

Han E[®] / Han[®] ES / Han[®] ESS / Han[®] EE

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Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

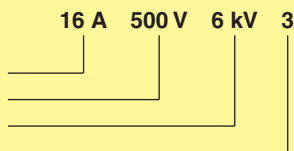
Approvals



Inserts

Number of contacts 6, 10, 16, 24, 32 (2 x 16),
48 (2 x 24) + PE

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also 16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA 600 V

Insulation resistance
Material Polycarbonate
Limiting temperatures
Flammability acc. to UL 94 V 0
Mechanical working life
– Mating cycles ≥ 500

Contacts

Material copper alloy
Surface
– hard-silver plated 3 μm Ag
– hard-gold plated 2 μm Au over 3 μm Ni
Contact resistance $\leq 1 \text{ m}\Omega$
Crimp terminal
– mm^2 0.5 - 4.0 mm^2
– AWG 20 - 12
– Stripping length 7.5 mm
Screw terminal
– mm^2 1.0 - 2.5 mm^2
– AWG 18 - 14
– Tightening/test torque 0.5 Nm
– Stripping length 7.0 mm

Hoods/Housings

Material die cast aluminium
Surface powder-coated
RAL 7037
Locking element Han-Easy Lock®
Hoods/Housings seal 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 chapter 30 and chapter 31

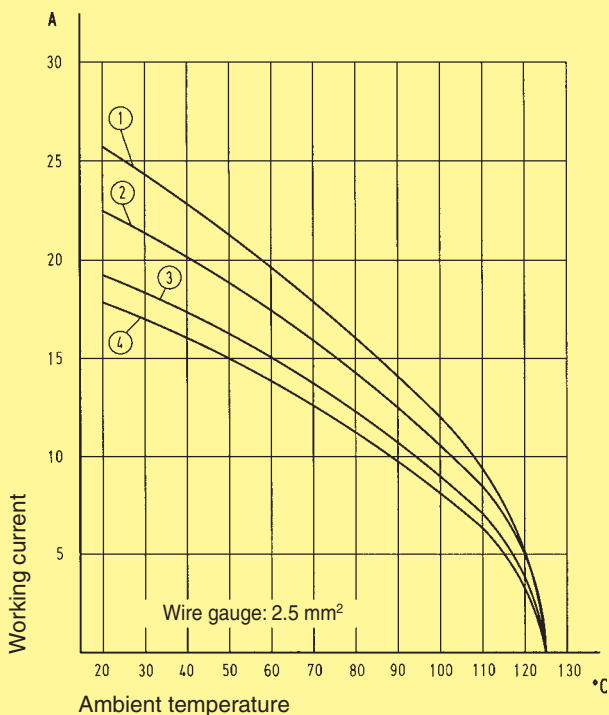
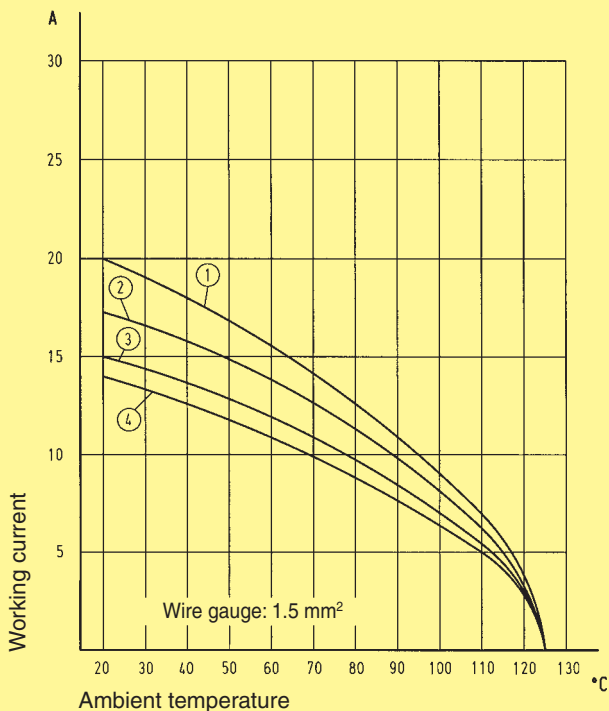
Accessories

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
Special insert fixing screws chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



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

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



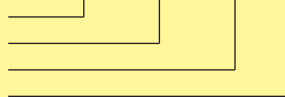
Inserts

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

Electrical data
acc. to DIN EN 61 984

16 A 500 V 6 kV 3

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

16 A 830 V 8 kV 2

Working 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-silver plated
- hard-gold plated

3 μm Ag

2 μm Au over 3 μm Ni

Contact resistance

$\leq 1 \text{ m}\Omega$

Crimp terminal

- mm²
- AWG
- Stripping length

0.5 - 4.0 mm²

20 - 12

7.5 mm

Hoods/Housings

Material

die cast aluminium

Surface

powder-coated
RAL 7037

Locking element

Han-Easy Lock®

Hoods/Housings seal

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

chapter 30 / chapter 31

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

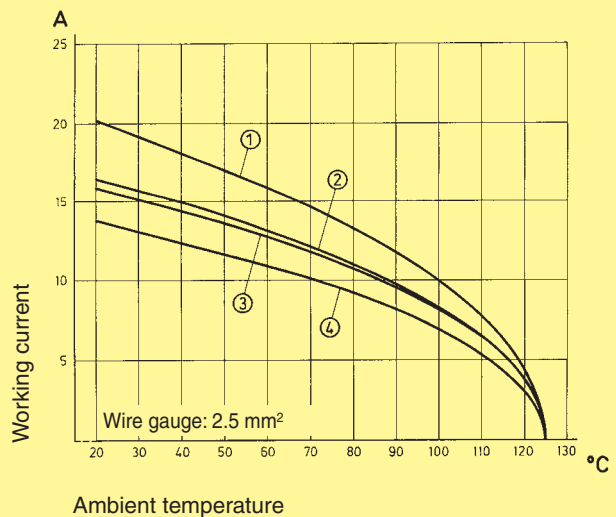
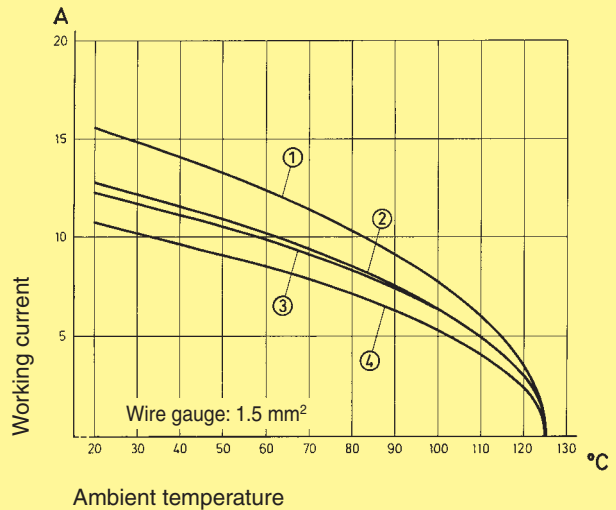
Special insert fixing screws

chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



- ① Han® 10 EE
- ② Han® 18 EE
- ③ Han® 32 EE
- ④ Han® 46 EE

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

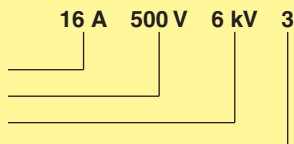
Approvals



Inserts

Number of contacts 6, 10, 16, 24, 32 (2 x 16),
48 (2 x 24) + PE

Electrical data
acc. to DIN EN 61 984



Working current
Working voltage
Rated impulse voltage
Pollution degree

– Pollution degree 2 also 16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA

