Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

18 3

HARTING

Pushing Performance

HARTING M8/M12 Circular Connectors

People | Power | Partnership

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 3,200 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.

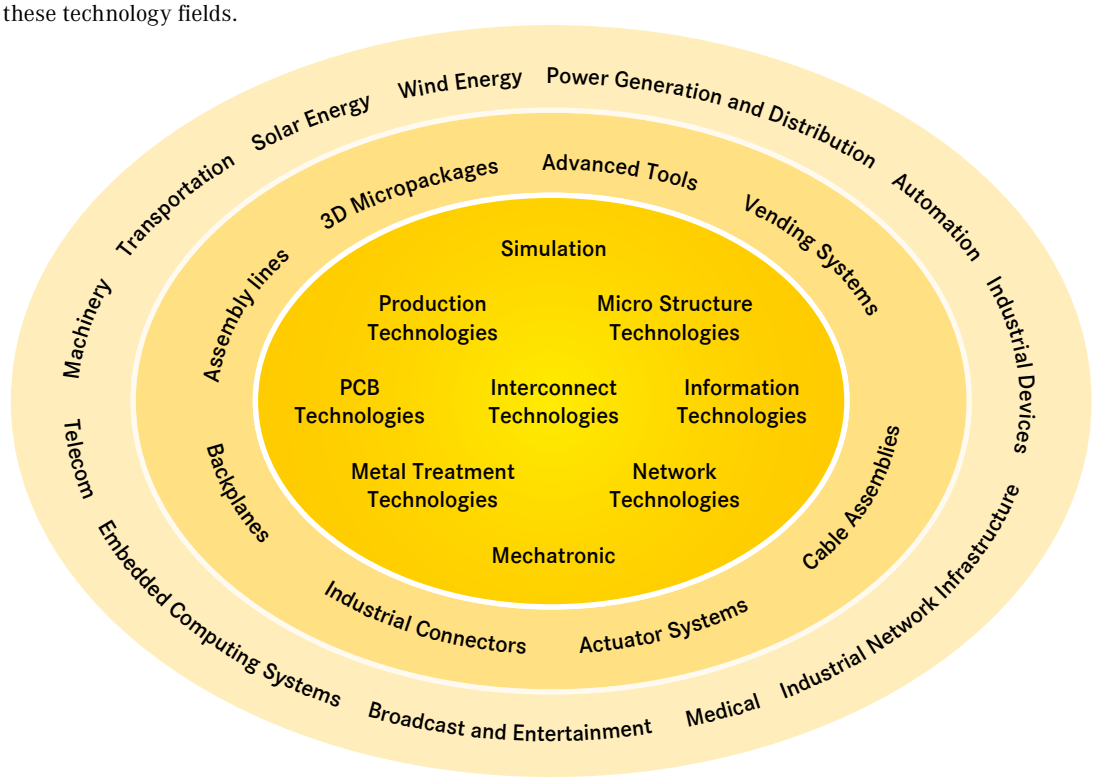
Opting for HARTING opens up an innovative, complex world of concepts and ideas.
In order to develop connectivity and network solutions serving an exceptionally wide range of connector applications and task scopes in a professional and cost optimized manner, HARTING not only commands the full array of 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.



HARKIS® is the abbreviation for **HAR**TING-**K**atalog-**I**nformations-**S**ystem (HARTING catalogue information system).

HARKIS® is an electronic catalogue with part configuration and 3D components library. Here you can choose a connector according to your demands. Afterwards you are able to send your inquiry created with the listed parts. The drawings to every single part are available in PDF-format. The parts are downloadable in 2D-format (DXF) and 3D-format (IGES, STEP). The 3D-models can be viewed with a VRML-viewer.

You can find ***HARKIS***® at **www.HARKIS.HARTING.com**. It is also available on DVD.

Piece part consulting

CAD library

Product samples: Fast-track delivery to your desk, free of charge

With immediate effect, the new express sample dispatching service in the HARTING catalogue information system (***HARKIS***®) allows customers to order samples immediately, easily and free of charge on express delivery. A broad selection from the device connectivity product portfolio is now available. In the case of unavailable items the system offers alternative products with similar features that can be requested at a mouse click.

The samples are shipped within 48 hours after your order, free of charge. This service enables tremendous flexibility, especially in the design phase of projects.

Identification	Part number	
HARKIS® DVD Basic product catalogue 2D and 3D CAD files inclusive	98 40 000 0405	

General information

It is the customer's responsibility to check whether the components illustrated in this catalogue comply with different regulations from those stated in special fields of application which we are unable to foresee.

We reserve the right to modify designs in order to improve quality, keep pace with technological advancement or meet particular requirements in production.

Directory

The innovative solution

With *har*-speed M12 HARTING bases the Ethernet network on a sustainable M12 foundation. The *har*-speed M12 differs significantly from today's M12 connectors for Ethernet because it is based on a 4-pair connector face with paired shielding. This allows *har*-speed M12 to be used for Ethernet transfer rates up to 10 Gigabit. The new HARTING *har*-speed M12 connector is, therefore, capable of complying with the high requirements of the transfer class E_A, respectively the Cat. 6_A. For the first time an M12 cabling system can be used for relevantly high data performance and permanent sustainability.

The *har*-speed M12 connectors can be optimally used for applications with bandwidths in machine and facility engineering, but also for the IP 67 infrastructure. The basis for the new development is the new PAS 61076-2-109 that defines a uniform connector face for 8-pole M12 connectors.

The new connector face complies with the following requirements:

- Maximum data rates through the configuration of the contacts in conformance with Ethernet technology.
- Minimal interaction and perfect shielding through paired shielding of the contacts.
- Fault proof connection through coding of the connector face. A connection error with other 8-pole M12's is impossible.

Overmolded versions in different lengths and a crimp connector for the local cabling are the first system components for a comprehensive cabling infrastructure solution by HARTING.

