

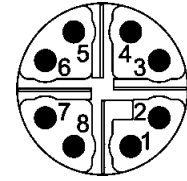
M12 X-coding



Specifications IEC 60 352-4

Approval 

Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Technical characteristics M12 – X-coding

Type M12 X-coded	<i>har-speed M12</i> <i>har-speed M12 Slim design</i>
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General data

Conductor cross section	0.08 - 0.25 mm ² AWG 28-23
Diameter of individual strands	–
Conductor insulation material	–
Conductor diameter	0.33 - 0.61 mm
Cable diameter	4.5 - 8.8 mm
Temperature range	-40 °C ... +85 °C
Temperature during connection	-5 °C ... +50 °C
Degree of protection	IP65 / IP67
Mating cycles	500
Tightening torque connector / hexagonal wrench	0.6 Nm / SW 15

Electrical characteristics

Rated current	0.5 A
Rated voltage	48 V
Rated impulse voltage	1.5 kV
Contact resistance	15 mΩ
Insulation resistance	10 ⁸ Ω
Pollution degree	3
Overvoltage category	3
Isolation group	1
Transmission performance (Category)	Cat. 6 _A

Materials

Contact material	Brass
Contact plating	Gold
Contact carrier material	LCP
Housing material	ZP410

04

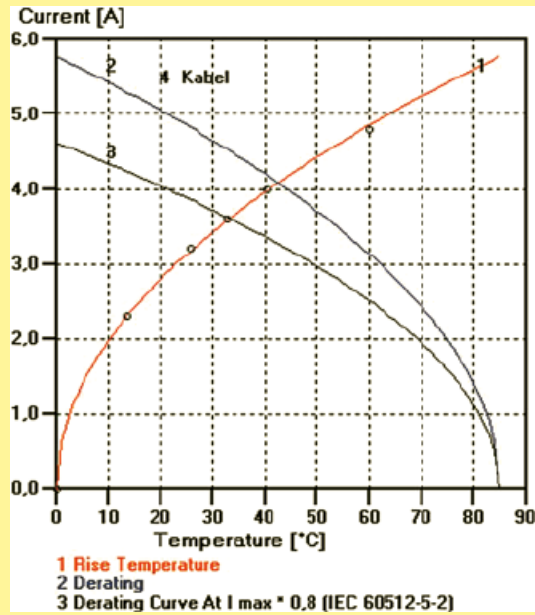
04
02

Technical characteristics M12 – X-coding

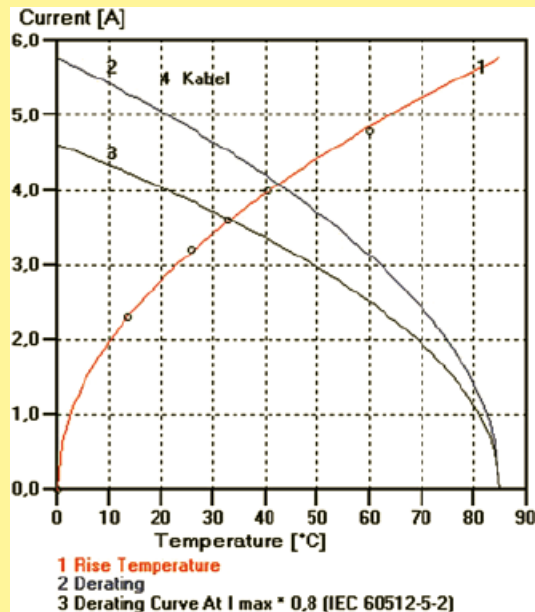
Current carrying capacity The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity-curve is valid for continuous, not interrupted current-loaded contacts of connectors when simultaneous power on all contacts is given,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

