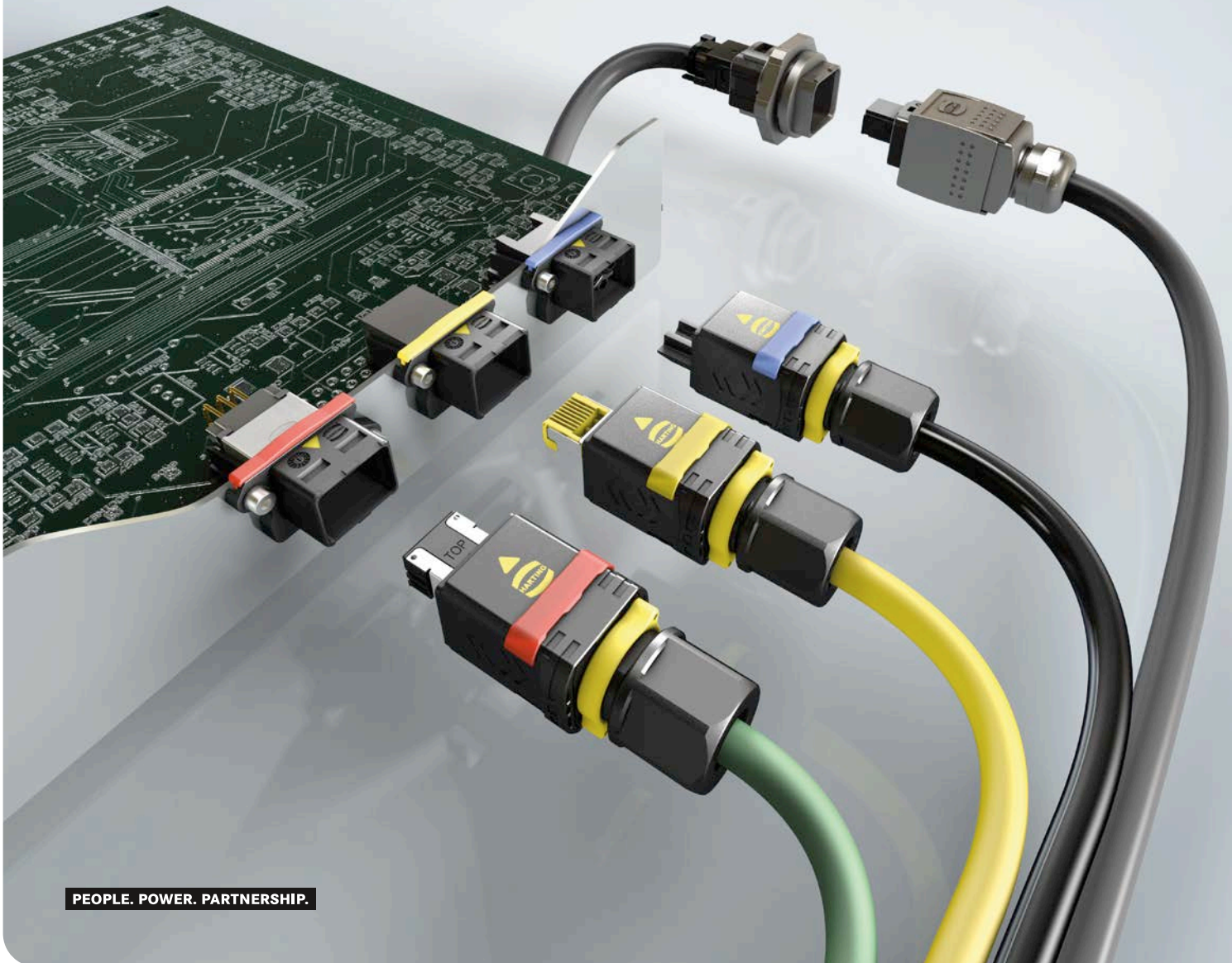




Pushing Performance  
Since 1945



PEOPLE. POWER. PARTNERSHIP.

## HARTING PushPull Device Connectivity

---

## Transforming customer wishes into concrete solutions



The HARTING Technology Group is skilled in the fields of electrical, electronic and optical connection, transmission and networking technology, as well as in manufacturing, mechatronics and software creation. The Group uses these skills to develop customized solutions and products such as connectors for energy and data-transmission/data-networking applications, including, for example, mechanical engineering, rail technology, wind energy plants, factory automation and the telecommunications sector. In addition, HARTING also produces electro-magnetic components for the automobile industry and offers solutions in the field of housing technology and shop systems.

The HARTING Group currently comprises 14 production sites and branches in 44 countries worldwide employing a total of about 6,000 staff.

### **We aspire to top performance.**

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

### **Wherever our customers are, we're there.**

Increasing industrialization is creating growing markets that are characterized by widely diverging demands and requirements. What these markets all share in common is the quest for perfection, increasingly efficient processes and reliable technologies. HARTING is providing these technologies – in Europe, the Americas and Asia. In order to implement customer requirements in the best possible manner, the HARTING professionals at our international subsidiaries engage in up-close, partnership-based interaction with our customers, right from the very early product development phase.