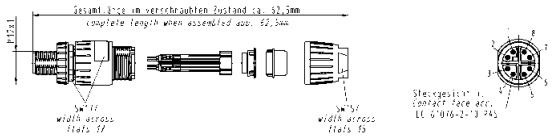
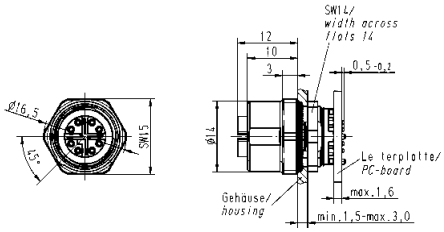
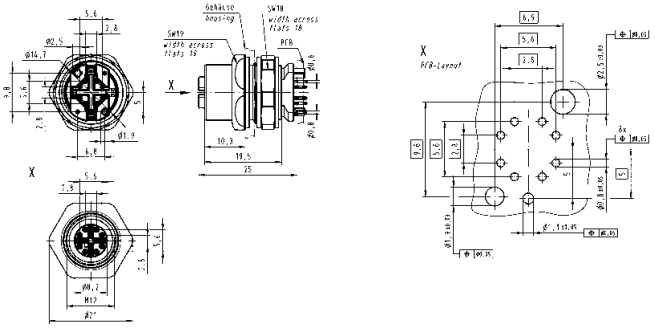
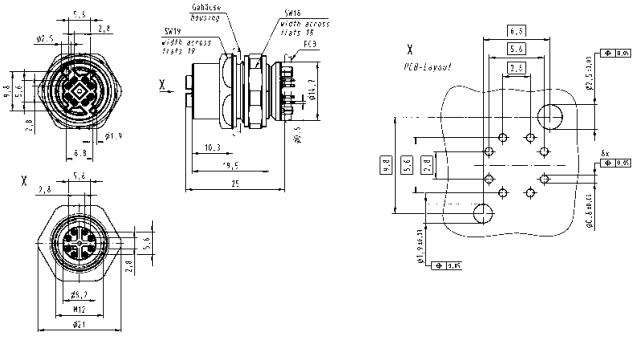
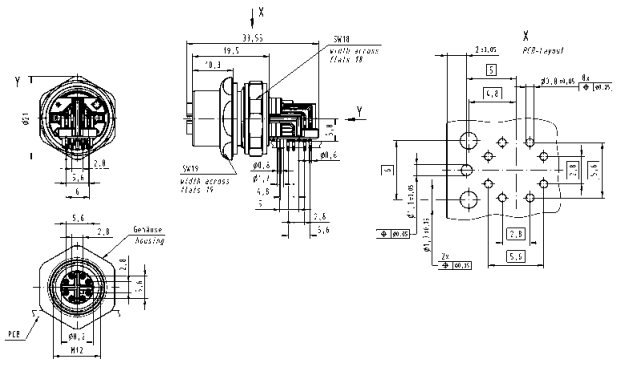
Technical Data

har-speed M12 connector

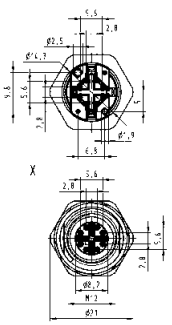
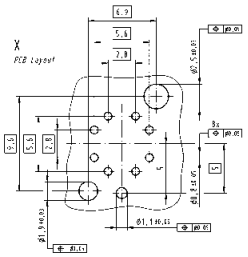
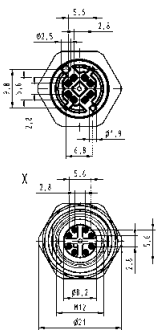
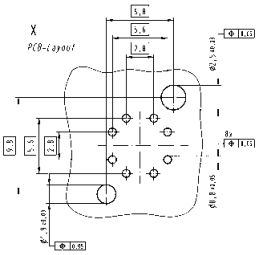
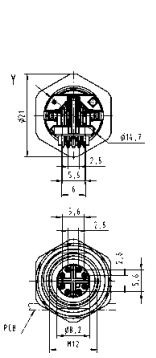
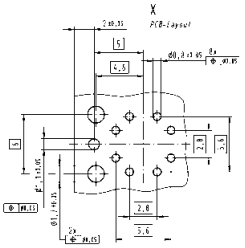
- Cabling with crimp technology
- Compact, robust design
- Fully shielded
- Transfer class E_A for 1 and 10 Gigabit Ethernet
- AWG 28 to AWG 24
- Temperature range -40 °C to 85 °C
- Protection class IP 65 / IP 67

har-speed M12 PCB receptacle

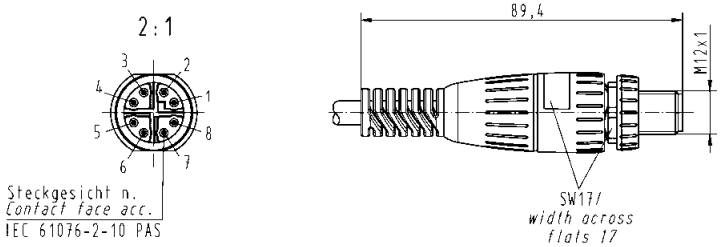
- Stable, industrial standard design
- Fully shielded
- Transfer class E_A for 1 and 10 Gigabit Ethernet
- Temperature range -40 °C to 70 °C
- Protection class IP 65 / IP 67

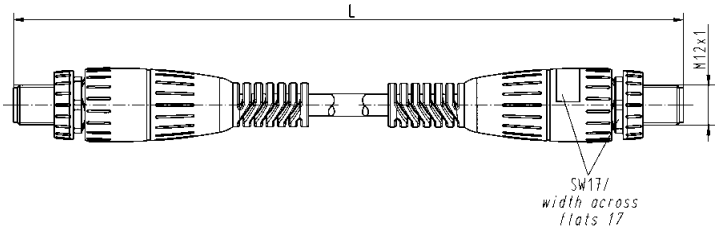
Identification	Part No.	Drawing	Dimensions in mm
har-speed M12 connector	21 03 881 5805		
har-speed M12 PCB receptacle	21 03 381 2801		
har-speed M12 receptacle for front mounting			
straight, Cat. 6_A	21 03 381 2802		
straight, Cat. 5	21 03 381 2803		
angled, Cat. 6_A	21 03 381 4802		

Accessories see page 44

Identification	Part No.	Drawing	Dimensions in mm
har-speed M12 receptacle for rear mounting			
straight, Cat. 6_A	21 03 381 2804		
straight, Cat. 5	21 03 381 2805		
angled, Cat. 6_A	21 03 381 4804		

Identification		Part No.	Drawing	Dimensions in mm
***har*-speed M12 system cable**				
single ended overmoulded system cable				
Length:	1 m	21 03 483 1801		
	3 m	21 03 483 1803		
	5 m	21 03 483 1805		
	7 m	21 03 483 1807		
	10 m	21 03 483 1810		
double ended overmoulded system cable				
Length:	0.5 m	21 03 483 5850		
	1.0 m	21 03 483 5801		
	1.5 m	21 03 483 5851		
	2.0 m	21 03 483 5802		
	2.5 m	21 03 483 5852		