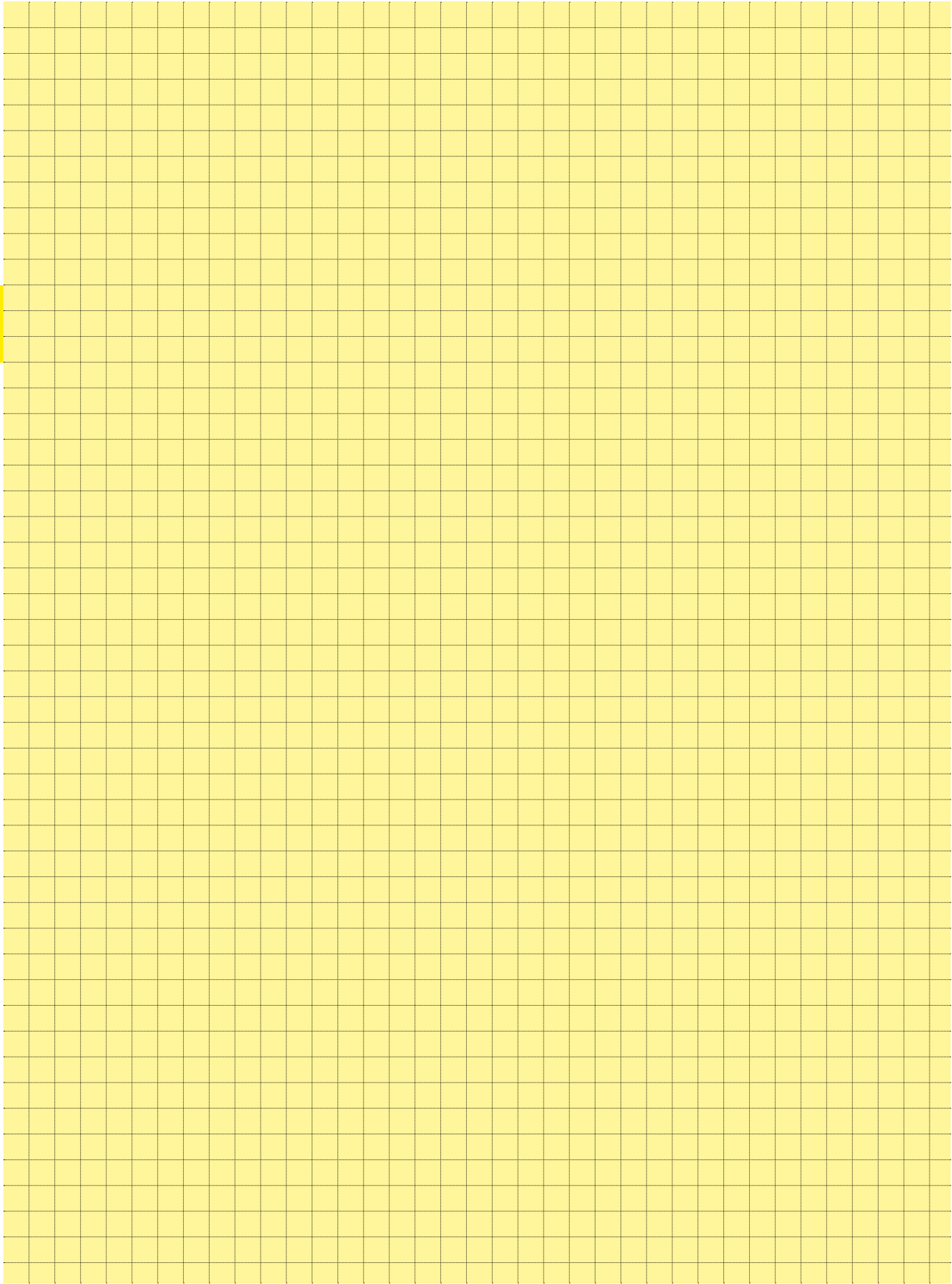
Control and test procedures according to DIN IEC 60512-5.

har-speed M12
8 poles



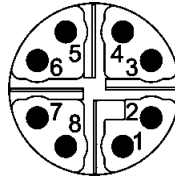
har-speed M12
PCB adapter







Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Applications / Advantages

- High-Speed Ethernet applications for process automatization, e.g. camera system for process control in the production
- Maximum data rates through the configuration of the contacts in conformance with Ethernet technology. Transfer class E_A for 1 and 10 Gigabit
- Perfect shielding through paired shielding of the contacts
- Overmoulded system cables in various lengths

04

Identification

Part No.