600 V

Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
– Mating cycles

$\geq 10^{10} \Omega$
Polycarbonate
– 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material copper alloy

Surface

– hard-silver plated

Contact resistance

3 μm Ag
 $\leq 3 \text{ m}\Omega$

Cage-clamp terminal

– mm²

0.14 - 2.5 mm²

– AWG

26 - 14

Stripping length

7 - 9 mm

Hoods/Housings

Material

die cast aluminium

Surface

powder-coated

RAL 7037

Locking element

Han-Easy Lock®

Hoods/housings seal

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

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

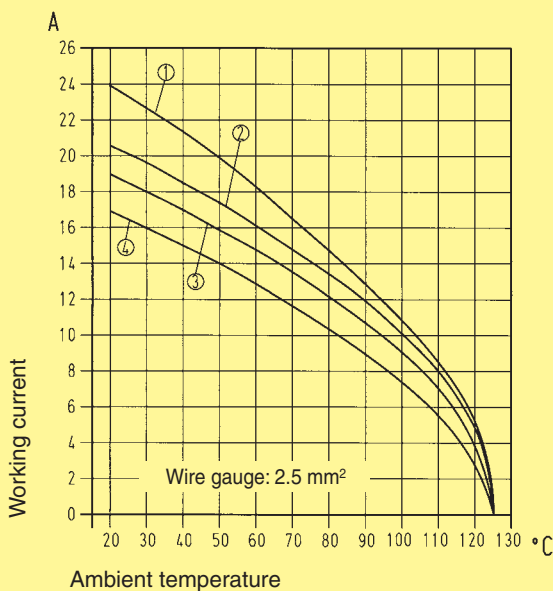
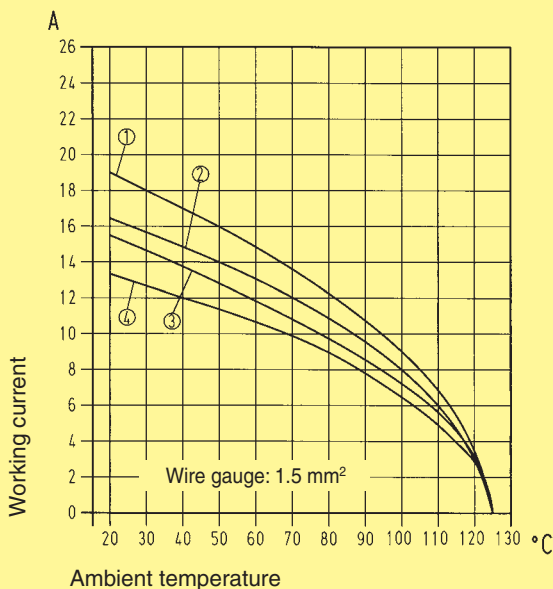
Special insert fixing screws

chapter 40

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



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

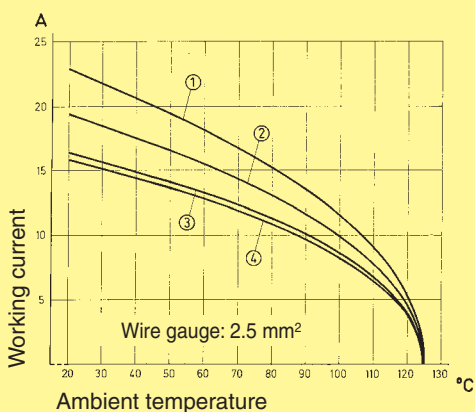
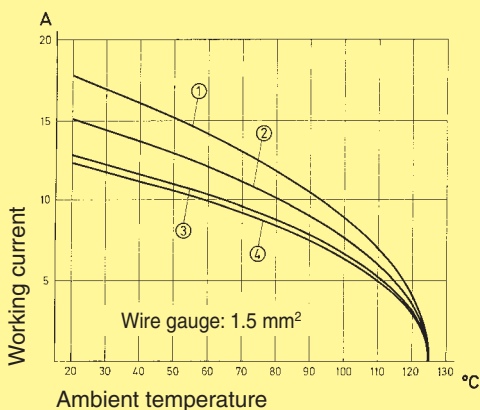
Features:

- ☐ 2 termination points per contact
- ☐ Termination: Cage-clamp
- ☐ Suitable for standard hoods/housings size B
- ☐ High construction hoods/housings are necessary
- ☐ No special tools necessary
- ☐ Bridges are made by using a simple screw driver
- ☐ Vibration resistant
- ☐ Ideal as motor connector as it offers the possibility to create star and delta bridges
- ☐ Testing is possible in the screwdriver aperture

Current carrying capacity

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60 512-3.



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

Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals

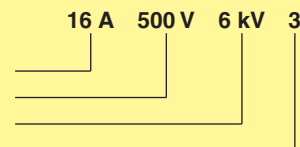


Inserts

Number of contacts 6, 10, 16, 24, 32 (2 x 16),
48 (2 x 24) + PE

Electrical data
acc. to DIN EN 61 984

Working current
Working voltage
Rated impulse voltage
Pollution degree



– Pollution degree 2 also

16 A 400/690 V 6 kV 2

Working voltage
acc. to UL/CSA

600 V

Test voltage U_{rms}
Insulation resistance
Material
Limiting temperatures
Flammability acc. to UL 94
Mechanical working life
- Mating cycles

3 kV
 $\geq 10^{10} \Omega$
Polycarbonate
- 40 °C / +125 °C
V 0
 ≥ 500

Contacts

Material
Surface
- hard-silver plated
Contact resistance
Cage-clamp terminal
- mm²
- AWG
- Stripping length

copper alloy
3 μm Ag
 $\leq 3 \text{ m}\Omega$
0.14 - 2.5 mm²
26 - 14
9 - 11 mm

Hoods/Housings

Material
Surface
Locking element
Hoods/Housings seal
Limiting temperatures
Degree of protection
acc. to DIN EN 60 529
for coupled connector

die cast aluminium
powder-coated
RAL 7037
Han-Easy Lock®
NBR
- 40 °C / +125 °C

IP 65

Further selection
of hoods/housings

chapter 30 / chapter 31

Accessories

Cable clamps
Coding of hoods/housings
Label acc. to CSA-approval
Han-Snap®
Special insert fixing screws

chapter 40
chapter 40
chapter 40
chapter 11
chapter 40

Number of contacts

10 +


Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	Han® EE			1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	

Wire gauge		Part No.		Drawing	Dimensions in mm
Identification	(mm²)	Male contacts	Female contacts		
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		
	1.0	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		
	1.0	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		
4.0	09 33 000 6119	09 33 000 6221			
Crimp contact identification					
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	3.0 mm²	AWG 12	7.5 mm		
no groove	4 mm²	AWG 12	7.5 mm		
* on the back crimp collar					
FOC contacts for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321		
Coding Pin		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.	

