

Han A[®]

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Han[®] 3 A housing with fixed cover



Specifications

DIN VDE 0627
DIN VDE 0110
DIN EN 61 984

Approvals



Inserts

Number of contacts 3, 4, 10, 16, 32 (2 x 16) + PE

Electrical data acc. to DIN EN 61 984

Han® 3 A, 4 A	10 A	230/400 V	4 kV	3
Working current				
Working voltage conductor - ground				
Working voltage conductor - conductor				
Rated impulse voltage				
Pollution degree or	10 A	250 V	4 kV	3

Han® 10 A, 16 A	16 A	250 V	4 kV	3
Working current				
Working voltage				
Rated impulse voltage				
Pollution degree - Pollution degree 2 also	16 A	230/400 V	4 kV	2

Working voltage acc. to UL/CSA	600 V
Insulation resistance	≥ 10 ¹⁰ Ω
Material	Polycarbonate
Limiting temperatures	- 40 °C / +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life - mating cycles	≥ 500

Contacts

Material	copper alloy
Surface - hard-silver plated	3 µm Ag
- hard-gold plated	2 µm Au over 3 µm Ni
Contact resistance	≤ 1 mΩ
Crimp terminal - mm ²	0.5 - 4.0 mm ²
- AWG	20 - 12
Screw terminal	
- mm ²	1.0 - 2.5 mm ²
- AWG	18 - 14
- Tightening/test torque	0.5 Nm Han 10/16 A 0.25 Nm Han 3/ 4 A

Hoods/Housings thermoplastic Han® 3 A / 4 A

Material	Polycarbonate RAL 7032
Locking element	Polyamide RAL 7032
Flammability acc. to UL 94	V 0
Hoods/Housings seal	NBR
Limiting temperatures	- 40 °C / +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65 / 67

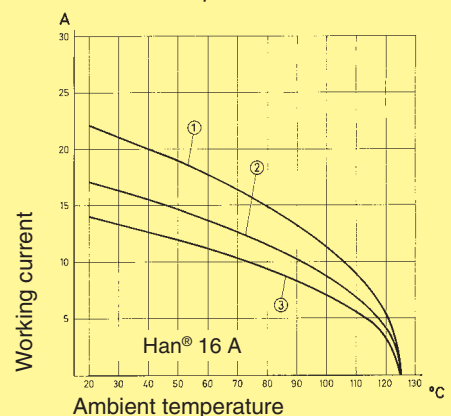
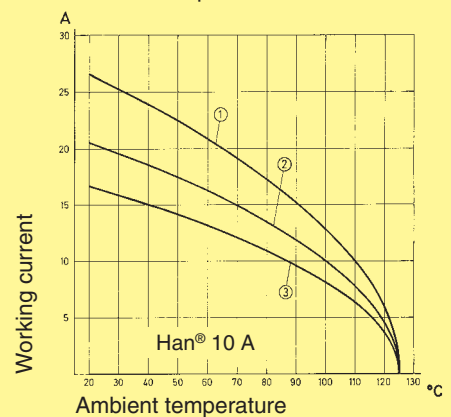
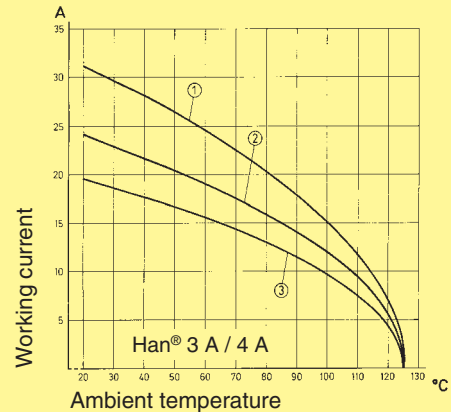
Hoods/Housings metal

Material Han® 3 A / 4 A	die cast zinc
Material Han® 10 A / 16 A	die cast aluminium
Locking element Han® 3 A / 4 A	steel, zinc plated
Locking element Han® 10 A / 16 A	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	
Han® 3 A / 4 A	IP 44 IP 65 / 67 with sealing screw 09 20 000 9918
Han® 10 A / 16 A	IP 65
further selection of hoods/housings	chapter 30 / chapter 31

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 Wire gauge: 2.5 mm²
- ② Wire gauge: 1.5 mm²
- ③ Wire gauge: 1.0 mm²

Accessories

Crimping tools	chapter 99
Cable clamps	chapter 40
sealing screw	chapter 40
Coding of Hoods/Housings	chapter 40
Label acc. to CSA-approval	chapter 40
Test connectors	chapter 40