Drawing

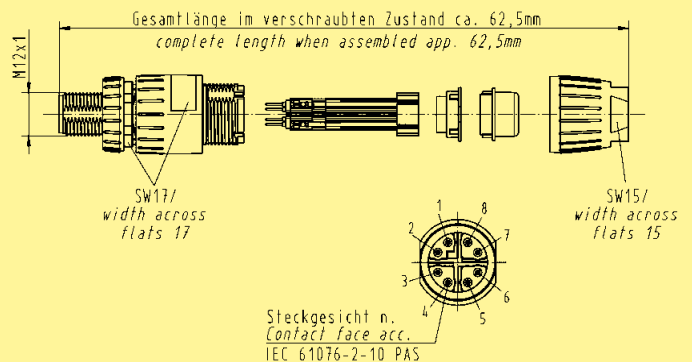
Dimensions in mm

har-speed M12



Male
straight version
8 poles, Cat. 6_A
Cable diameter: 4.5 - 8.8 mm

21 03 881 5805

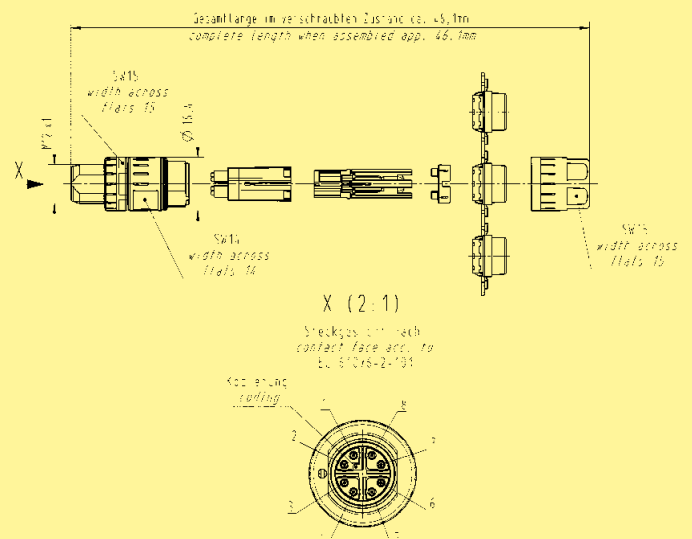


har-speed M12 Slim design



Male
straight version
8 poles, Cat. 6_A
Cable diameter: 4.5 - 8.8 mm

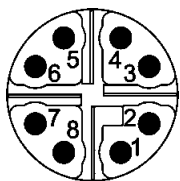
21 03 881 1805



har-speed M12 System cables X-coded



Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Identification

Part No.

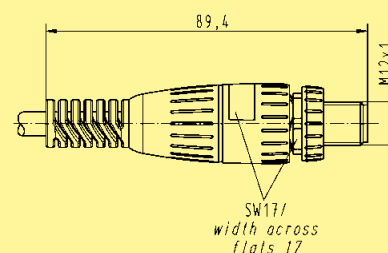
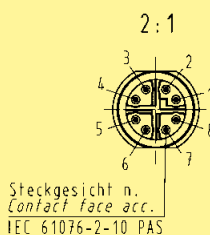
Drawing