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Han
E/EE

Hoods

Hoods side-entry



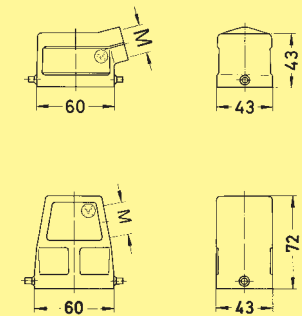
19 30 006 1540
19 30 006 1541

19 30 006 0546
19 30 006 0547

20
25

25
32

Drawing



Dimensions in mm

Hoods top-entry

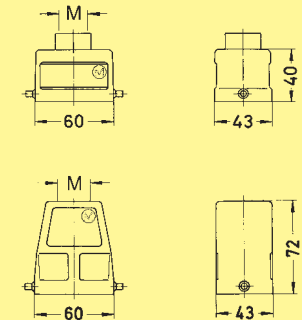


19 30 006 1440

19 30 006 0446
19 30 006 0447

20

25
32

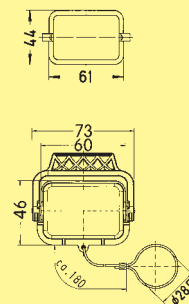


Protection covers for hoods metal



09 30 006 5401

09 30 006 5423



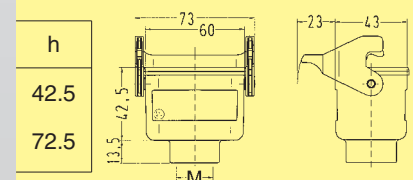
Hoods cable to cable



19 30 006 1750

19 30 006 0756

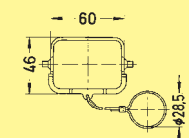
20
25



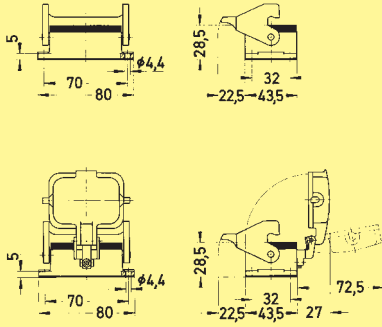
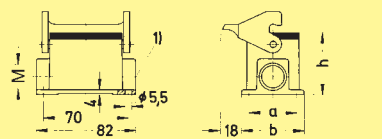
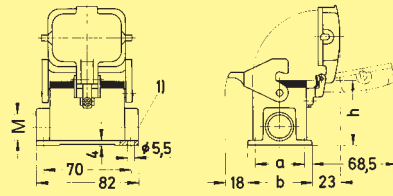
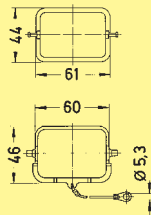
Protection cover for cable to cable metal



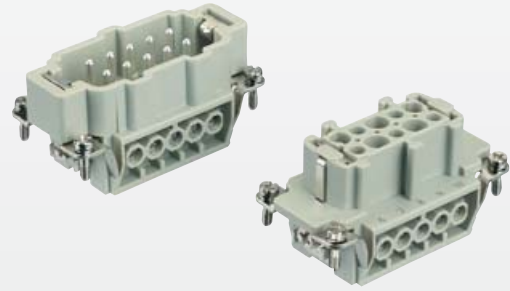
09 30 006 5427



Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Housings	bulkhead mounting		09 30 006 0301	—	Panel cut out 48 x 35 mm	
			with thermo-plastic cover 09 30 006 0302			
			with metal cover 09 30 006 0318			
Housings	surface mounting		19 30 006 1250	1 x 20		
			19 30 006 1290			2 x 20 2 x 25 2 x 32
			with thermo-plastic cover 19 30 006 1255 19 30 006 1295			19 30 006 0291 19 30 006 0292
Housings	surface mounting		with thermo-plastic cover 19 30 006 1255 19 30 006 1295	1 x 20 2 x 20 2 x 25 2 x 32		
			with metal cover 19 30 006 2255 19 30 006 2295			19 30 006 0296 19 30 006 0297
			19 30 006 7296			1 x 20 2 x 20 2 x 25
Protection covers	plastic		09 30 006 5404			
Protection covers	metal		09 30 006 5425			

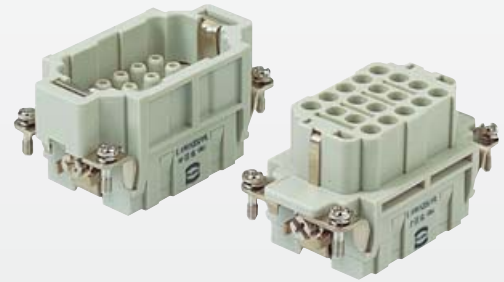
Number of contacts

 $10 + \textcircled{\text{三}}$ 

Inserts

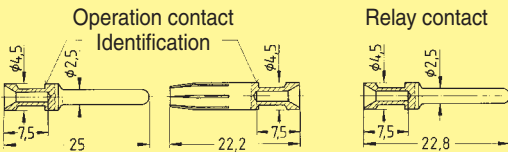
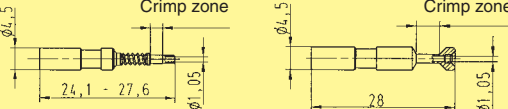
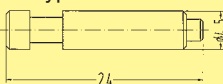
		Part No.			
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Screw terminal with wire protection	Han E®	09 33 010 2601	09 33 010 2701		

Number of contacts

18 +


Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	Han® EE			1) Distance for contact max. 21 mm Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	
		09 32 018 3001	09 32 018 3101		

Identification		Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm																																				
			Male contacts	Female contacts																																						
Crimp contacts					Operation contact Identification Relay contact																																					
Power contacts		0.14-0.37 0.5 0.75 1.0 1.5 2.5 3 4	09 33 000 6127* 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 6227* 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																																						
silver plated					Crimp contact identification																																					
gold plated		0.14-0.37 0.5 0.75 1.0 1.5 2.5 4.0	09 33 000 6117* 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217* 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221	<table><tr><th>Identification</th><th colspan="2">Wire gauge</th><th>Stripping length</th></tr><tr><td>no groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7,5 mm</td></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>3.0 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> * on the back crimp collar		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	3.0 mm²	AWG 12	7,5 mm	no groove	4 mm²	AWG 12	7,5 mm
Identification	Wire gauge		Stripping length																																							
no groove	0.14-0.37 mm²	AWG 26-22	7,5 mm																																							
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wide groove	3.0 mm²	AWG 12	7,5 mm																																							
no groove	4 mm²	AWG 12	7,5 mm																																							
FOC contacts for 1 mm plastic fibre			20 10 001 3311	20 10 001 3321																																						
Coding Pin			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. 																																					

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

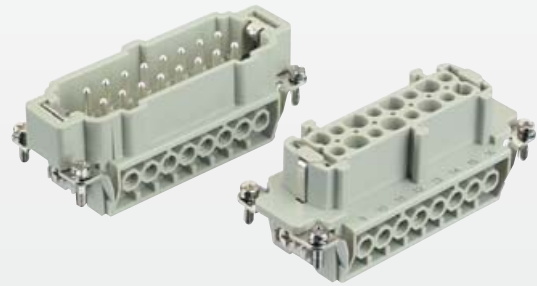
Stock items in bold type

Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm
		Low construction	High construction			
Hoods	Hoods side-entry	19 30 010 1540 19 30 010 1541	19 30 010 0547	20 25 32		
	Hoods top-entry	19 30 010 1440 19 30 010 1441	19 30 010 0447	20 25 32		
Housings	Housings bulkhead mounting	09 30 010 0305 with thermo-plastic cover 09 30 010 0303 with metal cover 09 30 010 0318		— — —		
	Housings surface mounting	1 side-entry 2 side-entries	19 30 010 1250 19 30 010 1290	20 20 25 32		
		1 side-entry 2 side-entries	with thermo-plastic cover 19 30 010 1255 with thermo-plastic cover 19 30 010 1295	20 20 25 32		
			with metal cover 19 30 010 2295	20 25		
Hoods	Hoods cable to cable	19 30 010 1750	19 30 010 0756 19 30 010 0757	20 25 32		
	Dust protection cover	09 30 010 5406				