Technical characteristics

Specifications IEC 60 352-4
IEC 61 076-2-101
IEC 61 076-2-104

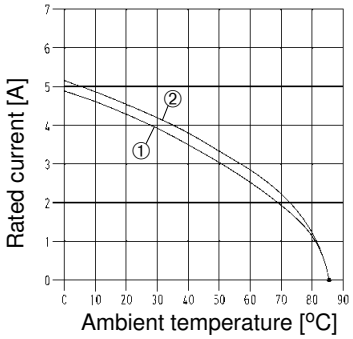
Approval

Construction type	***HARAX*® M8-XS**	***HARAX*® M8-S/ M12-S**	***HARAX*® M12 angled**	***HARAX*® M12-L 3 poles, 4 poles**	***HARAX*® M12-L 5 poles**
Rated voltage	32 V	32 V	32 V	50 V	50 V
Rated current (see current carrying capacity)	2 A	4 A	4 A	6 A	4 A
Conductor cross section	0.1 - 0.14 mm² AWG 27 - 26	0.14 - 0.34 mm² AWG 26 - 22	0.25 - 0.5 mm² AWG 24/7 - 20	0.34 - 0.75 mm² AWG 22 - 18	0.25 - 0.34 mm² AWG 24 - 22 0.34 - 0.5 mm² AWG 22 - 20
Diameter of individual strands	≥ 0.05 mm	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm
Conductor insulation material	PVC / PP / TPE	PVC / PP / TPE	PVC	PVC	PVC
Conductor diameter	0.6 - 1.0 mm	1.0 - 1.6 mm	1.2 - 1.6 mm	1.6 - 2.0 mm 2.0 - 2.6 mm	1.2 - 2.0 mm
Cable diameter	1.9 - 2.5 mm (transp.) 2.5 - 3.5 mm (grey)	M8-S: 2.5 - 5.1 mm M12-S: 2.9 - 4.0 mm (transp.) 4.0 - 5.1 mm (black)	4 - 5.1 mm	6 - 8 mm	4.7 - 6 mm 6 - 8 mm
Limiting temperatures	- 40 °C / + 85 °C	- 40 °C / + 85 °C	- 40 °C / + 85 °C	- 40 °C / + 85 °C	- 40 °C / + 85 °C
Temperature during connection	- 5 °C … + 50 °C	- 5 °C … + 50 °C	- 5 °C … + 50 °C	- 5 °C … + 50 °C	- 5 °C … + 50 °C
Degree of protection	IP 67	IP 67	IP 67	IP 65 / IP 67	IP 65 / IP 67
Termination cycles with the same cross section	10	10	10	10	10
Recommended tightening torque / Hexagonal wrench	0.4 Nm / SW 9	M8-S: 0.4 Nm / SW 9 M12-S: 0.6 Nm / SW 13	0.6 Nm / SW 13	0.6 Nm / SW 17	0.6 Nm / SW 17

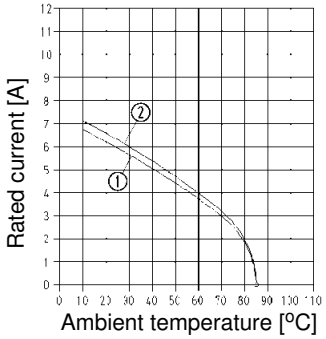
Current carrying capacity The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interruptet current-loaded contacts of connectors when simultaneous power on all contacts is given,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

Control and test procedures according to DIN IEC 60 512-5.

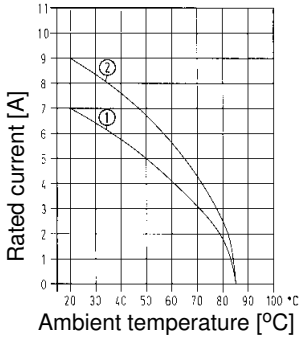
M8-XS, 3 poles 1 = wire gauge 0.1 mm²
M8-S, 3 poles 2 = wire gauge 0.14 mm²



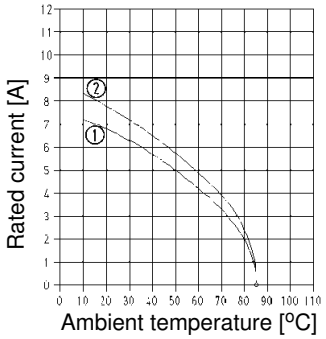
M8-S, 4 poles 1 = wire gauge 0.25 mm²
M12-S, 4 poles 2 = wire gauge 0.34 mm²



