HARTING Connectors for High Mating Cycles

Transforming customer wishes into concrete solutions

The HARTING Technology Group is skilled in the fields of electrical, electronic and optical connection, transmission and networking, as well as in manufacturing, mechatronics and software creation. The Group uses these skills to develop customized solutions and products such as connectors for energy and data transmission applications including, for example, mechanical engineering, rail technology, wind energy plants, factory automation and the telecommunications sector. In addition, HARTING also produces electro-magnetic components for the automobile industry and offers solutions in the field of Enclosures and Shop Systems.
The HARTING Group currently comprises 32 subsidiary companies and worldwide distributors employing a total of approximately 3,500 staff.

HARTING Subsidiary company HARTING Representatives

We aspire to top performance.

Connectors ensure functionality. As core elements of electrical and optical wiring, connection and infrastructure technologies, they are essential in enabling the modular construction of devices, machines and systems across a very wide range of industrial applications. Their reliability is a crucial factor guaranteeing smooth functioning in the manufacturing area, in telecommunications, applications in medical technology – in fact, connectors are at work in virtually every conceivable application area. Thanks to the consistent further development of our technologies, customers enjoy investment security and benefit from durable, long term functionality.

Always at hand, wherever our customers may be.

Increasing industrialization is creating growing markets characterized by widely diverging demands and requirements. The search for perfection, increasingly efficient processes and reliable technologies is a common factor in all sectors across the globe.

HARTING is providing these technologies – in Europe, America and Asia. The **HARTING** professionals at our international subsidiaries engage in close, partnership based interaction with our customers, right from the very early product development phases, in order to realize customer demands and requirements in the best possible manner.

Our people on location form the interface to the centrally coordinated development and production departments. In this way, our customers can rely on consistently high, superior product quality – worldwide.

Our claim: pushing performance.

HARTING provides more than optimally attuned components. In order to serve our customers with the best possible solutions, **HARTING** is able to contribute a great deal more and play a closely integrative role in the value creation process.

From ready assembled cables through to control racks or ready-to-go control desks: Our aim is to generate the maximum benefits for our customers – without compromise!

Quality creates reliability – and warrants trust.

The **HARTING** brand stands for superior quality and reliability – worldwide. The standards we set are the result of consistent, stringent quality management that is subject to regular certifications and audits.

EN ISO 9001, the EU Eco-Audit and ISO 14001:2004 are key elements here. We take a proactive stance to new requirements, which is why **HARTING** ranks among the first companies worldwide to have obtained the new IRIS quality certificate for rail vehicles.

HARTING technology creates added value for customers.
Technologies by **HARTING** are at work worldwide. **HARTING**'s presence stands for smoothly functioning systems, powered by intelligent connectors, smart infrastructure solutions and mature network systems. In the course of many years of close, trust-based cooperation with its customers, the **HARTING** Technology Group has advanced to one of the worldwide leading specialists for connector technology. Extending beyond the basic functionalities demanded, we offer individual customers specific and innovative solutions. These tailored solutions deliver sustained effects, provide investment security and enable customers to achieve strong added value.

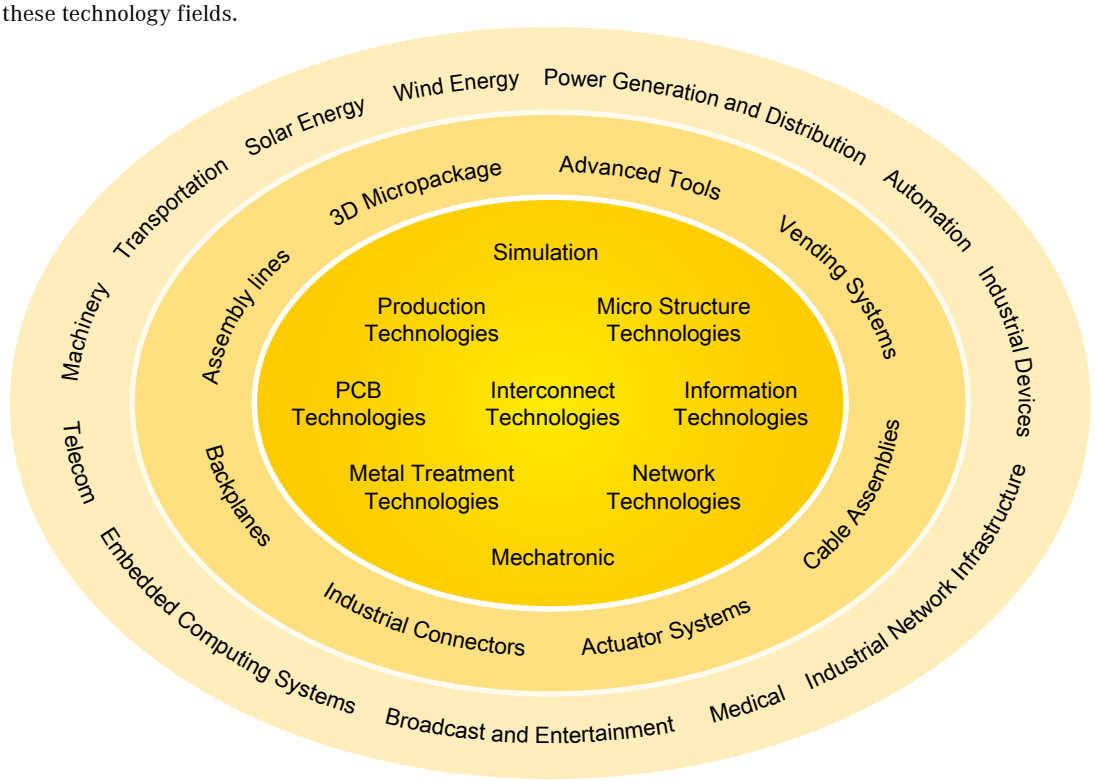
Opting for HARTING opens up an innovative, complex world of concepts and ideas.
In order to develop connectivity and network solutions serving an exceptionally wide range of connector applications and task scopes in a professional and cost optimized manner, **HARTING** not only commands the full array of conventional tools and basic technologies. Over and beyond these capabilities, **HARTING** is constantly harnessing and refining its broad base of knowledge and experience to create new solutions that ensure continuity at the same time. In securing this know-how lead, **HARTING** draws on a wealth of sources from both in-house research and the world of applications alike.
Salient examples of these sources of innovative knowledge include microstructure technologies, 3D design and construction technology, as well as high temperature or ultrahigh frequency applications that are finding use in telecommunications or automation networks, in the automotive industry, or in industrial sensor and actuator applications, RFID and wireless technologies, in addition to packaging and housing made of plastics, aluminum or stainless steel.

HARTING solutions extend across technology boundaries.
Drawing on the comprehensive resources of the group's technology pool, **HARTING** devises practical solutions for its customers. Whether this involves industrial networks for manufacturing automation, or hybrid interface solutions for wireless telecommunication infrastructures, 3D circuit carriers with microstructures, or cable assemblies for high-temperature applications in the automotive industry – **HARTING** technologies offer far more than components, and represent mature, comprehensive solutions attuned to individual customer requirements and wishes. The range covers ready-to-use cable configurations, completely assembled backplanes and board system carriers, as well as fully wired and tested control panels.
In order to ensure the future proof design of RF- and EMC-compatible interface solutions, the central **HARTING** laboratory (certified to EN 45001) provides simulation tools, as well as experimental, testing and diagnostics facilities all the way through to scanning electron microscopes. In the selection of materials and processes, lifecycle and environmental aspects play a key role, in addition to product and process capability considerations.

HARTING knowledge is practical know-how generating synergy effects.

HARTING commands decades of experience with regard to the applications conditions of connectors in telecommunications, computer and network technologies and medical technologies, as well as industrial automation technologies, such as the mechanical engineering and plant engineering areas, in addition to the power generation industry or the transportation sector. **HARTING** is highly conversant with the specific application areas in all of these technology fields.

The key focus is on applications in every solution approach. In this context, uncompromising, superior quality is our hallmark. Every new solution found will invariably flow back into the **HARTING** technology pool, thereby enriching our resources. And every new solution we go on to create will draw on this wealth of resources in order to optimize each and every individual solution. In this way, **HARTING** is synergy in action.



Availability of Products

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Han® 42 DD HMC	April 2013	17
Han® 40 D HMC	April 2013	18
Han® 72 DD HMC	April 2013	19
Han® 64 D HMC	April 2013	20
Han® 108 DD HMC	April 2013	21
Han® 6 E HMC	April 2013	26
Han® 10 E HMC	April 2013	27
Han® 16 E HMC	April 2013	28
Han® 40 EEE HMC	April 2013	29
Han® 24 E HMC	April 2013	30
Han® 64 EEE HMC	April 2013	31
Han® 10 B HMC Hoods/Housings	January 2013	50
Han® 16 B HMC Hoods/Housings	January 2013	54
Han® 24 B HMC Hoods/Housings	January 2013	58
Further products in this catalogue are available ex stock		

Features of the Han® HMC connectors

This series Han® HMC (**H**igh **M**ating **C**ycles) is a hood and housing series specifically aiming at industrial applications for 10,000 mating cycles.

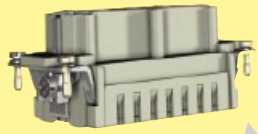
Benefits:

- High mechanical robustness
- Simple and easy understandable design
- Optimized concept for signal and power transmission
- Low mating and unmating forces
- High contact density

Han® B HMC hoods with high performance locking pin

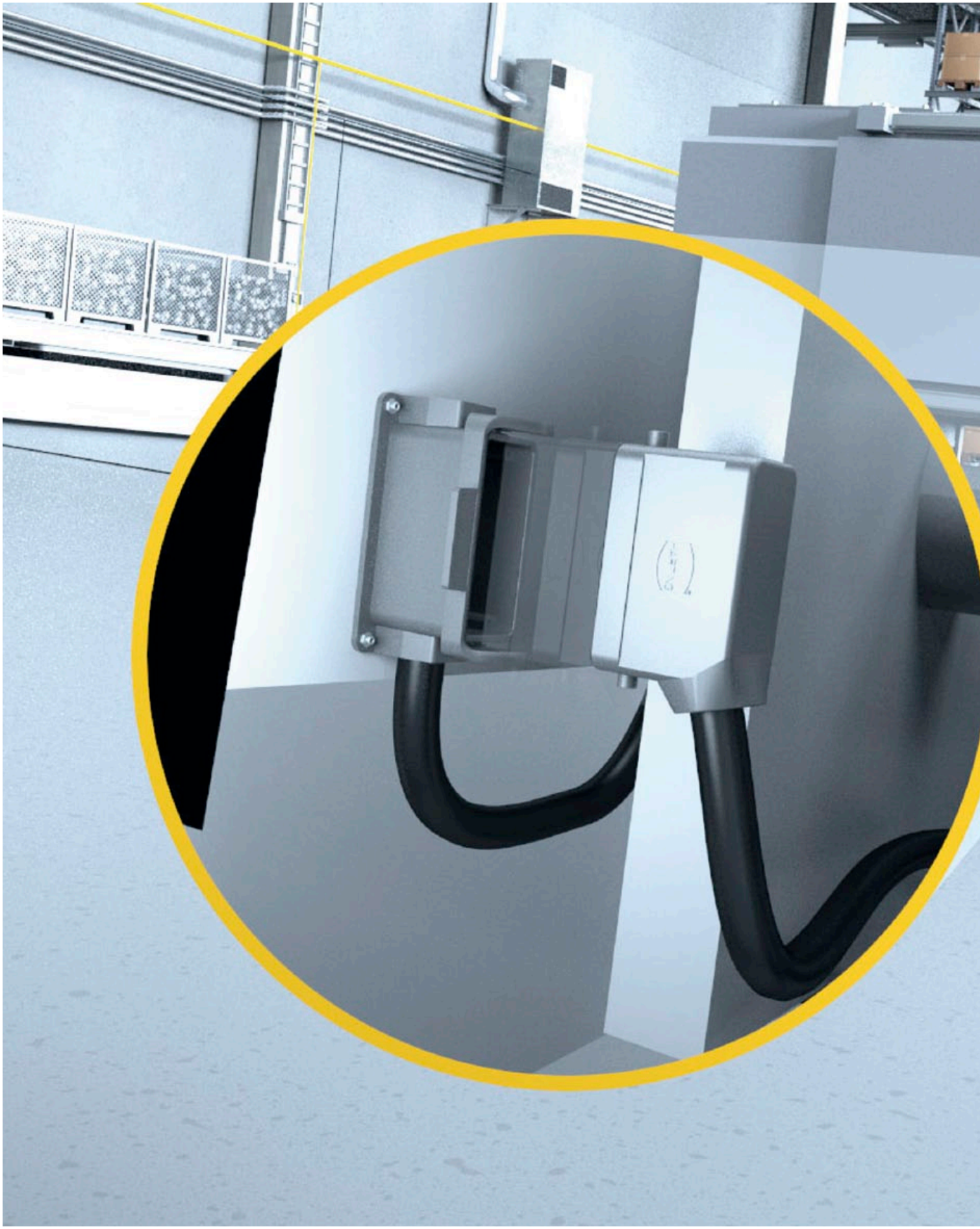
Han D® and Han E® crimp contacts with specific HMC gold coating and a constant contact force