Dimensions in mm

har-speed M12 System cables

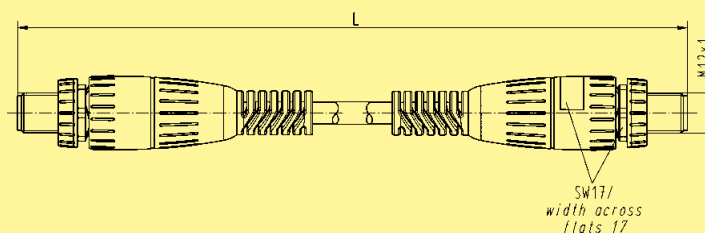
single ended overmoulded
system cable

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



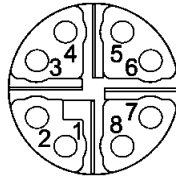
04

04
06

har-speed M12 Panel feed-through X-coded



Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Identification

Part No.

Drawing

Dimensions in mm

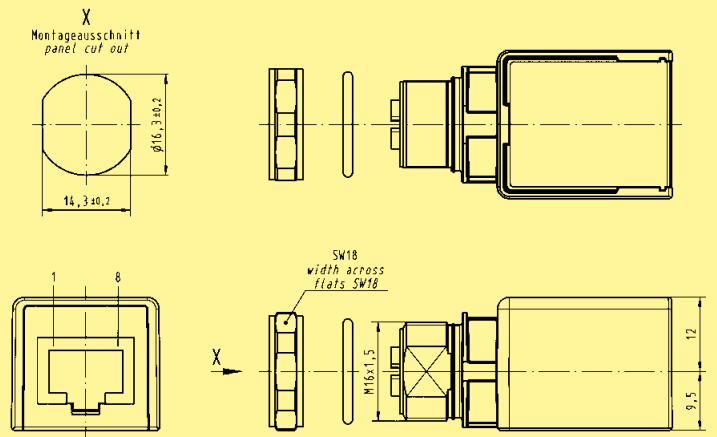
**har-speed M12
Adapter M12-RJ45**



straight, Cat. 6A

Panel thickness
min. 2.1 mm
max. 4.5 mm

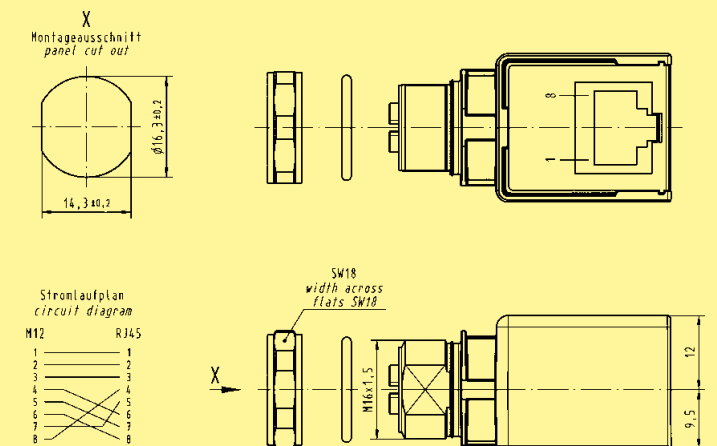
21 03 381 2800



angled, Cat. 6A

Panel thickness
min. 2.1 mm
max. 4.5 mm

21 03 381 4800

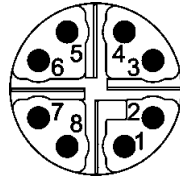


04

04
07



Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Identification

Part No.