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

### **Our claim: Pushing Performance.**

HARTING provides more than optimally attuned components. In order to offer our customers the best possible solutions, on request HARTING contributes a great deal more and is tightly integrated into the value-creation process.

From ready-assembled cables through to control racks or ready-to-go control desks. Our aim is to generate maximum benefit for our customers – with no compromises!

### **Quality creates reliability – and warrants trust.**

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

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





#### **HARTING technology creates added value for customers.**

Technologies by HARTING are at work worldwide. HARTING's presence stands for smoothly functioning systems powered by intelligent connectors, smart infrastructure solutions and sophisticated network systems. Over the course of many years of close, trust-based cooperation with its customers, the HARTING Technology Group has become one of the leading specialists globally for connector technology. We offer individual customers specific and innovative solutions that go beyond the basic standard functionalities. These tailored solutions deliver sustained results, ensure investment security and enable customers to achieve significant added value.

#### **Opting for HARTING opens up an innovative, complex world of concepts and ideas.**

In order to develop and produce connectivity and network solutions serving an exceptionally wide range of connector applications in a professional and cost-effective manner, HARTING not only commands the full array of conventional tools and basic technologies. Above and beyond these capabilities, HARTING is constantly harnessing and refining its broad base of knowledge and experience to create new solutions that also ensure continuity. To secure its lead in know-how, HARTING draws on a wealth of sources from its in-house research and applications.

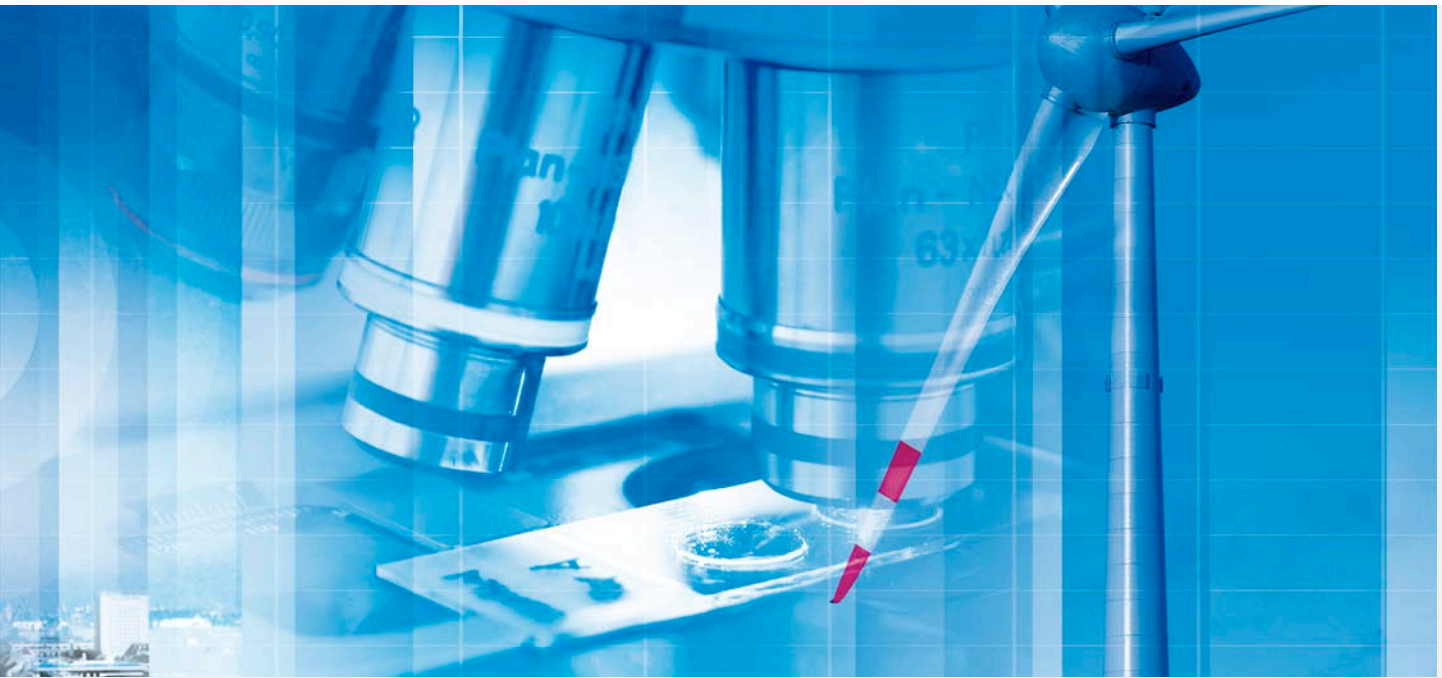
Salient examples of these sources of innovative knowledge include microstructure technologies, 3D design and connection technology,

high-temperature and ultrahigh-frequency applications that are finding use in telecommunications and automation networks, in the automotive industry, or in industrial sensor and actuator applications, RFID and wireless technologies, in addition to packaging and housing made of plastics, aluminium and stainless steel.