Ground contacts of crimp inserts with long lasting HMC contact spring

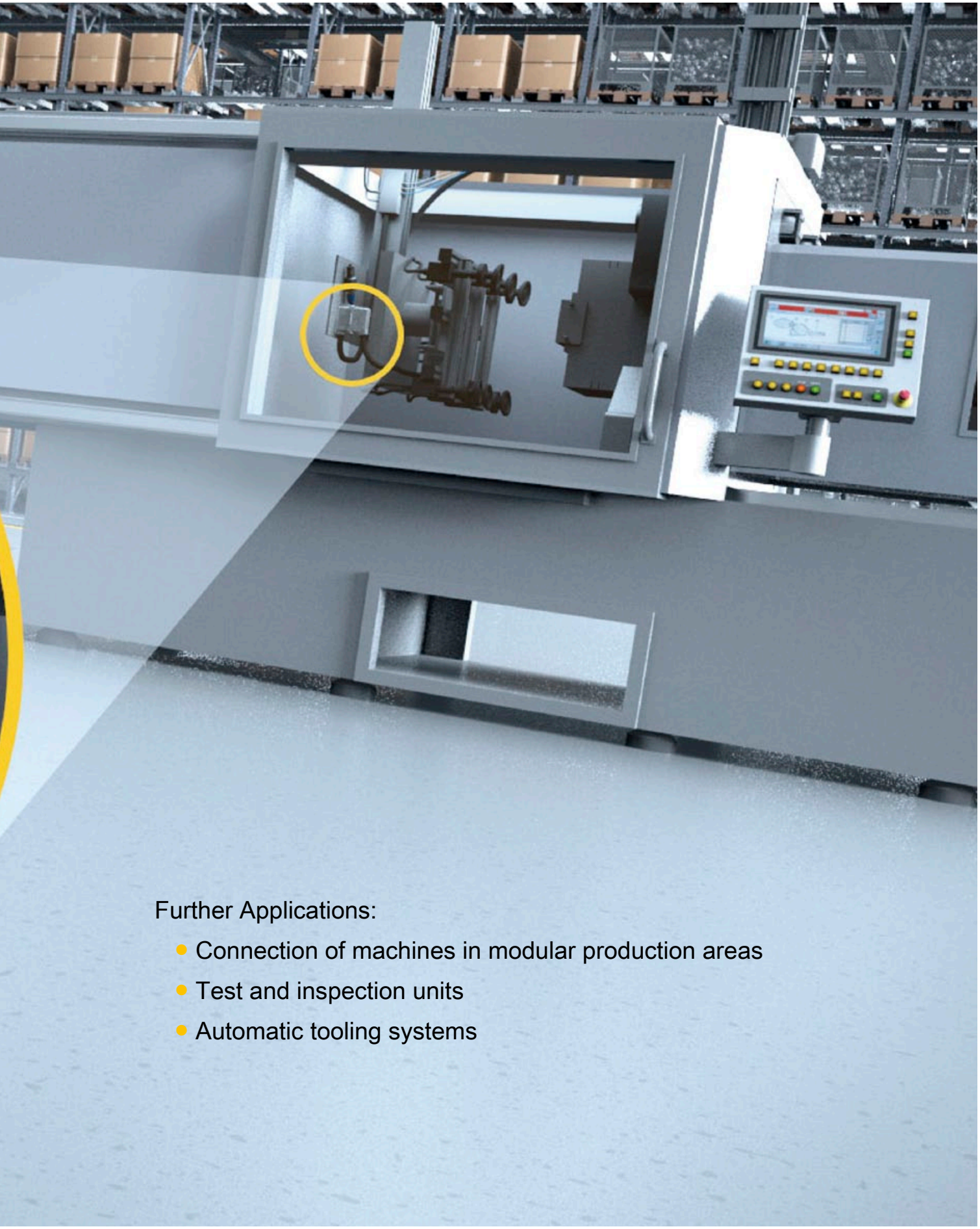


Han® B housings with Han-Easy Lock® HMC locking lever

Application Han® HMC Connectors for high mating cycles



Application Han® HMC Connectors for high mating cycles



Further Applications:

- Connection of machines in modular production areas
- Test and inspection units
- Automatic tooling systems

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Features

- High density contacts / connector
- For requirements up to 250 V / 10 A
- Time saving rapid termination by use of crimping contacts
- Suitable for hoods/housings of series Han® B HMC
- Han D® HMC contacts available with special HMC gold plating for 10,000 mating cycles

Specifications	DIN EN 175 301-801 DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	40, 64 + PE
Electrical data acc. to EN 61 984	**10 A 250 V 4 kV 3**
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Pollution degree 2 also	10 A 230/400 V 4 kV 2
– for wrap terminal only	10 A 250 V 4 kV 2
Rated 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	≥ 10,000

Contacts Han D® HMC

Material	copper alloy
Surface	HMC gold plating
Contact resistance	≤ 3 mΩ
Crimp terminal - min	0.14 mm² / AWG 26
Crimp terminal - max	2.5 mm² / AWG 14

Hoods/Housings Han B® HMC

Material	aluminium die-cast
Surface	powder coated RAL 7037 (grey)
Locking element	Han-Easy Lock® HMC
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

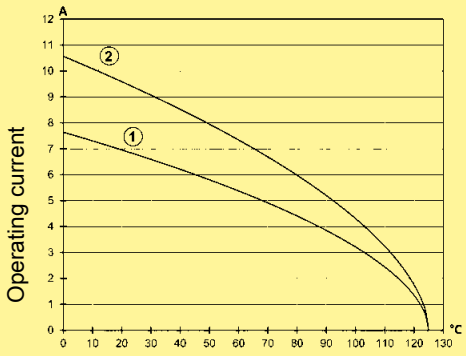
Selection of hoods housings see page 49

Current carrying capacity

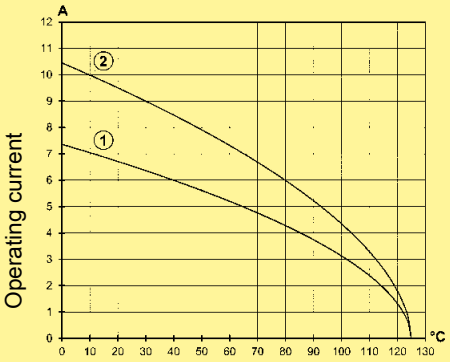
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques according to DIN EN 60 512-5

Han® 40 D HMC



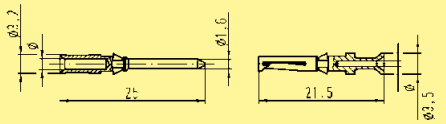
Han® 64 D HMC



① 0.75 mm²
② 1.5 mm²

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact
Crimp contacts			
HMC gold plated	0.14-0.37	09 15 200 6124	09 15 200 6224
	0.5	09 15 200 6123	09 15 200 6223
	0.75	09 15 200 6125	09 15 200 6225
	1	09 15 200 6122	09 15 200 6222
	1.5	09 15 200 6121	09 15 200 6221
	2.5	09 15 200 6126	09 15 200 6226

Drawing



Dimensions in mm

Wire gauge		D	Stripping length
0.14-0.37 mm²	AWG 26-22	0.9 mm	8 mm
0.5 mm²	AWG 20	1.1 mm	8 mm
0.75 mm²	AWG 18	1.3 mm	8 mm
1 mm²	AWG 18	1.45 mm	8 mm
1.5 mm²	AWG 16	1.75 mm	8 mm
2.5 mm²	AWG 14	2.25 mm	6 mm

Features

- High density of crimping contacts, up to 108 contacts/connector
- Time saving rapid termination by use of crimping contacts
- For requirements up to 250 V / 10 A
- Han D® HMC contacts available with special HMC gold plating for 10,000 marting cycles
- Suitable for hoods/housings of series Han® B HMC

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	24, 42, 72, 108, + PE
Electrical data acc. to EN 61 984	**10 A 250 V 4 kV 3**
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Pollution degree 2 also	10 A 230/400 V 4 kV 2
Rated 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	≥ 10,000

Contacts Han D® HMC

Material	copper alloy
Surface - hard-gold plated	HMC gold plated
Contact resistance	≤ 3 mΩ
Crimp terminal - min	0.14 mm² / AWG 26
Crimp terminal - max	2.5 mm² / AWG 14

Hoods/Housings Han® B HMC

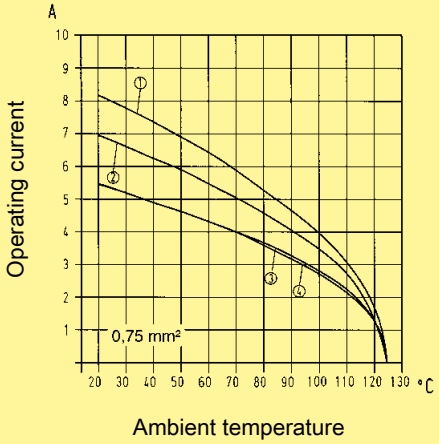
Material	aluminium die-cast
Surface	powder coated RAL 7037 (grey)
Locking element	Han-Easy Lock®, HMC
Flammability acc. to UL 94	V 0
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C / 125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

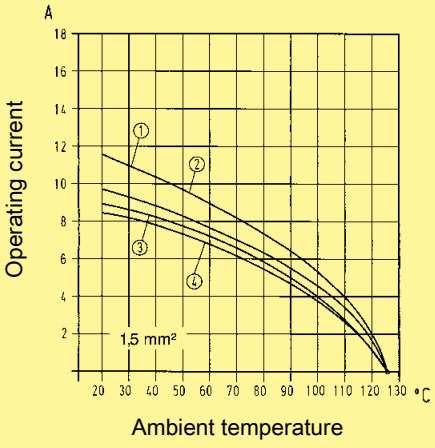
Selection of hoods housings see page 49

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

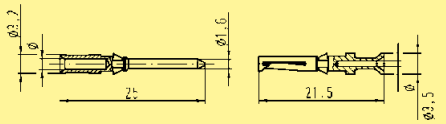




① Han® 24 DD HMC
② Han® 42 DD HMC
③ Han® 72 DD HMC
④ Han® 108 DD HMC

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact
Crimp contacts			
HMC gold plated	0.14-0.37	09 15 200 6124	09 15 200 6224
	0.5	09 15 200 6123	09 15 200 6223
	0.75	09 15 200 6125	09 15 200 6225
	1	09 15 200 6122	09 15 200 6222
	1.5	09 15 200 6121	09 15 200 6221
	2.5	09 15 200 6126	09 15 200 6226

Drawing

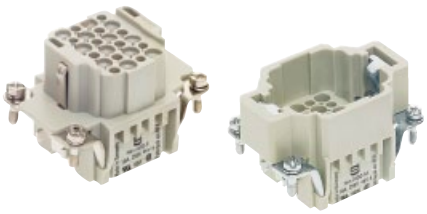


Dimensions in mm

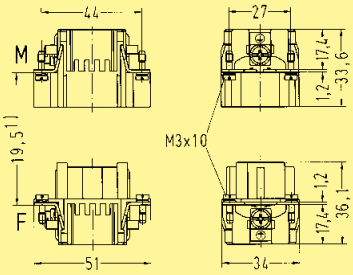
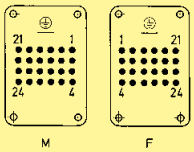
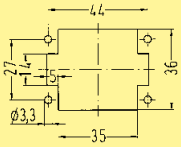
Wire gauge		D	Stripping length
0.14-0.37 mm²	AWG 26-22	0.9 mm	8 mm
0.5 mm²	AWG 20	1.1 mm	8 mm
0.75 mm²	AWG 18	1.3 mm	8 mm
1 mm²	AWG 18	1.45 mm	8 mm
1.5 mm²	AWG 16	1.75 mm	8 mm
2.5 mm²	AWG 14	2.25 mm	6 mm

