Contents

HARAX® 7/8“

Han® M12-Crimp

Technical characteristics

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

Approval

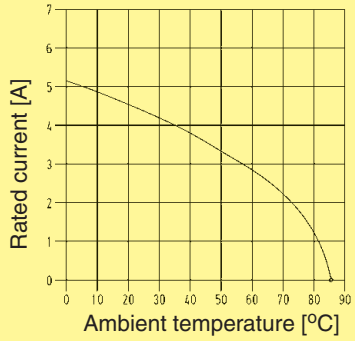
Construction type	***HARAX*® M8-S (0.08 mm²)**	***HARAX*® M8-S/ M12-S**	***HARAX*® M12 angled**	***HARAX*® M12-L 3 poles, 4 poles**	***HARAX*® M12-L screened version, A-coded**
Rated voltage	32 V	32 V	32 V	50 V	50 V
Rated current (see current carrying capacity)	2 A	4 A	4 A	6 A	4 A
Conductor cross section	0.08 - 0.14 mm² AWG 28 - 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	0.14 - 0.34 mm² AWG 26 - 22
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	1.2 - 1.6 mm
Cable diameter	1.9 - 2.5 mm (transp.) 2.5 - 3.5 mm (grey)	M8-S: 2.5 - 5.1 mm M12-S: 2.5 - 4.0 mm (transp.) 4.0 - 5.1 mm (black)	4 - 5.1 mm	3 poles: 5.5 - 7.2 mm 4 poles: 6 - 8 mm	7 - 8.8 mm
Limiting temperatures	- 25 °C / + 85 °C	- 25 °C / + 85 °C	- 25 °C / + 85 °C	- 25 °C / + 85 °C	- 25 °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 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

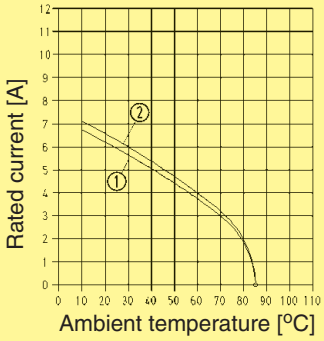
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interruptet current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the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

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

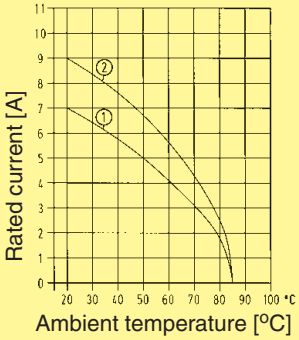
M8-S, 3 poles wire gauge 1.4 mm²



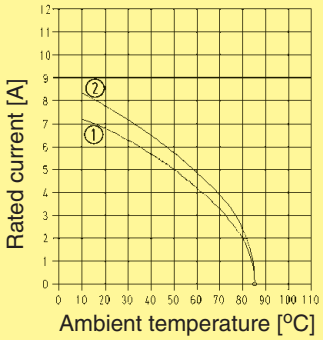
M8-S, 4 poles 1 = wire gauge 0.25 mm²
M12-S, 4 poles 2 = wire gauge 0.34 mm²



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

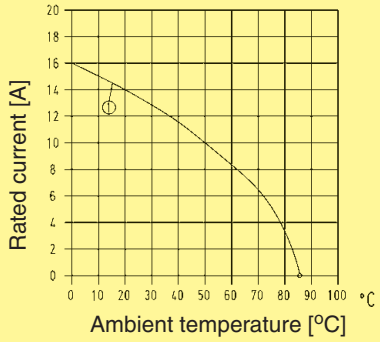
Specifications IEC 60 352-4
IEC 61 076-2-101
IEC 61 076-2-104

Approval

Construction type	*HARAX*® M12-L screened version Ethernet	PROFIBUS	Han® 7/8“	*HARAX*® M12-L 5 poles	Han® M12 Crimp
Rated voltage	50 V	32 V	230 V / 400 V	50 V	50 V
Rated current (see current carrying capacity)	4 A	4 A	10 A	4 A	4 A
Conductor cross section	① 0.14 - 0.34 mm² AWG 26 - 22 ② 0.34 - 0.5 mm² AWG 22-20	0.25 - 0.34 mm² AWG 24- 22	0.75 - 1.5 mm² AWG 18 - 16	0.25 - 0.34 mm² AWG 24 - 22 0.34 - 0.5 mm² AWG 22 - 20	0.34 - 0.5 mm² AWG 22 - 20
Diameter of individual strands	≥ 0.1 mm	≥ 0.1 mm	≥ 0.15 mm	≥ 0.1 mm	
Conductor insulation material	PVC / PE	PVC, Zell-PE	PVC, PP, TPE	PVC	
Conductor diameter	1.2 - 2.0 mm	2 - 2.6 mm	≤ 2.8 mm	1.2 - 2.0 mm	2.0 - 2.3 mm
Cable diameter	① 5.5 - 7.2 mm (black) ② 7 - 8.8 mm (light grey)	7 - 8.8 mm	6.8 - 9.5 mm (black) 9 - 12.5 mm (grey)	4.7 - 6 mm 6 - 8 mm	4.5 - 5.4 mm (transparent) 7 - 8.8 mm (light grey)
Limiting temperatures	- 25 °C / + 85 °C	- 25 °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 65 / IP 67	IP 65 / IP 67	IP 67
Termination cycles with the same cross section	10	10	10	10	
Recommended tightening torque / Hexagonal wrench	0.6 Nm / SW 17	0.6 Nm / SW 17	1.5 Nm / SW 22	0.6 Nm / SW 17	0.6 Nm / SW 17

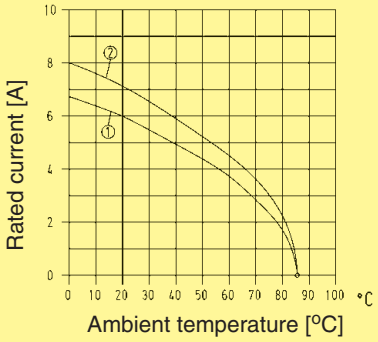
7/8“

1 = wire gauge 0.75 mm² / 1.5 mm²



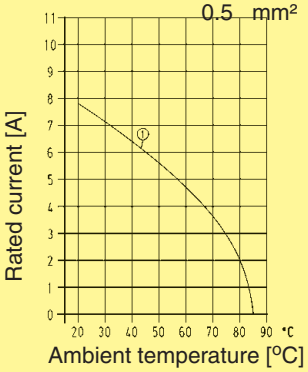
M12L, 5 poles

1 = wire gauge 0.25 mm²
2 = wire gauge 0.34 mm²



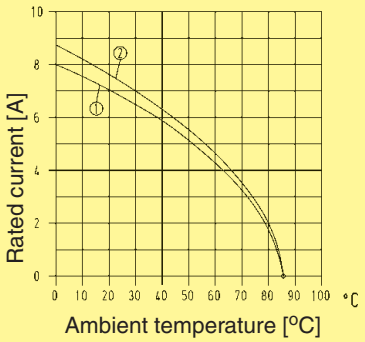
M12, Crimp

1 = wire gauge 0.34 mm² / 0.5 mm²



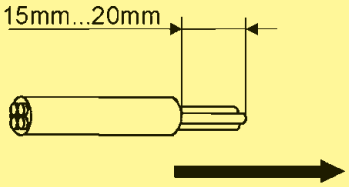
M12L, 5 poles

1 = wire gauge 0.34 mm²
2 = wire gauge 0.5 mm²



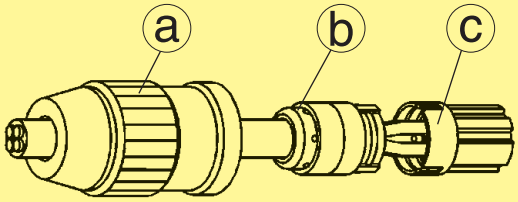
Assembly manual *HARAX*®

1.



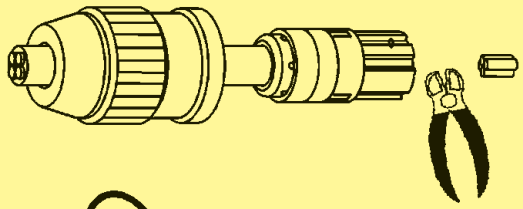
1. strip cable
2. assemble *HARAX*® elements
3. cut off cable ends
4. screw the connector

2.



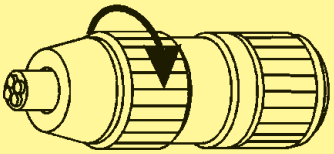
ⓐ Nut
ⓑ Strain relief
ⓒ Insert

3.



Screw the nut onto the insert until a stop is noticeable.

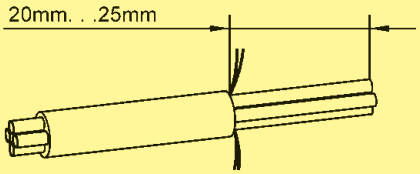
4.



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

Assembly manual *HARAX*® shielded

1.



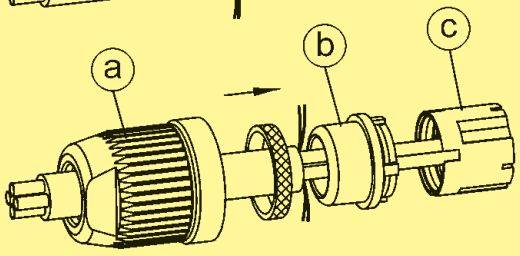
1. strip cable

2. assemble *HARAX*® elements
   twist screening braid ans push it into the sealing slot

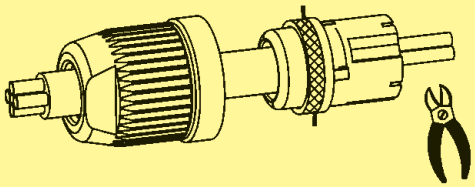
3. Slide ring over the sealing cut off cable ends and the screening braid

4. screw the connector

2.

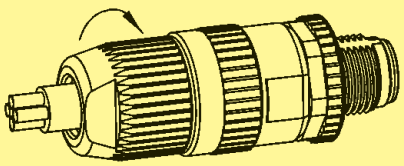


3.



ⓐ Nut
ⓑ Strain relief
ⓒ Insert

4.

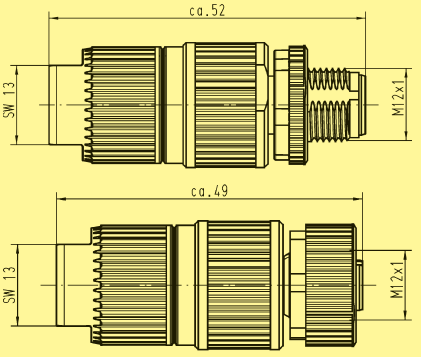


Note!
For reconnection cut off the used cable ends and repeat steps 1 to 4.