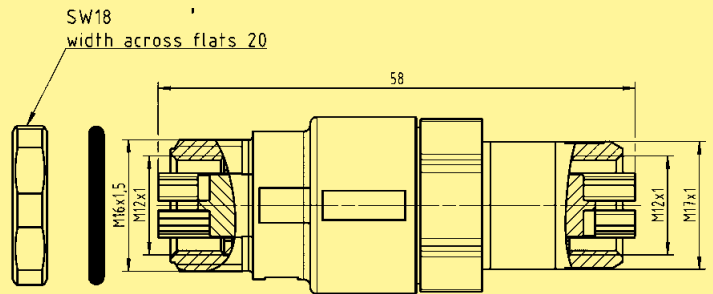
Drawing

Dimensions in mm

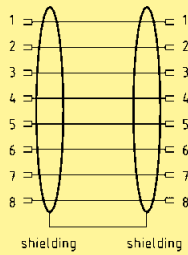
Gender changer, Cat. 6A



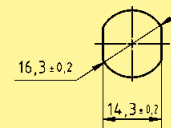
21 03 381 6815



schematic diagram



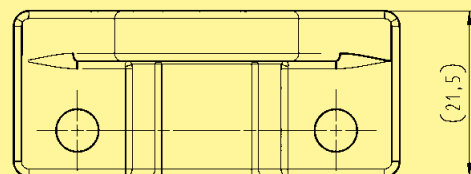
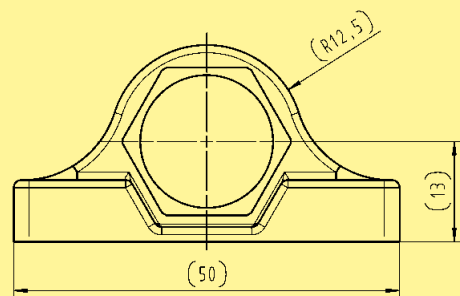
Panel cut out
(1:1)



Wall bracket



21 01 000 0036



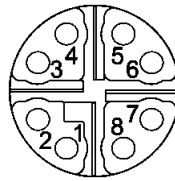
04

04
08

har-speed M12 PCB adapter X-coded



Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Identification

Part No.