M12-L
3 poles, 4 poles 1 = wire gauge 0.34 mm²
2 = wire gauge 0.75 mm²



M12, 4 poles, angled 1 = wire gauge 0.25 mm²
2 = wire gauge 0.5 mm²



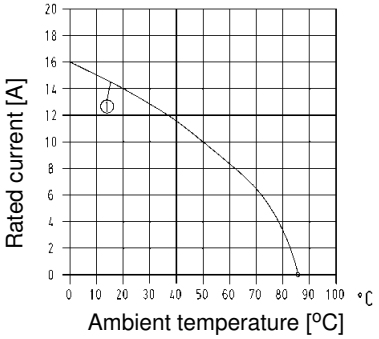
Technical characteristics

Specifications IEC 60 352-4
IEC 61 076-2-101
IEC 61 076-2-104

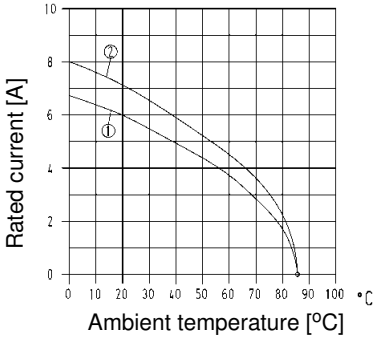
Approval

Construction type	***HARAX*® M12-XL 5 poles**	***HARAX*® M12-L screened version, A-coded**	***HARAX*® M12-L screened version PROFIBUS**	***HARAX*® M12-L screened version Ethernet**	**Han® M12 Crimp**	***HARAX*® 7/8“**
Rated voltage	50 V	50 V	32 V	50 V	50 V	230 V / 400 V
Rated current (see current carrying capacity)	4 A	4 A	4 A	4 A	4 A	10 A
Conductor cross section	0.5 - 1 mm² AWG 20 - 16	0.14 - 0.34 mm² AWG 26 - 22	0.25 - 0.34 mm² AWG 24- 22	① 0.14 - 0.34 mm² AWG 26 - 22 ② 0.34 - 0.5 mm² AWG 22-20	0.34 - 0.5 mm² AWG 22 - 20	0.75 - 1.5 mm² AWG 18 - 16
Diameter of individual strands	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm		≥ 0.15 mm
Conductor insulation material	PVC, ETFE	PVC	PVC, Zell-PE	PVC / PE		PVC, PP, TPE
Conductor diameter	1.6 - 2.0 mm	1.2 - 1.6 mm	2 - 2.6 mm	1.2 - 2.0 mm	2.0 - 2.3 mm	≤ 2.8 mm
Cable diameter	6 - 9 mm	4.5 - 8.8 mm	7.0 - 8.8 mm	4.5 - 8.8 mm	4 poles: 4.5 - 5.4 mm 7.0 - 8.8 mm 5 poles: 4.5 - 8.8 mm	6.8 - 9.5 mm (black) 9 - 12.5 mm (grey)
Limiting temperatures	- 40 °C / + 85 °C	- 40 °C / + 85 °C	- 40 °C / + 85 °C	- 40 °C / + 85 °C	- 40 °C / + 85 °C	- 40 °C / + 85 °C
Temperature during connection	- 5 °C … + 50 °C	- 5 °C … + 50 °C	- 5 °C … + 50 °C	- 5 °C … + 50 °C	- 5 °C … + 50 °C	- 5 °C … + 50 °C
Degree of protection	IP 65 / IP 67	IP 67	IP 67	IP 67	IP 67	IP 65 / IP 67
Termination cycles with the same cross section	10	10	10	10		10
Recommended tightening torque / Hexagonal wrench	0.6 Nm / SW 17	0.6 Nm / SW 17	0.6 Nm / SW 17	0.6 Nm / SW 17	0.5 Nm / SW 17	1.5 Nm / SW 22

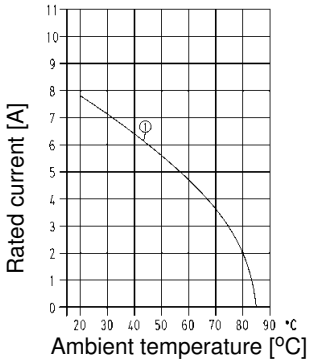
7/8“ 1 = wire gauge 0.75 mm² / 1.5 mm²



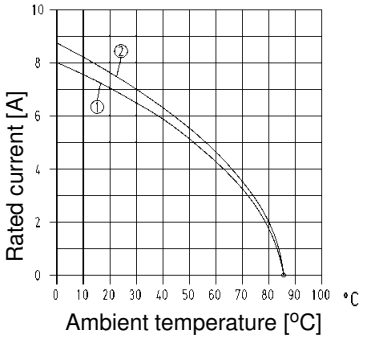
M12L, 5 poles 1 = wire gauge 0.25 mm²
2 = wire gauge 0.34 mm²



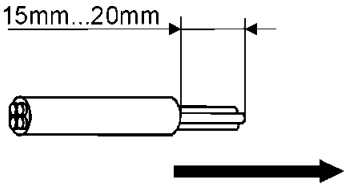
M12, Crimp 1 = wire gauge 0.34 mm² / 0.5 mm²

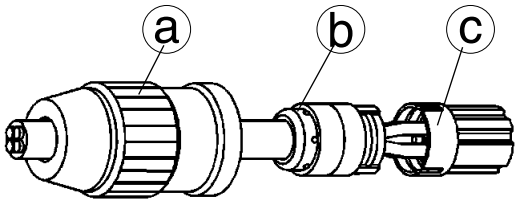


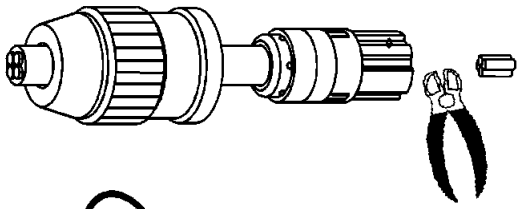
M12L, 5 poles 1 = wire gauge 0.34 mm²
2 = wire gauge 0.5 mm²

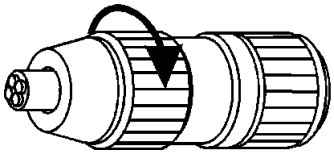


Assembly manual *HARAX*® , M8-XS, M8-S / M12-S, M12-L, M12-XL unshielded

1. 

2. 

3. 

4. 

1. strip cable

2. assemble *HARAX*® elements
   ⓐ Nut
   ⓑ Strain relief
   ⓒ Insert

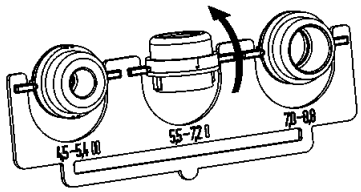
3. cut off cable ends
   Screw the nut onto the insert until a stop is noticeable.

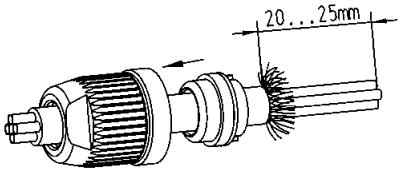
4. screw the connector

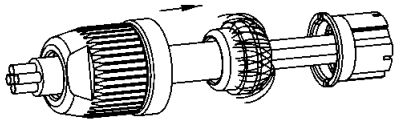
   Note!
   For reconnection cut off the used cable ends and repeat steps 1 to 4.

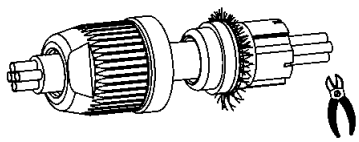
The seal has to be replaced when worn.

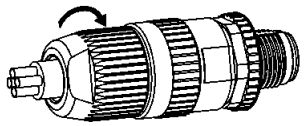
Assembly manual *HARAX*®, M12-L shielded

1. 

2. 

3. 

4. 

5. 

1. Choose the required seal.

2. Push nut and seal onto the cable.
   Remove outer cable sleeve.

3. Slide seal under braid and form as shown.
   Push wires through the contact splicing element.

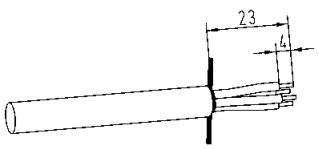
4. Assemble seal and contact splicing element.
   Cut off protruding shielding braid and cable ends.

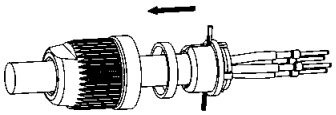
5. Assemble connector.
   Screw nut down to the limits.

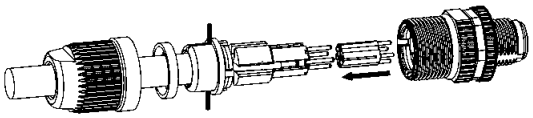
   Note!
   For reconnection, cut off the used connector and repeat steps 2 to 5.

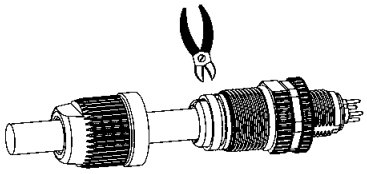
The seal has to be replaced when worn.