#### **HARTING overcomes technological limitations.**

Drawing on the comprehensive resources of the group's technology pool, HARTING devises practical solutions for its customers. Whether this involves industrial networks for manufacturing automation, or hybrid interface solutions for wireless telecommunication infrastructures, 3D circuit carriers with microstructures, or cable assemblies for high-temperature applications in the automotive industry - HARTING technologies offer not only components, but comprehensive solutions attuned to individual customer requirements and preferences. The range of cost-effective solutions covers ready-to-use cable configurations, completely assembled backplanes and board system carriers, as well as fully wired and tested control panels.

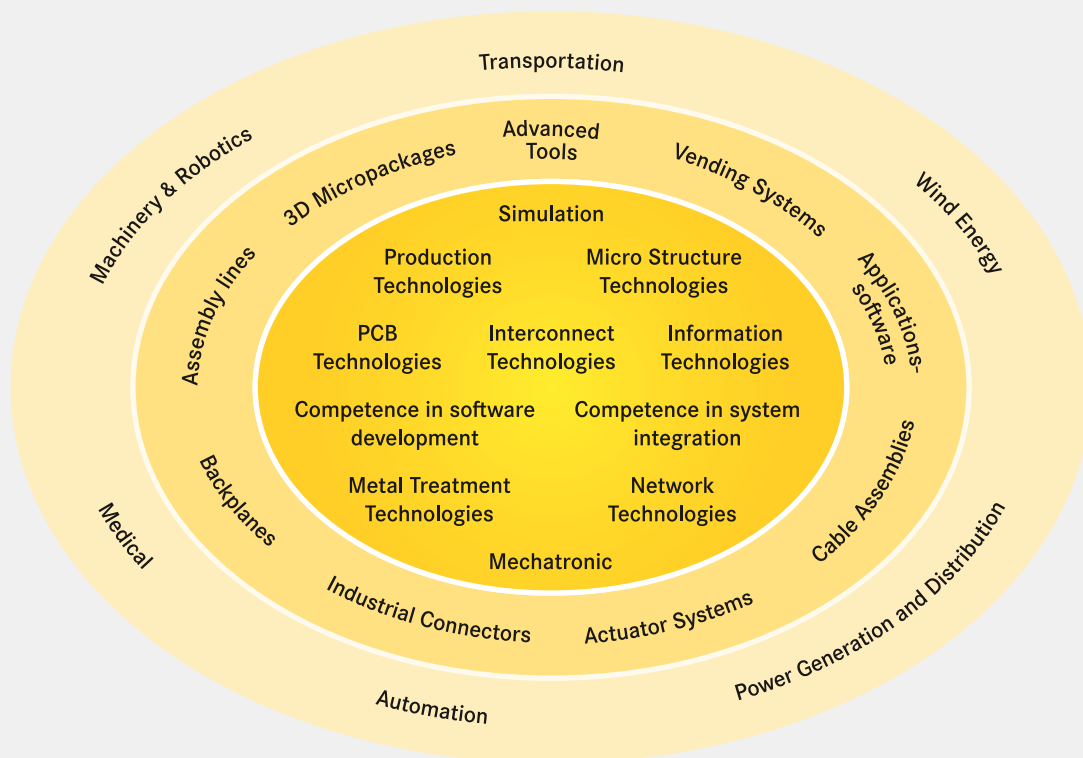
In order to ensure the future-proof design of RF and EMC-compatible interface solutions, the central HARTING laboratory (accredited according to DIN EN ISO/IEC 17025) employs simulation tools, as well as experimental, testing and diagnostics facilities all the way to Industrial computed tomography. In addition to product and process suitability considerations, lifecycle and environmental aspects play a key role in the selection of materials and processes.



**HARTING's knowledge is practical know-how that generates synergy effects.**

HARTING commands decades of experience with regard to the applications conditions involved in connections in telecommunications, computer, network and medical technologies, as well as industrial automation technologies, e.g. in the mechanical engineering and plant engineering areas, in addition to the power generation industry and the transportation sector. HARTING is highly

conversant with the specific application areas in all of these technology fields. In every solution approach, the key focus is on the application. In this context, uncompromising, superior quality is our hallmark. Every new solution found invariably flows back into the HARTING technology pool, thereby enriching our resources. And every new solution we go on to create will draw on this wealth of resources in order to optimize each and every individual solution. HARTING is synergy in action.





## Contents

Page

### HARTING PushPull type acc

HARTING PushPull type acc. to IEC 61 076-3-106 Variante 4 . . . . .	<b>08</b>
Han® PushPull type acc. to IEC 61 076-3-117 Variante 14 . . . . .	<b>65</b>
Han® PushPull type acc. to Power L to IEC PAS 61076-3-126 . . . . .	<b>107</b>
PushPull XS SFP to IEC 61 754-20 . . . . .	<b>112</b>



HARTING PushPull technology acc. to IEC 61076-3-106 variant 4  
bulkhead mounted housing for device integration of RJ45-, USB- and Power-jacks

## Advantages

- PushPull bulkhead mounted housing with HARTING PushPull technology
- Compact, space-saving design for device integration of RJ45-, USB-, Signal- or Power-pcb female
- High packing density (spacing 27 x 21 mm)

## Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-106 variant 4
Mating cycles	min. 750
Degree of protection	IP65 / IP67
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
<b>Components device side</b>  <b>Bulkhead mounted housing – Compact</b> Board drillings for M2.5  without fixing clip (with integrated seal)	09 45 545 0043 <sup>1)</sup>		
with fixing clip (with integrated seal)	09 45 545 0042 <sup>2)</sup>		
with fixing clip (with integrated seal) for vertical RJ jack 09 45 551 1103	09 45 545 0040 <sup>3)</sup>		
with fixing clip, for all HIFF compatible modules	09 45 545 0041		

<sup>1)</sup> suitable RJ45 jacks: 09 45 551 1100 / ... 1110 / ... 1102 / ... 115x / ... 154x

<sup>2)</sup> suitable RJ45 jacks: 09 45 551 1100 / ... 1110 / ... 1102

<sup>3)</sup> suitable RJ45 jacks: 09 45 551 1103






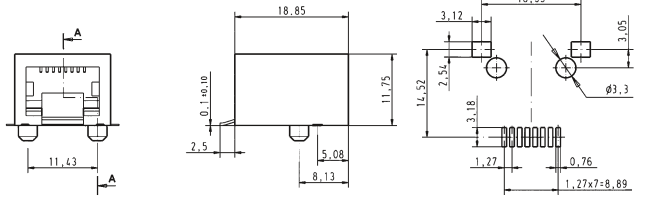
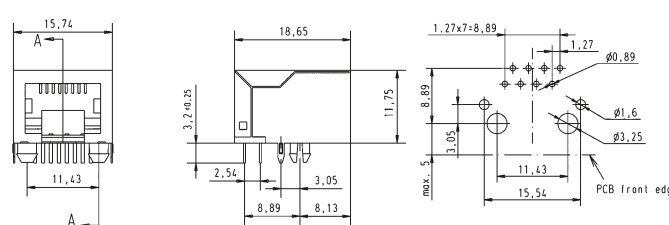
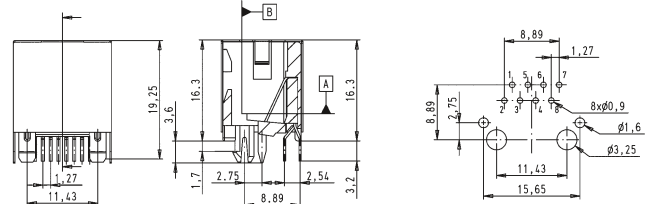
HARTING PushPull Technology acc. to IEC 61 076-3-106 variant 4  
RJ45 jacks and accessories

## Advantages

- HARTING PushPull technology
- Low-profile jacks for space-saving PCB integration
- Category of transmission Cat. 5
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61 076-3-106 variant 4
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mating cycles	min. 750
Degree of protection	IP65 / IP67
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0
	UL approval (E102079)

Identification	Part number	Drawing	Dimensions in mm pcb layout
Components device side			
RJ45 jacks Cat. 5			
Solder variant SMD, 90° angled	09 45 551 1100 <sup>1)</sup> 09 45 551 1110 <sup>2)</sup> 09 45 551 1110 333 <sup>4)</sup>		
Solder variant overmoulded, 90° angled	09 45 551 1102 <sup>1)</sup>		
Solder variant overmoulded, straight	09 45 551 1103 <sup>3)</sup>		

1) Packaging: Blister à 120 pieces  
2) Packaging: Tape & Reel à 130 pieces  
3) Packaging: Tape & Reel à 80 pieces  
4) Sample, Packaging: 1 piece



## HARTING RJ Industrial® RJ45 jacks with transformer

### Advantages

- Compact design
- Integrated optical fibres
- Excellent EMC behaviour due to integrated transformers and filters for 10/100 Mbit or 1 Gbit Ethernet
- THR compatible
- Versions from 10/100 Mbit up to 10 Gbit Ethernet and PoE
- Usable for IP65 / IP67 device integration with HARTING PushPull and Han® 3 A RJ45

### Technical characteristics

Mating face	RJ45 acc. to IEC 60603-7
Number of contacts	8
Degree of protection	IP20
Rated voltage	30 V DC
Rated current	8 mA DC
Mating cycles	min. 750
Temperature range	-25 °C ... +70 °C

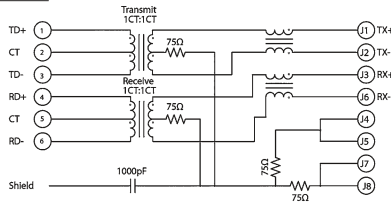
Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

#### Components device side

#### RJ45 jack with transformer (low profile)

90° angled, THT  
10/100 Mbit Ethernet

Schematic:



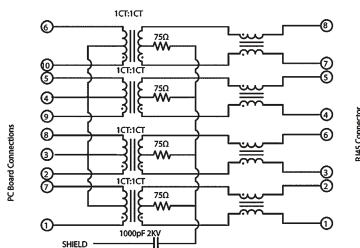
10/100 Mbit Ethernet and PoE

09 45 551 1150<sup>1)</sup>

09 45 551 1151<sup>1)</sup>

90° angled, THT  
1 Gbit Ethernet

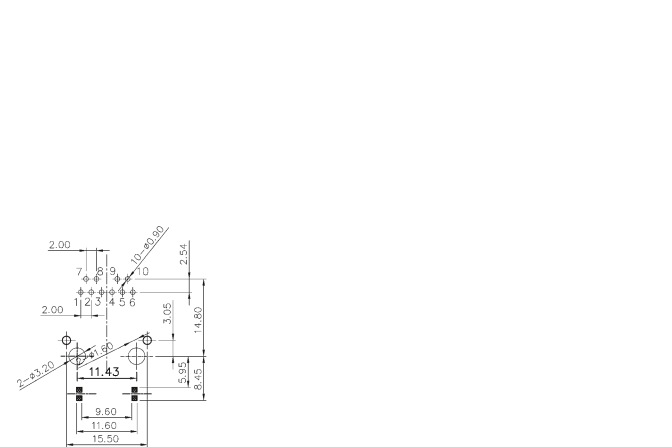
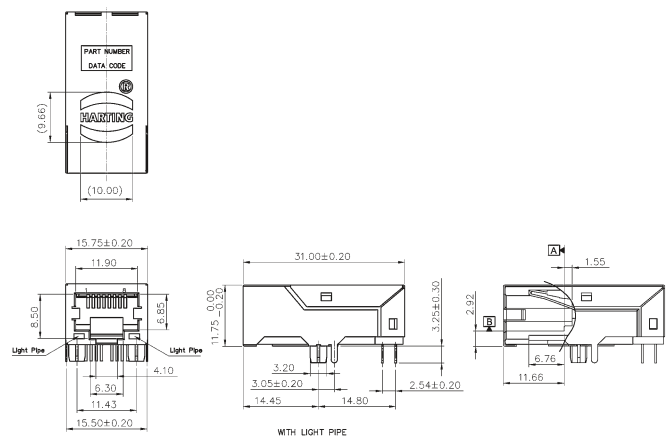
Schematic:



1 Gbit Ethernet and PoE

09 45 551 1540<sup>1)</sup>

09 45 551 1541<sup>1)</sup>



Customer specific versions on request

<sup>1)</sup> Packaging: Blister à 56 pieces



HARTING PushPull technology acc. to IEC 61 076-3-106 variant 4  
RJ45 panel feed-throughs and accessories

## Advantages

- Small, space-saving PushPull Interfaces in IP65 / IP67
- Easy handling of RJ45 patch cords in switch cabinets or sets
- Mounting to casings

## Technical characteristics

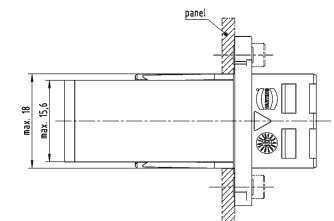
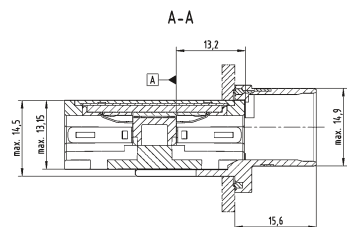
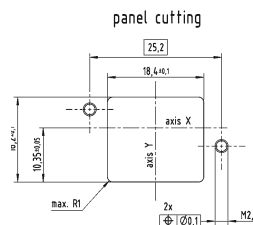
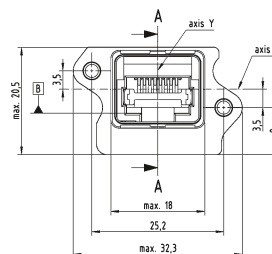
Locking	PushPull Technology acc. to IEC 61 076-3-106 variant 4
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mating cycles	min. 750
Degree of protection	IP65 / IP67
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

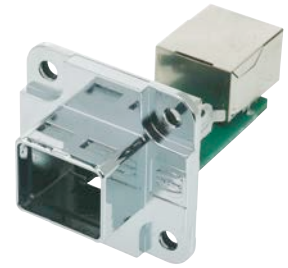
Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

Panel feed-through set  
category of transmission Cat. 6

incl. bulkhead mounted housing –  
Compact, with integrated seal,  
2 x RJ45-jack

09 45 245 1561






HARTING PushPull Technology acc. to IEC 61 076-3-106 variant 4  
RJ45-panel feed-throughs and accessories

## Advantages

- Small, space-saving PushPull Interfaces in IP65 / IP67
- Easy handling of RJ45 patch cords in switch cabinets or sets

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61 076-3-106 variant 4
Transmission rate cat. 5 versions	10/100/1000 Mbit/s
Transmission rate cat. 6 versions	10/100 Mbit/s / 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mating cycles	min. 750
Degree of protection	IP65 / IP67
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, shining
Flammability acc. to UL 94	V0
	UL approval (E102079)