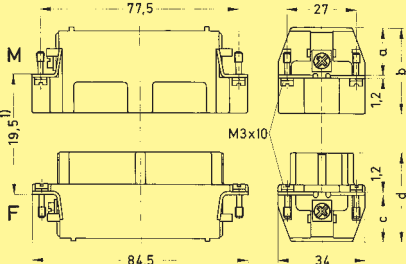
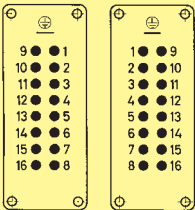
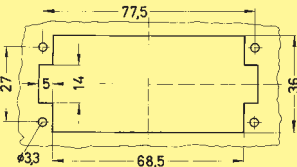
Han
E/EE

Number of contacts

16 +


Inserts

Han
E/EE

		Part No.																							
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm																				
Screw terminal with wire protection	Han E®	09 33 016 2601	09 33 016 2701																						
Cage-clamp terminal	Han® ES	09 33 016 2616	09 33 016 2716	1) Distance for contact max. 21 mm																					
Cage-clamp terminal two terminals per contact	Han® ESS	09 33 016 2672	09 33 016 2772	<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>			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
	a	b	c	d																					
Han E® screw	18	33	18	35																					
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Han ESS	34	49	32	49																					
Crimp terminal Order contacts separately	Han E®	09 33 016 2602	09 33 016 2702	Contact arrangement View from termination side  Panel cut out for inserts for use without hoods/housings 																					

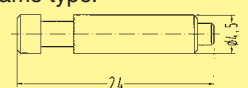
		Wire gauge	Part No.																																							
Identification		(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																																				
Crimp contacts		0.14-0.37	09 33 000 6127*	09 33 000 6227*																																						
Power contacts		0.5	09 33 000 6121	09 33 000 6220																																						
silver plated		0.75	09 33 000 6114	09 33 000 6214																																						
		1.0	09 33 000 6105	09 33 000 6205																																						
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		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																																						
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		1.0	09 33 000 6118	09 33 000 6218																																						
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		4.0	09 33 000 6119	09 33 000 6221																																						
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2.5		09 33 000 6111																																								
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>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7,5 mm</td></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>3.0 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	0.14-0.37 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	3.0 mm²	AWG 12	7,5 mm	no groove	4 mm²	AWG 12	7,5 mm	
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no groove	4 mm²	AWG 12	7,5 mm																																							
					* on the back crimp collar																																					

Coding Pin

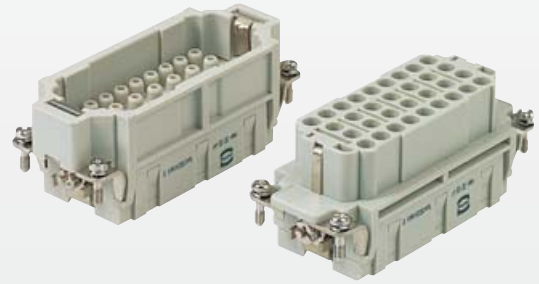
**09 33 000 9954**

Use of the coding pin prevents incorrect mating to other connectors of the same type.

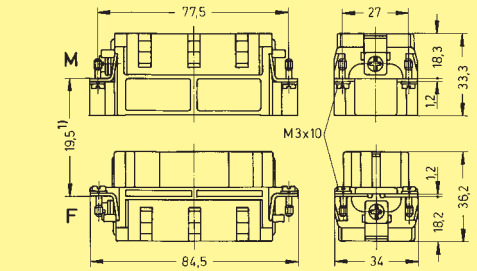
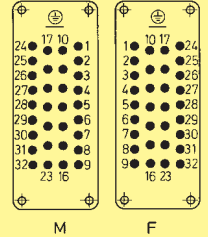
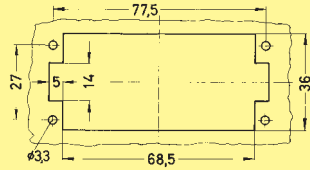
The male pin should be omitted from the opposing cavity in the male insert.

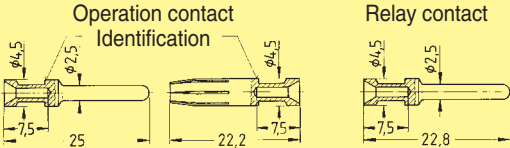
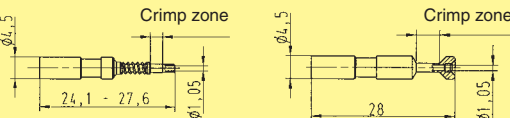
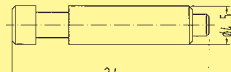


Number of contacts

32 + 

Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
Crimp terminal Order contacts separately	Han® EE				
		09 32 032 3001	09 32 032 3101	 ¹⁾ Distance for contact max. 21 mm Contact arrangement View from termination side  Panel cut out for inserts for use without hoods/housings 	

		Wire gauge	Part No.			
Identification		(mm²)	Male contacts	Female contacts	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		
		1.0	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		
gold plated		3	09 33 000 6106	09 33 000 6206		
		4	09 33 000 6107	09 33 000 6207		
		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		
		1.0	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		
		4.0	09 33 000 6119	09 33 000 6221		
		FOC contacts for 1 mm plastic fibre				
			20 10 001 3311	20 10 001 3321		
Coding Pin						
			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.						

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Han
E/EE03
23

Part No.

Identification

Low construction

High construction

M

Drawing

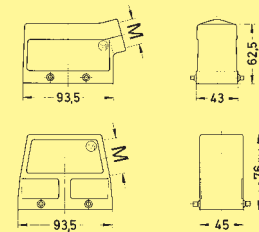
Dimensions in mm

Hoods
side-entry

19 30 016 1521
19 30 016 1522

19 30 016 0527
19 30 016 0528

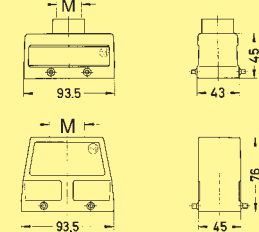
25
32

Hoods
top-entry

19 30 016 1421
19 30 016 1422

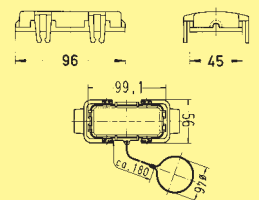
19 30 016 0427
19 30 016 0428

25
32

Protection covers for housings
thermoplastic/metal

09 30 016 5401

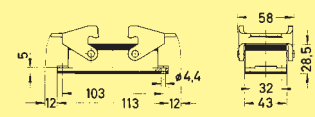
09 30 016 5422

Housing
bulkhead
mounting

09 30 016 0301

—

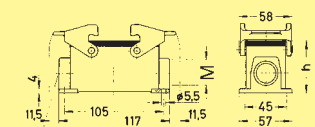
Panel cut out 82 x 35 mm

Housings
surface mounting 1 side-entry

19 30 016 1231

19 30 016 0232

25
32



2 side-entries

19 30 016 1271

19 30 016 0271
19 30 016 0272
19 30 016 0273

25
32
40

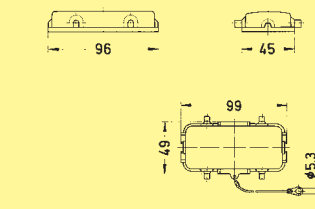
Blind way for one cable entry

	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead mounting
thermoplastic/metal