Drawing

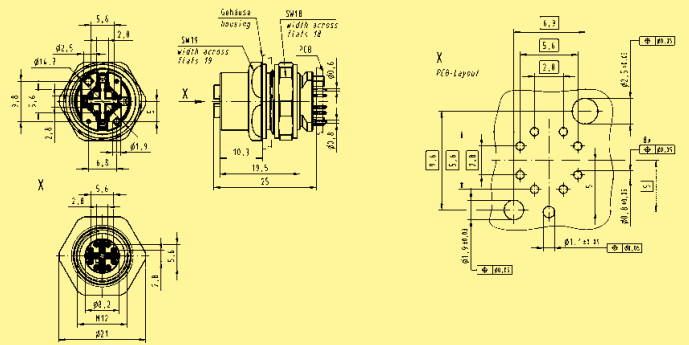
Dimensions in mm

har-speed M12 PCB adapter

Female, X-coding, straight, Cat. 6_A for front mounting



21 03 381 2802

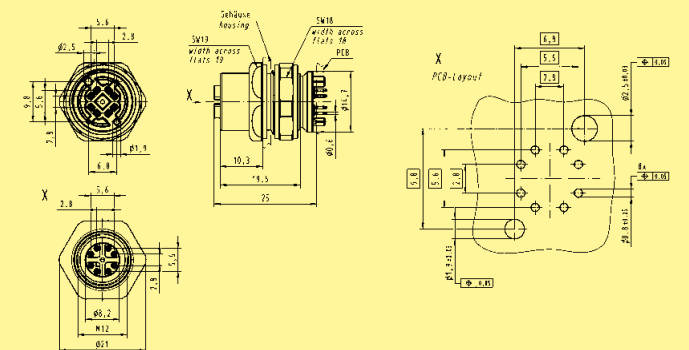


har-speed M12 PCB adapter

Female, X-coding, straight, Cat. 5 for front mounting



21 03 381 2803

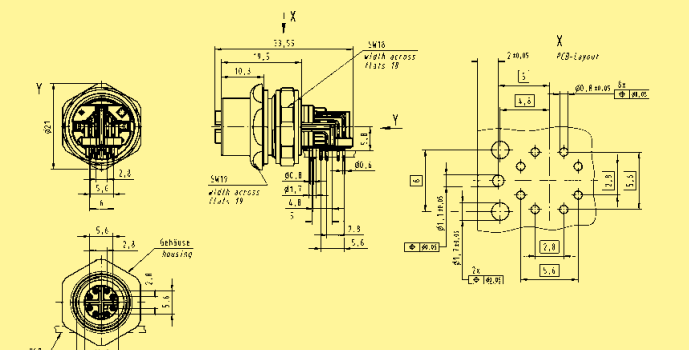


har-speed M12 PCB adapter

Female, X-coding, angled, Cat. 6_A for front mounting



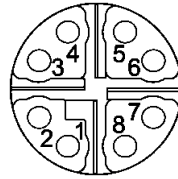
21 03 381 4802



har-speed M12 PCB adapter X-coded



Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Identification

Part No.

Drawing

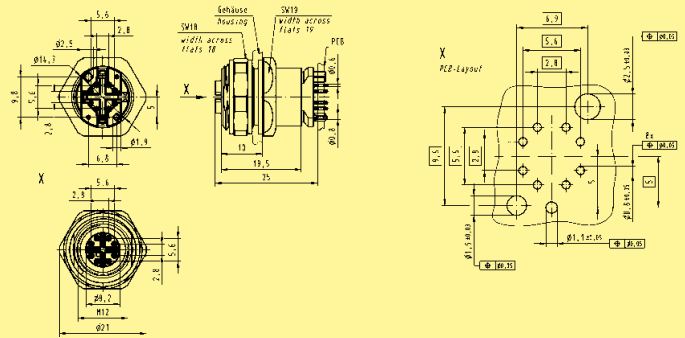
Dimensions in mm

har-speed M12 PCB adapter

Female, X-coding, straight, Cat. 6_A for rear mounting



21 03 381 2804

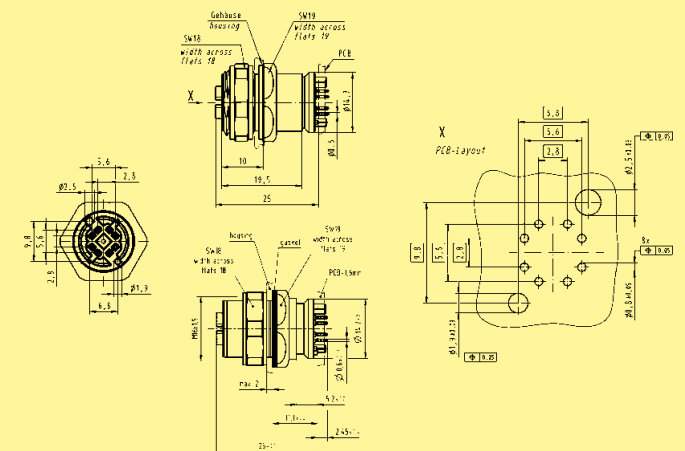


har-speed M12 PCB adapter

Female, X-coding, straight, Cat. 5 for rear mounting



21 03 381 2805

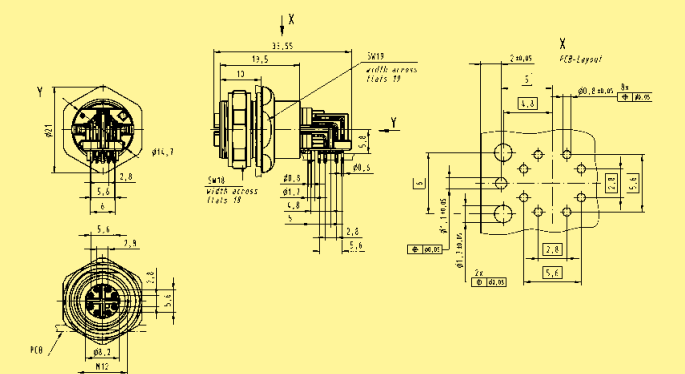


har-speed M12 PCB adapter

Female, X-coding, angled, Cat. 6_A for rear mounting



21 03 381 4804



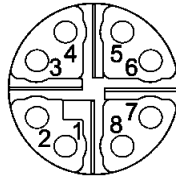
04

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har-speed M12 PCB adapter X-coded



Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Identification

Part No.

