp</td> <td>19</td> <td>34</td> <td>19</td> <td>36</td> </tr> <tr> <td>Han® ESS</td> <td>34</td> <td>49</td> <td>32</td> <td>49</td> </tr> </tbody> </table> <p>Contact arrangement view from termination side</p>  <p>Panel cut out</p> 		a	b	c	d	Han E® screw	18	33	18	35	Han® ES / Han E® crimp	19	34	19	36	Han® ESS	34	49	32	49	1 - 16 17 - 32	09 33 016 2602 09 33 016 2612	09 33 016 2702 09 33 016 2712
	a	b	c		d																						
Han E® screw	18	33	18	35																							
Han® ES / Han E® crimp	19	34	19	36																							
Han® ESS	34	49	32	49																							
<p>Screw terminal</p> <p>with wire protection</p> 	Han E®																										
<p>Cage-clamp terminal</p> 	Han® ES																										
<p>Cage-clamp terminal</p> <p>two terminals per contact</p> 	Han® ESS																										

Number of contacts

64 +

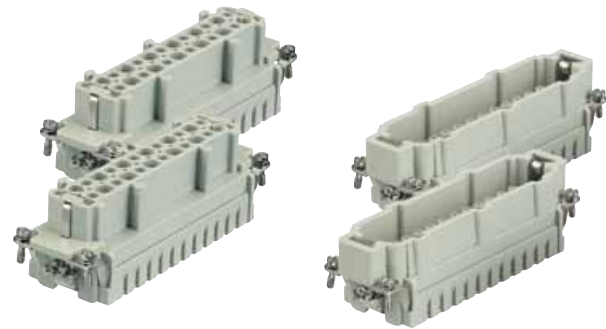


Inserts

Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Crimp termination</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.05)</p>	<p>Han® EE</p>	<p>1 - 32 09 32 032 3001</p> <p>33 - 64 09 32 032 3011</p>	<p>Female insert (F)</p> <p>09 32 032 3101</p> <p>09 32 032 3111</p>	<p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement view from termination side</p> <p>Panel cut out</p>	<p>Han E / EE</p>

Number of contacts

48 +



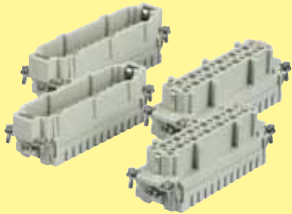
Inserts

Han E / EE

Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		

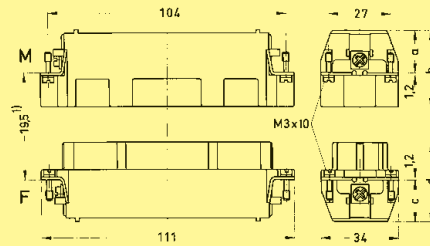
Crimp terminal

Order crimp contacts separately (see Technical characteristics on page 03.03)



Han E®
1 - 24
25 - 48

09 33 024 2602	09 33 024 2702
09 33 024 2612	09 33 024 2712

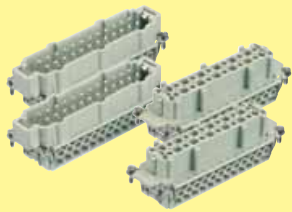


1) Distance for contact max. 21 mm

	a	b	c	d
Han E® screw	18	33	18	35
Han® ES / Han E® crimp	19	34	19	36
Han® ESS	34	49	32	49

Screw terminal

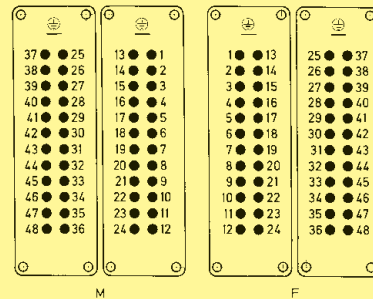
with wire protection



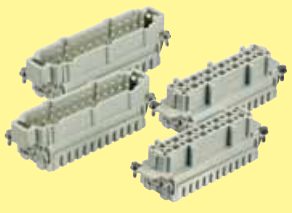
1 - 24
25 - 48

09 33 024 2601	09 33 024 2701
09 33 024 2611	09 33 024 2711

Contact arrangement view from termination side



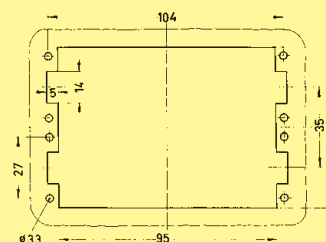
Cage-clamp terminal



1 - 24
25 - 48

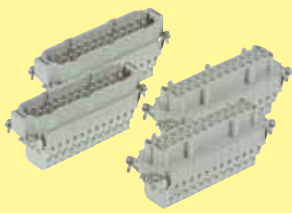
09 33 024 2616	09 33 024 2716
09 33 024 2626	09 33 024 2726