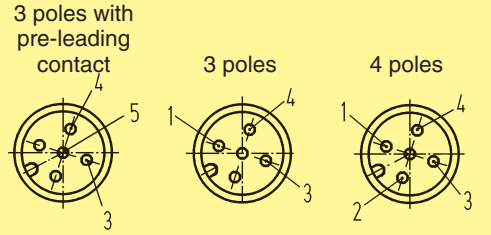
Identification	Part No. Male	Part No. Female	Drawing	Dimensions in mm
***HARAX*® M8-S** straight version, 3 poles straight version, 4 poles straight version, 3 poles for 0.08 - 0.14 mm²	**21 02 151 1305** **21 02 151 1405** **21 02 159 1305**		Gesamtlänge im verschraubten Zustand ca. 40,8mm *Complete length when assembled app. 40,8mm* Gesamtlänge im verschraubten Zustand ca. 42,5mm *Complete length when assembled app. 42,5mm* View mating side: 3 poles, male version View mating side: 4 poles, male version	
straight version, 3 poles straight version, 4 poles		**21 02 151 2305** **21 02 151 2405**		
***HARAX*® M12-S** straight version, 4 poles	**21 03 111 1405**	**21 03 111 2405**	Gesamtlänge im verschraubten Zustand ca. 47 *complete length when assembled app. 47* X = View mating side Gesamtlänge im verschraubten Zustand ca. 43mm *complete length when assembled app. 43mm* X = View mating side	
***HARAX*® M12** angled version, 4 poles	**21 01 140 5081**		Gesamtlänge im verschraubten Zustand ca. 39,4mm *Complete length when assembled app. 39,4mm* View mating side:	
angled version, 4 poles		**21 01 140 5091**	Gesamtlänge im verschraubten Zustand ca. 39,4mm *Complete length when assembled app. 39,4mm*	

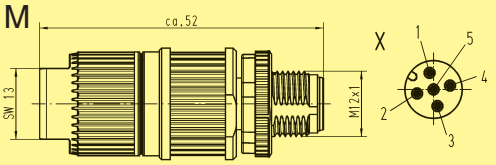
Stock items in bold type

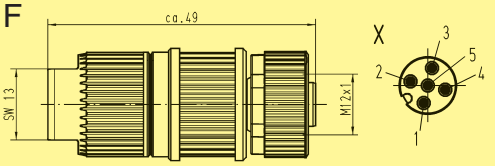
Identification	Part No. Male	Part No. Female	Drawing	Dimensions in mm
***HARAX*® M12-L**				
3 poles, A-coded, with pre-leading contact	21 03 212 1400			
3 poles, A-coded	21 03 212 1306			
4 poles, A-coded	**21 03 212 1305**			
				
3 poles, A-coded, with pre-leading contact		21 03 212 2400		
3 poles, A-coded		21 03 212 2306		
4 poles, A-coded		**21 03 212 2305**		
				
5 poles, A-coded, 0.25 - 0.34 mm², AWG 24 - 22 Cable diameter: 4.7 - 6 mm	**21 03 271 1505**	**21 03 271 2505**		
				
5 poles, A-coded, 0.34 - 0.5 mm², AWG 22 - 20 Cable diameter: 6 - 8 mm	**21 03 272 1505**	**21 03 272 2505**		
				
Han® M12 panel feed-through				
 Male, A-coded, 50 cm conductors, 0.5 mm², 5 poles	**21 03 311 1501**			
 Female, A-coded, 50 cm conductors, 0.5 mm², 5 poles		**21 03 311 2501**		

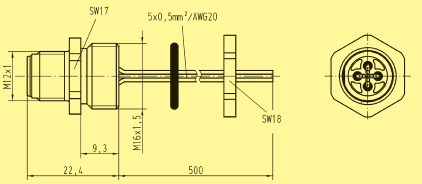


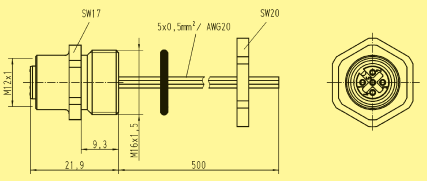
View mating side, male version: *HARAX*® M12-L





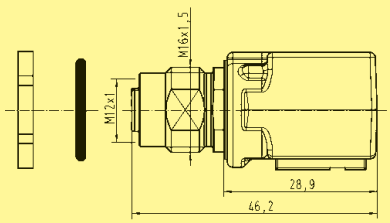
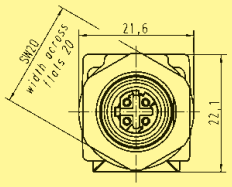
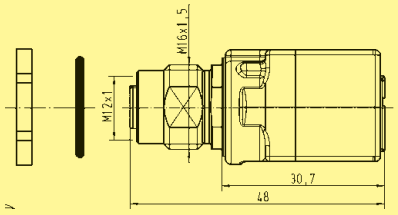
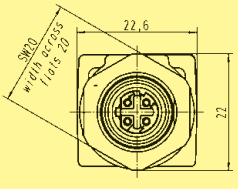
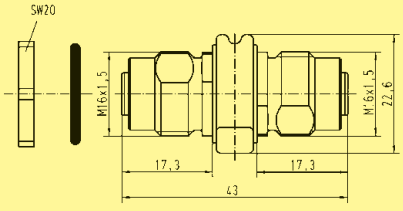
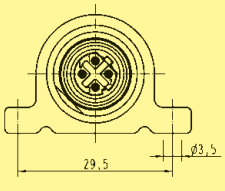






Stock items in bold type

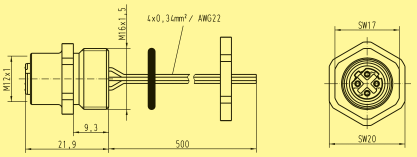
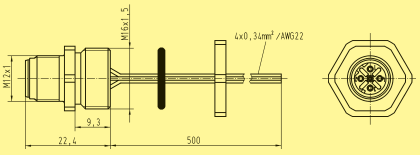
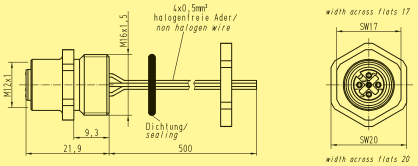
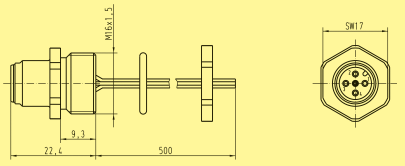
Identification	Part No. Male	Part No. Female	Drawing	Dimensions in mm
***HARAX*® M12-L, screened version**			View mating side, male version: *HARAX*® M12-L, screened version	
2 poles, B-coded	**21 03 241 1301**		2 poles 21 03 241 1301 B-coded	2 poles 21 03 241 2301 B-coded
2 poles + shielding, B-coded	**21 03 241 1300**			
4 poles, D-coded, 0.14 - 0.34 mm², AWG 26-22	**21 03 281 1405**			
0.34 - 0.5 mm², AWG 22-20	**21 03 282 1405**			
4 poles, A-coded	**21 03 221 1405**			
2-poles, B-coded		**21 03 241 2301**	3 poles PROFIBUS B-coded	4 poles Ethernet D-coded
2 poles + shielding, B-coded		**21 03 241 2300**		4 poles A-coded
4 poles, D-coded, 0.14 - 0.34 mm², AWG 26-22		**21 03 281 2405**		
0.34 - 0.5 mm², AWG 22-20		**21 03 282 2405**		
4 poles, A-coded		**21 03 221 2405**		

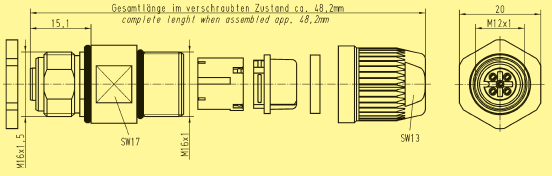
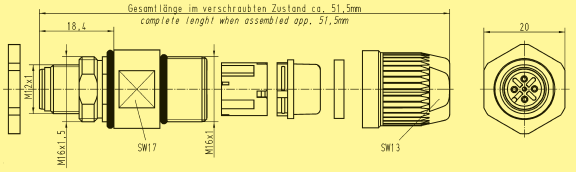
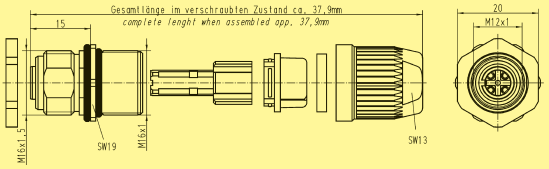
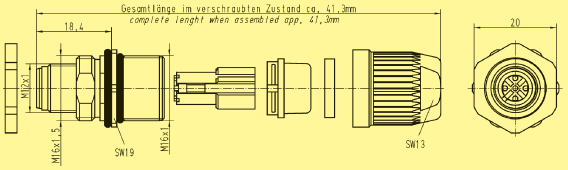
Identification	Part No.	Drawing	Dimensions in mm
Han® M12-RJ45 panel feed-through, 4 poles, D-coded, angled	**21 03 381 4400**		
Han® M12-RJ45 panel feed-through, 4 poles, D-coded, straight	**21 03 381 2400**		
Han® M12 Gender Changer, 4 poles, D-coded	**21 03 381 6405**		

HARAX

Stock items in bold type

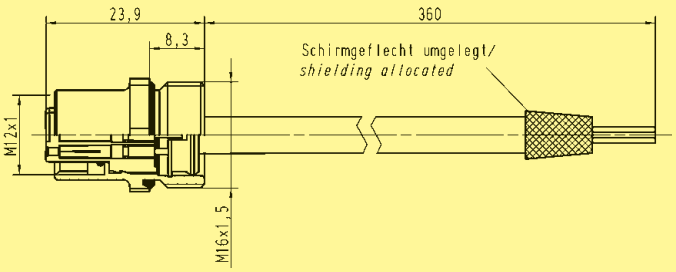
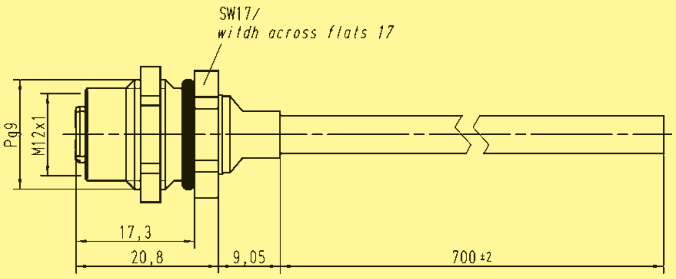
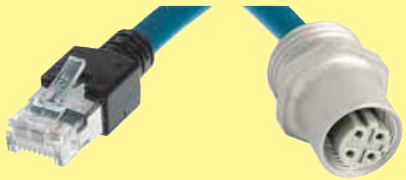
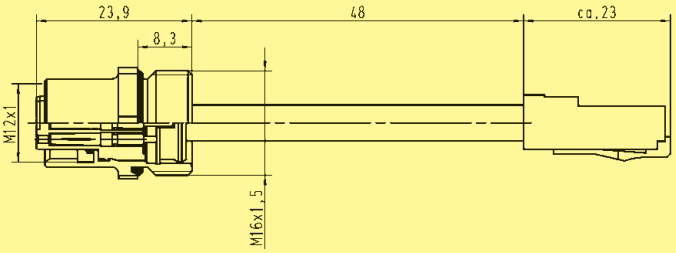
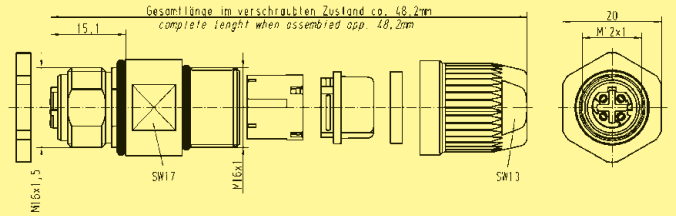
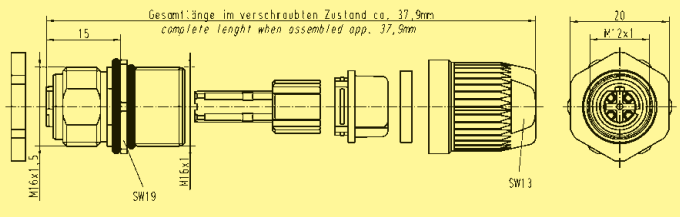
Han® M12 panel feed-through

Identification	Part No.	Drawing	Dimensions in mm
Han® M12 panel feed-through  Female, D-coded, 50 cm conductors, AWG 22, 4 poles	**21 03 371 2403**		
 Male, D-coded, 50 cm conductors, AWG 22, 4 poles	**21 03 371 1403**		
Han® M12 panel feed-through  Female, A-coded, 50 cm conductors, 0.5 mm²	**21 03 311 2400**		
 Male, A-coded, 50 cm conductors, 0.5 mm²	**21 03 311 1402**		

Identification	Part No.	Drawing	Dimensions in mm
***HARAX*® panel feed-through**  Female, A-coded 0.14 - 0.34 mm², AWG 26 - 22 5.5 - 7.2 mm	**21 03 321 2425**		
 Male, A-coded 0.14 - 0.34 mm², AWG 26 - 22 5.5 - 7.2 mm	**21 03 321 1425**		
Han® M12 panel feed-through Crimp  Female, A-coded 4.5 - 5.4 / 7 - 8.8 mm	**21 03 822 2425**		
 Male, A-coded 4.5 - 5.4 / 7 - 8.8 mm	**21 03 822 1425**		