Number of contacts

24 + ⏚



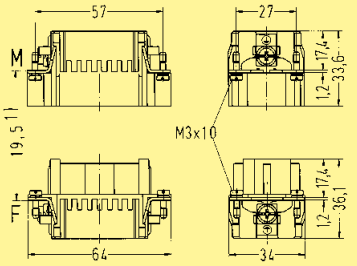
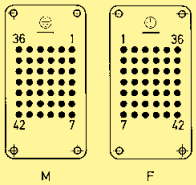
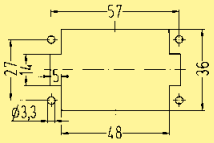
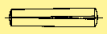
Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 14)  Only with Han Docking Frame (see page 66)	Han DD® HMC	09 16 224 3001	09 16 224 3101	 1) Distance for contact max. 21 mm Contact arrangement view from termination side  Panel cut out for inserts for use without hoods/housings 	
Coding pin 			09 33 000 9915	Coding pin  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

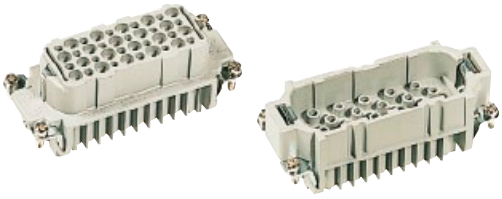
42 + ⏚

Inserts

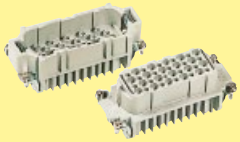
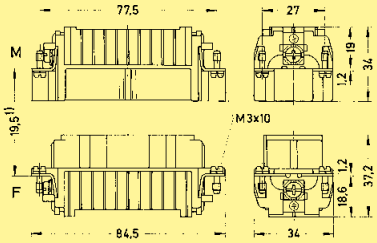
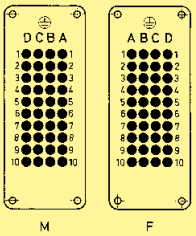
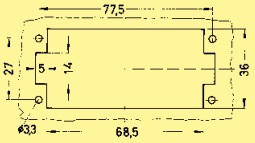
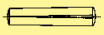
Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 14) 	Han DD® HMC	09 16 242 3001	09 16 242 3101	 1) Distance for contact max. 21 mm Contact arrangement view from termination side  Panel cut out for inserts for use without hoods/housings 	
Coding pin 			09 33 000 9915	Coding pin  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

40 + ⏚

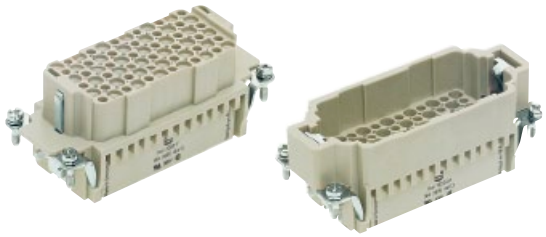


Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 12) 	Han D® HMC	09 21 240 3001	09 21 240 3101	 1) Distance for contact max. 21 mm Contact arrangement view from termination side  Panel cut out for inserts for use without hoods/housings 	
Coding pin 			09 33 000 9915	Coding pin  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.	

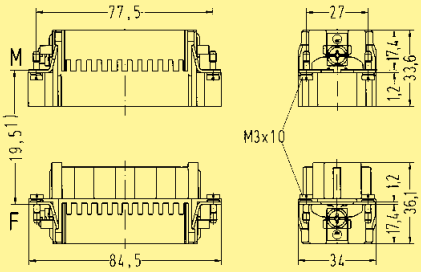
Number of contacts

72 + ⏚



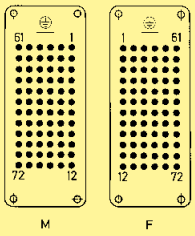
Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 14)	Han DD® HMC	09 16 272 3001	09 16 272 3101		
Coding pin			09 33 000 9915		

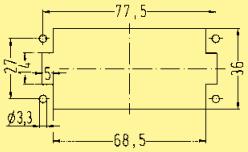


1) Distance for contact max. 21 mm

Contact arrangement
view from termination side



Panel cut out for inserts
for use without hoods/housings

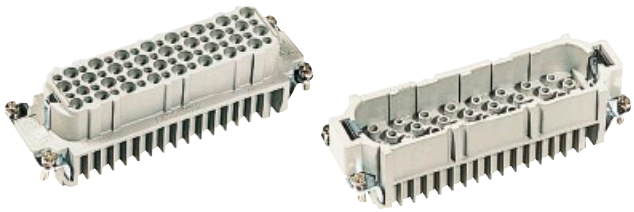


Coding pin

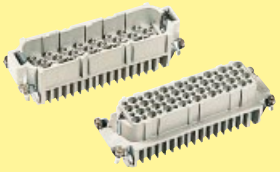
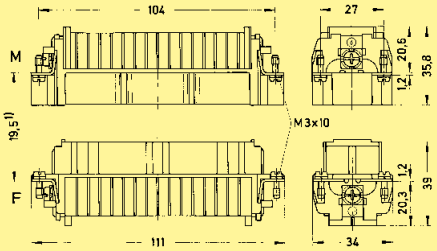
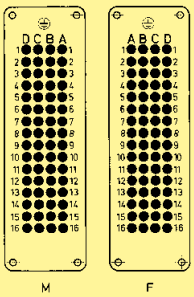
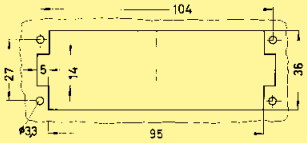
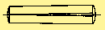
Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Number of contacts

64 + ⏚



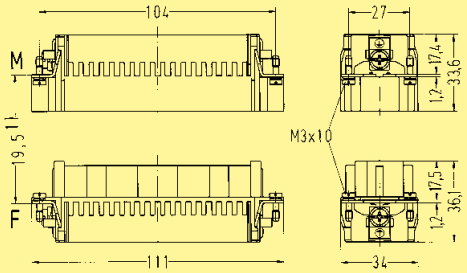
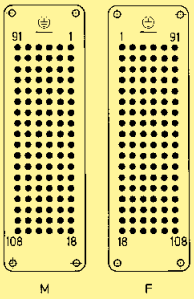
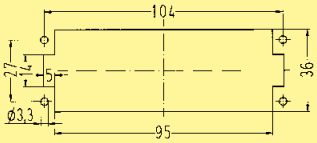
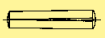
Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 12) 	Han D® HMC	09 21 264 3001	09 21 264 3101	 1) Distance for contact max. 21 mm Contact arrangement view from termination side  Panel cut out for inserts for use without hoods/housings 	
Coding pin 			09 33 000 9915	Coding pin  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

108 + ⏚

Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page14) 	Han DD® HMC	09 16 208 3001	09 16 208 3101	 1) Distance for contact max. 21 mm Contact arrangement view from termination side  Panel cut out for inserts for use without hoods/housings 	
Coding pin 			09 33 000 9915	Coding pin  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

- Han E® HMC contacts with crimp termination
- Suitable for hoods/housings of series Han® B HMC
- Han E® HMC contacts available with special HMC gold plating for 10,000 mating cycles

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	6, 10, 16, 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	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life - mating cycles	≥ 10,000

Contacts Han E® HMC

Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 1 mΩ
Crimp terminal - min	0.14 mm² / AWG 26
Crimp terminal - max	4 mm² / AWG 12

Hoods/Housings Han® B HMC

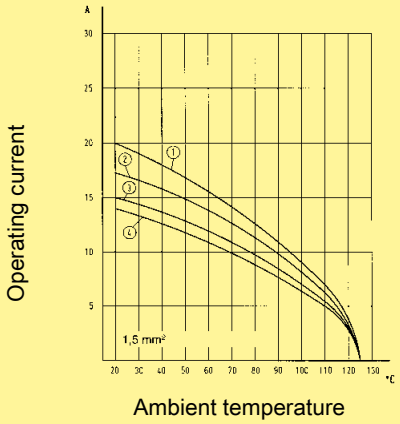
Material	aluminium die-cast
Surface	powder-coated
Locking element	Han-Easy Lock® HMC
Flammability acc. to UL 94	V 0
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

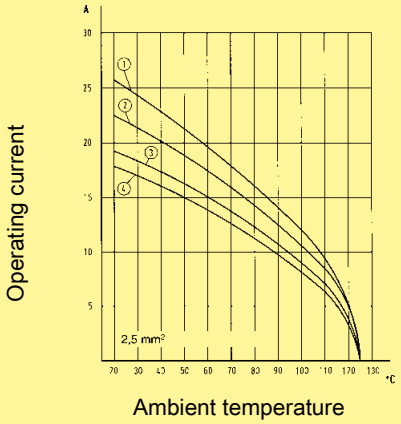
selection of hoods/housings see page 49

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



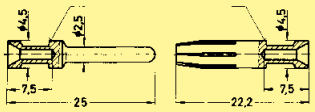


① Han® 6 E HMC
② Han® 10 E HMC
③ Han® 16 E HMC
④ Han® 24 E HMC

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact
Crimp contacts HMC gold plated	0.14-0.37	09 33 200 6117	09 33 200 6217
	0.5	09 33 200 6122	09 33 200 6222
	0.75	09 33 200 6115	09 33 200 6215
	1	09 33 200 6118	09 33 200 6218
	1.5	09 33 200 6116	09 33 200 6216
	2.5	09 33 200 6123	09 33 200 6223
	4	09 33 200 6119	09 33 200 6221
Coding pin for crimp inserts only			09 33 000 9954

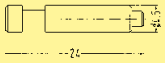
Drawing — Dimensions in mm

Operating 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 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.

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

Features

- Han E® HMC contacts with crimp termination
- Polarised insert
- Suitable for hoods/housings of series Han® B HMC
- Han E® HMC contacts available with special HMC gold plating for 10,000 mating cycles

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

Number of contacts	40, 64 + 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
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	≥ 10,000

Contacts Han® E HMC

Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 1 mΩ
Crimp terminal - min	0.14 mm² / AWG 26
Crimp terminal - max	4 mm² / AWG 12

Hoods/Housings Han® B HMC

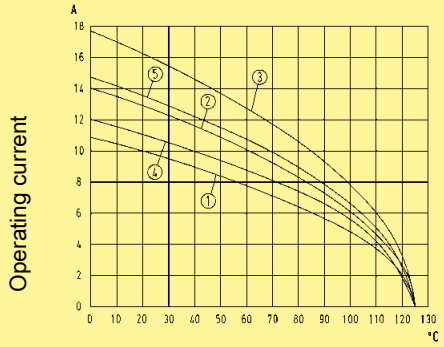
Material	aluminium die-cast
Surface	powder-coated
Locking element	Han-Easy Lock® HMC
Flammability acc. to UL 94	V 0
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65

Selection of hoods/housings see page 49

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.