09 30 016 5405

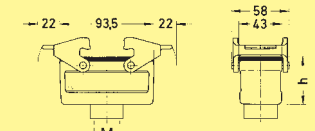
09 30 016 5425

Hoods
cable to cable

19 30 016 1731

19 30 016 0736
19 30 016 0737

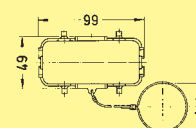
25
32



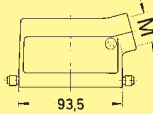
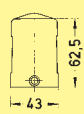
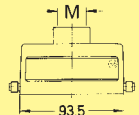
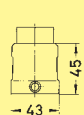
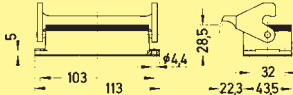
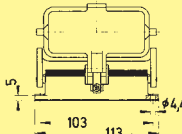
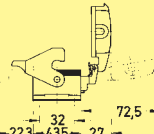
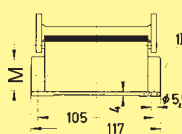
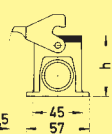
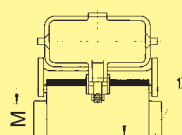
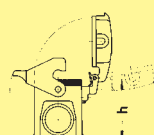
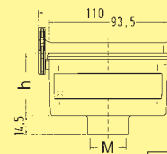
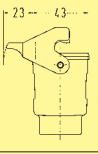
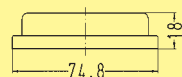
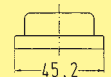
	h
Low construction	47.5
High construction	78.5

Protection cover
for hoods cable to cable
metal

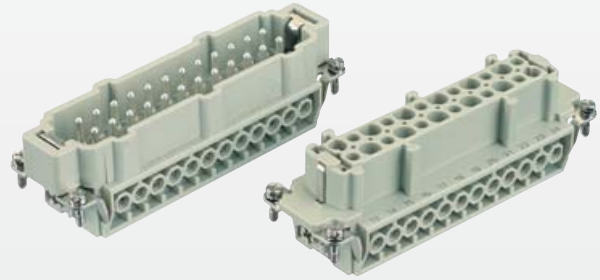
09 30 016 5426



Stock items in bold type

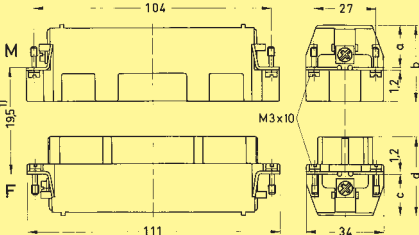
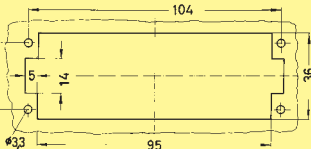
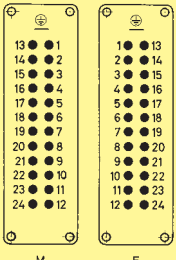
		Part No.				
Identification		Low construction	High construction	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	19 30 016 1541 19 30 016 1542	19 30 016 0547 19 30 016 0548	25 32	 	93,5 43 62,5 45 76
	Hoods top-entry	19 30 016 1441 19 30 016 1442	19 30 016 0447 19 30 016 0448	25 32	 	93,5 43 45 76
Housings	Housings bulkhead mounting	09 30 016 0307 with thermo-plastic cover 09 30 016 0306 with metal cover 09 30 016 0318		— — —	  	5 103 113 28,5 32 22,3-43,5 103 113 28,5 32 22,3-43,5 27
	Housings surface mounting	1 side-entry 19 30 016 1251	19 30 016 0252	25 32	 	105 117 5,5 45 57
		2 side-entries 19 30 016 1291	19 30 016 0291 19 30 016 0292	25 32		
		1 side-entry 19 30 016 1256	with thermo-plastic cover	25	 	105 117 5,5 45 57 65,5 20
		2 side-entries 19 30 016 1296	with thermo-plastic cover	25 32		
		2 side-entries 19 30 016 2296	with metal cover	25 32		
			19 30 016 7297			
	Hoods cable to cable	19 30 016 1751	19 30 016 0757	25 32	 	110 93,5 23 43 14,5 h M
	Dust protection cover	09 30 016 5406			 	18 74,8 45,2

Number of contacts

24 +


Inserts

Han
E / EE

Part No.																									
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm																				
Screw terminal with wire protection	Han E®	09 33 024 2601	09 33 024 2701		1) Distance for contact max. 21 mm <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>		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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Wire gauge		Part No.																																							
Identification	(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																																				
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Identification	Wire gauge		Stripping length																																						
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	</																																								

* 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.



* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Number of contacts

46 +


Inserts

Part No.																																
Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm																											
Crimp terminal Order contacts separately	Han® EE																															
		09 32 046 3001	09 32 046 3101	1) Distance for contact max. 21 mm Contact arrangement View from termination side																												
Part No.																																
Identification	Wire gauge (mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm																											
Crimp contacts Power contacts silver plated gold plated	0.14-0.37 0.5 0.75 1.0 1.5 2.5 3 4 0.14-0.37 0.5 0.75 1.0 1.5 2.5 4.0	09 33 000 6127* 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 6117* 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6227* 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 09 33 000 6217* 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221	<table border="1"><thead><tr><th>Identification</th><th>Wire gauge</th><th>Stripping length</th></tr></thead><tbody><tr><td>no groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td></tr><tr><td>no groove</td><td>0.5 mm²</td><td>AWG 20</td></tr><tr><td>1 groove*</td><td>0.75 mm²</td><td>AWG 18</td></tr><tr><td>1 groove</td><td>1 mm²</td><td>AWG 18</td></tr><tr><td>2 grooves</td><td>1.5 mm²</td><td>AWG 16</td></tr><tr><td>3 grooves</td><td>2.5 mm²</td><td>AWG 14</td></tr><tr><td>wide groove</td><td>3.0 mm²</td><td>AWG 12</td></tr><tr><td>no groove</td><td>4 mm²</td><td>AWG 12</td></tr></tbody></table> * on the back crimp collar	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm²	AWG 26-22	no groove	0.5 mm²	AWG 20	1 groove*	0.75 mm²	AWG 18	1 groove	1 mm²	AWG 18	2 grooves	1.5 mm²	AWG 16	3 grooves	2.5 mm²	AWG 14	wide groove	3.0 mm²	AWG 12	no groove	4 mm²	AWG 12	
Identification	Wire gauge	Stripping length																														
no groove	0.14-0.37 mm²	AWG 26-22																														
no groove	0.5 mm²	AWG 20																														
1 groove*	0.75 mm²	AWG 18																														
1 groove	1 mm²	AWG 18																														
2 grooves	1.5 mm²	AWG 16																														
3 grooves	2.5 mm²	AWG 14																														
wide groove	3.0 mm²	AWG 12																														
no groove	4 mm²	AWG 12																														
FOC contacts for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321																													
Coding Pin		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.																												

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Part No.