Features

- Advantages of HARAX[®] completely integrated into Han[®] connector
- Time saving rapid termination technology
- Reconnection up to 10 times
- Safety locking system
- Male and female version available
- No special tools required for assembly
- Hoods/housings and inserts thermoplastic see page 01.10
- Hoods/housings thermoplastic RAL 9005

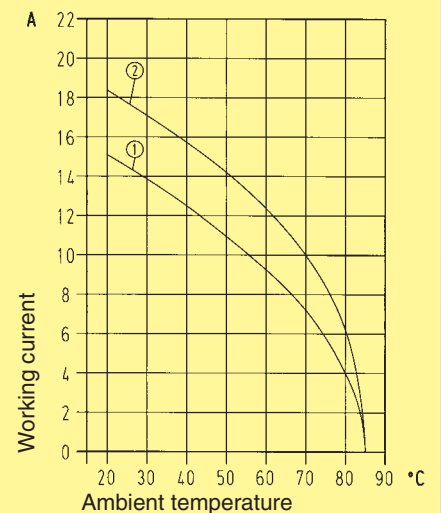
Technical characteristics

Specifications	DIN EN 61 984 DIN EN 60 352-4 DIN VDE 0110
Approval	
Conductor cross section	0.75 - 1.5 mm ²
Cable outside diameter	6.0 - 9.0 mm
Wire diameter	≤ 2.8 mm
Wire of ind. strands	≥ 0.2 mm
Insulation material	PVC
Protection degree	IP 65 / 67
Rated current	10 A
Rated voltage	230 / 400 V
Tightening torque of screw cap	8.0 Nm
Limiting temperatures	- 40 °C / 85 °C

Current carrying capacity

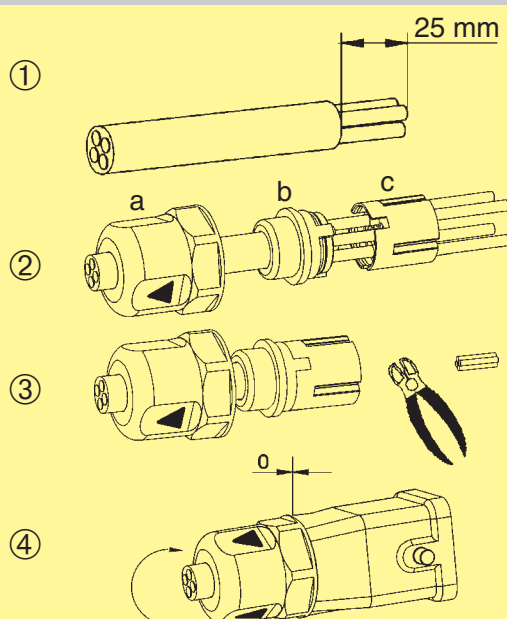
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the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

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



- ① power supply cable: 4 x 0.75 mm²
- ② power supply cable: 4 x 1.5 mm²

Assembly instructions



1. Strip off cable mantle

2. Assemble HARAX[®] elements

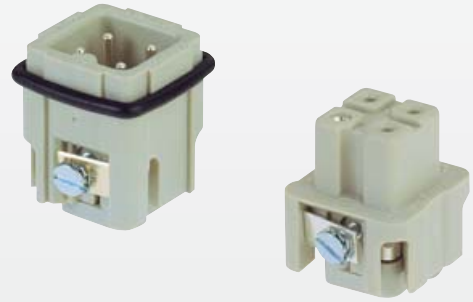
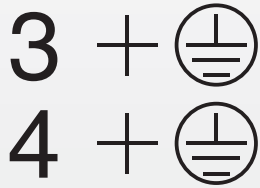
3. Cut off cable ends

4. The nut must be screwed completely down until the notches engage on the contact carrier nut latch

a = Screw cap
b = Sealing
c = Splice ring

Included in delivery:
Screw cap, splice ring, sealing

Number of contacts



Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Screw terminal</p>	Han® 3 A	09 20 003 2611		<p> Contact arrangement View from termination side </p>	
			09 20 003 2711		
<p>with HARAX® Termination</p>	Han® 3 A	09 20 003 0440			
			09 20 003 0445		
<p>Hood cable to cable with HARAX® Termination</p>	Han® 3 A				
			09 20 003 0745		
<p>Screw terminal</p>	Han® 4 A	09 20 004 2611		<p> Contact arrangement View from termination side </p>	
			09 20 004 2711		