HARAX

Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
Han® M12 panel feed-through for outer termination Female, D-coded, screened version, 360 mm cable[1], AWG 26, 4 poles 	21 03 383 6407		
Han® M12 panel feed-through for inner termination Female, D-coded, screened version, 700 mm cable[1], AWG 26, 4 poles 	21 03 383 6405		
Han® M12 panel feed-through with RJ45 Female, D-coded, screened version, 48 mm cable[1], AWG 26, 4 poles 	21 03 683 6401		
***HARAX*® panel feed-through** Female, D-coded  0.14 - 0.34 mm², AWG 26 - 22 5.5 - 7.2 mm	**21 03 381 2425**		
Han® M12 panel feed-through Crimp Female, D-coded  4.5 - 5.4 / 7 - 8.8 mm	**21 03 882 2425**		

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[1] Other length on request

Stock items in bold type

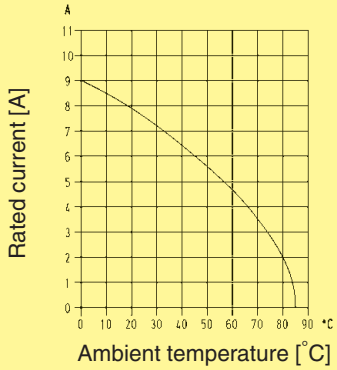
Technical characteristics: Han® M12 pcb

Degree of protection	IP 20
Rated current	max. 4 A (dependent on pcb layout)
Rated voltage	50 V
mating cycles	max. 100
Limiting temperatures	- 25 °C / + 85 °C
Temperature during connection	- 5 °C / + 50 °C

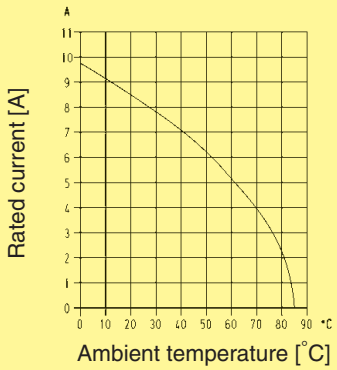
Current carrying capacity The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interruptet current-loaded contacts of connectors when simultaneous power on all contacts is given,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

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

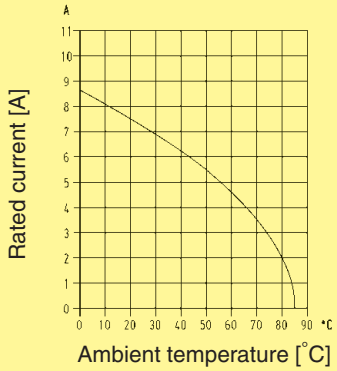
M12, A-Kodierung, straight, male, 4 poles
wire gauge 0.5 mm²



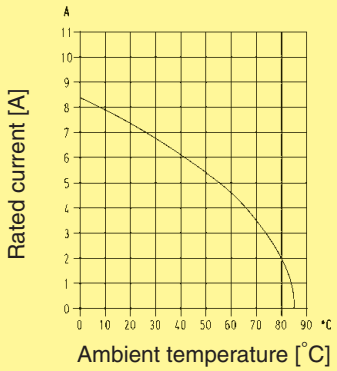
M12, A-Kodierung, straight, female, 4 poles
wire gauge 0.75 mm²



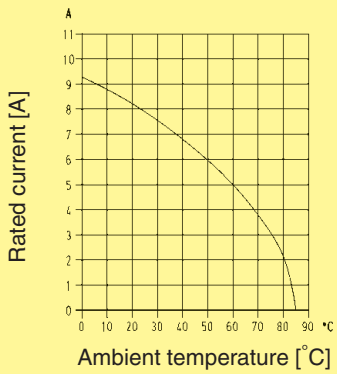
M12, A-Kodierung, straight, female, 5 poles
wire gauge 0.5 mm²



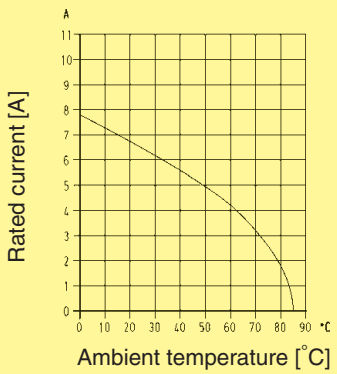
M12, A-Kodierung, straight, male, 5 poles
wire gauge 0.5 mm²

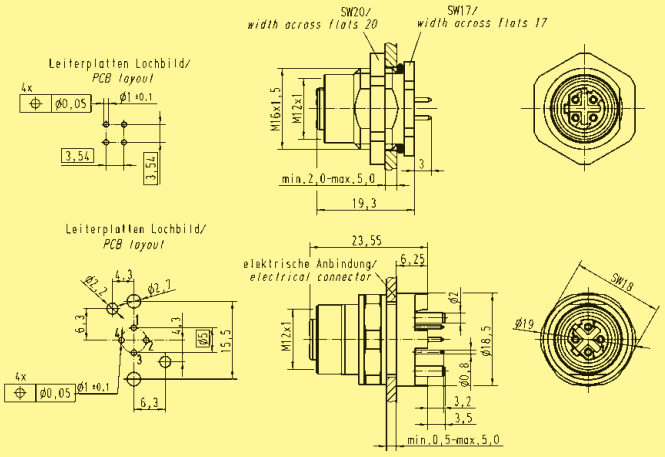
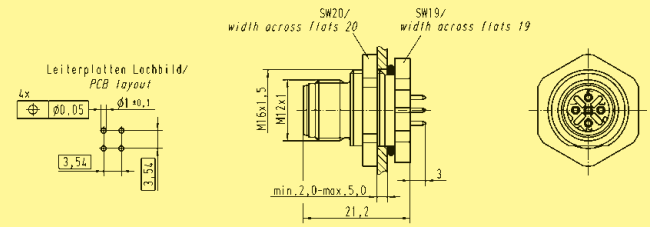
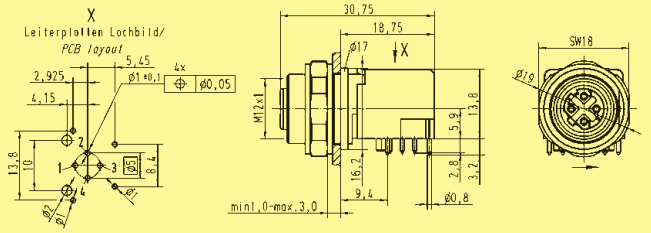
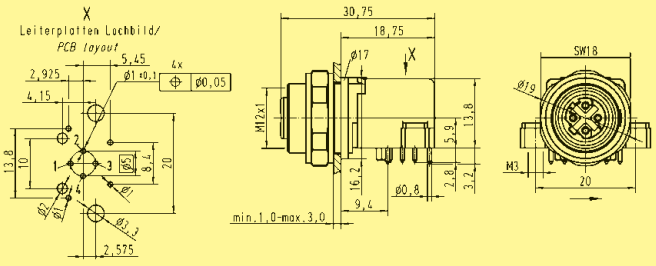


M12, D-Kodierung, straight, female, 4 poles
wire gauge 0.5 mm²

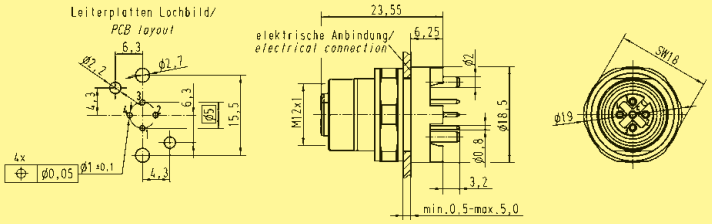
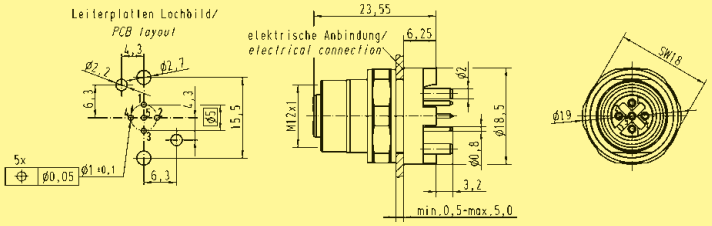
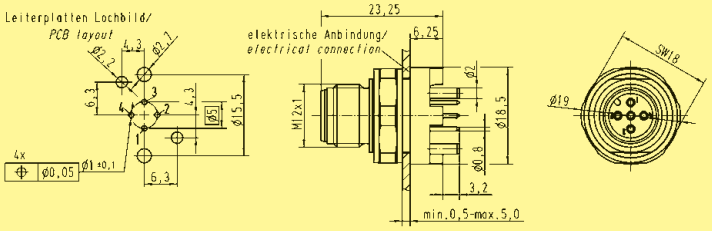
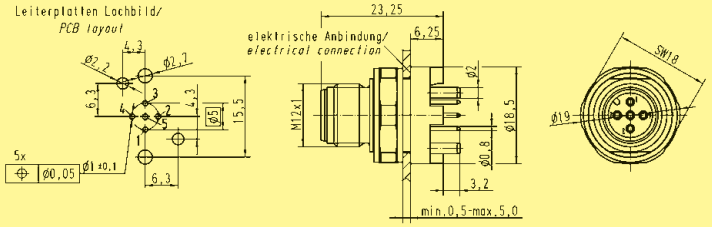


M12, D-Kodierung, gewinkelt, female, 4 poles
wire gauge AWG 22



Identification	Part No.	Drawing	Dimensions in mm
Han® M12 Female, D-coded, straight, 4 poles	**21 03 371 2415**		
Han® M12 Male, D-coded, straight, 4 poles	**21 03 371 1400**		
Han® M12 Female, D-coded, angled, 4 poles without fixing hole	**21 03 381 4410**		
with fixing hole	**21 03 381 4412**		

Stock items in bold type

Identification		Part No.	Drawing	Dimensions in mm
Han® M12 Female, A-coded, straight				
	4 poles	**21 03 321 6410**		
	5 poles	**21 03 321 6510**		
Han® M12 Male, A-coded, straight				
	4 poles	**21 03 321 1410**		
	5 poles	**21 03 321 1510**		

Stock items in bold type

General Description

- Fibre optic data transmission system for industrial applications
- Optical transceiver for 1300 nm
- Passive interface as coupling unit and panel feed-through
- Based on M12 hoods and housings in accordance with IEC 61 076-2-101
- Suitable for multimode glass fibre
- 2 supplementary electrical contacts
- Degree of protection: IP 65 / IP 67
- Wide temperature range of -40 °C up to +85 °C
- Minimum insertion loss: < 0.3 dB

Technical characteristics

Mechanical Features

Storage temperature	-40 °C / +85 °C
Working temperature	-25 °C / +85 °C
Degree of protection	IP 65/67
Tightening torque	50 - 60 Ncm

Electrical Data

Rated voltage of electrical contacts	60 V DC
Rated current	4 A max.