Identification

Low construction

High construction

M

Drawing

Dimensions in mm

Hoods

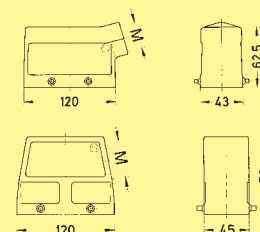
Hoods
side-entry

19 30 024 1521
19 30 024 1522

19 30 024 0527
19 30 024 0528

25
32

32
40

Hoods
top-entry

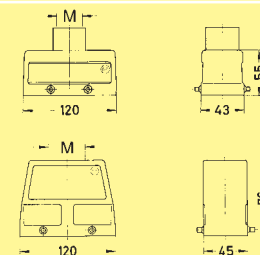
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19 30 024 0427

19 30 024 0428

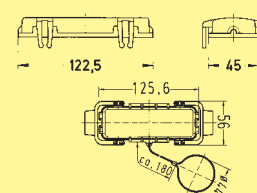
32

40

Protection covers for hoods
thermoplastic/metal

09 30 024 5401

09 30 024 5422



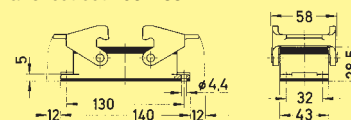
Housings

Housing bulkhead mounting



09 30 024 0301

Panel cut out 108 x 35 mm

Housings
surface
mounting

1 side-entry

19 30 024 1231

19 30 024 0232

25

32

2 side-entries

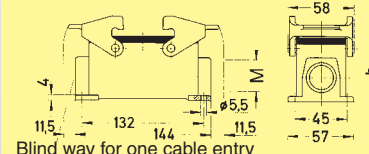
19 30 024 1271

19 30 024 0272
19 30 024 0273

25

32

40



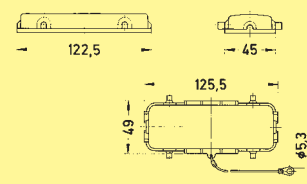
Blind way for one cable entry

	h
Low construction	56
High construction	81

Protection covers
for housings bulkhead/surface mounting
thermoplastic/metal

09 30 024 5405

09 30 024 5425



Hoods cable to cable

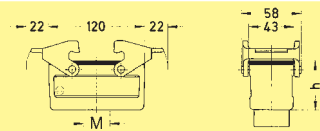


19 30 024 1732

19 30 024 0737
19 30 024 0738

32

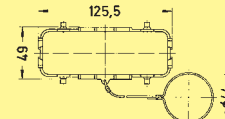
40



	h
Low construction	57.5
High construction	78.5

Protection cover
for hoods
metal

09 30 024 5426



Stock items in bold type

Identification		Part No.		M	Drawing	Dimensions in mm					
		Low construction	High construction								
Hoods	Hoods side-entry	19 30 024 1541 19 30 024 1542	19 30 024 0547 19 30 024 0548	25 32							
	Hoods top-entry	19 30 024 1442	19 30 024 0447	32							
			19 30 024 0448	40							
Housings	Housings bulkhead mounting	09 30 024 0307 with thermo-plastic cover 09 30 024 0304 with metal cover 09 30 024 0318		— — —	Panel cut out 108 x 35 mm 						
	Housings surface mounting	1 side-entry 19 30 024 1251	19 30 024 0292	25							
		2 side-entries 19 30 024 1291	19 30 024 0292	25 32							
		1 side-entry 19 30 024 1256	19 30 024 0297	25							
		2 side-entries 19 30 024 1296	19 30 024 0297	25 32							
		2 side-entries 19 30 024 2296	19 30 024 7297	25 32							
					¹⁾ Blind way for one cable entry						
					<table><tr><td></td><td>h</td></tr><tr><td>Low construction</td><td>56</td></tr><tr><td>High construction</td><td>81</td></tr></table>		h	Low construction	56	High construction	81
	h										
Low construction	56										
High construction	81										
Hoods cable to cable	19 30 024 1752	19 30 024 0757	32								
Dust protection cover	09 30 024 5406										

Number of contacts

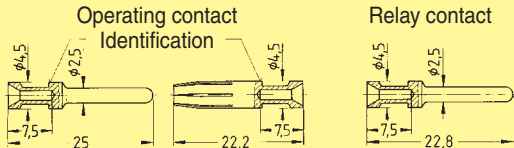
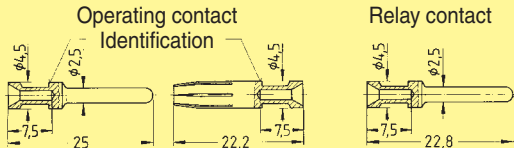
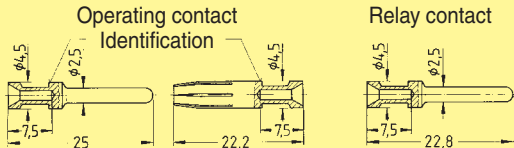
32 +



Inserts

Part No.

Identification	Series	Male insert (M)	Female insert (F)	Drawing	Dimensions in mm
Screw terminal with wire protection	Han E®			Dimensions for inserts see page 03.22	
	1–16	09 33 016 2601	09 33 016 2701	Contact arrangement View from termination side	
	17–32	09 33 016 2611	09 33 016 2711		
Cage-clamp terminal	Han® ES				
	1–16	09 33 016 2616	09 33 016 2716		
	17–32	09 33 016 2626	09 33 016 2726		
Cage-clamp terminal two terminals per contact	Han® ESS			Panel cut out for inserts for use without hoods/housings 	
	1–16	09 33 016 2672	09 33 016 2772		
	1–16	09 33 016 2672	09 33 016 2772		
Crimp terminal Order contacts separately	Han E®				
	1–16	09 33 016 2602	09 33 016 2702		
	17–32	09 33 016 2612	09 33 016 2712		

		Wire gauge	Part No.			
Identification		(mm²)	Male contacts	Female contacts	Drawing	Dimensions in mm
Crimp contacts		0.14-0.37	09 33 000 6127*	09 33 000 6227*		Operating contact Identification Relay contact
Power contacts		0.5	09 33 000 6121	09 33 000 6220		
silver plated		0.75	09 33 000 6114	09 33 000 6214		
		1.0	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*		Operating contact Identification Relay contact
		0.5	09 33 000 6122	09 33 000 6222		
		0.75	09 33 000 6115	09 33 000 6215		
		1.0	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		
		4.0	09 33 000 6119	09 33 000 6221		
Relay contact silver plated		0.75-1	09 33 000 6109			Operating contact Identification Relay contact
		1.5	09 33 000 6110			
		2.5	09 33 000 6111			

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	3.0 mm²	AWG 12	7,5 mm
no groove	4 mm²	AWG 12	7,5 mm

* on the back crimp collar

* on the back crimp collar

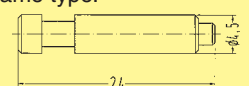
Coding Pin



09 33 000 9954

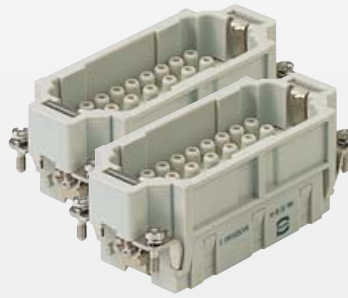
Use of the coding pin prevents incorrect mating to other connectors of the same type.

The male pin should be omitted from the opposing cavity in the male insert.



Number of contacts

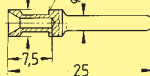
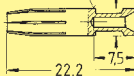
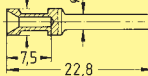
64 +



Inserts

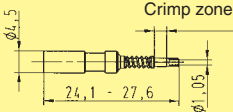
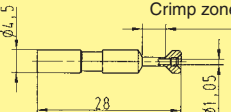
Identification	Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Crimp terminal Order contacts separately	Han® EE				Dimensions for inserts see page 03.23	
	1–32 33–64	09 32 032 3001 09 32 032 3011	09 32 032 3101 09 32 032 3111		Contact arrangement View from termination side Panel cut out for inserts for use without hoods/housings	

Identification		Wire gauge (mm²)	Male contacts	Female contacts	Part No.	Drawing	Dimensions in mm
Crimp contacts							
Power contacts		0.14-0.37 0.5 0.75 1.0 1.5 2.5 3 4	09 33 000 6127* 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 6227* 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			
silver plated							
gold plated							
FOC contacts for 1 mm plastic fibre			20 10 001 3311	20 10 001 3321			
Coding Pin			09 33 000 9954				