Drawing

Dimensions in mm

har-speed M12
PCB adapter

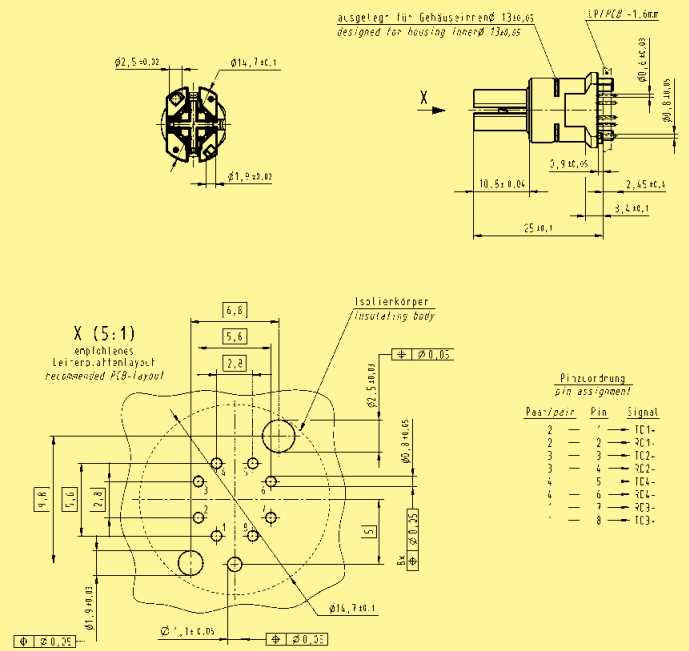


Female
8 poles, X-coding
Cat. 6A

Female
8 poles, X-coding
Cat. 5

21 03 381 2806

21 03 381 2807



04

Housing

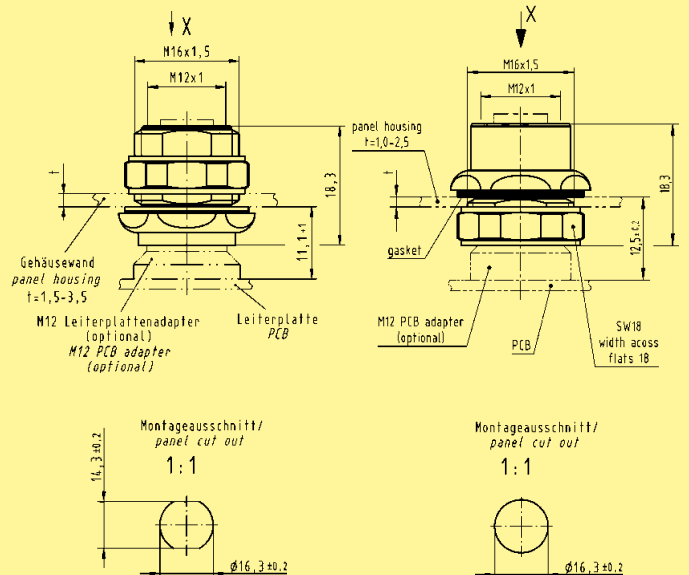


for rear mounting

for front mounting

21 03 301 2000

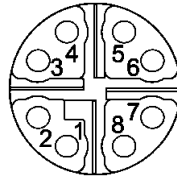
21 03 301 2001



har-speed M12 PCB adapter X-coded



Mating face



X-coding
Mating face
acc. to IEC 61076-2-101



Identification

Part No.