Optical Data Transceiver for Multimode

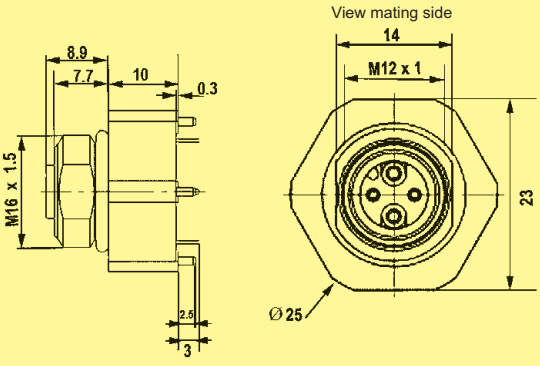
Center wave length (λ_C)	1270 nm up to 1380 nm
Output optical power max. (P_0)	-14 dBm
Input optical power min. (P_{SAT})	-31 dBm
Data transmission rate	125 Mbit/s in accordance with Fast Ethernet 100Base-FX; IEE 802.3u

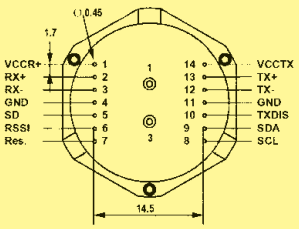
Identification	Part No.	Drawing	Dimensions in mm

Transceiver

for multimode with glass fibres, 1300 nm

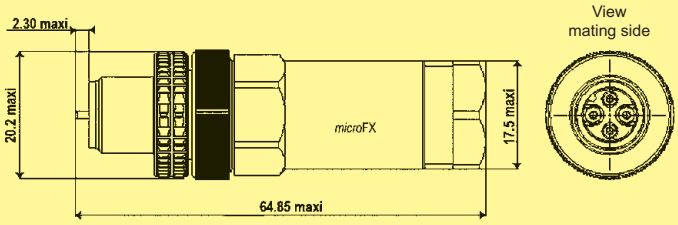
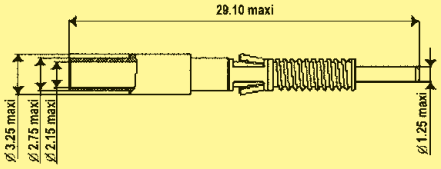
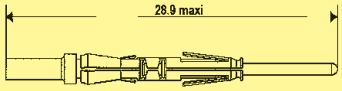
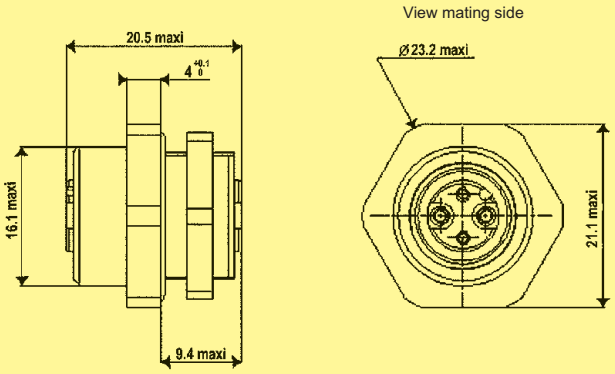
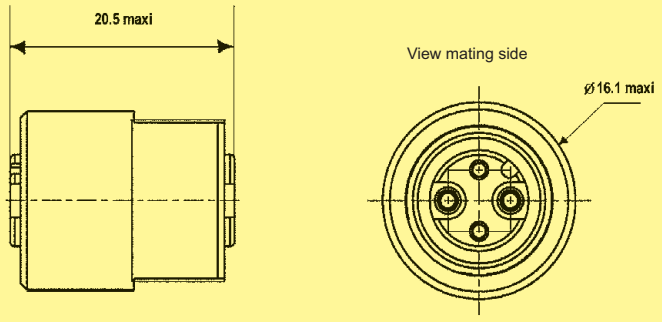
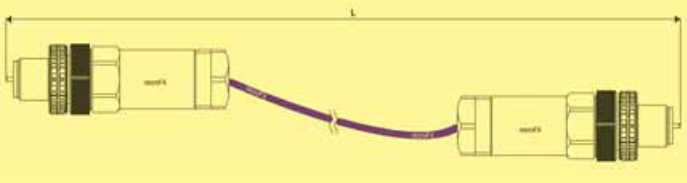
20 50 004 3411





Contact	Function	Description
1	VCCRX	Receiver supply voltage 3.3 V
2	RX+	Receiver data output, noninverted, PECL
3	RX-	Receiver data output, inverted, PECL
4	GND	Ground (Receiver)
5	SD	Signal Defect, PECL
6	RSSI	Receiver signal strength indicator output, analog voltage
7	Res.	Reserved for future use
8	SCL	
9	SDA	
10	TXDIS	
11	GND	Ground (Transmitter)
12	TX-	Transmitter data input, inverted, PECL
13	TX+	Transmitter data input, noninverted, PECL
14	VCCTX	Transmitter supply voltage 3.3 V

Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
Connector order contacts separately	20 10 004 3411		
Optical Contacts for GI-fibres 50 - 60 / 125 µm	20 10 125 3411		
Electrical Contacts 1 mm² wire gauge	20 10 000 3411		
Panel feed-through	20 80 004 3411		
Coupling unit	20 80 004 3412		
Cordset Length: 1 m 2 m 5 m 10 m	20 25 050 0010 20 25 050 0020 20 25 050 0050 20 25 050 0100		

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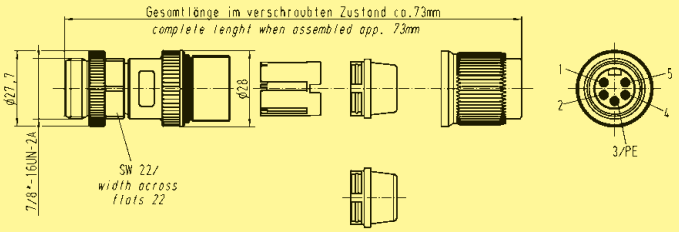
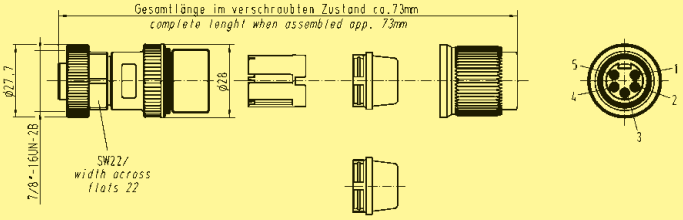
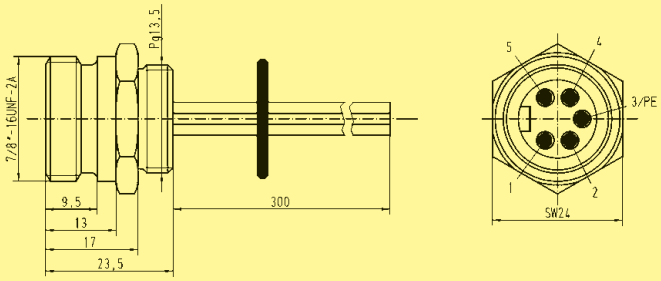
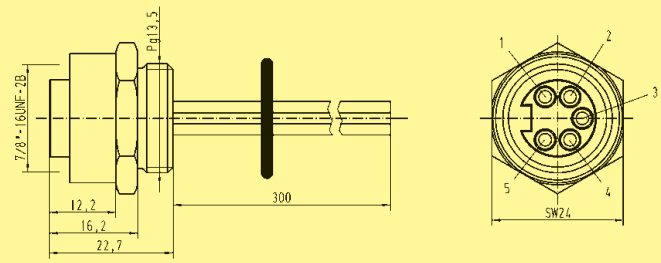
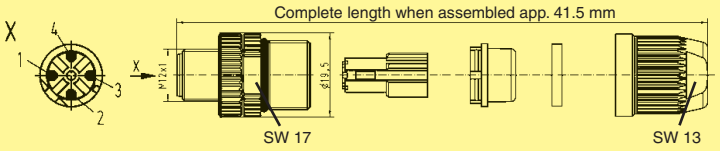
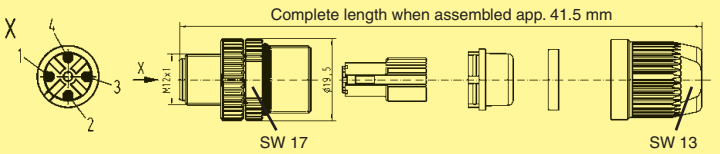
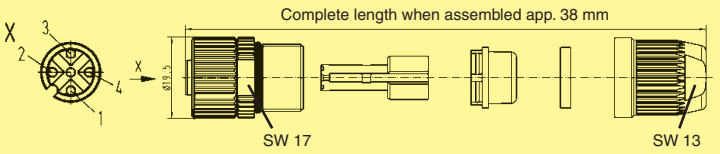
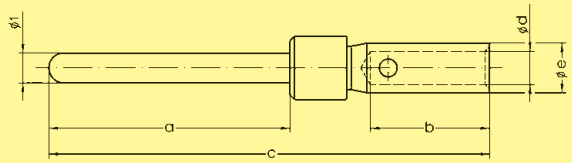
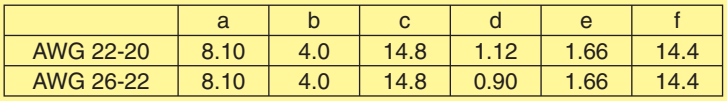
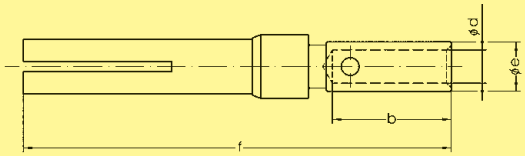
Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
HARAX® 7/8“ Male 	**21 04 116 1505**		
HARAX® 7/8“ Female 	**21 04 116 2505**		
Han® 7/8“ panel feed-through 30 cm conductors, 0.75 mm² 	Male **21 04 316 1505**		
30 cm conductors, 0.75 mm² 	Female **21 04 316 2505**		

Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
Han® M12 Crimp			
Male, D-coded 4.5 - 5.4 mm / 7 - 8.8 mm	**21 03 882 1405**		
Male, A-coded 4.5 - 5.4 mm / 7 - 8.8 mm	**21 03 812 1405**		
Female, A-coded 4.5 - 5.4 mm / 7 - 8.8 mm	**21 03 812 2405**		
Order crimp contacts separately			
Crimping tool	**09 99 000 0501**		
Locator	**61 03 600 0023**		
Single contacts			
turned male contacts* AWG 22-20 / 0.33-0.52 AWG 26-22 / 0.13-0.33	**61 03 000 0073** **61 03 000 0094**		
turned female contacts* AWG 22-20 / 0.33-0.52 AWG 26-22 / 0.13-0.33	**61 03 000 0074** **61 03 000 0096**		

	a	b	c	d	e	f
AWG 22-20	8.10	4.0	14.8	1.12	1.66	14.4
AWG 26-22	8.10	4.0	14.8	0.90	1.66	14.4

* Performance level 1 as per CECC 75301-802, 500 mating cycles, 10 days 4 mixed gas test – IEC 60512

Stock items in bold type

HARAX® Pg 9 panel feed-through

Features

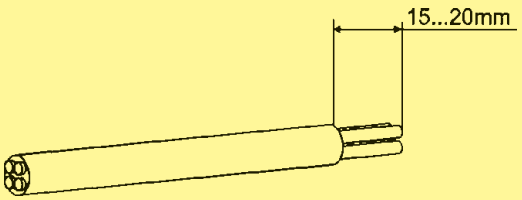
- ❏ The faston blade was chosen acc. to DIN 46 330 - A 2.8
- ❏ Each type is delivered with a termination element consisting of a nut, a seal an a splice ring
- ❏ Splice ring with Pg 9
- ❏ For assembly in openings without threads a Pg 9 locknut is available
- ❏ Diameter of the mounting cutout: d = 15.5 mm

Technical characteristics

Rated voltage	32 V
Rated current (see current carrying capacity)	4 A
Wire gauge	0.25 - 0.5 mm² 24/7 AWG - 22 AWG
Diameter of individual strands	≥ 0.1 mm
Conductor insulation material	PVC
Conductor diameter	1.2 - 1.6 mm
Cable diameter	4.0 - 5.1 mm
Working temperature	- 25 °C … + 85 °C
Temperature during connection	- 5 °C … + 50 °C
Degree of protection	IP 67
Termination cycles with the same cross section	10

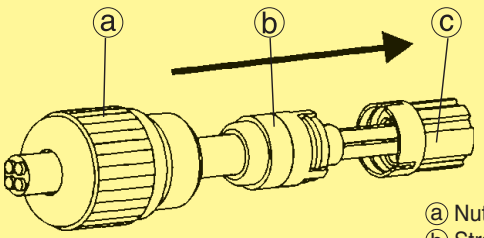
Assembly manual

1.



Strip cable jecket

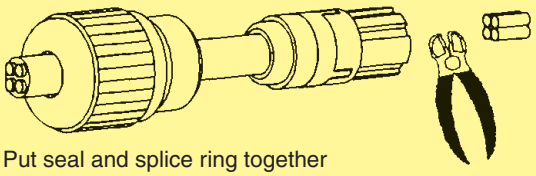
2.



Assemble *HARAX*® elements

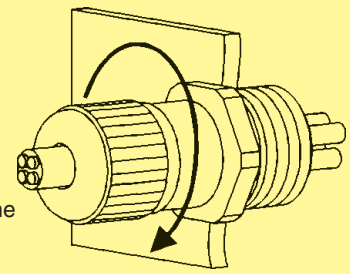
ⓐ Nut
ⓑ Strain relief
ⓒ Insert

3.



Put seal and splice ring together
Cut off cable ends

4.