Operation contact Identification		Relay contact	
			

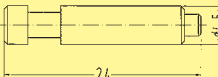
Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm²	AWG 26-22	7,5 mm
no groove	0.5 mm²	AWG 20	7,5 mm
1 groove*	0.75 mm²	AWG 18	7,5 mm
1 groove	1 mm²	AWG 18	7,5 mm
2 grooves	1.5 mm²	AWG 16	7,5 mm
3 grooves	2.5 mm²	AWG 14	7,5 mm
wide groove	3.0 mm²	AWG 12	7,5 mm
no groove	4 mm²	AWG 12	7,5 mm

* on the back crimp collar

	
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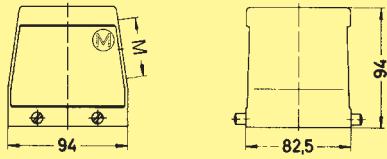
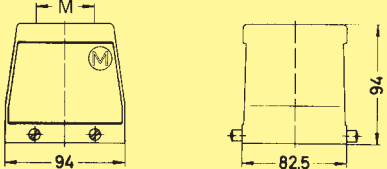
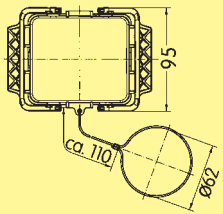
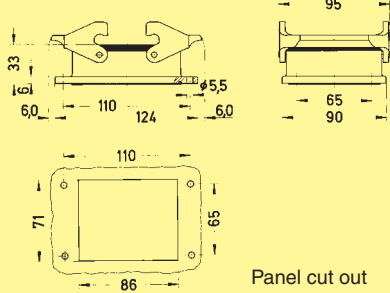
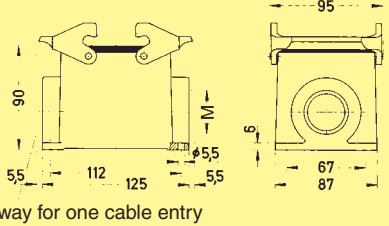
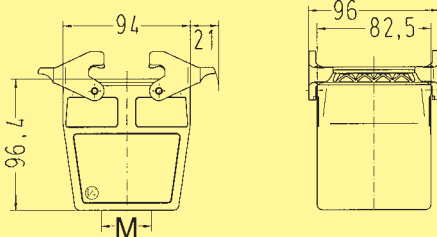
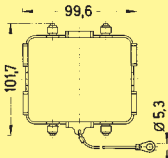
Use of the coding pin prevents incorrect mating to other connectors of the same type.

The male pin should be omitted from the opposing cavity in the male insert.



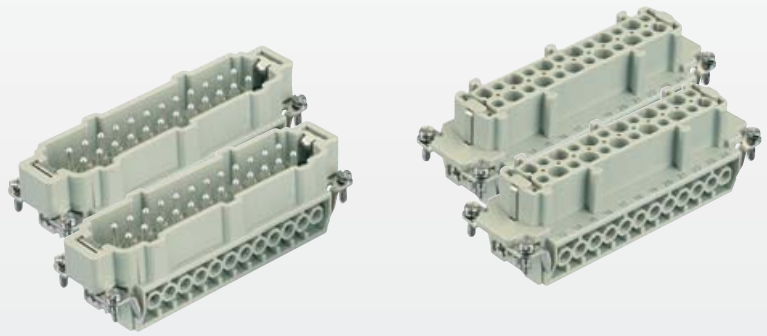
* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

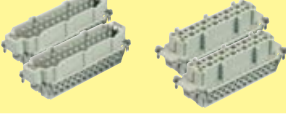
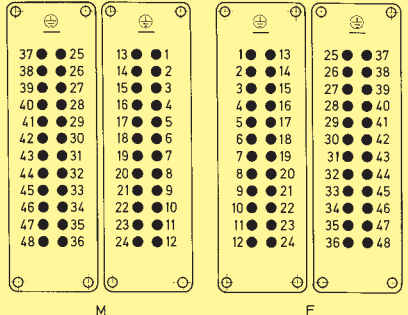
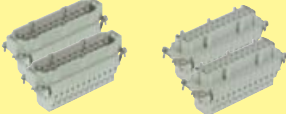
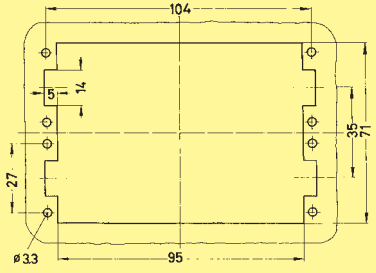
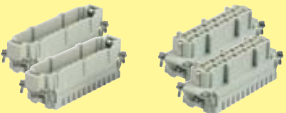
Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry		19 30 032 0527 19 30 032 0528 19 30 032 0529	32 40 50	
	Hoods top-entry		19 30 032 0427 19 30 032 0428 19 30 032 0429	32 40 50	
	Protection cover for hoods		09 30 032 5420	—	
Housings	Housing bulkhead mounting		09 30 032 0301	—	
	Housings surface mounting		19 30 032 0232 19 30 032 0272 19 30 032 0273	1 x 32 2 x 32 2 x 40	
	Hoods cable to cable		19 30 032 0738	1 x 40	
	Protection covers for housings		09 30 032 5425	—	

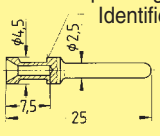
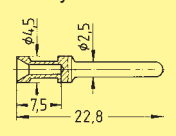
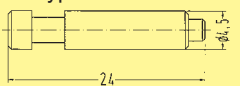
Stock items in bold type

Number of contacts

48 + 

Inserts

Identification	Series	Male insert (M)	Female insert (F)	Part No.	Drawing	Dimensions in mm
Screw terminal with wire protection	Han E®				Dimensions for inserts see page 03.26	
	1–24	09 33 024 2601	09 33 024 2701		Contact arrangement View from termination side	
	25–48	09 33 024 2611	09 33 024 2711			
Cage-clamp terminal	Han® ES					
	1–24	09 33 024 2616	09 33 024 2716			
	25–48	09 33 024 2626	09 33 024 2726			
Cage-clamp terminal two terminals per contact	Han® ESS					
	1–24	09 33 024 2672	09 33 024 2772		Panel cut out for inserts for use without hoods/housings	
	1–24	09 33 024 2672	09 33 024 2772			
Crimp terminal Order contacts separately	Han E®					
	1–24	09 33 024 2602	09 33 024 2702			
	25–48	09 33 024 2612	09 33 024 2712			

Identification	Wire gauge (mm²)	Male contacts	Female contacts	Part No.	Drawing	Dimensions in mm
Crimp contacts						
Power contacts	0.14-0.37	09 33 000 6127*	09 33 000 6227*		Operating contact	
	0.5	09 33 000 6121	09 33 000 6220		Identification	
	0.75	09 33 000 6114	09 33 000 6214			
silver plated	1.0	09 33 000 6105	09 33 000 6205		Relay contact	
	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			
	0.14-0.37	09 33 000 6117*	09 33 000 6217*			
	0.5	09 33 000 6122	09 33 000 6222			
gold plated	0.75	09 33 000 6115	09 33 000 6215			
	1.0	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			
	4.0	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				
Coding Pin				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.	

* only to be used with BUCHANAN crimping tool 09 99 000 0001 and adjustment gauge 09 99 000 0203

Stock items in bold type

Han
E/EE03
33

Number of contacts

92 +



Inserts

Part No.