Stock items in bold type

Identification		Part No.	M	Drawing	Dimensions in mm
Hoods	Hood side-entry	19 20 003 1640	20		
	Hood top-entry	19 20 003 1440	20		
	Protection covers for hoods	09 20 003 5422¹⁾ 09 20 003 5421²⁾			
Housings	Housings bulkhead mounting	09 20 003 0301			Panel cut out 22 x 22 mm
	with fixed cover	09 20 003 0305¹⁾			
	without sealing	09 20 003 0306²⁾			
	with sealing	09 20 003 0801			
	Housing surface mounting	19 20 003 1250	20		Panel cut out 22 x 22 mm
	1 side-entry	19 20 003 1252	20		
	Housing bottom closed	19 20 003 1252	20		
Housing screw mounting	19 20 003 1150	20			
Hood cable to cable	19 20 003 1750	20			
Protection covers for housings	09 20 003 5426¹⁾ 09 20 003 5425²⁾				
Protection covers for hoods cable to cable	09 20 003 5428¹⁾ 09 20 003 5427²⁾				

Hand
A

¹⁾ for mounted male insert ²⁾ for mounted female insert

Han® 3 A Hood with integrated Cable gland



Features

- Installation height reduced by 25 % compared with existing standard solutions
- Integrated cable gland with large clamping range of 5 –13 mm
- Use of patch cables is possible (e.g. USB and FireWire)
- Reduction of logistic complexity by integration of cable gland

Technical characteristics

Material	Zinc die-cast
Surface	Powder-coated RAL 7037 (grey)
Cable gland	Brass, nickel-plated with high quality rubber sealing element
Clamping range	5 - 13 mm
Limiting temperatures	-40 °C ... 125 °C
Degree of protection accd. to EN 60 529 in locked position	IP 44 IP 67 with use of sealing screw 09 20 000 9918

Identification

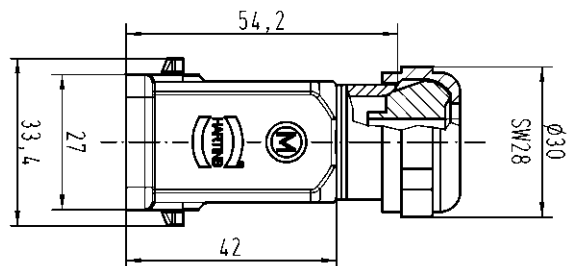
Part Number

Drawing

Dimensions in mm

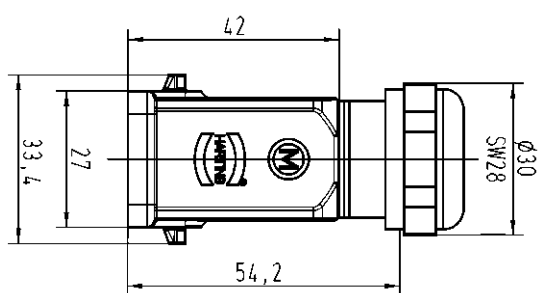
without glued-in sealing
at mating face of hood

19 20 003 1421



with glued-in sealing
at mating face of hood

19 20 003 1423



Assembly instructions



For small cable diameter
Identification pull identification tab outwards
or remove



For large cable diameter
Remove blue insert: place the screw driver vertically
into the separation seam and lift out the blue insert

Han
A

Identification	Part No.	M	Drawing	Dimensions in mm
Hoods	Hoods side-entry	grey 19 20 003 0620	20	
		black 19 20 003 0627	20	
	Hoods top-entry	grey 19 20 003 0420	20	
		black 19 20 003 0427	20	
	Protection covers for hoods	09 20 003 5442 ¹⁾ 09 20 003 5441 ²⁾		
	Housings	Housings bulkhead mounting	grey 09 20 003 0320	—
		black 09 20 003 0327	—	
		grey 09 20 003 0820	—	
		black 09 20 003 0827	—	
			—	
Housings surface mounting 1 side-entry		grey 19 20 003 0220	20	<p>Panel cut out 22 x 22 mm</p>
		black 19 20 003 0227	20	
Hoods cable to cable		grey 19 20 003 0720	20	
		black 19 20 003 0727	20	
Protection covers for housings		A 09 20 003 5407 ¹⁾³⁾ 09 20 003 5408²⁾³⁾⁴⁾		
	B 09 20 003 5445²⁾ 09 20 003 5446 ¹⁾ 09 20 003 5447 ²⁾³⁾⁴⁾			
	for hoods cable to cable C 09 20 003 5448 ¹⁾ 09 20 003 5449 ²⁾⁴⁾			

¹⁾ for mounted male insert
²⁾ for mounted female insert

³⁾ for metal housings and cable to cable hoods also
⁴⁾ for mounted Han-Brid® male and female insert