Twist the nut onto the insert until a stop is noticeable

Current carrying capacity

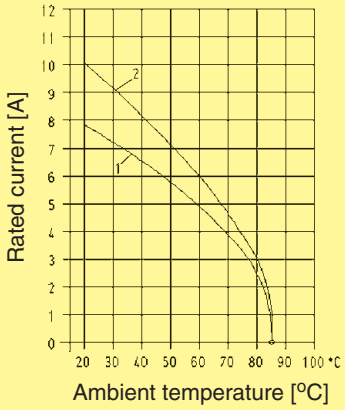
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the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

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

Pg 9, 3 contacts

1 = wire gauge
3 x 0.25 mm²

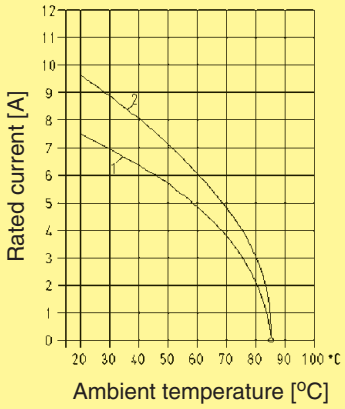
2 = wire gauge
3 x 0.5 mm²



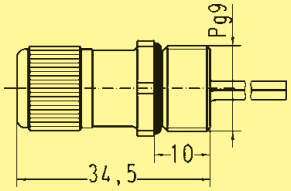
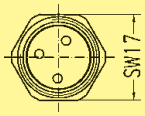
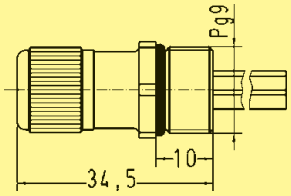
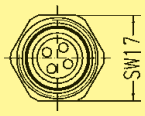
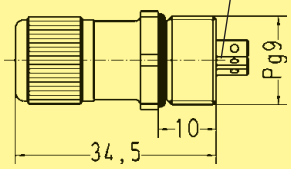
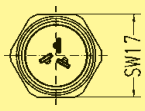
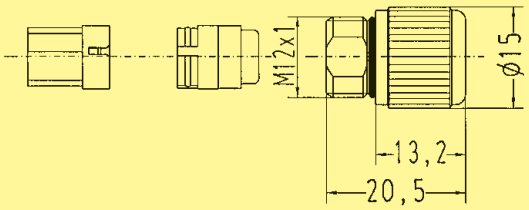
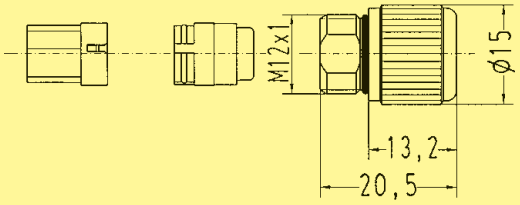
Pg 9, 4 contacts

1 = wire gauge
4 x 0.25 mm²

2 = wire gauge
4 x 0.5 mm²



HARAX® Pg 9 panel feed-through

Identification	Part No.	Drawing	Dimensions in mm
HARAX® Pg 9 panel feed-through 3 contacts, with pre-assembled 0.5 m / 0.5 mm² pigtail cable 	21 01 130 4241		View: Termination side 
HARAX® Pg 9 panel feed-through 4 contacts, with pre-assembled 0.5 m / 0.5 mm² pigtail cable 	21 01 140 4341		View: Termination side 
HARAX® Pg 9 panel feed-through 3 contacts with faston blades 	21 01 130 4011	Faston blade termination acc. to DIN 46 330-A 2,8 	View: Termination side 
Termination element M12 *HARAX*® 3 contacts Screw cap, splice ring, seal	21 01 010 0001		
Termination element M12 *HARAX*® 4 contacts Screw cap, splice ring, seal	21 01 010 0006		

Stock items in bold type

Technical characteristics

Specifications	IEC 60 352-4 DIN 61 984
Approval	, VDE

Construction type	**Pg 13,5 3 poles**	**Pg 13,5 / M20 4 poles**
Rated voltage	250 V 4 kV 3 with faston terminals with insulation cap	230/400 V 4 kV 3
acc. to UL / CSA	600 V	600 V
Rated current (see current carrying capacity)	16 A	16 A
Testing voltage	4 kV (1.2 / 50)	4 kV (1.2 / 50)
Conductor cross section	0.75 - 1.5 mm²	0.75 - 1.5 mm²
Diameter of individual strands	≥ 0.2 mm	≥ 0.2 mm
Outer cable diameter	6.0 - 9.0 mm	6.0 - 9.0 mm
Termination cycles with the same cross section	10	10
Limiting temperature	- 25 / + 85 °C	- 25 / + 85 °C
Temperature during connection	- 5 … + 50 °C	- 5 … + 50 °C
Degree of protection	IP 67	IP 67
Conductor insulation material	PVC	PVC
Max. tightening torque	8 Nm	8 Nm

Current carrying capacity

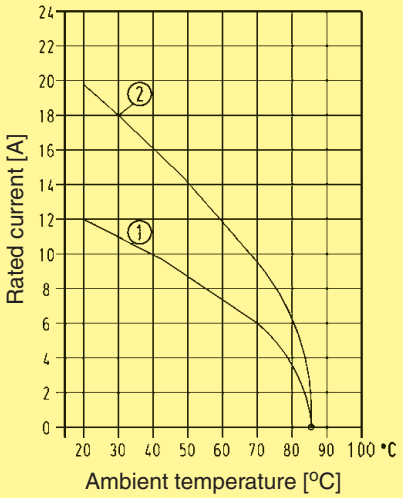
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the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

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

Pg 13,5
3 contacts

1 = wire gauge 0.75 mm²

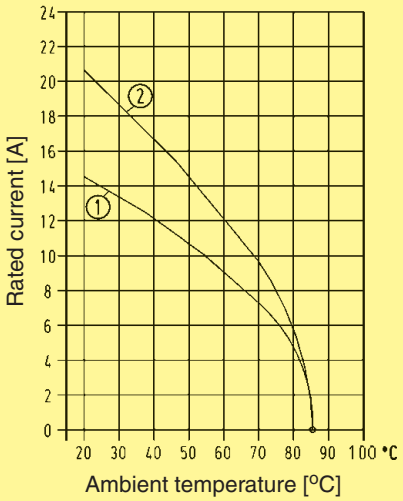
2 = wire gauge 1.5 mm²



Pg 13,5 / M20
4 contacts

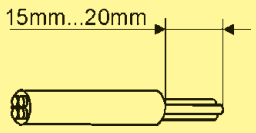
1 = wire gauge 0.75 mm²

2 = wire gauge 1.5 mm²

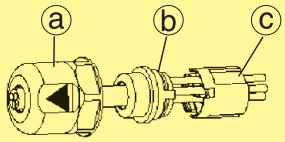


Assembly manual

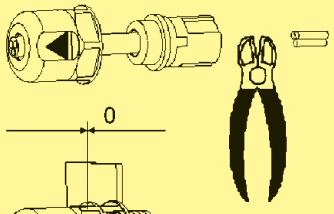
1.



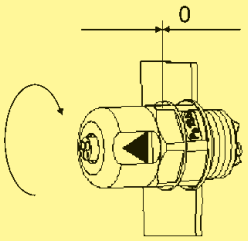
2.



3.



4.



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

ⓐ Nut

ⓑ Strain relief

ⓒ Insert

HARAX® Pg 13.5 – 3 contacts – is supplied with either faston blades or solder terminals.

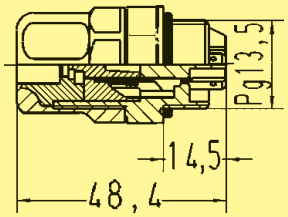
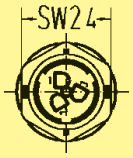
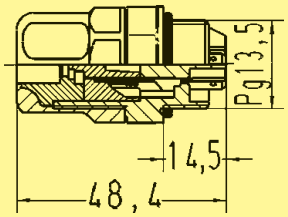
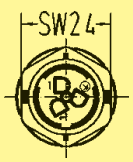
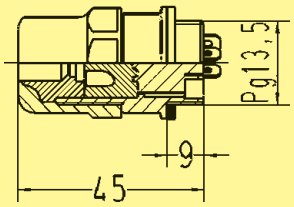
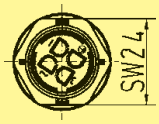
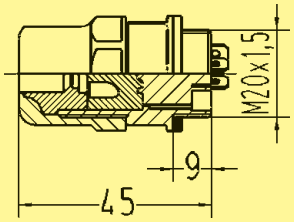
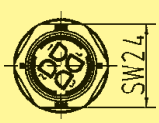
HARAX® Pg 13.5 / M20 – 4 contacts – is supplied only with solder termination.

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.

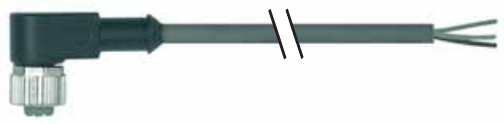
Note: For reconnection cut off the used cable ends and repeat steps 1 to 4.

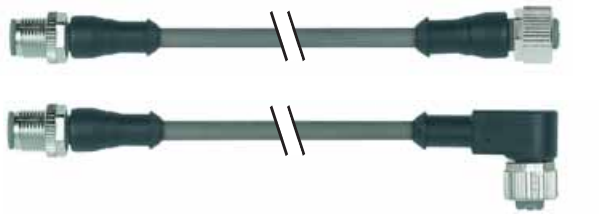
HARAX® Pg 13.5 / M20 panel feed-through

Identification	Part No.	Drawing	Dimensions in mm
HARAX® Pg 13.5 / 3 contacts with faston blades	21 01 130 1013		View: Mating side 
HARAX® Pg 13.5 / 3 contacts with solder termination	21 01 130 1023		
HARAX® Pg 13.5 / 3 contacts with pre-assembled pigtail cable. l = 500 mm, 1.5 mm²	21 01 130 1223		
HARAX® Pg 13.5 / 2 + PE with faston blades	21 01 130 3013		View: Mating side 
HARAX® Pg 13.5 / 2 + PE with solder termination	21 01 130 3023		
HARAX® Pg 13.5 / 2 + PE with pre-assembled pigtail cable, l = 500 mm, 1.5 mm²	21 01 130 3233		
HARAX® Pg 13.5 / 4 contacts with solder termination	21 01 140 1023		View: Mating side 
HARAX® Pg 13.5 / 3 + PE with solder termination	21 01 140 3023		
HARAX® Pg 13.5 / 4 contacts with pre-assembled strand, l = 500 mm, 1.5 mm²	21 01 140 1323		
HARAX® Pg 13.5 / 3 + PE with pre-assembled strand, l = 500 mm, 1.5 mm²	21 01 140 3333		
HARAX® M20 / 4 contacts with solder termination	21 01 141 1023		View: Mating side 
HARAX® M20 / 3 + PE with solder termination	21 01 141 3023		
HARAX® M20 / 4 contacts with pre-assembled strand, l = 500 mm, 1.5 mm²	21 01 141 1323		
HARAX® M20 / 3 + PE with pre-assembled strand, l = 500 mm, 1.5 mm²	21 01 141 3333		

Other length on request

Stock items in bold type





System cables with
Han® M12 Circular connector, A-coded
Han® M8 Circular connector