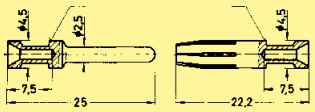
Measuring and testing techniques according to DIN EN 60 512-5



① Han® 64 EEE HMC / 1.5 mm²
② Han® 64 EEE HMC / 2.5 mm²
③ Han® 64 EEE HMC / 4.0 mm²
④ Han® 40 EEE HMC / 1.5 mm²
⑤ Han® 40 EEE HMC / 2.5 mm²

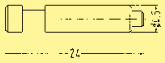
Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact
Crimp contacts HMC gold plated	0.14-0.37	09 33 200 6117	09 33 200 6217
	0.5	09 33 200 6122	09 33 200 6222
	0.75	09 33 200 6115	09 33 200 6215
	1	09 33 200 6118	09 33 200 6218
	1.5	09 33 200 6116	09 33 200 6216
	2.5	09 33 200 6123	09 33 200 6223
	4	09 33 200 6119	09 33 200 6221
Coding pin for crimp inserts only			09 33 000 9954

Operating 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 mm²	AWG 12	7.5 mm
no groove	4 mm²	AWG 12	7.5 mm

* on the back crimp collar

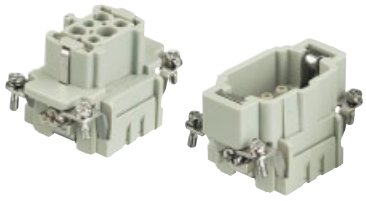


Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

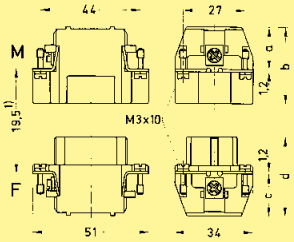
Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

Number of contacts

6 + ⏚

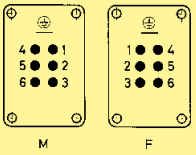


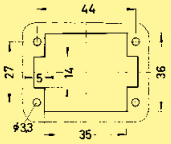
Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 22)  Only with Han® Docking frame (page 66)	Han E® HMC	09 33 206 2602	09 33 206 2702	 1) Distance for contact max. 21 mm	

	a	b	c	d
Han E® HMC	19	34	19	36

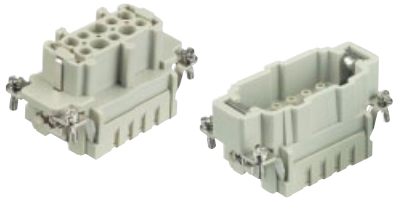
Contact arrangement
view from termination side





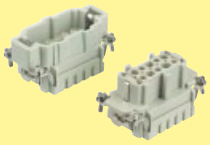
Number of contacts

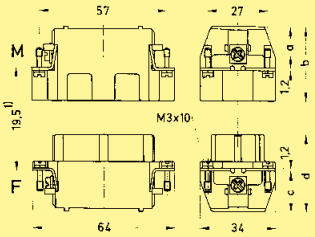
10 + ⏚



Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 22)	Han E® HMC	09 33 210 2602	09 33 210 2702		

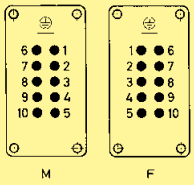




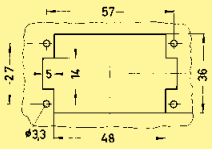
1) Distance for contact max. 21 mm

	a	b	c	d
Han E® HMC	19	34	19	36

Contact arrangement
view from termination side

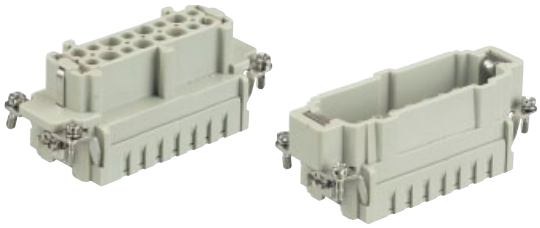


Panel cut out



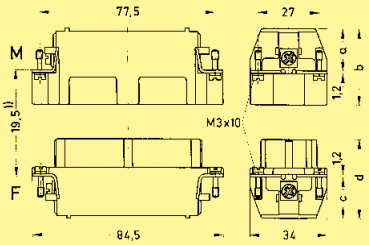
Number of contacts

16 + ⏚



Inserts

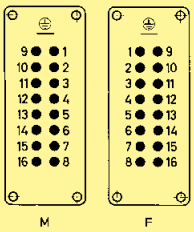
Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 22)	Han E® HMC	09 33 216 2602	09 33 216 2702		



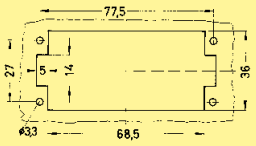
1) Distance for contact max. 21 mm

	a	b	c	d
Han E® HMC	19	34	19	36

Contact arrangement
view from termination side



Panel cut out

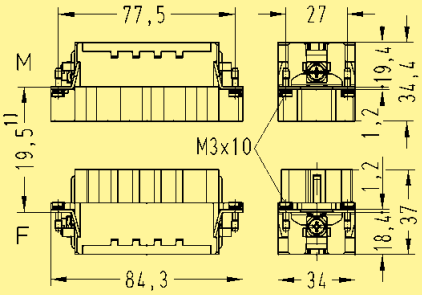


Number of contacts

40 + ⏚

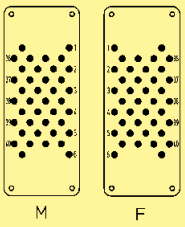
Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp termination Order crimp contacts separately (see Technical characteristics on page 24)	Han® EEE HMC	09 32 240 3001	09 32 240 3101		

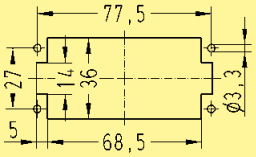


1) Distance for contact max. 21 mm

Contact arrangement
view from termination side

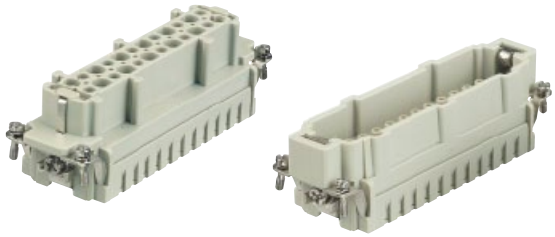


Panel cut out



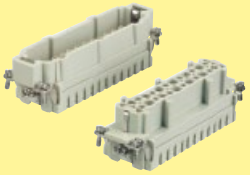
Number of contacts

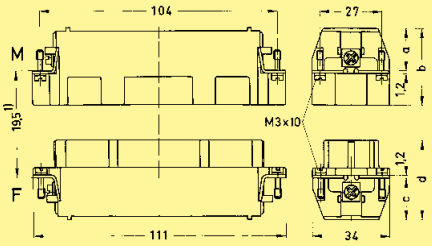
24 + ⏚



Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately (see Technical characteristics on page 22)	Han E® HMC	09 33 224 2602	09 33 224 2702		

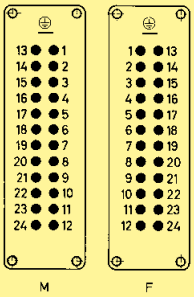




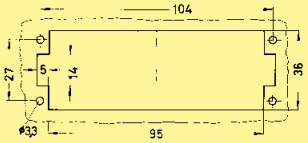
1) Distance for contact max. 21 mm

	a	b	c	d
Han E® HMC	19	34	19	36

Contact arrangement
view from termination side

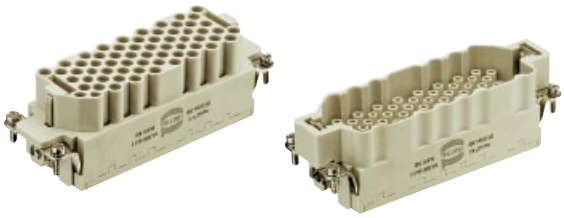


Panel cut out

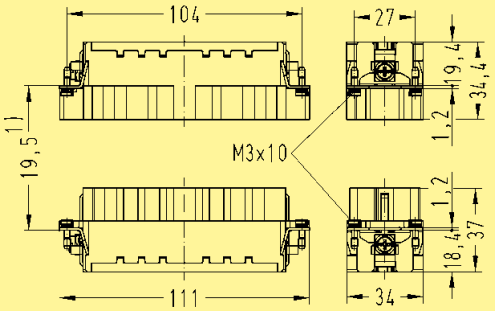
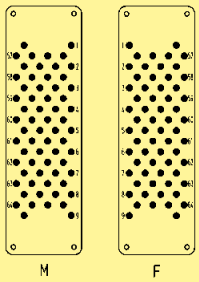
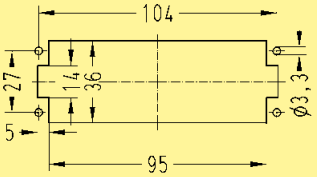


Number of contacts

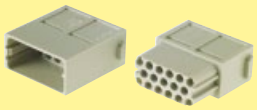
64 + ⏚



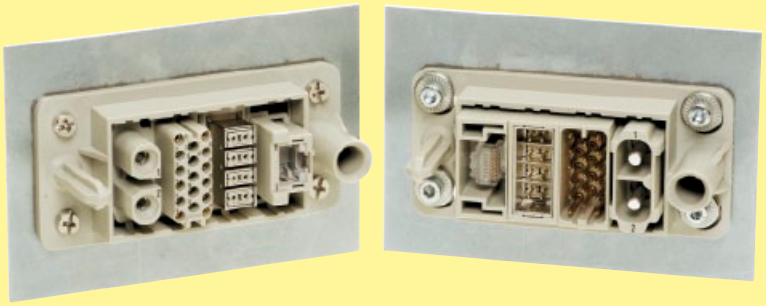
Inserts

Identification	Series	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp termination Order crimp contacts separately (see Technical characteristics on page 24) 	Han® EEE HMC	09 32 264 3001	09 32 264 3101	 1) Distance for contact max. 21 mm Contact arrangement view from termination side  Panel cut out  	

Series	Han E® module	Han® EE module	Han E® Protected module	Han® EEE module
Number of contacts	6	8	6	20
Modules	Crimp terminal	Crimp terminal	Crimp terminal	Crimp terminal
				
Rated current	16 A	16 A	16 A	16 A
Rated voltage	500 V	400 V	830 V	500 V
Wire gauge	0.14 … 4 mm²	0.14 … 4 mm²	0.14 … 4 mm²	0.14 … 4 mm²
Page	36	38	40	42

Series	Han DD® module	Han® DDD module		
Number of contacts	12	17		
Modules	Crimp terminal	Crimp terminal		
				
Rated current	10 A	10 A		
Rated voltage	250 V	160 V		
Wire gauge	0.14 … 2.5 mm²	0.14 … 2.5 mm²		
Page	44	46		

Han-Modular® Docking frame



Page 33

Features

- Blind mating connector system for drawer systems
- Direct panel mounting without housing
- Very robust design
- Solid pre-leading guid pins and float bushes
- Can be fixed with standard M4 screws
- Designed for 10,000 mating cycles

Notice:
Due the plastic material used in the docking frame without PE, the panel will need to be grounded separately

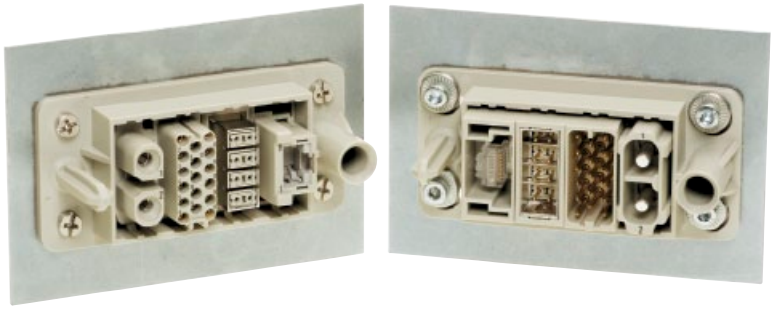
Technical characteristics

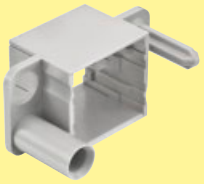
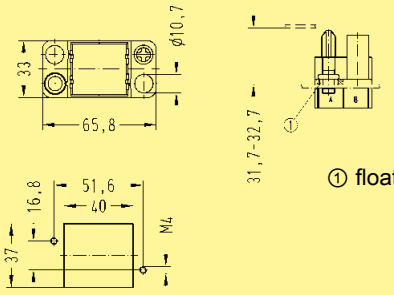
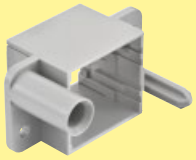
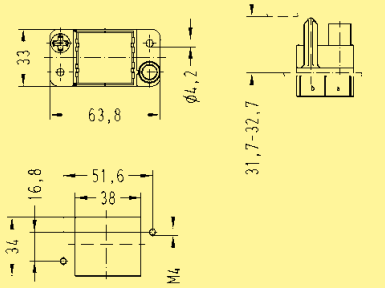
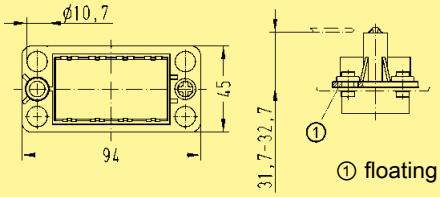
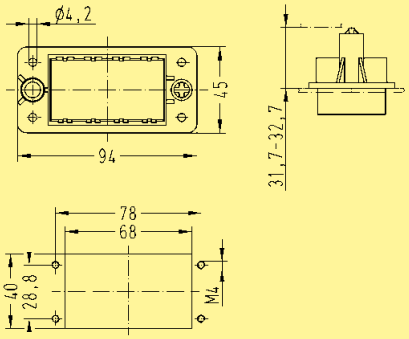
Specifications	DIN EN 60 664-1 DIN EN 61 984