Number of contacts

10 +

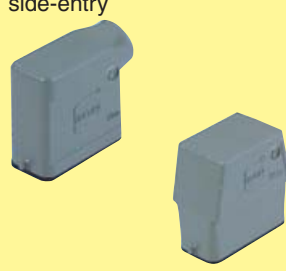
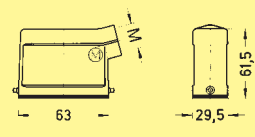
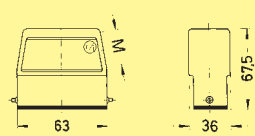

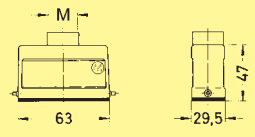
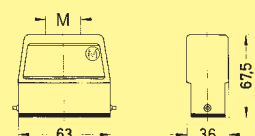

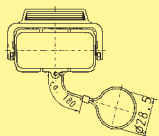

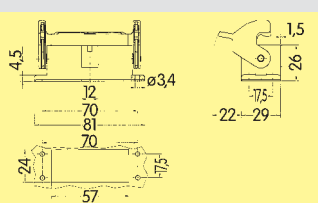
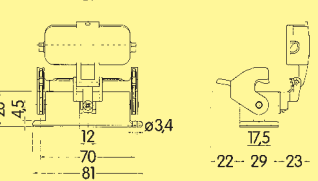

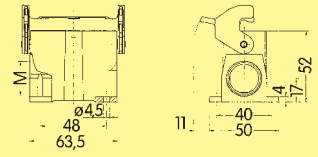
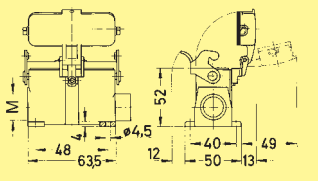

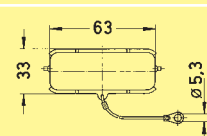


Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Screw terminal</p>	Han A®	09 20 010 2612	09 20 010 2812		Screw terminal
<p>Crimp terminal Order crimp contacts separately</p>	Han A®	09 20 010 3001	09 20 010 3101	<p>¹⁾ Distance for contact max. 24 mm</p> <p>Contact arrangement View from termination side</p> <p>Panel cut out for inserts for use without hoods/housings</p>	Crimp terminal

Identification	Wire gauge (mm ²)	Part No.		Drawing	Dimensions in mm																								
		Male contacts	Female contacts																										
<p>Crimp contacts Power contacts</p> <p>silver plated </p> <p>gold plated </p>	0.5 0.75 1.0 1.5 2.5 3 4 0.5 0.75 1.0 1.5 2.5 4.0	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 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	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 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221		<p>Crimp contact identification</p> <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>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3.0 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² 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 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
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no groove	0.5 mm ² AWG 20	7.5 mm																											
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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																											

Han
A

Identification	Part No.		M	Drawing	Dimensions in mm
	Low construction	High construction			
Hoods side-entry 	19 20 010 1540		20		63 29,5 61,5
		19 20 010 0546	25		63 36 67,5
Hoods top-entry 	19 20 010 1440		20		63 29,5 47
		19 20 010 0446	25		63 36 67,5
Protection covers for hoods 	09 20 010 5423				
Housings bulkhead mounting 	09 20 010 0301		—		4,5 12 70 81 70 24 57 17,5
	with thermo-plastic cover 09 20 010 0321		—		26 4,5 12 70 81 17,5 22-29-23
Housings surface mounting 	1 side-entry 19 20 010 0251¹⁾		1 x 25		4,5 48 63,5 11 40 17-52
	2 side-entries 19 20 010 0290		2 x 20		52 48 63,5 12 40 50 13 49
	with thermo-plastic cover 19 20 010 0295		2 x 20		
Protection covers for housings 	09 20 010 5425				63 33 5,3 ø 5,3