Panel cut out



Cage-clamp terminal

two terminals per contact

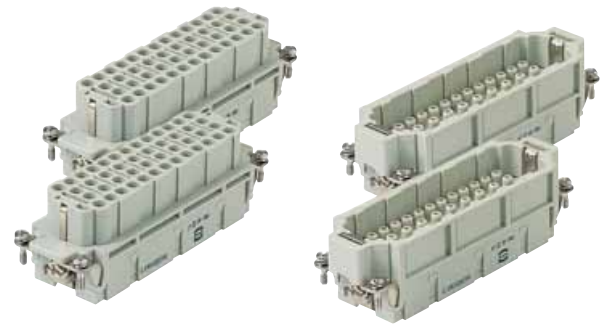


1 - 24
1 - 24


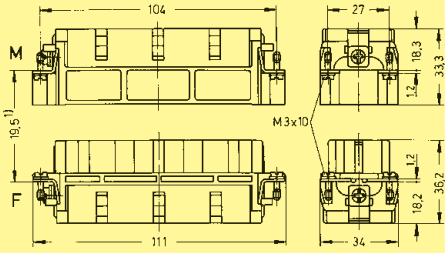
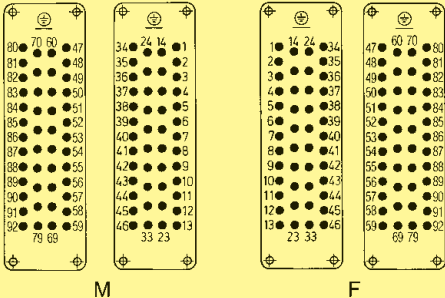
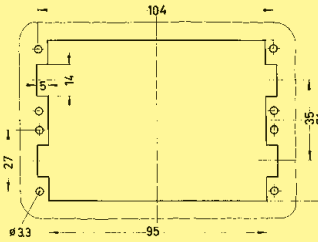
09 33 024 2672	09 33 024 2772
09 33 024 2672	09 33 024 2772

Number of contacts

92 +



Inserts

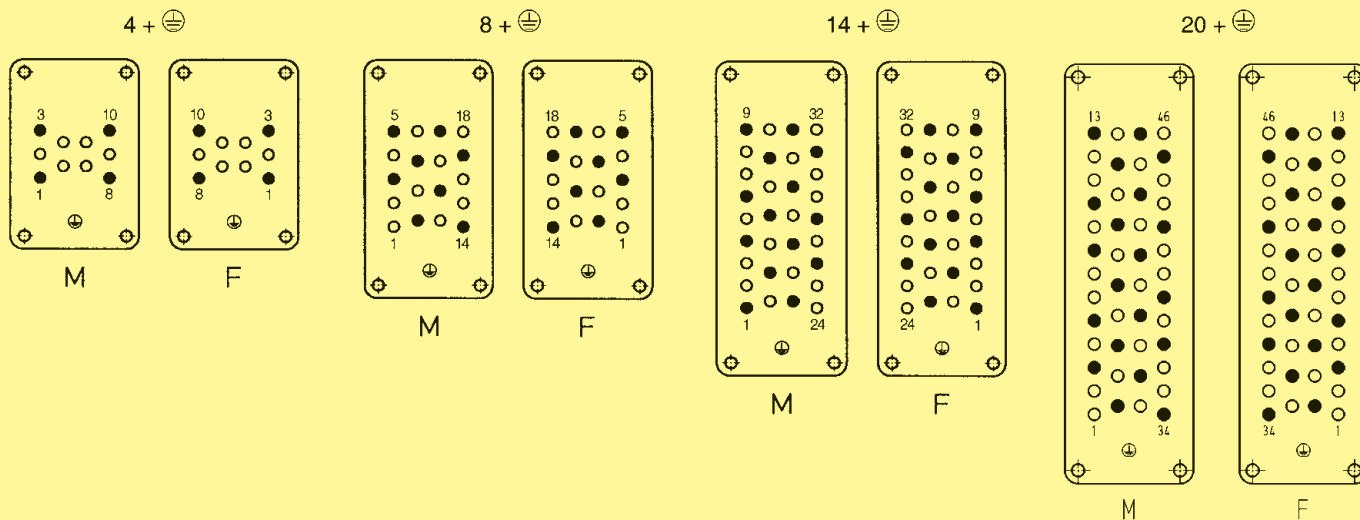
Identification	Series	Part number		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Crimp termination</p> <p>Order crimp contacts separately (see Technical characteristics on page 03.05)</p> 	<p>Han® EE</p> <p>1 - 46</p> <p>47 - 92</p>	<p>09 32 046 3001</p> <p>09 32 046 3011</p>	<p>09 32 046 3101</p> <p>09 32 046 3111</p>	 <p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement view from termination side</p>  <p>Panel cut out</p> 	