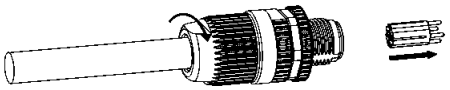
Assembly manual Han® M12 Crimp 4 poles

1. 

2. 

3. 

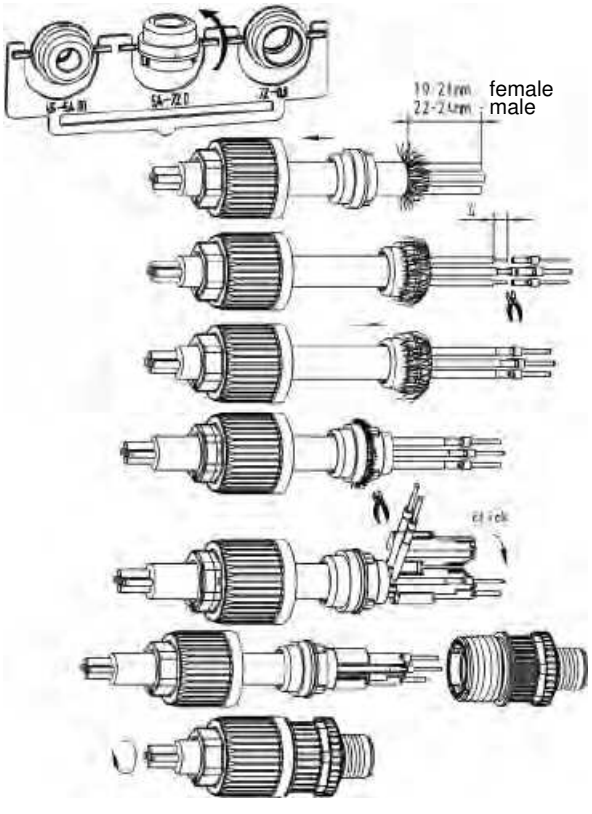
4. 

5. 

1. Remove cable jacket and strip cores. Twist screening braid as shown and crimp contacts.
2. Slide screw cap, ring and sealing onto the cable. Push screening braid into the sealing slot.
3. Insert contacts into locator from the side. Fix contacts with the aid of asssembly aid. Slide locator into connector, pay attention to the coding.
4. Sealing has to be flush with connector. Slide ring over the sealing and cut off screening braid.
5. Tighten screw cap. Remove asssembly aid.

The seal has to be replaced when worn.

Assembly manual Han® M12 Crimp 5 poles

1. 

2.

3.

4.

5.

6.

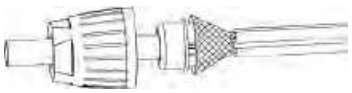
7.

8.

1. Break out the required seal.
2. Push nut and seal onto the cable. Remove outer cable sleeve.
3. Form braid as shown. Remove foils and cross cables if necessary. Finally strip cable ends and crimp contacts.
4. Slide seal onto the cable until it stops and form as shown.
5. Slide shielding ring over cable ends onto the braid and seal. Cut off excess shielding braid.
6. Place middle contact in the contact element. Push contact elements together until it snaps.
7. Place all other contacts into side cavities. Push preassembled unit of contact element, shielding ring and seal into the connector. Respect the coding!
8. Assemble connector. Screw nut down until it stops.

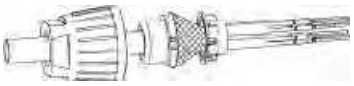
Assembly manual *har*-speed M12

1. - 3.



1. Attach locknut and seal.
2. Remove cable sheath.
3. Pull braid apart.

4. - 7.



4. Attach shield element.
5. Remove pair shielding.
6. Remove wire insulation.
7. Crimp contacts.

Option – Using covers for high performance.

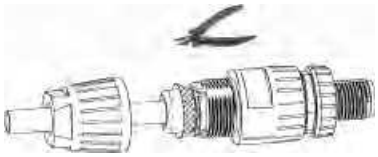
8.

8. Locating of contacts into insulator body, optionally usage of covers.

9.

9. Assembling of insulator body and housing.

10.



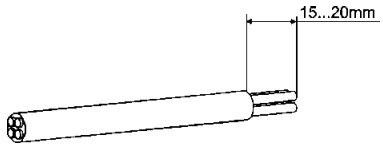
10. Remove excess braid.

11.

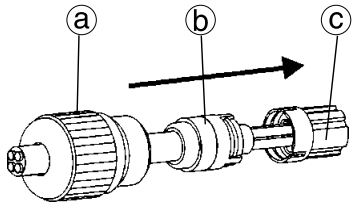
11. Tighten locknut.

Assembly manual *HARAX*® Pg 9 panel feed-through

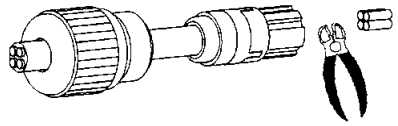
1.



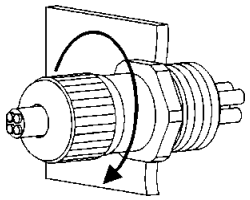
2.



3.



4.



1. Strip cable jecket

2. Assemble *HARAX®* elements
   ⓐ Nut
   ⓑ Strain relief
   ⓒ Insert

3. Cut off cable ends

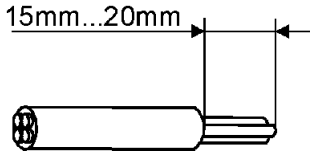
4. Twist the nut onto the insert until a stop is noticeable

   Note!
   For reconnection cut off the used cable ends and repeat steps 1 to 4.

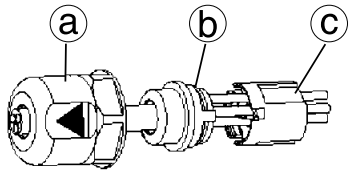
The seal has to be replaced when worn.

Assembly manual *HARAX*® Pg 13.5 / M20 panel feed-through

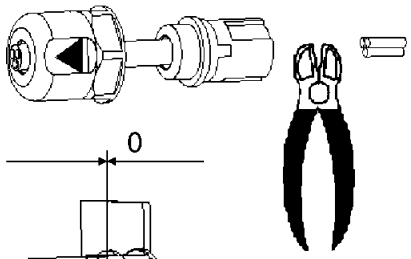
1.



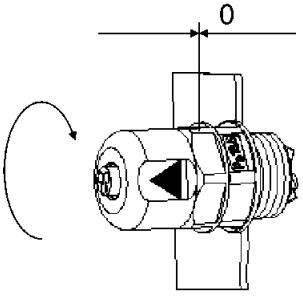
2.