Docking frames

Number of modules	2, 4, 6
Material	
- Docking frames	polycarbonate
- Float washer	zinc die-cast
Floating tolerance	± 2 mm
Aligning tolerance	± 4 mm
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 10,000

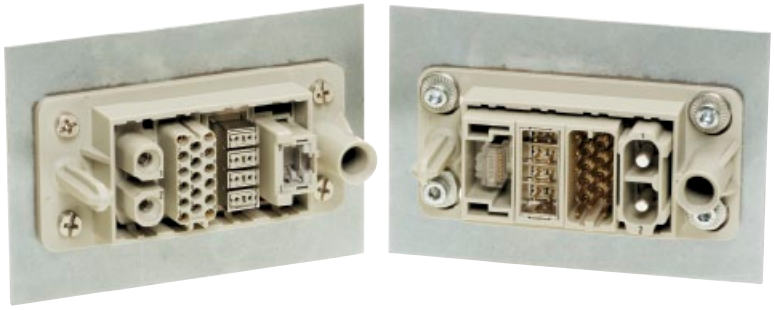
Han-Modular® Docking frame

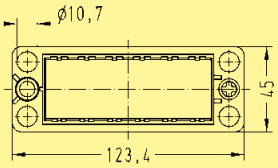
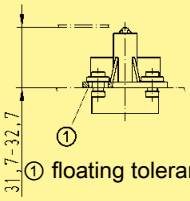
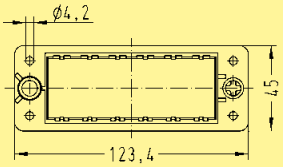
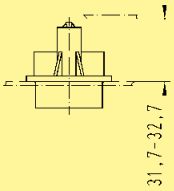
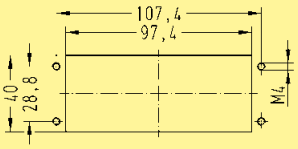
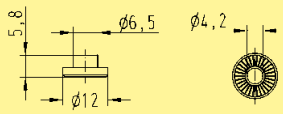


Identification	Part number Marking A ... F [1]	Part number Marking a ... f [2]	Drawing	Dimensions in mm
Docking frame for 2 modules 	09 14 006 1701			
Docking frame for 2 modules 		09 14 006 1711		
Docking frame for 4 modules 	09 14 016 1701			
Docking frame for 4 modules 		09 14 016 1711		

1) Float mount
2) Fixed

Han-Modular® Docking frame



Identification	Part number Marking A ... F [1]	Part number Marking a ... f [2]	Drawing	Dimensions in mm
Docking frame for 6 modules 	09 14 024 1701		 	① floating tolerance ±2 mm
Docking frame for 6 modules 		09 14 024 1711	  	Panel cut out
Float washer to enable the frame to be float mounted using standard M4 fixing screws 	09 14 000 9936			

1) Float mount
2) Fixed

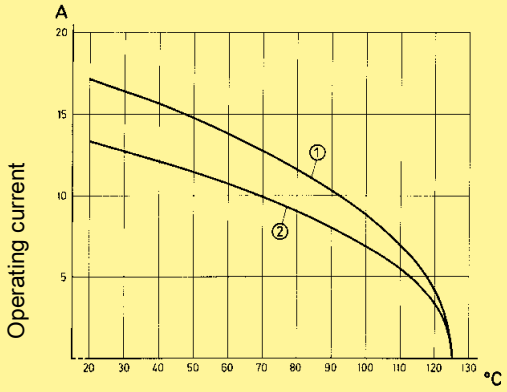
Features

- Suitable for Han E® HMC crimp contacts
- Standard module for power up to 40 A
- Designed for 10,000 mating cycles with Han E® HMC crimp contacts and only with Han-Modular® Docking frame

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



Ambient temperature

① 24 B HMC hoods/housings with 6 modules; wire gauge: 2.5 mm²

② 24 B HMC hoods/housings with 6 modules; wire gauge: 1.5 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	,

Inserts

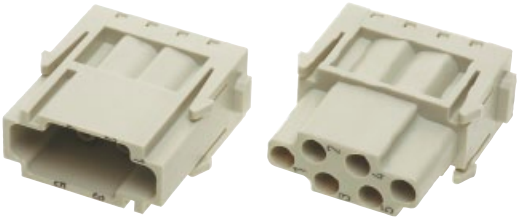
Number of contacts	6
Electrical data	
acc. to EN 61 984	**16 A 500 V 6 kV 3**
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage	
acc. to UL/CSA	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 10,000

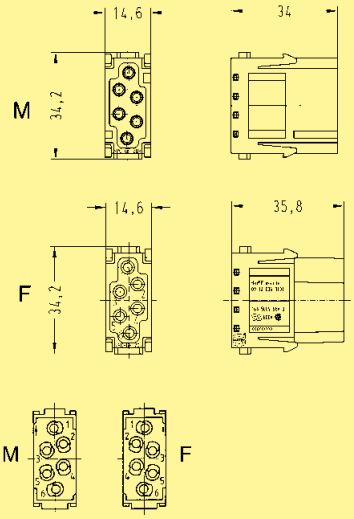
Contacts Han E® HMC

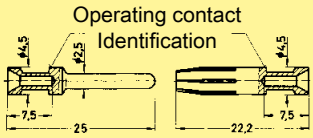
Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

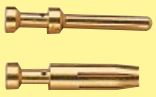
Number of contacts

6



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	09 14 006 3001	09 14 006 3101	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts HMC gold plated	0.14-0.37	09 33 200 6117	09 33 200 6217		
	0.5	09 33 200 6122	09 33 200 6222		
	0.75	09 33 200 6115	09 33 200 6215		
	1	09 33 200 6118	09 33 200 6218		
	1.5	09 33 200 6116	09 33 200 6216		
	2.5	09 33 200 6123	09 33 200 6223		
	4	09 33 200 6119	09 33 200 6221		



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

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

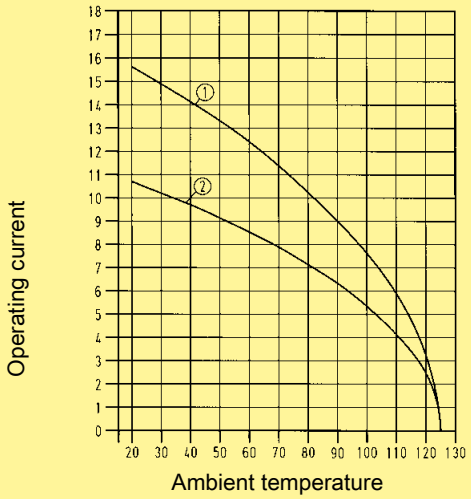
Features

- Suitable for Han E® HMC crimp contacts
- High contact density
- Designed for 10,000 mating cycles with Han E® HMC crimp contacts and only with Han-Modular® Docking frame

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 24 B HMC hoods/housings with 6 modules; wire gauge: 2.5 mm²

② 24 B HMC hoods/housings with 6 modules; wire gauge: 1.5 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

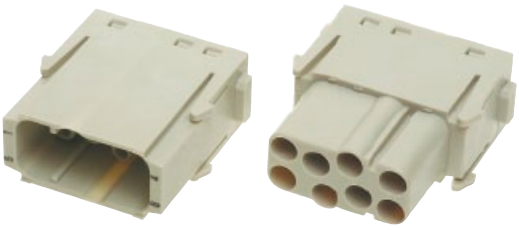
Number of contacts	8
Electrical data	
acc. to EN 61 984	**16 A 400 V 6 kV 3**
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 10,000

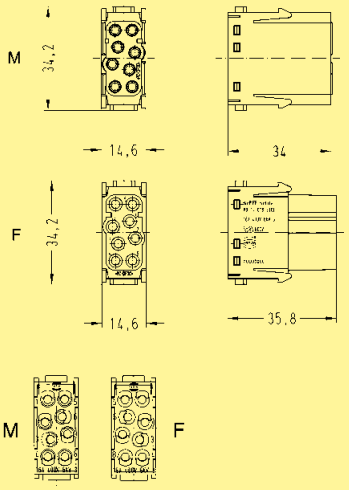
Contacts Han E® HMC

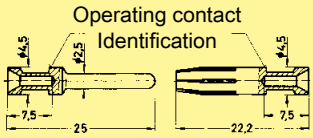
Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

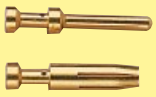
Number of contacts

8



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	09 14 008 3001	09 14 008 3101	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts HMC gold plated	0.14-0.37	09 33 200 6117	09 33 200 6217		
	0.5	09 33 200 6122	09 33 200 6222		
	0.75	09 33 200 6115	09 33 200 6215		
	1	09 33 200 6118	09 33 200 6218		
	1.5	09 33 200 6116	09 33 200 6216		
	2.5	09 33 200 6123	09 33 200 6223		
	4	09 33 200 6119	09 33 200 6221		



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

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

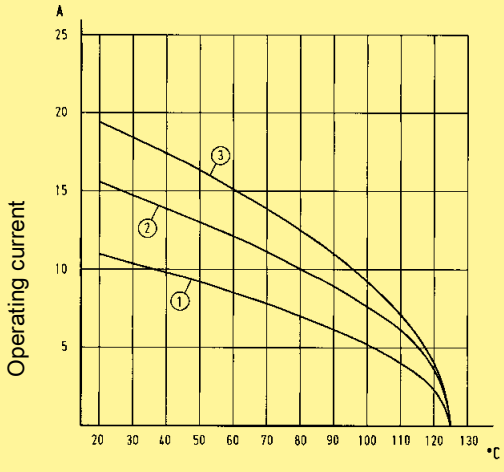
Features

- Suitable for Han E® HMC crimp contacts
- designed for a high working voltage up to 830 V
- finger safe male and female contacts
- Designed for 10,000 mating cycles with Han E® HMC crimp contacts and only with Han-Modular® Docking frame

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 24 B HMC hoods/housings with 6 modules; wire gauge: 1.5 mm²

② 24 B HMC hoods/housings with 6 modules; wire gauge: 2.5 mm²

③ 24 B HMC hoods/housings with 6 modules; wire gauge: 4 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

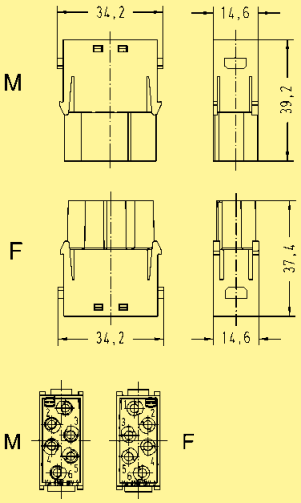
Number of contacts	6
Electrical data	
acc. to EN 61 984	**16 A 830 V 8 kV 3**
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 10,000

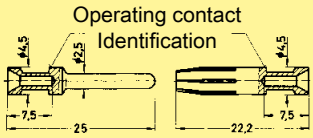
Contacts Han E® HMC

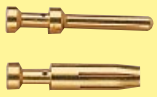
Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

Number of contacts

6

Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	09 14 006 3041	09 14 006 3141	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts HMC gold plated	0.14-0.37	09 33 200 6117	09 33 200 6217		
	0.5	09 33 200 6122	09 33 200 6222		
	0.75	09 33 200 6115	09 33 200 6215		
	1	09 33 200 6118	09 33 200 6218		
	1.5	09 33 200 6116	09 33 200 6216		
	2.5	09 33 200 6123	09 33 200 6223		
	4	09 33 200 6119	09 33 200 6221		



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

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

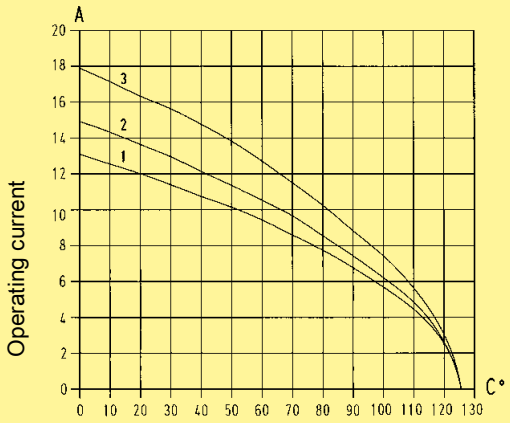
Features

- Suitable for Han E® HMC crimp contacts
- High contact density
- Up to 16 A per contact
- Also suitable as a reliable signal connector
- Designed for 10,000 mating cycles with Han E® HMC crimp contacts and only with Han-Modular® Docking frame