### Identification

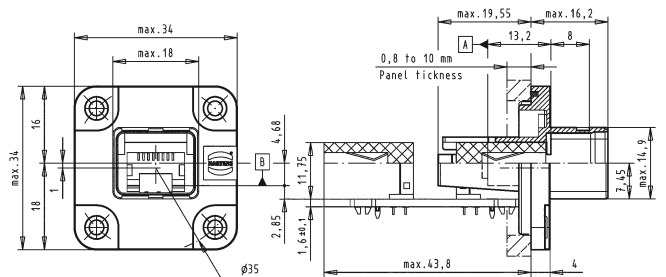
Panel feed-through set  
category of transmission Cat. 5

incl. housing bulkhead mounting EasyInstall with integrated seal,  
2 x RJ45-jack  
board drillings for M3

### Part number

09 45 295 1130  
(metal version)

### Drawing



### Dimensions in mm



HARTING PushPull technology acc. to IEC 61076-3-106 variant 4 RJ45 connector

## Advantages

- Ethernet connector based on RJ45
- Fully shielded, 360° shielding contact
- Field-assembly connector with IDC contacts (Cat. 5 versions) or piercing contacts (Cat. 6<sub>A</sub> versions)

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60603-7
Cable diameter	4.5 ... 10 mm
Termination cross section	
Cat. 5	AWG 24/7 ... AWG 22/7 (stranded) AWG 23/1 ... AWG 22/1 (solid)
Cat. 6 <sub>A</sub>	AWG 24/7 ... AWG 28/7 (stranded)
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

### Identification

### Part number

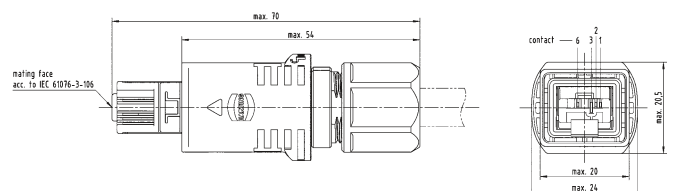
### Drawing

### Dimensions in mm

Connector, 4 poles  
Cat. 5

incl. housing  
with RJ45 connector,  
shielding and cable gland

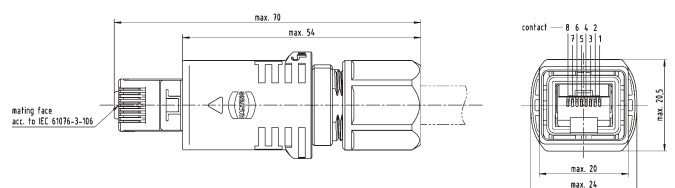
09 45 145 1106



Connector, 8 poles  
Cat. 6<sub>A</sub>

incl. housing  
with RJ45 connector,  
shielding and cable gland

09 45 145 1521  
09 45 145 1521 XL<sup>1)</sup>



suitable assembly tool

09 45 800 0520

<sup>1)</sup> Packaging with 100 sets





HARTING PushPull Technology acc. to IEC 61 076-3-106 variant 4  
RJ45-connector

## Advantages

- Ethernet connector based on RJ45
- Fully shielded, 360° shielding contact
- Field-assembly connector with IDC contacts (Cat. 5 versions) or piercing contacts (Cat. 6<sub>A</sub> versions)

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60603-7
Cable diameter	4.9 ... 8.6 mm
Termination cross section	
Cat. 5	AWG 24/7 ... AWG 22/7 (stranded) AWG 23/1 ... AWG 22/1 (solid)
Cat. 6 <sub>A</sub>	AWG 24/7 ... AWG 28/7 (stranded)
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, shining
Flammability acc. to UL 94	V0
	UL approval (E102079)

### Identification

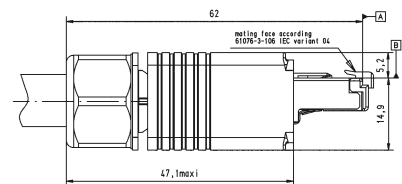
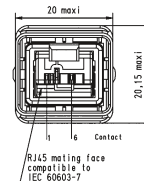
### Part number

### Drawing

### Dimensions in mm

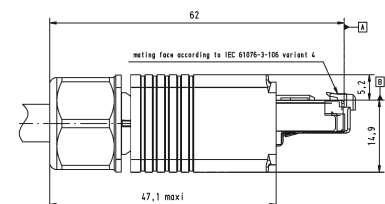
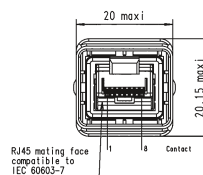
Connector, 4 poles  
Cat. 5  
incl. housing with RJ45 connector,  
shielding and cable gland

09 45 195 1100  
(metal version)



Connector, 8 poles  
Cat. 6<sub>A</sub>  
incl. housing with RJ45 connector,  
shielding and cable gland

09 45 195 1520  
(metal version)



suitable assembly tool

09 45 800 0520




## HARTING PushPull RJ45 – bulkhead

### Advantages

- Small, space-saving PushPull Interfaces in IP65 / IP67
- Easy connection of PushPull RJ45 system cords
- Screwable with 2 x M3 screws

### Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Number of contacts	8
Transmission category	Cat. 6, performance class E <sub>A</sub> , suitable for 1/10 Gigabit Ethernet
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mating cycles	min. 750
Degree of protection	IP65 / IP67
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0
	UL approval (E102079)