3.



4.



1. Connection and disconnection of the cable must only be performed by suitably qualified persons when supply is isolated.

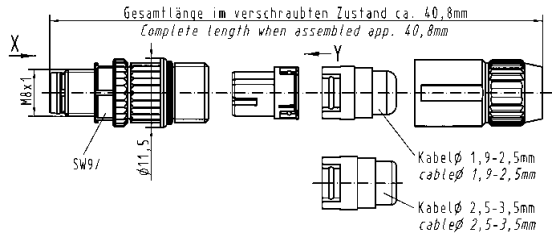
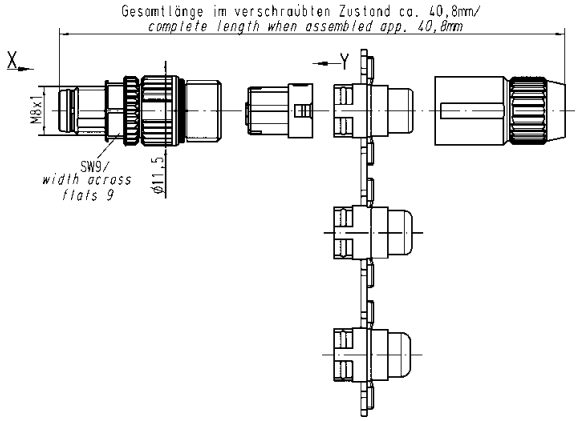
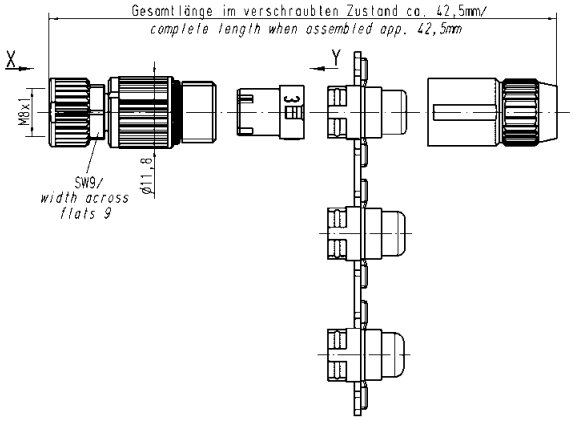
2. *HARAX*® Pg 13.5 – 3 contacts – is supplied with either faston blades or solder terminals.
   ⓐ Nut
   ⓑ Strain relief
   ⓒ Insert

3. *HARAX*® Pg 13.5 / M20 – 4 contacts – is supplied only with solder termination.

4. The nut must be tightened completely down so that the notches engage on the contact carrier.

The opening of the gland always requires a wrench.

Note: For reconnection cut off the used cable ends and repeat steps 1 to 4.

Identification	Part No. Male	Part No. Female	Drawing	Dimensions in mm
***HARAX*® M8-XS** straight version, 3 poles for 0.1 - 0.14 mm² 	**21 02 159 1305**			
***HARAX*® M8-S** straight version, 3 poles for 0,14 - 0,34 mm² 	**21 02 151 1305**			
straight version, 4 poles for 0,14 - 0,34 mm² 	21 02 151 1405			
straight version, 3 poles for 0,14 - 0,34 mm² 		**21 02 151 2305**		
straight version, 4 poles for 0,14 - 0,34 mm² 		**21 02 151 2405**		

View mating side:
3 poles, male version

View mating side:
4 poles, male version

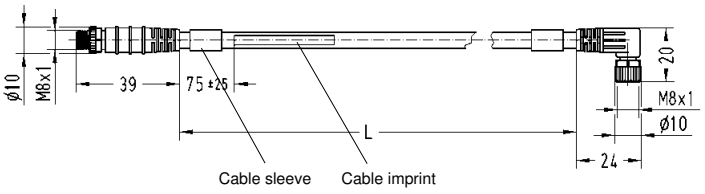
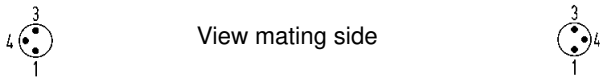
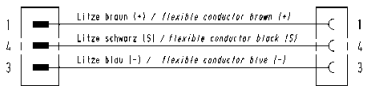
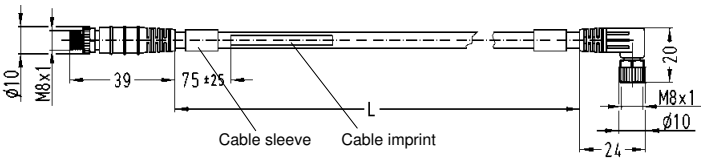
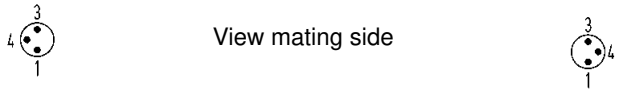
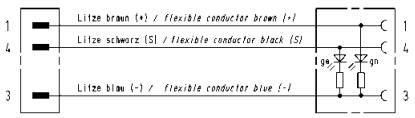
Stock items in bold type

System cables with
Han® M8 Circular connector

Technical characteristics

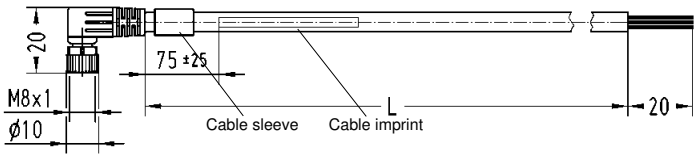
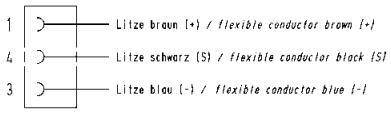
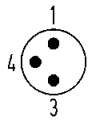
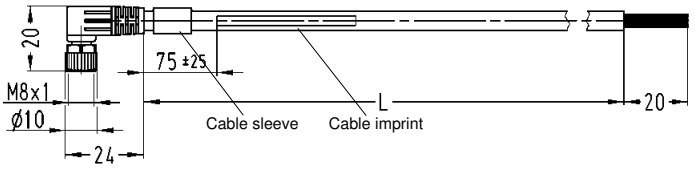
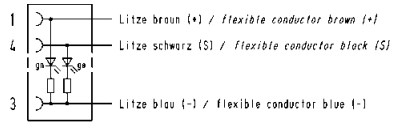
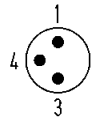
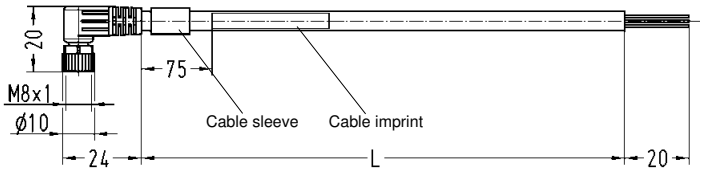
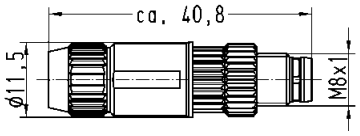
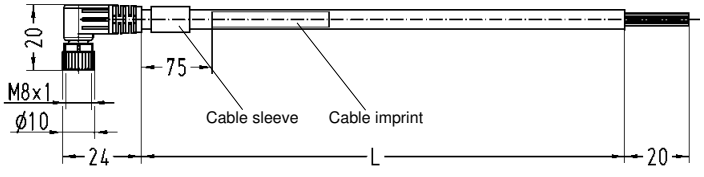
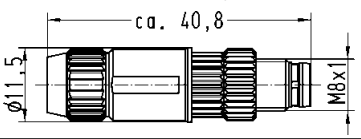
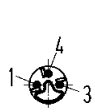
Han® M8 Circular connector, without PE