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



Ambient temperature

① 24 B HMC hoods/housings with 3 modules; wire gauge: 1.5 mm²

② 24 B HMC hoods/housings with 3 modules; wire gauge: 2.5 mm²

③ 24 B HMC hoods/housings with 3 modules; wire gauge: 4 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

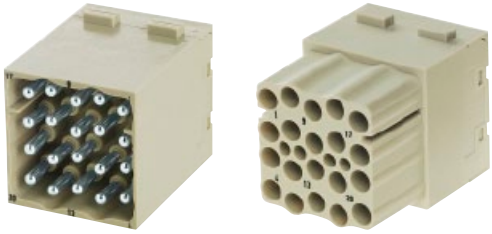
Number of contacts	20
Electrical data	
acc. to EN 61 984	**16 A 500 V 6 kV 3**
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage	
acc. to UL	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 10,000

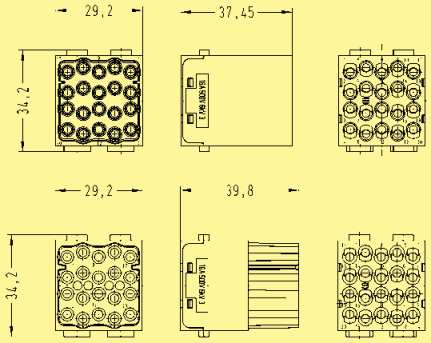
Contacts Han E® HMC

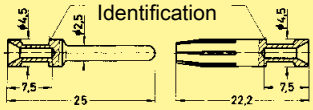
Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 1 mΩ
Crimp terminal	
- mm²	0.14 ... 4 mm²
- AWG	26 ... 12

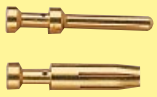
Number of contacts

20



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	09 14 020 3001	**09 14 020 3101**	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts HMC gold plated	0.14-0.37	09 33 200 6117	09 33 200 6217	Operating contact Identification 	
	0.5	09 33 200 6122	09 33 200 6222		
	0.75	09 33 200 6115	09 33 200 6215		
	1	09 33 200 6118	09 33 200 6218		
	1.5	09 33 200 6116	09 33 200 6216		
	2.5	09 33 200 6123	09 33 200 6223		
	4	09 33 200 6119	09 33 200 6221		



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

Crimp contacts 0.14 ... 0.37 mm² only used with BUCHANAN crimping tool 09 99 000 0001

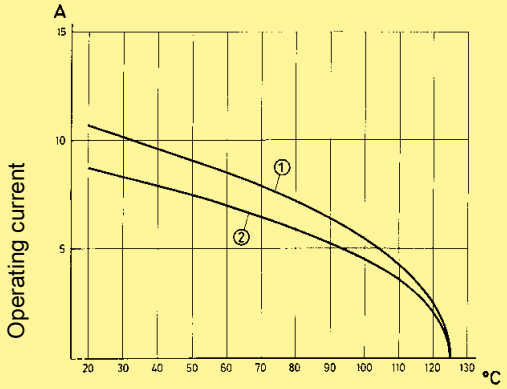
Features

- Suitable for Han D® HMC crimp contacts
- Standard module for power up to 10 A
- Compatible to Han D® module with Quick Lock terminal
- Designed for 10,000 mating cycles with Han D® HMC crimp contacts and only with Han-Modular® Dokcing frame

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



Ambient temperature

① 24 B HMC hoods/housings with 6 modules; wire gauge: 1.5 mm²

② 24 B HMC hoods/housings with 6 modules; wire gauge: 1.0 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

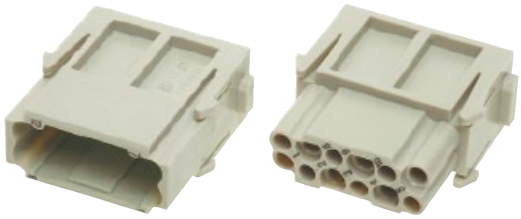
Number of contacts	12
Electrical data	
acc. to EN 61 984	**10 A 250 V 4 kV 3**
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage	
acc. to UL/CSA	600 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 10,000

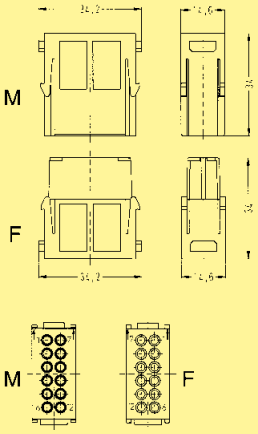
Contacts Han D® HMC

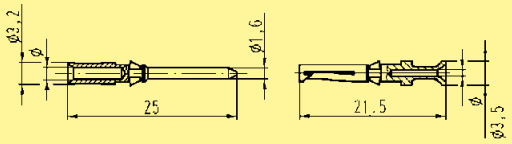
Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 3 mΩ
Crimp terminal	
- mm²	0.14 ... 2.5 mm²
- AWG	26 ... 14

Number of contacts

12



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	09 14 012 3001	09 14 012 3101	 Contact arrangement view from termination side	

Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts HMC gold plated	0.14-0.37	09 15 200 6124	09 15 200 6224		
	0.5	09 15 200 6123	09 15 200 6223		
	0.75	09 15 200 6125	09 15 200 6225		
	1	09 15 200 6122	09 15 200 6222		
	1.5	09 15 200 6121	09 15 200 6221		
	2.5	09 15 200 6126	09 15 200 6226		

Wire gauge		∅	Stripping length
0.14-0.37 mm²	AWG 26-22	0.9	8 mm
0.5 mm²	AWG 20	1.1	8 mm
0.75 mm²	AWG 18	1.3	8 mm
1 mm²	AWG 18	1.45	8 mm
1.5 mm²	AWG 16	1.75	8 mm
2.5 mm²	AWG 14	2.25	6 mm

Stock items in bold type

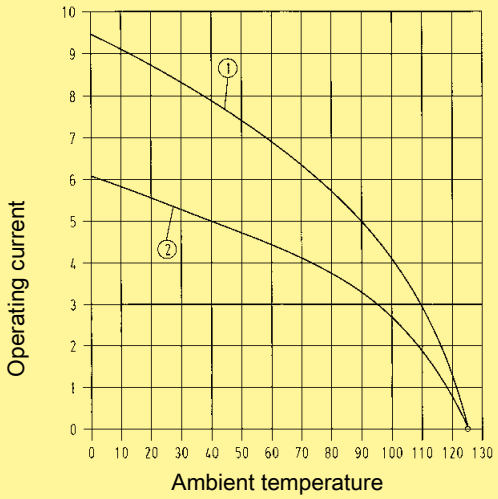
Features

- Suitable for Han D® HMC crimp contacts
- High contact density
- Designed for 10,000 mating cycles with Han® D HMC crimp contacts and only with Han-Modular® Docking frame

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 24 B HMC hoods/housings with 6 modules; wire gauge: 1.5 mm²

② 24 B HMC hoods/housings with 6 modules; wire gauge: 1.0 mm²

Technical characteristics

Specifications	DIN EN 60 664-1 DIN EN 61 984
Approvals	

Inserts

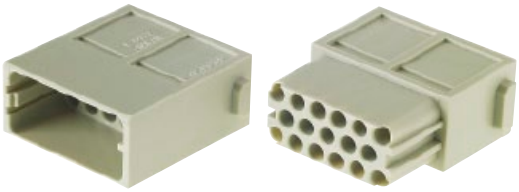
Number of contacts	17
Electrical data	
acc. to EN 61 984	**10 A 160 V 2.5 kV 3**
Rated current	10 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Pollution degree	3
Rated voltage	
acc. to UL	250 V
Insulation resistance	≥ 10^{10} Ω
Material	polycarbonate
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Mechanical working life	
- mating cycles	≥ 10,000

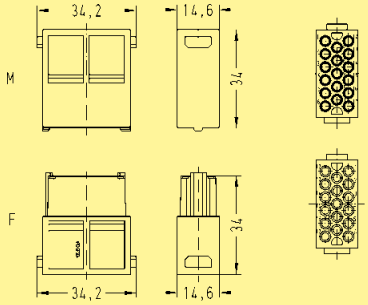
Contacts Han D® HMC

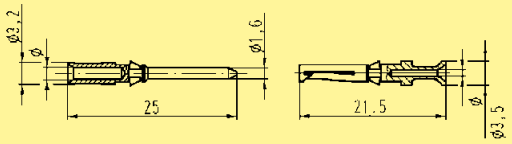
Material	copper alloy
Surface	HMC gold plated
Contact resistance	≤ 3 mΩ
Crimp terminal	
- mm²	0.14 ... 2.5 mm²
- AWG	26 ... 14

Number of contacts

17



Identification	Part number Male insert (M)	Part number Female insert (F)	Drawing	Dimensions in mm
Crimp terminal Order crimp contacts separately	09 14 017 3001	09 14 017 3101	 Contact arrangement view from termination side	

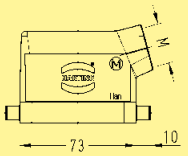
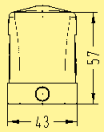
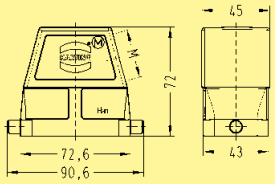
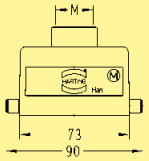
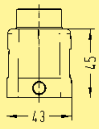
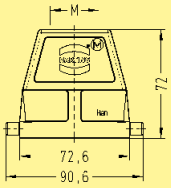
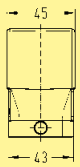
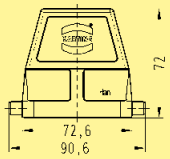
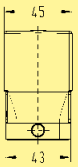
Identification	Wire gauge (mm²)	Part number Male contact	Part number Female contact	Drawing	Dimensions in mm
Crimp contacts HMC gold plated	0,14-0,37	09 15 200 6124	09 15 200 6224		
	0,5	09 15 200 6123	09 15 200 6223		
	0,75	09 15 200 6125	09 15 200 6225		
	1	09 15 200 6122	09 15 200 6222		
	1,5	09 15 200 6121	09 15 200 6221		
	2,5	09 15 200 6126	09 15 200 6226		

Wire gauge		∅	Stripping length
0.14-0.37 mm²	AWG 26-22	0.9	8 mm
0.5 mm²	AWG 20	1.1	8 mm
0.75 mm²	AWG 18	1.3	8 mm
1 mm²	AWG 18	1.45	8 mm
1.5 mm²	AWG 16	1.75	8 mm
2.5 mm²	AWG 14	2.25	6 mm

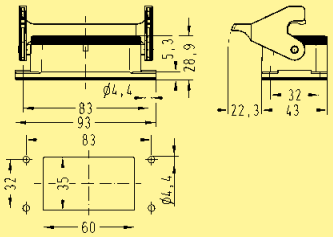
Han® B HMC
Metal hoods/housings for industrial applications

Material	aluminium die-cast
Colour	RAL 7037 (grey)
Surface	powder-coated
Locking element	Stainless steel
Lever type	Han-Easy Lock® HMC
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP 65
Locking cycles	≥10,000

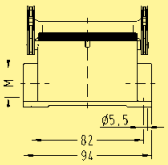
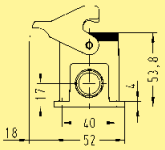
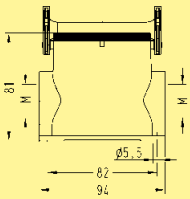
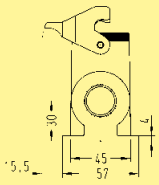
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Hoods side entry 	19 30 210 1540 19 30 210 1541		1 x 20 1 x 25		
side entry 		19 30 210 0547	1 x 32		
Hoods top entry 	19 30 210 1440 19 30 210 1441		1 x 20 1 x 25		
top entry 		19 30 210 0447	1 x 32		
Hoods without cable entry 		09 30 210 0803	–		

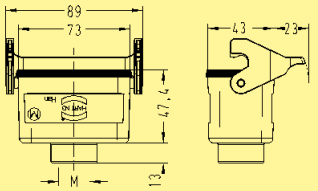
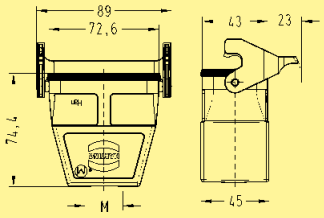
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Housings, bulkhead mounting 	09 30 210 0305			 Panel cut out	