Technical characteristics

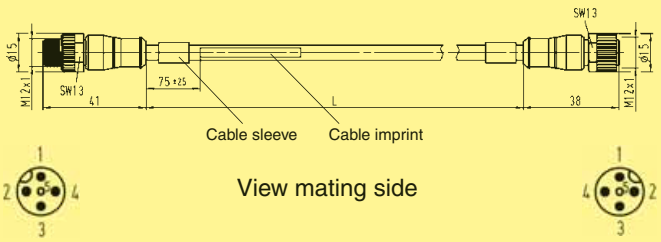
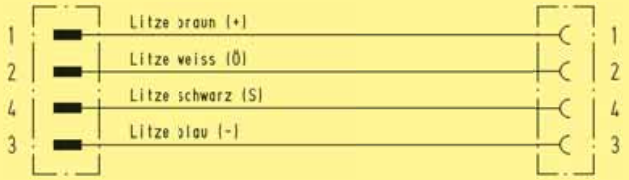
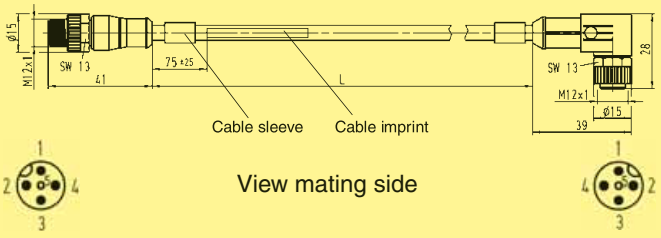
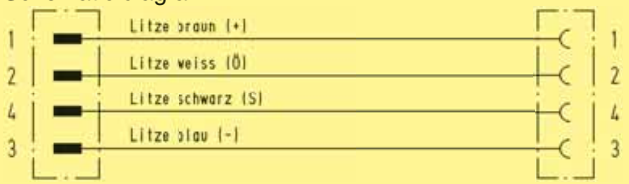
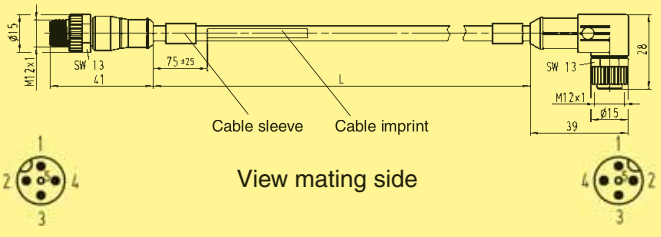
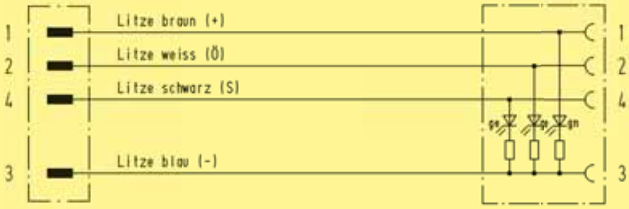
Han® M12 Circular connector, without PE

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 (dependent 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® M8 Circular connector, without PE

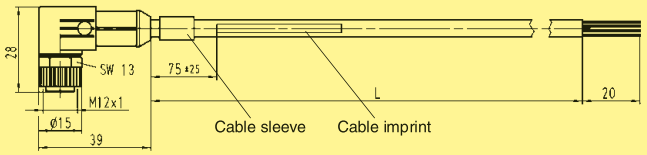
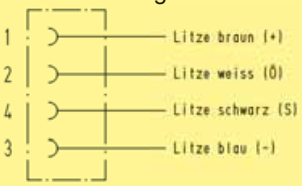
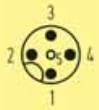
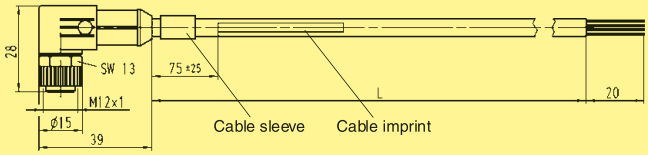
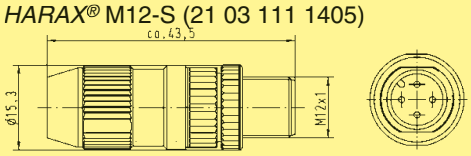
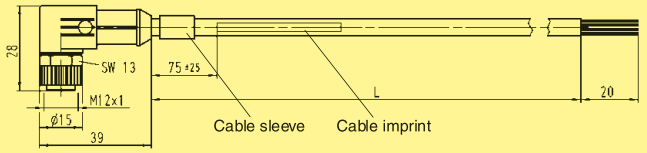
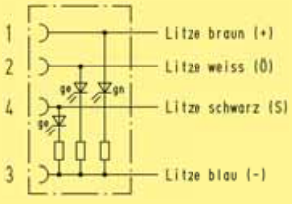
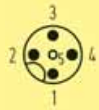
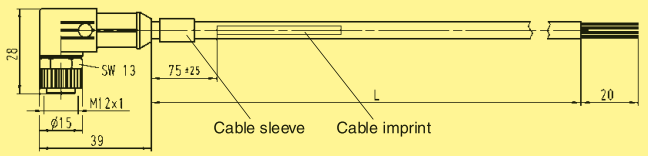
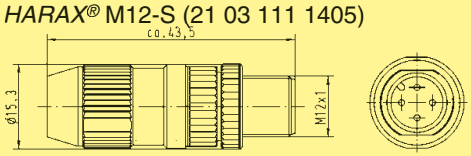
Rated voltage	max. 60 V AC/DC
Rated current/contact	max. 4 A
Locking	Screw locking M8x1, self securing
Recommended torque	0.4 Nm
Temperature range (dependent on connected conductor)	-25 °C … +85 °C
Degree of protection	IP 67
Number of wires / wire gauge	3 x 0.25 mm²
Conductor insulation	PP (br, bl, sw)
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

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

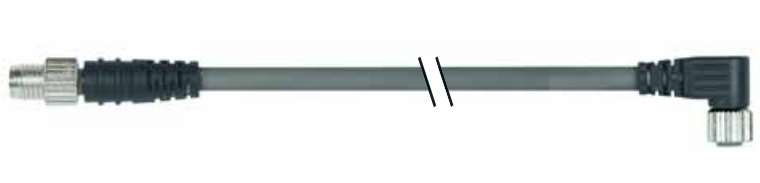
Identification		Part No.	Drawing	Dimensions in mm
Han® M12 Circular connector Female straight, Male straight			 Schematic diagram 	
Length:	0.3 m	**21 03 415 2401**		
	0.6 m	**21 03 415 2402**		
	1.0 m	**21 03 415 2403**		
	1.5 m	21 03 415 2404		
	2.0 m	21 03 415 2405		
Han® M12 Circular connector Female 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

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

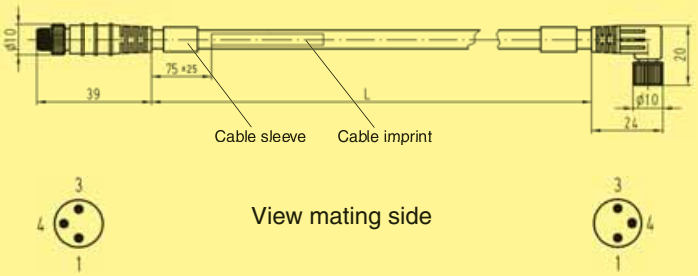
Identification		Part No.	Drawing	Dimensions in mm
Han® M12 Circular connector Female angled pre-assembled on one end				
			Schematic diagram 	View mating side 
Length:	1.5 m	**21 03 515 4401**		
	3.0 m	**21 03 515 4402**		
	5.0 m	**21 03 515 4403**		
	7.5 m	21 03 515 4404		
	10.0 m	21 03 515 4405		
***HARAX®* M12 cable-Set** Delivery range: Han® M12 connector with individually adaptable cable and *HARAX®* M12-S				
			HARAX® M12-S (21 03 111 1405) 	View mating side
Length:	1,5 m	**21 83 515 4401**		
	3,0 m	**21 83 515 4402**		
	5,0 m	**21 83 515 4403**		
	7,5 m	21 83 515 4404		
	10,0 m	21 83 515 4405		
Han® M12 Circular connector Female angled, with LED pre-assembled on one end				
			Schematic diagram 	View mating side 
Length:	1,5 m	**21 03 515 7401**		
	3,0 m	**21 03 515 7402**		
	5,0 m	**21 03 515 7403**		
	7,5 m	21 03 515 7404		
	10,0 m	21 03 515 7405		
***HARAX®* M12 cable-Set** Delivery range: Han® M12 connector with individually adaptable cable and *HARAX®* M12-S				
			HARAX® M12-S (21 03 111 1405) 	View mating side
Length:	1,5 m	**21 83 515 7401**		
	3,0 m	**21 83 515 7402**		
	5,0 m	**21 83 515 7403**		
	7,5 m	21 83 515 7404		
	10,0 m	21 83 515 7405		

Stock items in bold type

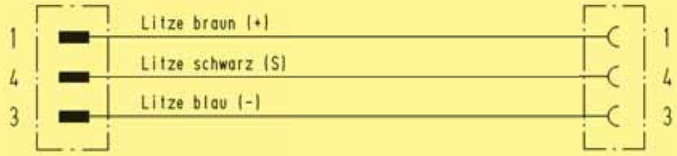


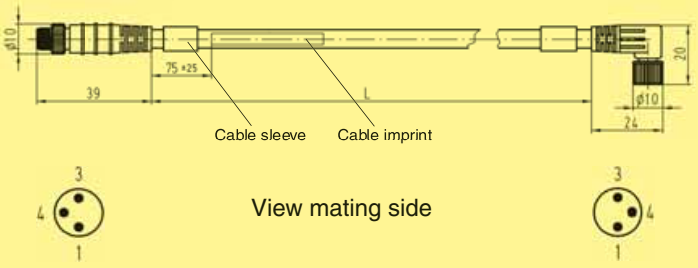
System cables with Han® M8 Circular connector

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		
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		

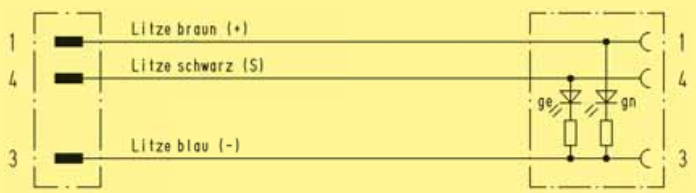


Schematic diagram



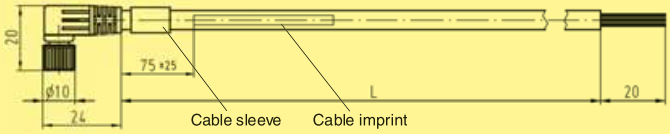
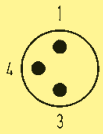
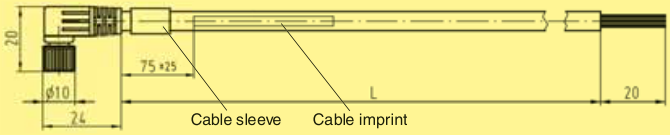
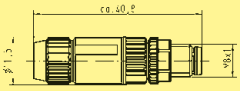
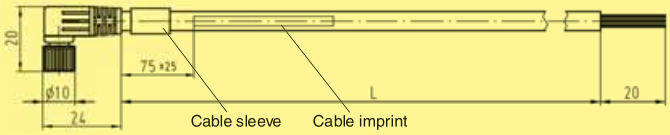
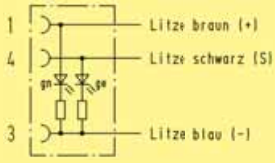
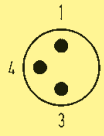
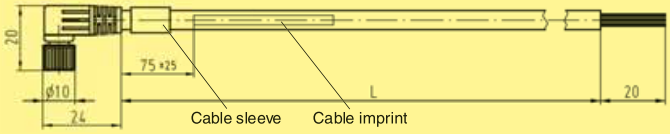
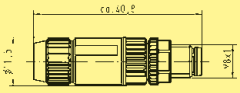


Schematic diagram

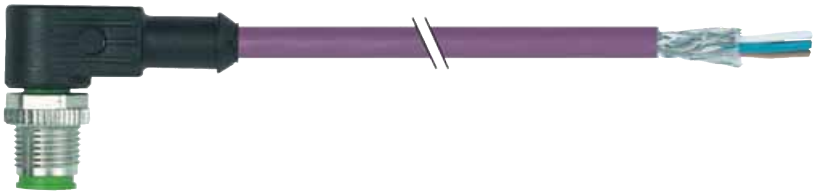


Stock items in bold type

System cables with Han® M8 Circular connector

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		
***HARAX®* M8 cable-Set** Delivery range: Han® M8 connector with individually adaptable cable and *HARAX®* M8-S				
			HARAX® M8-S (21 02 151 1305) 	 View mating side
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		
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** Delivery range: Han® M8 connector with individually adaptable cable and *HARAX®* M8-S				
			HARAX® M8-S (21 02 151 1305) 	 View mating side
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		