Rated voltage	max. 60 V AC/DC
Rated current/contact	max. 4 A
Locking	Screw locking M8x1, self securing
Recommended torque	0.4 Nm
Temperature range (dependant on connected conductor)	-25 °C … +85 °C
Degree of protection	IP 67
Number of wires / wire gauge	3 x 0.25 mm²
Conductor insulation	PP (br, bl, sw)
Arrangement of insulated strands	32 x 0.1 mm
Sheath	PUR (UL, CSA)
Outer diameter	appr. 4.1 mm
Bending radius	10 x outer diameter
Temperature range (working and storage)	-5 °C … + 80 °C

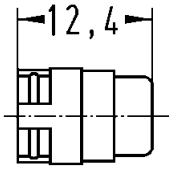
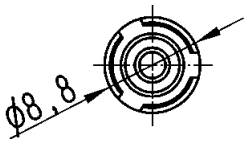
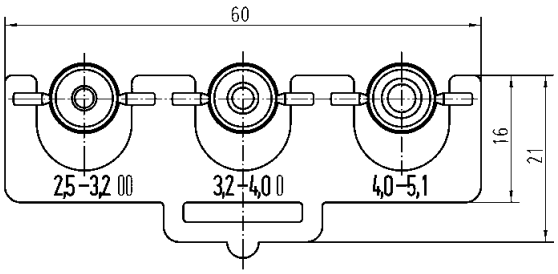
Identification		Part No.	Drawing	Dimensions in mm
Han® M8 Circular connector Female angled, Male straight				
Length:	0.3 m	**21 02 454 5301**		
	0.6 m	21 02 454 5302		
	1.0 m	21 02 454 5303		
	1.5 m	21 02 454 5304		
	2.0 m	21 02 454 5305		
			Schematic diagram	
				
Han® M8 Circular connector Female angled, with LED Male straight				
Length:	0.3 m	**21 02 454 7301**		
	0.6 m	21 02 454 7302		
	1.0 m	21 02 454 7303		
	1.5 m	21 02 454 7304		
	2.0 m	21 02 454 7305		
			Schematic diagram	
				

Stock items in bold type

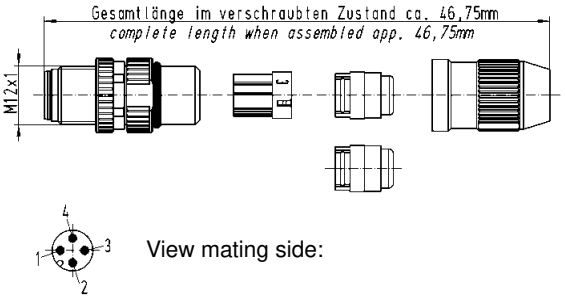
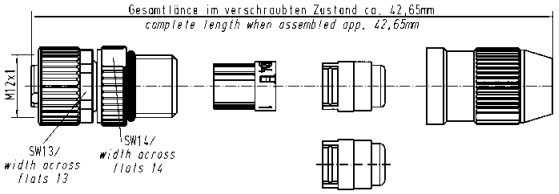
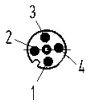
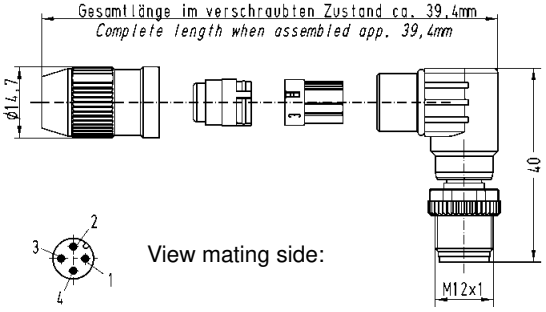
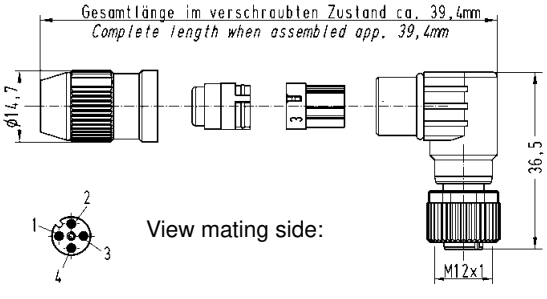
Han® M8 System cables

Identification		Part No.	Drawing	Dimensions in mm
Han® M8 Circular connector Female angled pre-assembled on one end				
			Schematic diagram 	View mating side 
Length:	1.5 m	**21 02 554 4301**		
	3.0 m	21 02 554 4302		
	5.0 m	21 02 554 4303		
	7.5 m	21 02 554 4304		
	10.0 m	21 02 554 4305		
Han® M8 Circular connector Female angled, with LED pre-assembled on one end				
			Schematic diagram 	View mating side 
Length:	1.5 m	**21 02 554 7301**		
	3.0 m	21 02 554 7302		
	5.0 m	21 02 554 7303		
	7.5 m	21 02 554 7304		
	10.0 m	21 02 554 7305		
HARAX® **M8 cable-Set** **without LED** Delivery range: Han® M8 connector with individually adaptable cable and *HARAX®* M8-S				
			HARAX® M8-S (21 02 151 1305) 	
Length:	1.5 m	**21 82 554 4301**		
	3.0 m	**21 82 554 4302**		
	5.0 m	**21 82 554 4303**		
	7.5 m	21 82 554 4304		
	10.0 m	21 82 554 4305		
			 View mating side	
HARAX® **M8 cable-Set** **with LED** Delivery range: Han® M8 connector with individually adaptable cable and *HARAX®* M8-S				
			HARAX® M8-S (21 02 151 1305) 	
Length:	1.5 m	**21 82 554 7301**		
	3.0 m	**21 82 554 7302**		
	5.0 m	**21 82 554 7303**		
	7.5 m	21 82 554 7304		
	10.0 m	21 82 554 7305		
			 View mating side	