Identification

Series

Male insert (M)

Female insert (F)

Drawing

Dimensions in mm

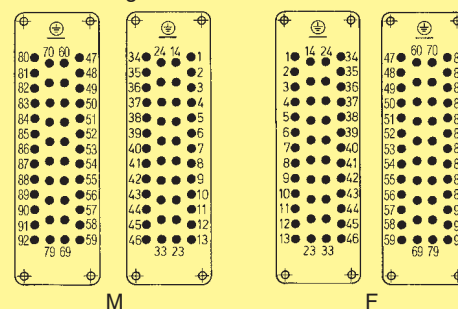
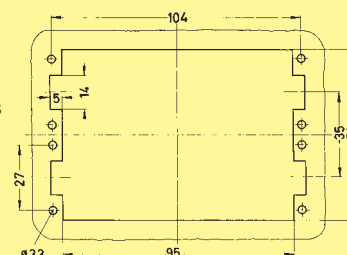
Crimp terminal
Order contacts
separately

Han® EE

1-46
47-9209 32 046 3001
09 32 046 301109 32 046 3101
09 32 046 3111

Dimensions for inserts see page 03.27

Contact arrangement View from termination side

Panel cut out
for inserts
for use without
hoods/housingsWire gauge
Identification (mm²)

Part No.

Male contacts

Female contacts

Drawing

Dimensions in mm

Crimp contacts

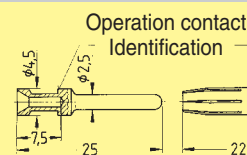
Power contacts

0.14-0.37
0.5
0.75
1.0
1.5
2.5
3
409 33 000 6127*
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 610709 33 000 6227*
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

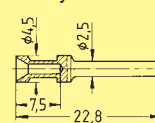
silver plated



gold plated



Relay contact



Crimp contact identification

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm ²	AWG 26-22	7,5 mm
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	3.0 mm ²	AWG 12	7.5 mm
no groove	4 mm ²	AWG 12	7.5 mm

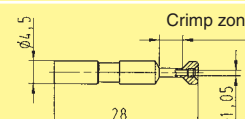
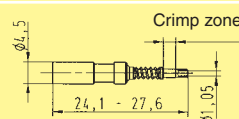
* on the back crimp collar

FOC contacts

for 1 mm plastic fibre

20 10 001 3311

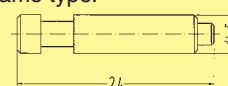
20 10 001 3321



Coding Pin

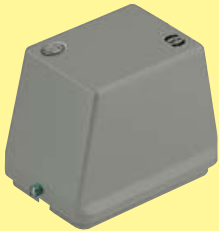
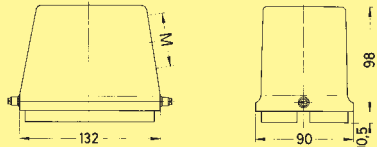
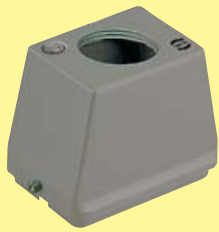
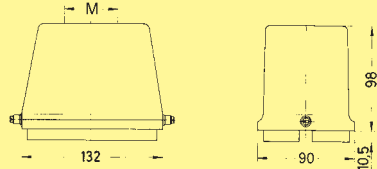
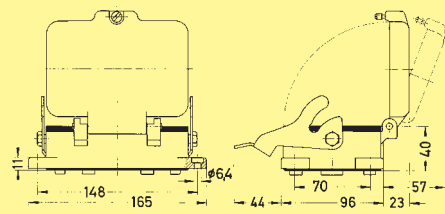
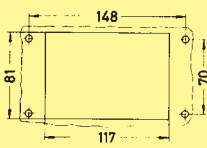
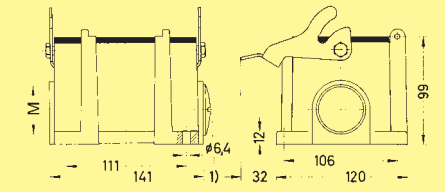
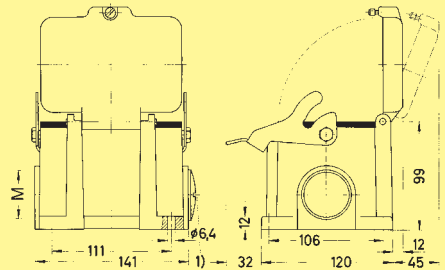


09 33 000 9954

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.

Stock items in bold type

* only to be used with BUCHANAN crimping tool 09 99 000 0001
and adjustment gauge 09 99 000 0203

Identification	Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry			
		19 30 048 0548 19 30 048 0549	40 50	
Hoods	Hoods top-entry			
		19 30 048 0448 19 30 048 0449	40 50	
Housings	Housings bulkhead mounting			
		with thermo-plastic cover 09 30 048 0301	—	
		with metal cover 09 30 048 0317	—	Panel cut out 
	Housings surface mounting			
		19 30 048 0292 19 30 048 0293	2 x 32 2 x 40	
		with thermo-plastic cover 19 30 048 0298	2 x 40	

1) Blind grommet

Stock items in bold type

Han
E/EE

Modified contact arrangement up to 1000 V

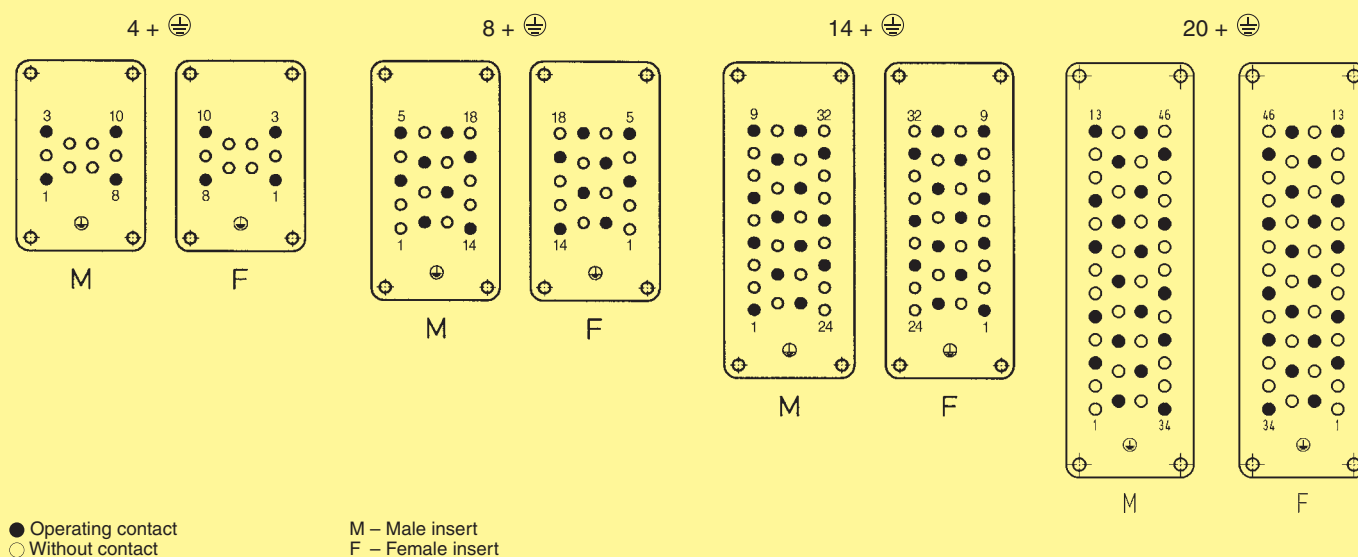
The connector series Han® EE equipped with all contacts may be used for voltages up to 500 V ~ pollution degree 3. A modified contact loading arrangement permits use up to 1000 V ~ pollution degree also in pollution degree C.

Fully equipped connectors may also be used up to 1000 V ~ but in a lower pollution degree. See page 00.17.

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



1 000 V Pollution degree 3

Contact arrangement View from termination side