Drawing

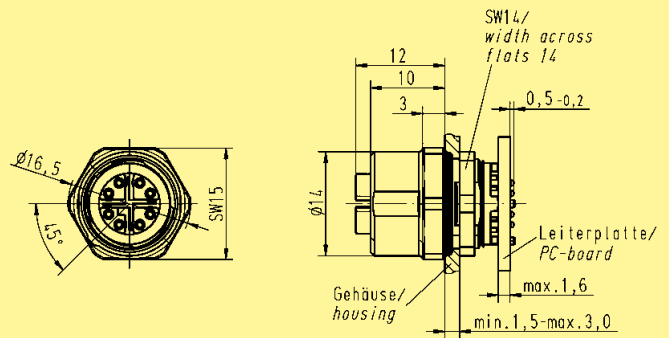
Dimensions in mm

har-speed M12 PCB adapter

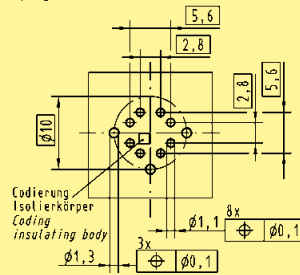
Female, X-coding,
straight, Cat. 6_A
for front mounting



21 03 381 2801



Bohrplan/drilling plan
Bestückungsseite (Frontansicht)
plug-in side (front view)



04

04
12

Identification

Part No.

Drawing

Crimping tool
for *har-speed* M12

09 99 000 0501



Accessories *har-speed* M12

Locator

09 99 000 0525



Single contacts
(500 mating cycles)

har-speed M12 contacts
AWG 28-24 / 0.08-0.22 mm²



21 01 100 9014

har-speed M12 contacts
AWG 26-23 / 0.13-0.25 mm²

21 01 100 9019

har-speed contacts

Part number	AWG	Tool settings
21 01 100 9014	28	3
	26	4
	24	5
21 01 100 9019	26	4
	24	5
	23	5

Accessories M12

Lock nut

21 01 000 0018



M12
dynamometric screwdriver


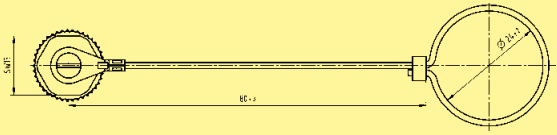



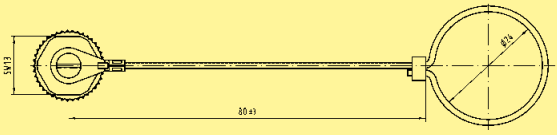

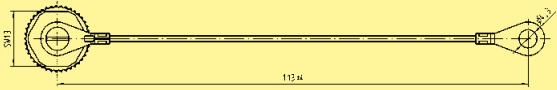

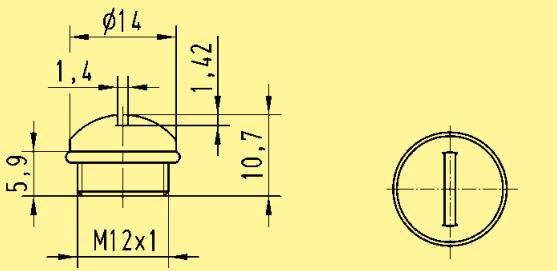
Tightening torque 0.6 Nm

for M12 Slim design SW 15

09 99 000 0646



04

Identification	Part No.	Drawing	Dimensions in mm
<p>Cap metal M12 for IP65 / IP67 M12 metal cap for male side with cord</p> 	<p>21 01 000 0033</p>		
<p>Cap metal M12 for IP65 / IP67 M12 metal cap for male side with cable clip</p> 	<p>21 01 000 0038</p>		
<p>Cap metal M12 for IP65 / IP67 M12 metal cap for female side with cord</p> 	<p>21 01 000 0030</p>		
<p>Cap metal M12 for IP65 / IP67 M12 metal cap for female side with cable clip</p> 	<p>21 01 000 0031</p>		
<p>Cap M12 for IP65 / IP67 Seals material Viton Plastic cap for female</p> 	<p>21 01 000 0003</p>		

04
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