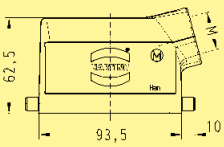
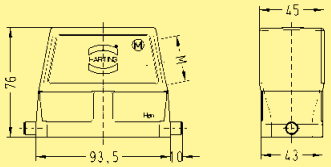
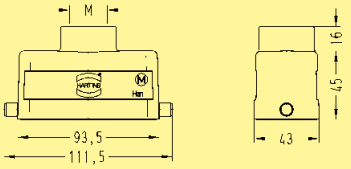
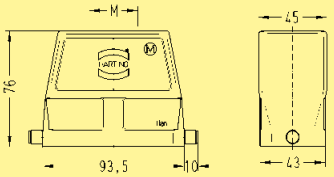
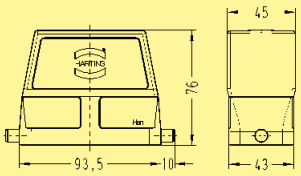
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Housings, surface mounting side entry 	19 30 210 1250 19 30 210 1290		1 x 20 2 x 20	 Blind way for one cable entry	
side entry 		19 30 210 0291 19 30 210 0292	2 x 25 2 x 32	 Blind way for one cable entry	

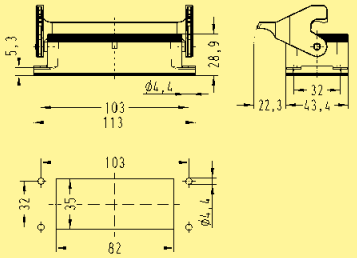
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Hoods, cable to cable top entry 	19 30 210 1750		1 x 20		
top entry 		19 30 210 0756	1 x 25		

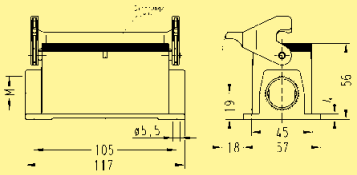
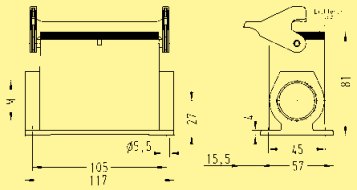
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Hoods side entry 	19 30 216 1541 19 30 216 1542		1 x 25 1 x 32		
side entry 		19 30 216 0547 19 30 216 0548	1 x 32 1 x 40		
Hoods top entry 	19 30 216 1441 19 30 216 1442		1 x 25 1 x 32		
top entry 		19 30 216 0447 19 30 216 0448	1 x 32 1 x 40		
Hoods without cable entry 		09 30 216 0803	–		

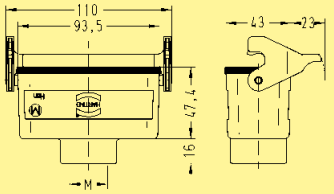
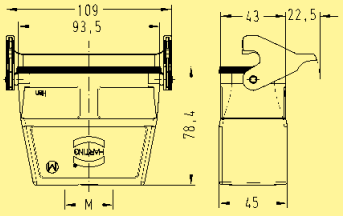
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Housings, bulkhead mounting 	09 30 216 0307			 Panel cut out	

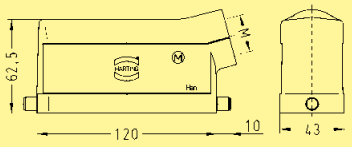
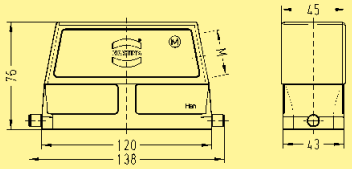
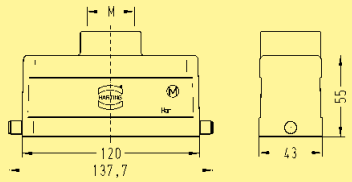
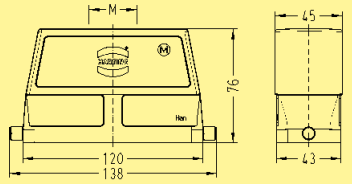
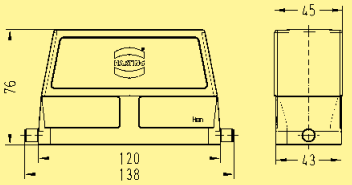
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Housings, surface mounting side entry 	19 30 216 1251 19 30 216 1291		1 x 25 2 x 25		Blind way for one cable entry
side entry 		19 30 216 0252 19 30 216 0291 19 30 216 0292	1 x 32 2 x 25 2 x 32		Blind way for one cable entry

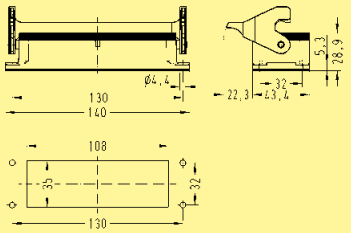
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Hoods, cable to cable top entry 	19 30 216 1751 19 30 216 1752		1 x 25 1 x 32		
top entry 		19 30 216 0757	1 x 32		

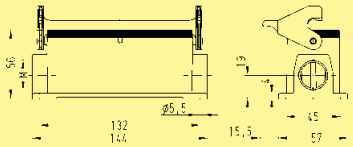
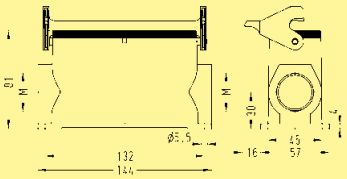
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Hoods side entry 	19 30 224 1541 19 30 224 1542		1 x 25 1 x 32		
side entry 		19 30 224 0547 19 30 224 0548	1 x 32 1 x 40		
Hoods top entry 	19 30 224 1442		1 x 32		
top entry 		19 30 224 0447 19 30 224 0448	1 x 32 1 x 40		
Hoods without cable entry 		09 30 224 0803	–		

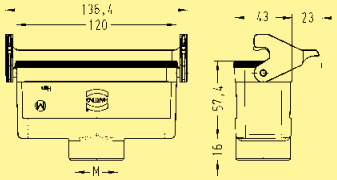
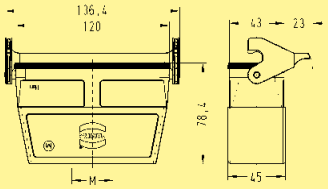
Metal hoods/housings for industrial applications / 1 lever locking system

Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Housings, bulkhead mounting 	09 30 224 0307			 Panel cut out	

Metal hoods/housings for industrial applications / 1 lever locking system

Identification		Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Housings, surface mounting side entry		19 30 224 1251 19 30 224 1291		1 x 25 2 x 25		Blind way for one cable entry
side entry			19 30 224 0292	2 x 32		Blind way for one cable entry

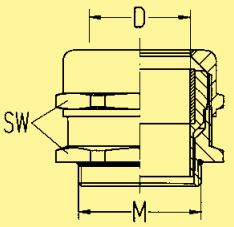
Metal hoods/housings for industrial applications / 1 lever locking system

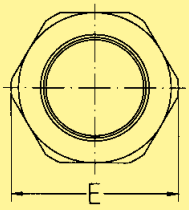
Identification	Part number Low construction	Part number High construction	Cable entry metric	Drawing	Dimensions in mm
Hoods, cable to cable top entry 	19 30 224 1752		1 x 32		
top entry 		19 30 224 0757	1 x 32		

Cable entry protection with metric cable entries (IP 68)

metal

Part number	M	SW	E	Outer cable ∅	Nm
19 00 000 5080	20	22	24.4	5 ... 9 mm	10
19 00 000 5081	20	22	24.4	5 ... 9 mm 6 ... 12 mm	10
19 00 000 5082	20	22	24.4	6 ... 12 mm	10
19 00 000 5084	20	24	26.5	10 ... 14 mm	10
19 00 000 5090	25	30	33.5	9 ... 16 mm	15
19 00 000 5091	25	30	33.5	9 ... 16 mm 13 ... 18 mm	15
19 00 000 5092	25	30	33.5	13 ... 18 mm	15
19 00 000 5094	32	40	44	13 ... 20 mm	15
19 00 000 5095	32	40	44	13 ... 20 mm 18 ... 25 mm	15
19 00 000 5096	32	40	44	18 ... 25 mm	15
19 00 000 5097	40	50	55	20 ... 26 mm	20
19 00 000 5098	40	50	55	22 ... 32 mm	20
19 00 000 5099	40	50	55	20 ... 26 mm 22 ... 32 mm	20
19 00 000 5086	50	57	60	32 ... 38 mm	24



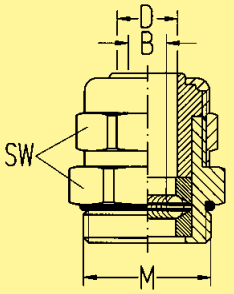


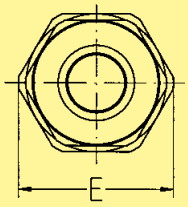
thermoplastic

Part number	M	SW	E	Outer cable ∅	Nm
19 00 000 5180	20	24	26.4	5 ... 9 mm	8
19 00 000 5182	20	24	26.4	6 ... 12 mm	8
19 00 000 5184	20	27	29.8	10 ... 14 mm	10
19 00 000 5190	25	33	33.5	9 ... 16 mm	15
19 00 000 5192	25	33	36.5	13 ... 18 mm	15
19 00 000 5194	32	42	46.8	13 ... 20 mm	15
19 00 000 5196	32	42	46.8	18 ... 25 mm	15
19 00 000 5197	40	53	58.8	20 ... 26 mm	15
19 00 000 5198	40	53	58.8	22 ... 32 mm	15

EMC clamp with metric cable entries (IP 68)

Part number	M	SW	E	cable-∅ D	shield-∅ B
19 62 000 5080	20	22	24.4	6.5 ... 9.5	3.5 ... 8.5
19 62 000 5081	20	22	24.4	4 ... 6.5	2.5 ... 6.5
19 62 000 5082	20	22	24.4	7 ... 10.5	6.5 ... 10.5
19 62 000 5084	20	22	24.4	9 ... 13	6.5 ... 10.5
19 62 000 5090	25	22	31.2	6.5 ... 9.5	3 ... 8
19 62 000 5092	25	28	31.2	9 ... 13	4.8 ... 8
19 62 000 5094	32	35	38.5	11.5 ... 15.5	8 ... 13.5
19 62 000 5096	32	35	38.5	14 ... 18	9 ... 14.5
19 62 000 5097	40	43	47.3	17 ... 20.5	15 ... 20
19 62 000 5098	40	43	47.3	20 ... 25	15 ... 20





Stock items in bold type

Identification	Part number	M	Drawing	Dimensions in mm
Blanking piece for metric cable entries metal	19 00 000 5070	20	SW 22 / E 25.4	
	19 00 000 5071	25	SW 28 / E 32.3	
	19 00 000 5072	32	SW 35 / E 40.4	
	19 00 000 5073	40	SW 44 / E 50.8	
	19 00 000 5172	32	∅ 35 / ∅ 46.2	
	19 00 000 5173	40		
Reducers for metric cable entries metal	19 00 000 5060	20	D 16	
	19 00 000 5067	32	D 20	
	19 00 000 5068	32	D 25	

Stock items in bold type

Identification	Part number	Drawing	Dimensions in mm
Coding system with code pins standard	**09 30 000 9901**[1]	for hoods/housings with one insert/one frame ● Code pin ○ Normal mounting screw M - Male insert F - Female insert	
Coding system with guide pins/ bushes standard Guide pin	**09 33 000 9908**[1)]	This system is used to guard against angled coupling and decoupling of the connector. The maximum permitted angle according to DIN EN 175 301-801 is ± 5° (longitudinally).	
Guide bushing	**09 33 000 9909**[1)]	for hoods/housings with one insert/one frame	
Coding pins for Han E®	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.	
for Han D®, Han DD® with loss of contact	09 33 000 9915		

[1)] Order 4 pieces for one connector

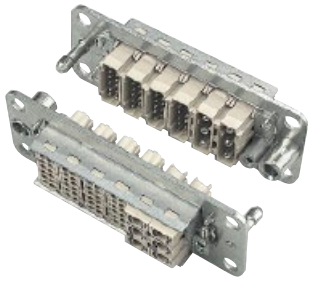
Stock items in bold type

Features

- Suitable for all inserts of the series Han D® HMC, Han E® HMC, Han® EEE HMC and Han DD® HMC
- Ideal for applications in the field of transportation, as well as in the printing industry
- Due to the floating system of the docking frame the PE connection of the mounting base has to be installed separately
- Inserts are protected against mechanical damage
- Designed for 10,000 mating cycles