Identification

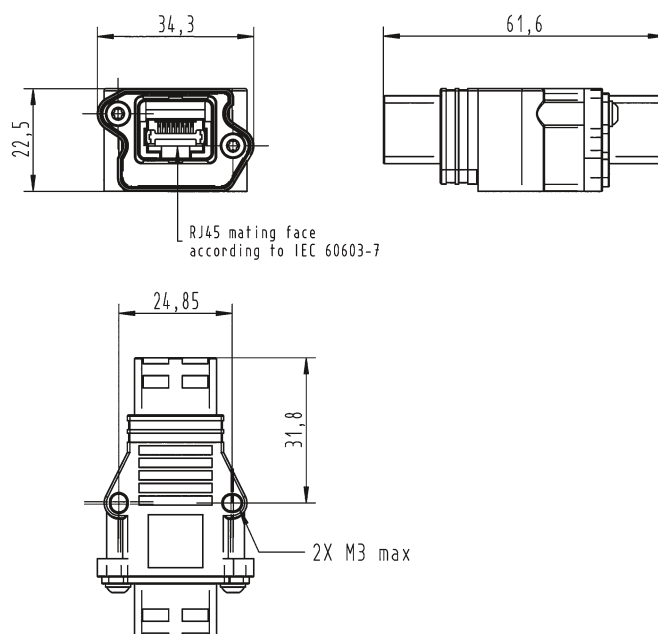
Part number

Drawing

Dimensions in mm

HARTING PushPull RJ45 –  
bulkhead

09 45 345 1560





HARTING PushPull technology acc. to IEC 61076-3-106 variant 4 RJ45 connector

## Advantages

- Ethernet connector based on RJ45
- Fully shielded, 360° shielding contact
- Field-assembly connector with IDC contacts
- Category of transmission: Cat. 6 / class E<sub>A</sub> suitable for 1/10 Gbit Ethernet

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Mating face	RJ45 acc. to IEC 60603-7
Cable diameter	4.5 ... 10 mm
Termination cross section	AWG 27/7 ... AWG 22/7 (stranded) AWG 24/1 ... AWG 22/1 (solid)
Conductor diameter	max. 1.6 mm (incl. insulation)
Mating cycles	min. 750
Degree of protection	IP65 / IP67
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

### Identification

### Part number

### Drawing

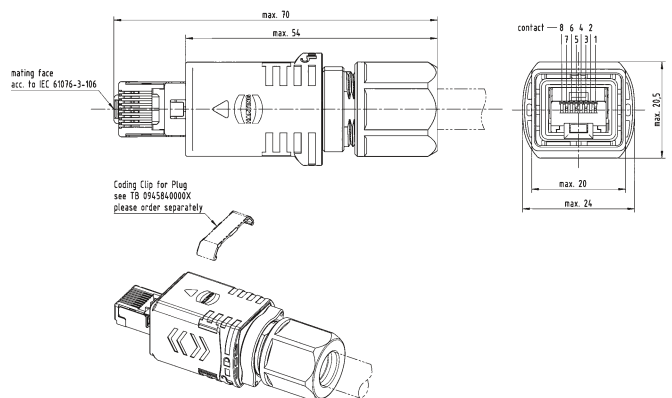
### Dimensions in mm

Connector, 8 poles  
Cat. 6  
incl. housing  
with RJ45 connector,  
shielding and cable gland

09 45 145 1561

Colour clips  
for colour coding the HARTING  
PushPull connectors

Blue	09 45 840 0008
Violet	09 45 840 0007
Green	09 45 840 0006
Red	09 45 840 0005
Yellow	09 45 840 0004






HARTING PushPull Technology acc. to IEC 61076-3-106 variant 4 RJ45-connector

## Advantages

- Ethernet connector based on RJ45
- Fully shielded, 360° shielding contact
- Field-assembly connector with IDC contacts
- Category of transmission: Cat. 6 / class E<sub>A</sub> suitable for 1/10 Gbit Ethernet

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Mating face	RJ45 acc. to IEC 60603-7
Cable diameter	4.9 ... 8.6 mm
Termination cross section	AWG 27/7 ... AWG 22/7 (stranded) AWG 24/1 ... AWG 22/1 (solid)
Conductor diameter	max. 1.6 mm (incl. insulation)
Mating cycles	min. 750
Degree of protection	IP65 / IP67
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, shining
Flammability acc. to UL 94	V0
	UL approval (E102079)

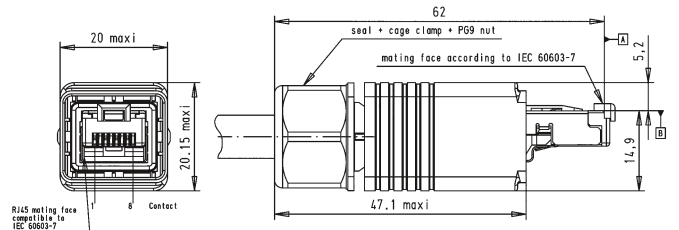
### Identification

Connector, 8 poles  
Cat. 6  
incl. housing with RJ45 connector,  
shielding and cable gland

### Part number

09 45 195 1560  
(metal version)