Stock items in bold type

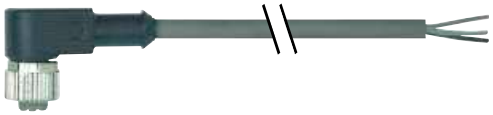
Identification	Part No.	Drawing	Dimensions in mm
Seal M8  for 1.9 - 2.5 mm cable Ø for 2.5 - 3.5 mm cable Ø	21 01 010 2016 21 01 010 2008	 	
Set of 3 seals for *HARAX*® M8-S for 2.5 - 3.2 mm cable Ø for 3.2 - 4.0 mm cable Ø for 4.0 - 5.1 mm cable Ø 	21 01 010 2013		
Han® M8 dynamometric screwdriver Tightening torque 0.4 Nm SW 9 	09 99 000 0380		

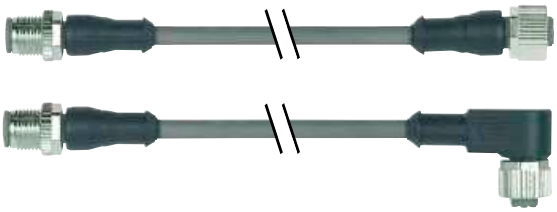
Stock items in bold type

Identification	Part No. Male	Part No. Female	Drawing	Dimensions in mm
***HARAX*® M12-S** straight version, 4 poles 	**21 03 111 1405**		 View mating side:	
		**21 03 111 2405**	  View mating side:	
***HARAX*® M12** angled version, 4 poles	21 01 140 5081		 View mating side:	
 angled version, 4 poles		21 01 140 5091	 View mating side:	
				

Stock items in bold type

Han® M12 System cables, A-coded





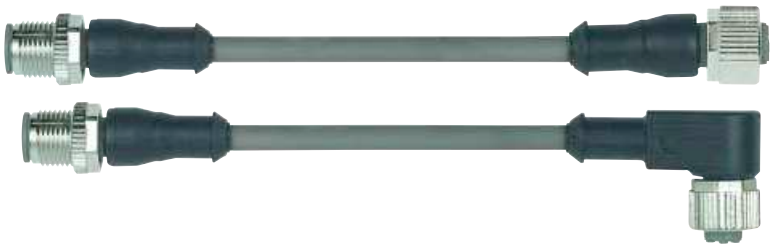
System cables with
Han® M12 Circular connector, A-coded

Technical characteristics

Han® M12 Circular connector, without PE

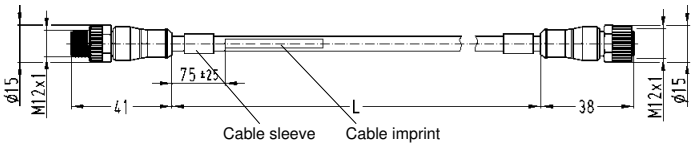
Rated voltage	max. 250 V AC/DC, max. 30 V DC (with LED)
Rated current/contact	max. 4 A
Locking	Screw locking M12x1, self securing
Recommended torque	0.6 Nm
Temperature range (dependant on connected conductor)	- 25 °C … +85 °C
Degree of protection	IP 67
Number of wires / wire gauge	4 x 0.34 mm²
Conductor insulation	PP (br, ws, bl, sw)
Arrangement of insulated strands	42 x 0.1 mm
Sheath	PUR (UL, CSA)
Outer diameter	appr. 4.7 mm
Bending radius	10 x outer diameter
Temperature range (working and storage)	-25 °C … + 80 °C

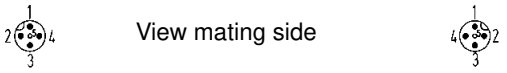
Han® M12 System cables, A-coded



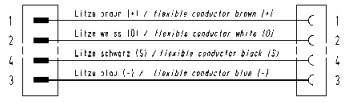
Identification		Part No.	Drawing	Dimensions in mm

Han® M12 Circular connector
Female straight, Male straight



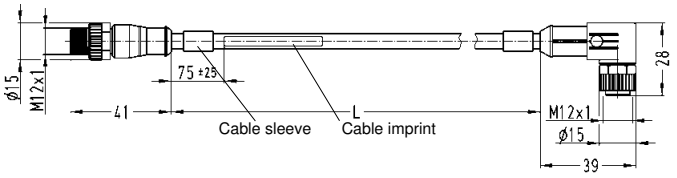


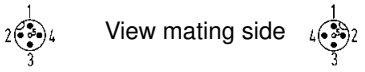
Schematic diagram



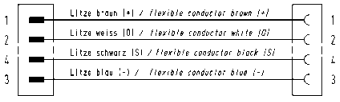
Length:	0.3 m	**21 03 415 2401**
	0.6 m	21 03 415 2402
	1.0 m	21 03 415 2403
	1.5 m	21 03 415 2404
	2.0 m	21 03 415 2405

Han® M12 Circular connector
Female angled, Male straight



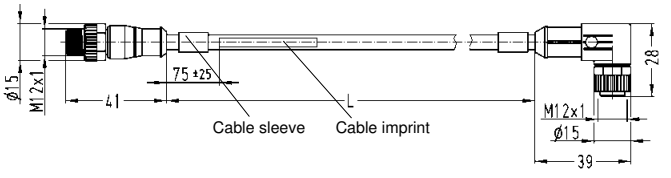


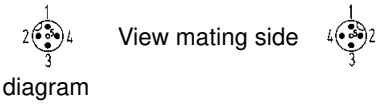
Schematic diagram



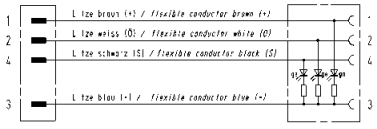
Length:	0.3 m	**21 03 415 5401**
	0.6 m	21 03 415 5402
	1.0 m	21 03 415 5403
	1.5 m	21 03 415 5404
	2.0 m	21 03 415 5405

Han® M12 Circular connector
Female angled, with LED,
Male straight





Schematic diagram



Length:	0.3 m	**21 03 415 7401**
	0.6 m	21 03 415 7402
	1.0 m	21 03 415 7403
	1.5 m	21 03 415 7404
	2.0 m	21 03 415 7405

Stock items in bold type