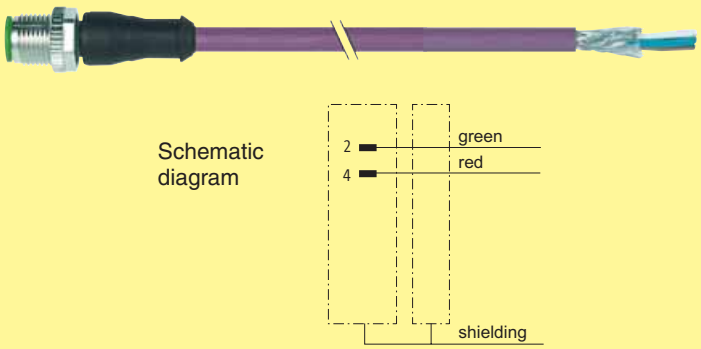
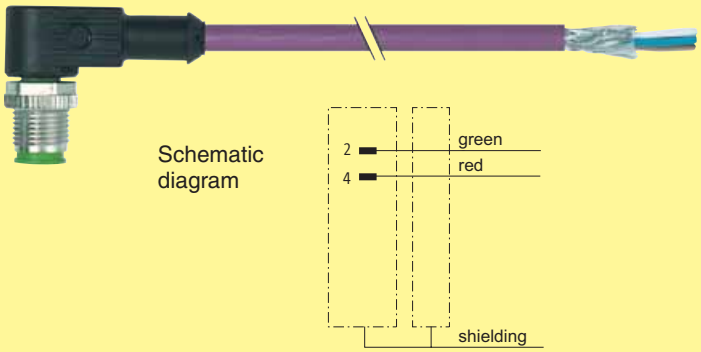
Stock items in bold type



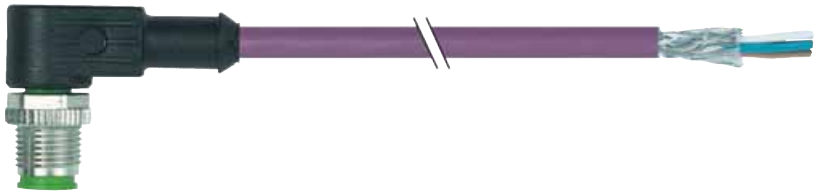
System cables with
Han® M12 Circular connector, B-coded

Technical characteristics

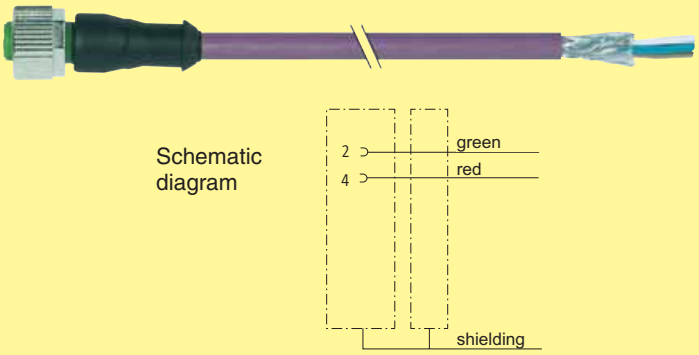
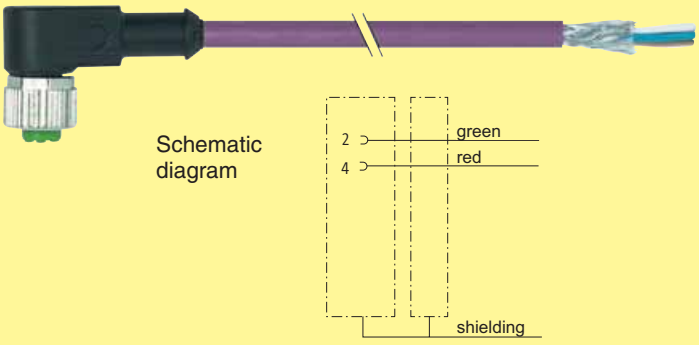
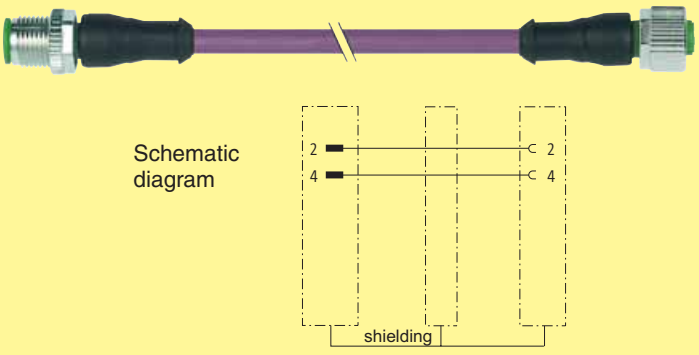
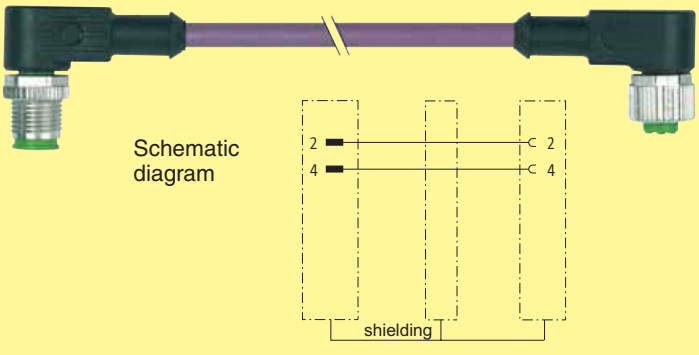
Rated voltage	max. 125 V AC/ DC
Rated current/contact	max. 4 A
Locking	Screw locking M12 x 1 mm, self securing
Recommended torque	0.6 Nm
Temperature range (male) °C	-25 °C … +85 °C (dependent on connected conductor)
Degree of protection	IP 67
Number of wires / wire gauge	4 x 0.64 mm²
Conductor insulation	PUR (rt, gn)
Arrangement of insulated strands	19 x 0.13 mm
Sheath	PUR (UL/CSA)
Outer diameter	appr. 7.8 mm
Bending radius	65 x outer diameter
Temperature range °C (applicate with fixed cable)	-30 °C … + 80 °C

Identification		Part No.	Drawing
Han® M12 Circular connector, Male, straight pre-assembled on one end, useable as trailing cable			
Length:	1.5 m	21 03 549 1301	
	3.0 m	21 03 549 1302	
	5.0 m	21 03 549 1303	
	7.5 m	21 03 549 1304	
	10.0 m	21 03 549 1305	
Han® M12 Circular connector, Male, angled pre-assembled on one end, useable as trailing cable			
Length:	1.5 m	21 03 549 3301	
	3.0 m	21 03 549 3302	
	5.0 m	21 03 549 3303	
	7.5 m	21 03 549 3304	
	10.0 m	21 03 549 3305	

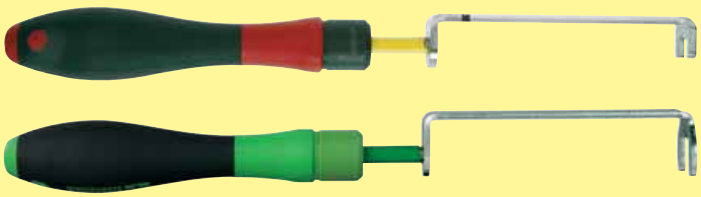
Stock items in bold type



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

Identification		Part No.	Drawing
Han® M12 Circular connector, Female, straight pre-assembled on one end, useable as trailing cable			
Length:	1.5 m	21 03 549 2301	
	3.0 m	21 03 549 2302	
	5.0 m	21 03 549 2303	
	7.5 m	21 03 549 2304	
	10.0 m	21 03 549 2305	
Han® M12 Circular connector, Female, angled pre-assembled on one end, useable as trailing cable			
Length:	1.5 m	21 03 549 4301	
	3.0 m	21 03 549 4302	
	5.0 m	21 03 549 4303	
	7.5 m	21 03 549 4304	
	10.0 m	21 03 549 4305	
Han® M12 Circular connector, Male, straight Female, straight pre-assembled on one end, useable as trailing cable			
Length:	0.3 m	21 03 449 4301	
	0.6 m	21 03 449 4302	
	1.0 m	21 03 449 4303	
	1.5 m	21 03 449 4304	
	2.0 m	21 03 449 4305	
Han® M12 Circular connector, Male, angled Female, angled pre-assembled on one end, useable as trailing cable			
Length:	0.3 m	21 03 449 6301	
	0.6 m	21 03 449 6302	
	1.0 m	21 03 449 6303	
	1.5 m	21 03 449 6304	
	2.0 m	21 03 449 6305	

Stock items in bold type

Identification	Part No.	Technical characteristics
Han® M12-male moving load B-coded 	21 03 030 1300	
Han® M12-male/female panel feed-through B-coded 	21 03 330 1300	Rated voltage 24 V AC/DC Voltage/contact 4 A Thread M16 x 1.5 Degree of protection IP 67 in locked position (EN 60529) Temperature range -25 °C … + 85 °C
Han® M12-panel feed-through Male, B-coded, 20 cm conductor 	**21 03 339 1301**	Rated voltage 250 V AC/DC Voltage/contact max. 4A Termination solder, with pigtails (TPE insulation) assembled Conductor cross section 0.25 mm² Degree of protection IP 67 in locked position (EN 60529) Temperature range -25 °C … + 85 °C
Han® M12-panel feed-through Female, B-coded, 20 cm conductor 	**21 03 339 2301**	Rated voltage 250 V AC/DC Voltage/contact max. 4A Termination solder, with pigtails (TPE insulation) assembled Conductor cross section 0.25 mm² Degree of protection IP 67 in locked position (EN 60529) Temperature range -25 °C … + 85 °C
PROFIBUS-cable 100 m raw, PUR cable, useable as trailing cable	21 01 000 0021	
Han® M12 dynamometric screwdriver SW 9 Han® M8 dynamometric screwdriver SW 13 SW 17	09 99 000 0380 09 99 000 0382 09 99 000 0384	

Stock items in bold type

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

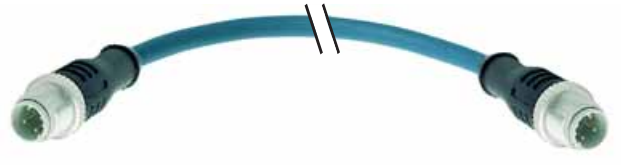
Technical characteristics

Han® M12 Circular connector – AWG 22/7

Rated voltage	max. 50 V AC/DC
Rated current/contact	max. 4 A
Locking	Screw locking M12x1, self securing
Recommended torque	0.6 Nm
Temperature range	- 20 °C … +60 °C
Degree of protection	IP 67
Number of wires / wire gauge	2 x 2 x AWG 22/7
Conductor insulation	PE (yellow, orange, white, blue) acc. to PROFInet®
Arrangement of insulated strands	7 x 0.25 mm
Sheath	PUR (UL, CSA)
Outer diameter	appr. 6.5 mm
Bending radius	10 x outer diameter
Temperature range	-20 °C … + 60 °C

Han® M12 Circular connector – AWG 26

Rated voltage	max. 50V AC/DC
Rated current/contact	max. 2 A
Locking	Screw locking M12x1, self securing
Recommended torque	0.6 Nm
Temperature range	- 5 °C … +60 °C
Degree of protection	IP 67
Number of wires / wire gauge	2 x 2 x AWG 26
Conductor insulation	PE (white/orange, orange, white/green, green) acc. to EIA/ TIA 568B
Arrangement of insulated strands	7 x 0.16 mm
Sheath	PUR (UL, CSA)
Outer diameter	appr. 5.6 mm
Bending radius	10 x outer diameter
Temperature range	-5 °C … + 60 °C



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

Identification	Part No.	Drawing	Dimensions in mm

Pre-assembled and tested system cables

for structured cabling of industrial Ethernet networks, based on Han® M12 Circular connectors, D-coded

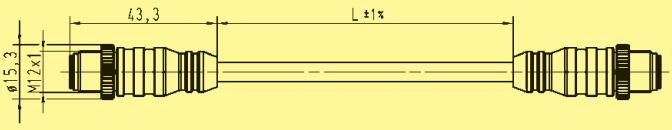
Cable type:	Shielded Twisted Pair Standard Cable
Mating interface:	M12 D-coded acc. to IEC 61 076-2-101
Transmission performance acc. to ISO/IEC 11801:2002:	Class D, 100% tested
Degree of protection	IP 65 / IP 67 (when mated)

Pin assignment

Signal	Function	Conductor colour PROFInet®	Conductor colour EIA/TIA 568B	Contact assign-ment
TD+	Transmission Data+	Yellow	White/ Orange	1
TD-	Transmission Data-	Orange	Orange	3
RD+	Receiver Data+	White	White/Green	2
RD-	Receiver Data-	Blue	Green	4