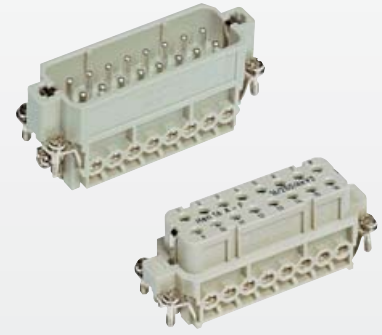
01
16

¹⁾ only metal glands


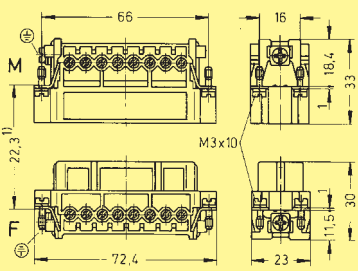

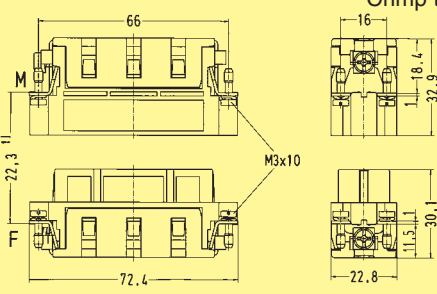
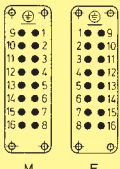
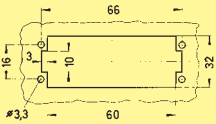
Stock items in bold type



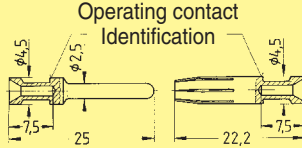
Number of contacts

16 +




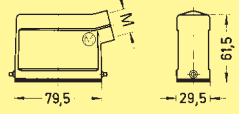
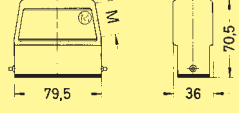

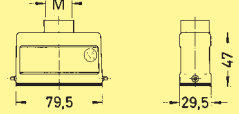
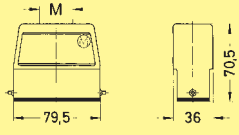

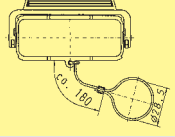

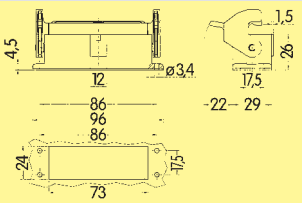
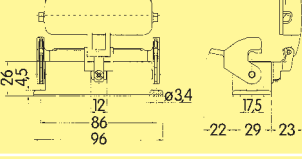

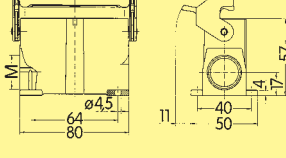
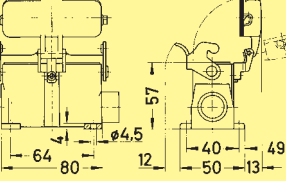
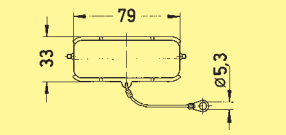

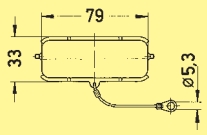
Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		
<p>Screw terminal</p> 	Han A®	09 20 016 2612	09 20 016 2812	 <p>Screw terminal</p>	
<p>Crimp terminal Order crimp contacts separately</p> 	Han A®	09 20 016 3001	09 20 016 3101	 <p>Crimp terminal</p> <p>¹⁾ Distance for contact max. 24 mm</p> <p>Contact arrangement View from termination side</p>  <p>Panel cut out for inserts for use without hoods/housings</p> 	

Identification	Wire gauge (mm ²)	Part No.		Drawing	Dimensions in mm																								
		Male contacts	Female contacts																										
<p>Crimp contacts</p> <p>Power contacts</p> <p>silver plated </p> <p>gold plated </p>	<p>0.5</p> <p>0.75</p> <p>1.0</p> <p>1.5</p> <p>2.5</p> <p>3</p> <p>4</p> <p>0.5</p> <p>0.75</p> <p>1.0</p> <p>1.5</p> <p>2.5</p> <p>4.0</p>	<p>09 33 000 6121</p> <p>09 33 000 6114</p> <p>09 33 000 6105</p> <p>09 33 000 6104</p> <p>09 33 000 6102</p> <p>09 33 000 6106</p> <p>09 33 000 6107</p> <p>09 33 000 6122</p> <p>09 33 000 6115</p> <p>09 33 000 6118</p> <p>09 33 000 6116</p> <p>09 33 000 6123</p> <p>09 33 000 6119</p>	<p>09 33 000 6220</p> <p>09 33 000 6214</p> <p>09 33 000 6205</p> <p>09 33 000 6204</p> <p>09 33 000 6202</p> <p>09 33 000 6206</p> <p>09 33 000 6207</p> <p>09 33 000 6222</p> <p>09 33 000 6215</p> <p>09 33 000 6218</p> <p>09 33 000 6216</p> <p>09 33 000 6223</p> <p>09 33 000 6221</p>	 <p>Operating contact Identification</p> <p>Crimp contact identification</p> <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>0.5 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>	Identification	Wire gauge	Stripping length	no groove	0.5 mm ²	AWG 20	1 groove*	0.75 mm ²	AWG 18	1 groove	1 mm ²	AWG 18	2 grooves	1.5 mm ²	AWG 16	3 grooves	2.5 mm ²	AWG 14	wide groove	3.0 mm ²	AWG 12	no groove	4 mm ²	AWG 12	
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wide groove	3.0 mm ²	AWG 12																											
no groove	4 mm ²	AWG 12																											