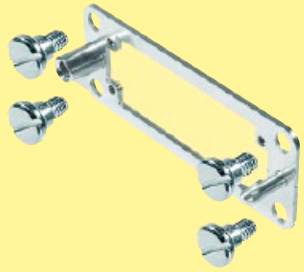
Technical characteristics

Material	
Docking frame	stainless steel
Fixing screws	steel, zinc-plated
Pull-in-range	
x-axis	± 1.5 mm
y-axis	± 1.5 mm
Mechanical working life	
- mating cycles	10,000

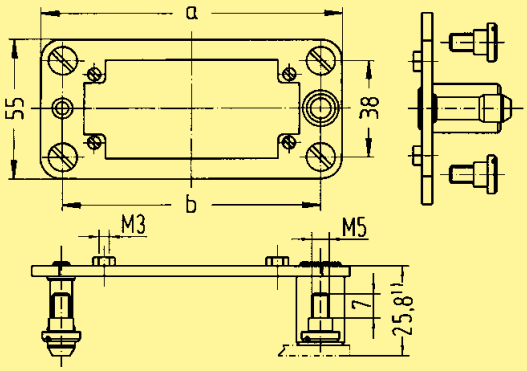


Identification	Size	Part number	Drawing	Dimensions in mm

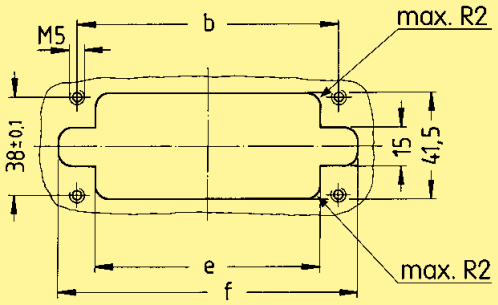
Han® Docking frame



Size	Part number
6 B	09 30 006 1701
10 B	09 30 010 1701
16 B	09 30 016 1701
24 B	09 30 024 1701



Distance for electrical and F.O. contacts max. 27 mm; for pneumatic contacts max. 26.5 mm



Size	a	b	e	f
6 B	86	69	54.5	84
10 B	99	82	67.5	97
16 B	119.5	102.5	88	117.5
24 B	146	129	114.5	144

Range of delivery:
1 frame
4 cheese head shoulder screws to fix the docking frame

Stock items in bold type

Identification	Part number	Drawing	Dimensions in mm
HARTING Service crimping tool with locator set for Han D®, Han E®	**09 99 000 0021**	Wire gauge Han D® 0.14 ... 1.5 mm²	
BUCHANAN crimping tool	**09 99 000 0001**	Wire gauge 0.14 ... 2.5 mm²	
Locator Han D®	09 99 000 0311		
Multiple crimping tool depth adjustment gauge	**09 99 000 0379**	Wire gauge 0.14 mm² Ø 1.00[1)] 0.25 mm² Ø 1.00[1)] 0.37 mm² Ø 1.30 0.5 ... 1.0 mm² Ø 1.55 1.5 mm² Ø 1.80 2.5 mm² Ø 1.55	
HARTING crimping tool with locator for Han D®, Han E®, Han® C	**09 99 000 0110**	Wire gauge Han D® 0.14 ... 1.5 mm²	
HARTING Pneumatic crimping tool CP 600	**09 99 000 0810**		
Crimp die Han D®, Han E®, Han® C	**09 99 000 0813**	Wire gauge Han D® 0.14 ... 1.5 mm²	
Footswitch	**09 99 000 0811**		
Table fixing	**09 99 000 0812**		

[1)]For wire gauge 0.14 and 0.25 mm² use only male contact 09 15 000 6107 or female contact 09 15 000 6207.

Stock items in bold type

Identification	Part number	Drawing	Dimensions in mm
Insertion tool for crimp contacts	**09 99 000 0059**	 For crimp contacts with wires of less than 0.75 mm² it is recommended that an insertion tool is used. Contacts should be inserted from the wiring side and pushed down until a positive locking is achieved.	
Removal tool for crimp contacts			
Removal tool	**09 99 000 0012**		
Replacement-tip for removal tool	**09 99 000 0004**		
Removal tool	**09 99 000 0052**	 A removal tool is necessary if contacts are to be replaced in the insert. It is inserted from the mating face and pushed over the contact until a stop is noticeable. Additional pressure unlocks the contact and pushes it out of the wiring side. In case of the removal tool (. . 0052) the unlocking process is achieved by pressure on the central rod.	

Stock items in bold type

Tools for contacts Han E® HMC (09 33 2 ...)

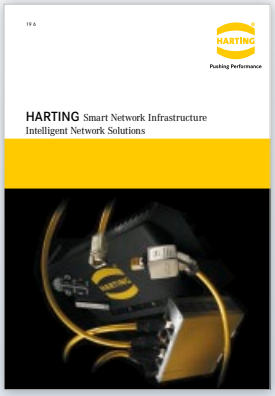
Identification	Part number	Drawing	Dimensions in mm
HARTING Service crimping tool with locator set for Han D®, Han E®	**09 99 000 0021**	Wire gauge Han E® 0.5 ... 2.5 mm²	
BUCHANAN crimping tool	**09 99 000 0001**	Wire gauge 0.14 ... 4 mm²	
Locator Han E®	09 99 000 0310		
Multiple crimping tool depth adjustment gauge	**09 99 000 0379**	Wire gauge 0.14 ... 0.37 mm² Ø 1.00 0.5 ... 1.0 mm² Ø 1.55 1.5 ... 2.5 mm² Ø 1.80 3.0 ... 4.0 mm² Ø 2.00	
HARTING crimping tool with locator for Han D®, Han E®, Han® C	**09 99 000 0110**	Wire gauge Han E® 0.5 ... 4 mm²	
HARTING Pneumatic crimping tool CP 600	**09 99 000 0810**		
Crimp die Han D®, Han E®, Han® C	**09 99 000 0813**	Wire gauge Han E® 0.5 ... 4 mm²	
Footswitch	**09 99 000 0811**		
Table fixing	**09 99 000 0812**		

Stock items in bold type

Identification	Part number	Drawing	Dimensions in mm
Insertion tool for crimp contacts	**09 99 000 0059**	 For crimp contacts with wires of less than 0.75 mm² it is recommended that an insertion tool is used. Contacts should be inserted from the wiring side and pushed down until a positive locking is achieved.	
Removal tool for crimp contacts	**09 99 000 0319**	 A removal tool is necessary if contacts are to be replaced in the insert. The tool is inserted from the wiring side until a stop is noticeable. The wire with the crimp contact can then be pulled out from the same side of the insert.	

Stock items in bold type

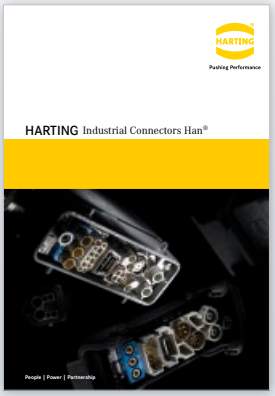
Smart Network Infrastructure



INTELLIGENT NETWORK SOLUTIONS

With its product series Ha-VIS, HARTING offers a consistent range of Ethernet network components and cabling products, which from the communication platform of convergent automation IT networks. Under Ha-VIS HARTING offers fully integrated RFID solutions.

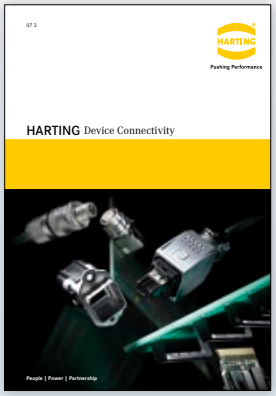
Installation Technology



INDUSTRIAL CONNECTORS Han®

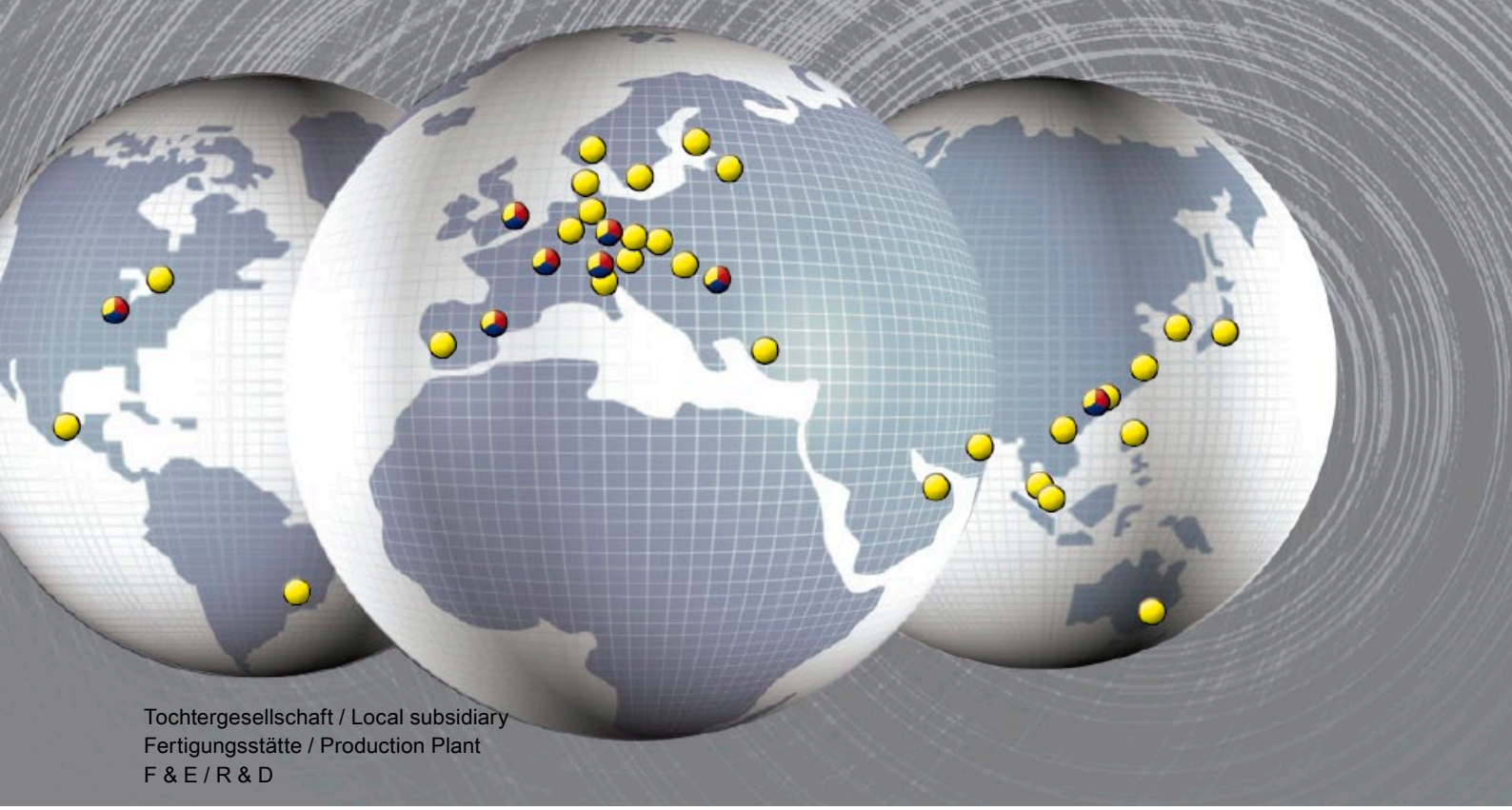
This catalogue documents the worldwide standard for industrial connectors. Han® connectors represent the preferential solution in the cable-to-cable interconnection of data, signal and power applications operating under the most demanding conditions and meeting stringent requirements with regard to safe and detachable electrical connections with high degree of protection IP 65 / IP 67. Installations making use of Han® connectors impress with their rugged design, convenient handling and modularity of data, signal and power connections. Han® connectors represent the worldwide standard in industry, railway technology, as well as in power generation and distribution.

Device Connectivity



DEVICE CONNECTIVITY

The Device Connectivity catalogue provides a universal, innovative product portfolio of PCB connections and of termination technology. The product range comprises board-to-board and cable-to-board connectors for industrial electronic devices with degree of protection IP 20 to IP 65 / IP 67. These HARTING solutions offer appropriate device connectivity for a wide range of devices, ranging from sensors to industrial computers and their respective data, signal and power interfaces.



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