Modified contact arrangement up to 1000 V

The connector series Han® EE equipped with all contacts may be used for voltages up to 500 V ~ pollution degree 3. A modified contact loading arrangement permits use up to 1000 V ~ pollution degree also in pollution degree C. Fully equipped connectors may also be used up to 1000 V ~ but in a lower pollution degree. See page 00.22. According to DIN EN 61 984 connectors should not be coupled or decoupled under electrical load.

690 V Pollution degree 3

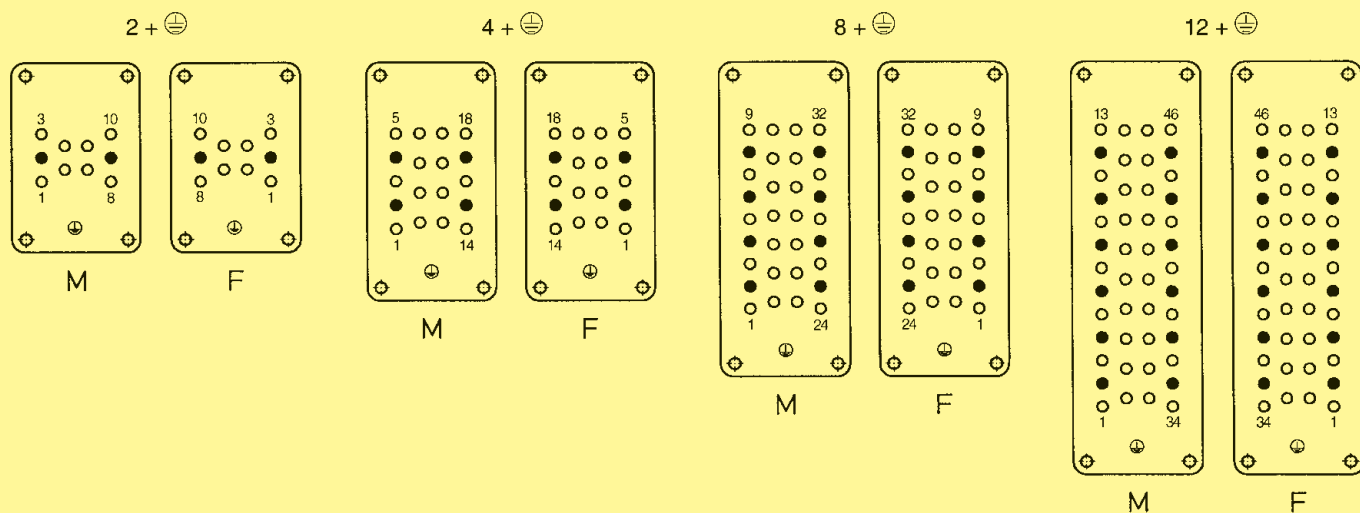
Contact arrangement view from termination side



• Working contact ○ Without contact M - Male insert F - Female insert

1000 V Pollution degree 3

Contact arrangement view from termination side



• Working contact ○ Without contact M - Male insert F - Female insert