* on the back crimp collar

Han
A

Identification	Part No.		M	Drawing	Dimensions in mm
	Low construction	High construction			
Hoods side-entry 	19 20 016 1540		20		61,5 79,5 29,5
		19 20 016 0546	25		70,5 79,5 36
Hoods top-entry 	19 20 016 1440		20		47 79,5 29,5
		19 20 016 0446	25		70,5 79,5 36
Protection covers for hoods 	09 20 016 5423				
Housings bulkhead mounting 	09 20 016 0301		—		1,5 20 17,5 22-29 4,5 12 ø3,4 86 96 86 24 73 17,5
	with thermo- plastic cover 09 20 016 0321		—		26 4,5 12 ø3,4 17,5 86 96 22-29 23
Housings surface mounting 	19 20 016 0251¹⁾		1 x 25		1,5 57 17 4 40 50 11 64 80 ø4,5
	19 20 016 0290		2 x 20		57 12 40 49 50 13 64 80 ø4,5
	with thermo- plastic cover 19 20 016 0295		2 x 20		79 33 ø5,3
Protection covers for housings 	09 20 016 5425				

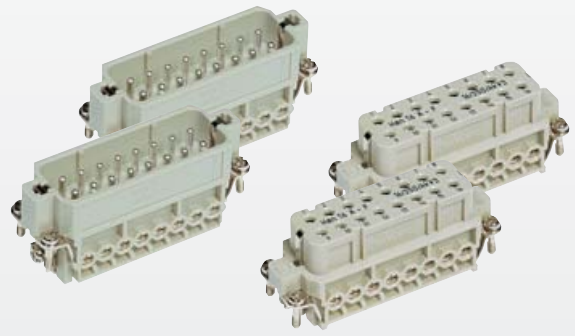
01
18

¹⁾ only metal glands

Stock items in bold type

Number of contacts

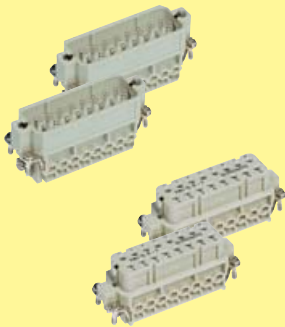
32 +



Inserts

Identification	Series	Part No.		Drawing	Dimensions in mm
		Male insert (M)	Female insert (F)		

Screw terminal

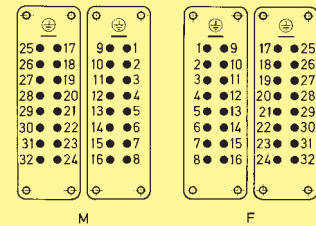


Han A®
1-16
17-32

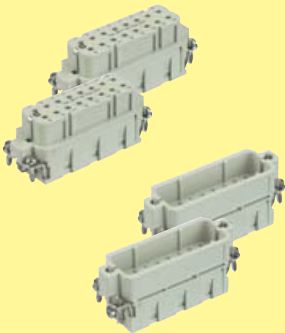
Male insert (M)	Female insert (F)
09 20 016 2612	09 20 016 2812
09 20 016 2613	09 20 016 2813

Dimensions for inserts see page 01.16

Contact arrangement View from termination side



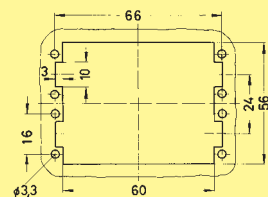
Crimp terminal
Order crimp contacts separately



Han A®
1-16
17-32

Male insert (M)	Female insert (F)
09 20 016 3001	09 20 016 3101
09 20 016 3011	09 20 016 3111

Panel cut out for inserts
for use without hoods/housings



Identification	Wire gauge (mm²)	Part No.		Drawing	Dimensions in mm
		Male contacts	Female contacts		