2 x Han® M12 Circular connector, D-coded, straight

cable: AWG 26 / 0.14 mm²

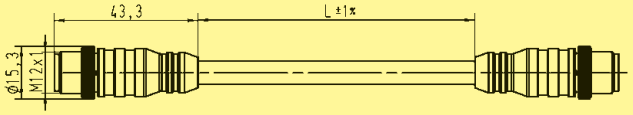


Length	Part No.
1 m	**21 03 483 1401**
3 m	**21 03 483 1403**
5 m	**21 03 483 1405**
10 m	21 03 483 1410
15 m	21 03 483 1415
25 m	21 03 483 1425
40 m	21 03 483 1440

other length on request

2 x Han® M12 Circular connector, D-coded, straight

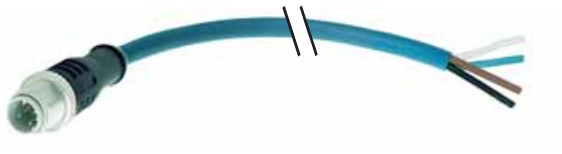
cable: AWG 22 / 0.34 mm²



Length	Part No.
1 m	**21 03 485 1401**
3 m	**21 03 485 1403**
5 m	**21 03 485 1405**
10 m	21 03 485 1410
15 m	21 03 485 1415
25 m	21 03 485 1425
40 m	21 03 485 1440

other length on request

Stock items in bold type



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

Identification	Part No.	Drawing	Dimensions in mm

Pre-assembled and tested system cables

for structured cabling of industrial Ethernet networks, based on Han® M12 Circular connectors, D-coded

Cable type:	Shielded Twisted Pair Standard Cable
Mating interface:	M12 D-coded acc. to IEC 61 076-2-101
Transmission performance acc. to ISO/IEC 11801:2002:	Class D, 100% tested
Degree of protection	IP 65 / IP 67 (when mated)

Pin assignment

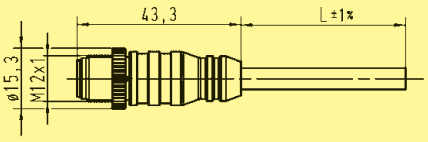
Signal	Function	Conductor colour PROFInet®	Conductor colour EIA/TIA 568B	Contact assign-ment
TD+	Transmission Data+	Yellow	White/ Orange	1
TD-	Transmission Data-	Orange	Orange	3
RD+	Receiver Data+	White	White/Green	2
RD-	Receiver Data-	Blue	Green	4

1 x Han® M12 Circular connector, D-coded, straight

Length:	Part No.
1 m	**21 03 583 1401**
3 m	**21 03 583 1403**
5 m	**21 03 583 1405**
10 m	21 03 583 1410
25 m	21 03 583 1425
40 m	21 03 583 1440

other length on request

cable: AWG 26 / 0.14 mm²

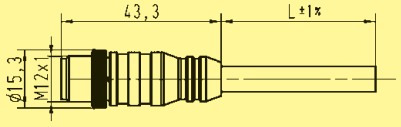


1 x Han® M12 Circular connector, D-coded, straight

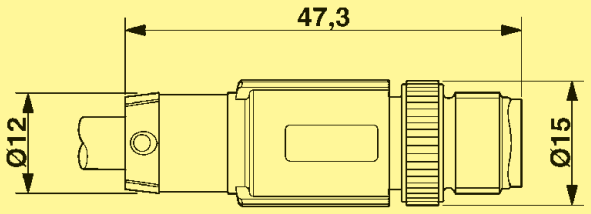
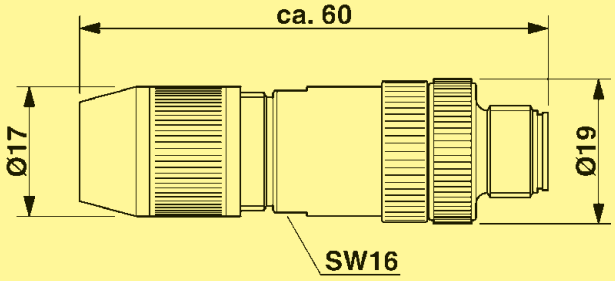
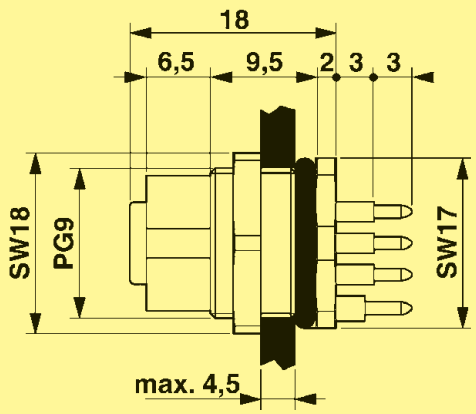
Length:	Part No.
1 m	**21 03 585 1401**
3 m	**21 03 585 1403**
5 m	**21 03 585 1405**
10 m	21 03 585 1410
25 m	21 03 585 1425
40 m	21 03 585 1440

other length on request

cable: AWG 22 / 0.34 mm²



Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
1 x Han® M12 Circular connector, straight pre-assembled on one end, 8 poles Length: 1.0 m	21 03 514 1801		
3.0 m	21 03 514 1803		
5.0 m	21 03 514 1805		
			
Han® M12 Circular connector with IDC termination technology, 8 poles	21 03 121 1801		
			
Han® M12 pcb 8 poles	21 03 311 2801		
			

Stock items in bold type

Overmolded cordsets 7/8”

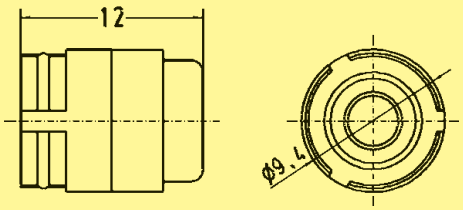
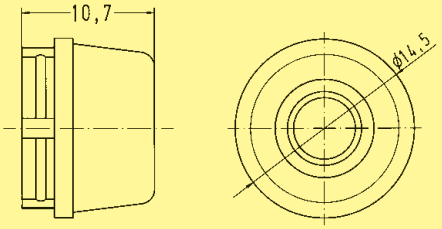
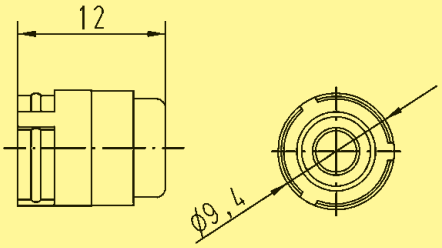
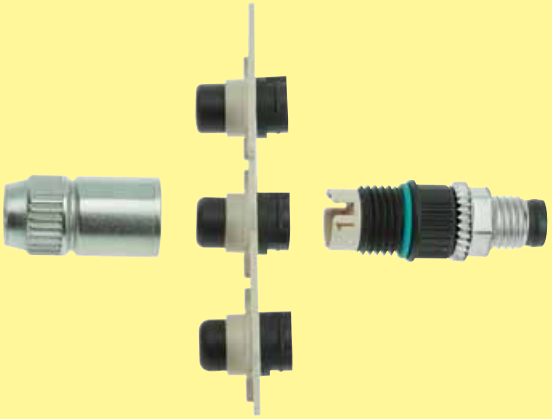
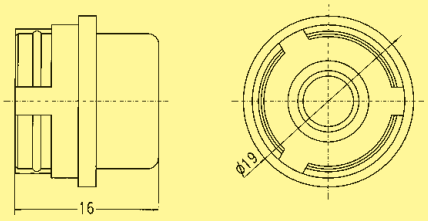
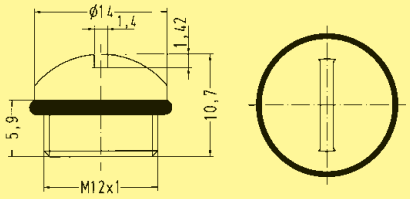
Technical characteristics

Degree of protection	IP 67
Temperature range	
applies to moved cable	-20 °C … +80 °C
cables permanently installed	-50 °C … +80 °C
Rated current	max. 8 A every contact (+40 °C)
Rated voltage	230 / 400 V
Rated impulse voltage	3 kV
Pollution degree	3
Material group	Category I acc. to IEC 60 664-1
Cable data	
Jacket material	PUR
Jacket colour	grey
Wire isolation	TPM
Wire colours	brown, white, blue, black, green/yellow
Wire gauge	5 x 1.5 mm²
Standards	UL / CSA

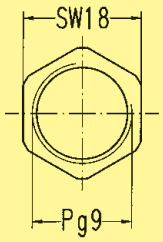
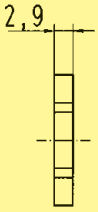
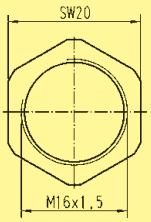
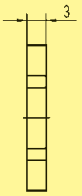
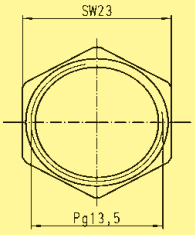
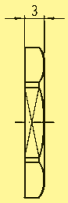
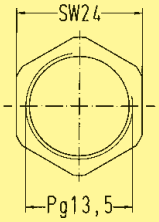
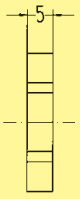
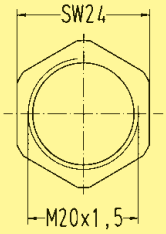
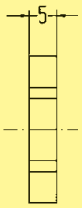
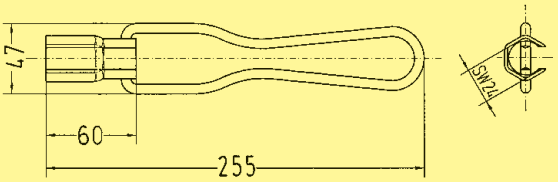
Overmolded cordsets 7/8”

Identification			Part No.	Drawing	Dimensions in mm
Overmolded cordsets 7/8” Female straight 5 pin	Length:	1.5 m	21 04 516 2501	Schematic diagram Litze 1 schwarz Litze 2 blau Litze grün-gelb Litze 3 braun Litze 4 weiß	View mating side
		3.0 m	21 04 516 2502		
		5.0 m	21 04 516 2503		
		7.5 m	21 04 516 2504		
		10.0 m	21 04 516 2505		
Overmolded cordsets 7/8” Female angled 5 pin	Length:	1.5 m	21 04 516 4501	Schematic diagram	View mating side
		3.0 m	21 04 516 4502		
		5.0 m	21 04 516 4503		
		7.5 m	21 04 516 4504		
		10.0 m	21 04 516 4505		
Overmolded cordsets 7/8” Male-Female straight 5 pin	Length:	0.3 m	21 04 416 1501	Schematic diagram Litze 1 schwarz Litze 2 blau Litze grün/gelb Litze 3 braun Litze 4 weiß	View mating side
		0.6 m	21 04 416 1502		
		1.0 m	21 04 416 1503		
		1.5 m	21 04 416 1504		
		2.0 m	21 04 416 1505		
Overmolded cordsets 7/8” Male-Female angled 5 pin	Length:	0.3 m	21 04 416 3501	Schematic diagram	View mating side
		0.6 m	21 04 416 3502		
		1.0 m	21 04 416 3503		
		1.5 m	21 04 416 3504		
		2.0 m	21 04 416 3505		

Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
Seal M12 2.9 - 4.0 mm 4 - 5.1 mm 	21 01 010 2011 21 01 010 2001		
Seal M12-L 3 poles: 5.5 - 7.2 mm 4 + 5 poles: 6 - 8 mm 	21 01 010 2003 21 01 010 2007		
Seal M8 for 2.5 - 3.5 mm cable Ø for 3.2 - 4.4 mm cable Ø for 4.2 - 5.4 mm cable Ø 	21 01 010 2008 21 01 010 2004 21 01 010 2005		
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		
Seal Pg 13.5 / M20 6 - 9 mm 	21 01 010 2002		
Cap M12 	**21 01 000 0003**		

Stock items in bold type

Identification	Part No.	Drawing	Dimensions in mm
Lock nut Pg 9 nickel plated	21 01 000 0008		
			
Lock nut M16 nickel plated	21 01 000 0010		
Lock nut 7/8” nickel plated	21 01 000 0023		
Lock nut Pg 13.5 nickel plated	21 01 000 0020		
			
Lock nut Pg 13.5	21 01 000 0007		
			
Lock nut M20	21 01 000 0009		
Socket wrench	21 01 000 0001		

Stock items in bold type