Crimp contacts
Power contacts

silver plated

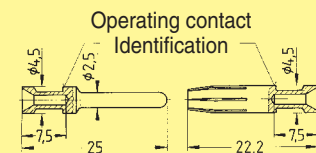


0.5	09 33 000 6121	09 33 000 6220
0.75	09 33 000 6114	09 33 000 6214
1.0	09 33 000 6105	09 33 000 6205
1.5	09 33 000 6104	09 33 000 6204
2.5	09 33 000 6102	09 33 000 6202
3	09 33 000 6106	09 33 000 6206
4	09 33 000 6107	09 33 000 6207

gold plated



0.5	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




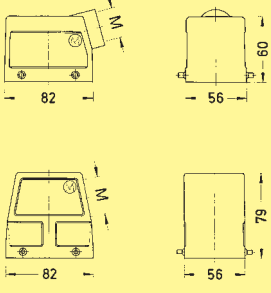
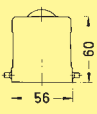

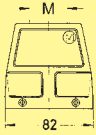
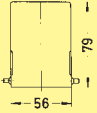


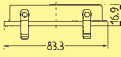

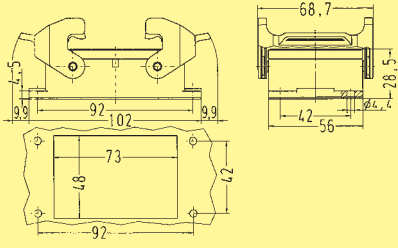

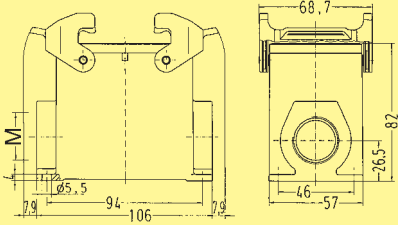
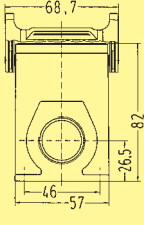



Crimp contact identification

Identification	Wire gauge	AWG	Stripping length
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

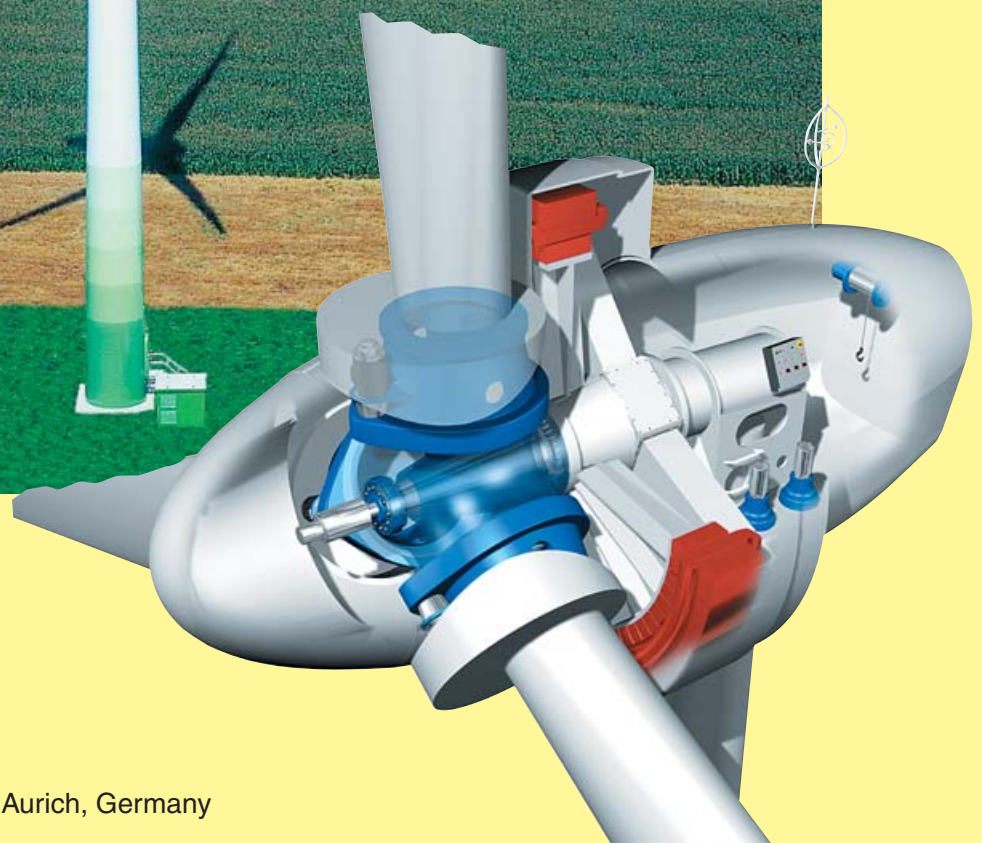
Han A

Han
A

Identification	Part No.			Drawing	Dimensions in mm
	Low construction	High construction	M		
Hoods side-entry 	19 20 032 1521	19 20 032 0527	25		
			32		
Hoods top-entry 		19 20 032 0427	32		
Protection cover 		09 20 032 5401	—		
Housing bulkhead mounting 	09 20 032 0301		—		Panel cut out
Housings surface mounting 		19 20 032 0231 19 20 032 0232	1 x 25 1 x 32		
	1 side-entry 2 side-entries	19 20 032 0272	2 x 32		
Protection cover 		09 20 032 5405			

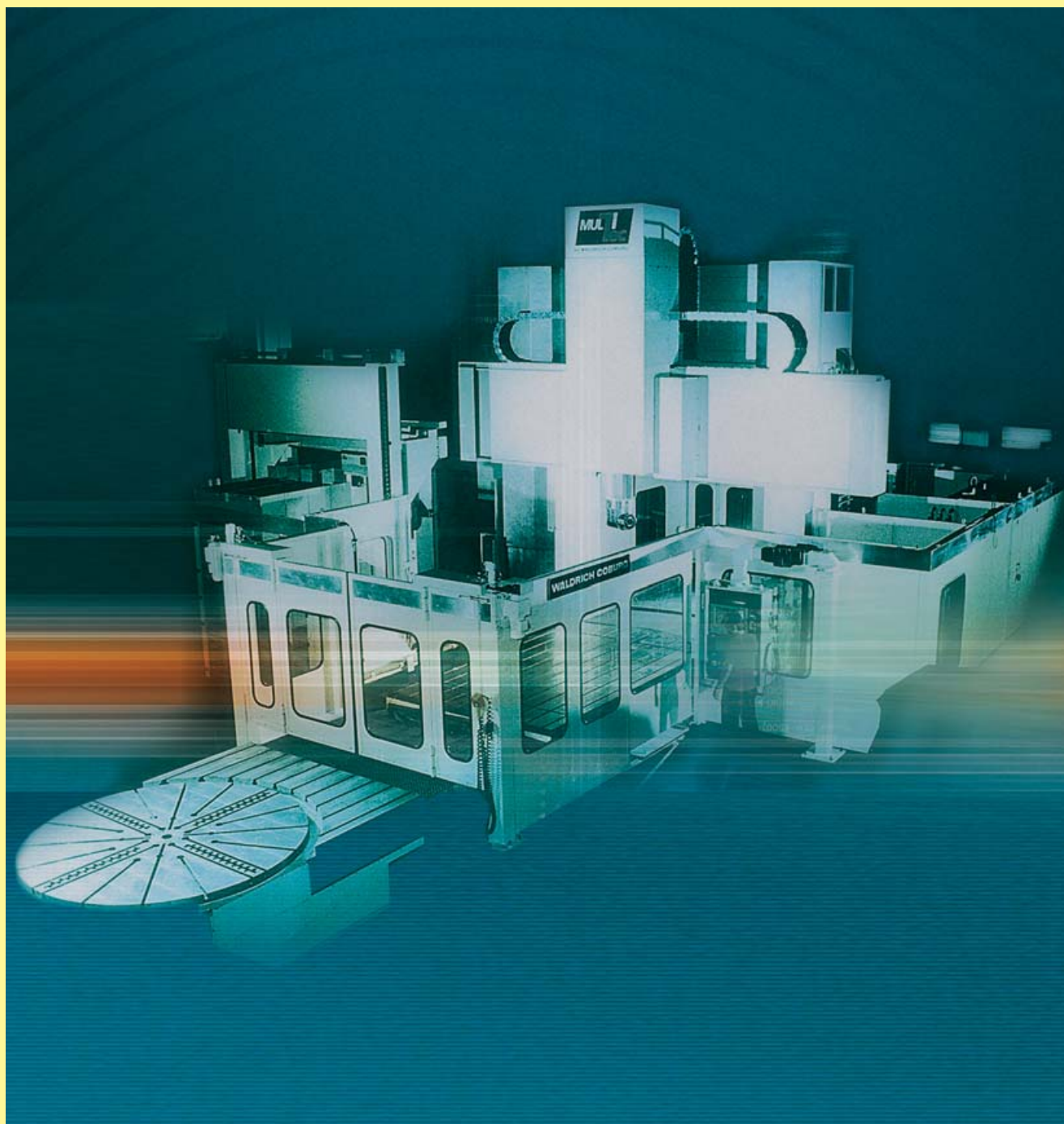
01
20

Stock items in bold type



Wind turbine
ENERCON Electric GmbH, Aurich, Germany

Han
A



MultiTec-Machining Center
Waldrich Coburg, Coburg, Germany