### Drawing



### Dimensions in mm



4x 2x AWG 26/7  
 HARTING PushPull RJ45  
 HARTING PushPull RJ45

## Features

- Transmission of up to 10 Gbit/s
- Double-sided IP65/IP67 protection
- Simple handling by HARTING PushPull
- Cables suitable for industry
- Suitable for outdoor applications (PVC (outdoor))

## Technical characteristics

Number of cores	8
Core structure	4x 2x AWG 26/7
Connector 1	HARTING PushPull RJ45
Connector 2	HARTING PushPull RJ45
Limiting temperature	-40 ... +80 °C, -20 ... +80 °C
Transmission characteristics	Cat. 6A, Class E <sub>A</sub> up to 500 MHz
Data rate	10 Mbit/s, 100 Mbit/s, 1 Gbit/s, 10 Gbit/s
Material (cable)	PUR (polyurethane), PVC
Colour (cable)	Yellow, Black

## Details

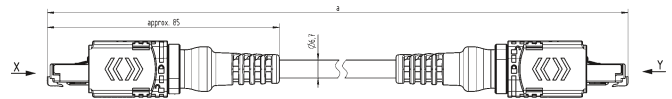
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

**HARTING PushPull,**  
 Copper cable (round),  
 Wiring 1:1,  
 Pre-assembled on both  
 sides  
 Fully shielded,  
 360° shielding contact,  
 PUR (polyurethane),  
 Yellow,  
 -40 °C ... +80 °C



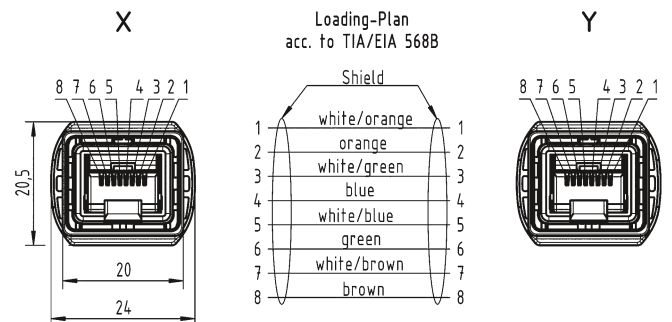
0.5 m	09 48 282 8756 005
1 m	09 48 282 8756 010
5 m	09 48 282 8756 050
7.5 m	09 48 282 8756 075
10 m	09 48 282 8756 100
15 m	09 48 282 8756 150
20 m	09 48 282 8756 200



**HARTING PushPull,**  
 Copper cable (round),  
 Wiring 1:1,  
 Pre-assembled on both  
 sides,  
 Fully shielded,  
 360° shielding contact,  
 PVC,  
 Yellow,  
 -20 °C ... +80 °C



0.5 m	09 48 282 8757 005
1 m	09 48 282 8757 010
5 m	09 48 282 8757 050
7.5 m	09 48 282 8757 075
10 m	09 48 282 8757 100
15 m	09 48 282 8757 150
20 m	09 48 282 8757 200





Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

**HARTING PushPull,**  
 Copper cable (round),  
 Wiring 1:1,  
 Pre-assembled on both  
 sides  
 Fully shielded,  
 360° shielding contact,  
 PVC (outdoor),  
 Black,  
 -20 °C ... +80 °C

0.5 m	09 48 282 8758 005
1 m	09 48 282 8758 010
5 m	09 48 282 8758 050
7.5 m	09 48 282 8758 075
10 m	09 48 282 8758 100
15 m	09 48 282 8758 150
20 m	09 48 282 8758 200





4x 2x AWG 26/7  
 HARTING PushPull RJ45  
 HARTING PushPull RJ45

## Features

- Transmission of up to 10 Gbit/s
- Double-sided IP65/IP67 protection
- Simple handling by HARTING PushPull
- Cables suitable for industry
- Suitable for outdoor applications (PVC (outdoor))

## Technical characteristics

Number of cores	8
Core structure	4x 2x AWG 26/7
Connector 1	HARTING PushPull RJ45, RJ45
Connector 2	RJ45
Limiting temperature	-20 ... +75 °C
Transmission characteristics	Cat. 6A, Class E <sub>A</sub> up to 500 MHz
Data rate	10 Mbit/s, 100 Mbit/s, 1 Gbit/s, 10 Gbit/s
Material (cable)	PUR (polyurethane), PVC
Colour (cable)	Yellow, Black

## Details

Other cable lengths on request!

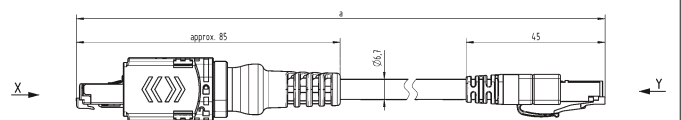
Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

### HARTING PushPull,

Copper cable (round),  
 Wiring 1:1,  
 Pre-assembled on both  
 sides  
 Fully shielded,  
 360° shielding contact,  
 PUR (polyurethane),  
 Yellow,  
 -20 °C ... +75 °C



1 m	09 48 284 7756 010
2 m	09 48 284 7756 020
3 m	09 48 284 7756 030
5 m	09 48 284 7756 050
7 m	09 48 284 7756 070
10 m	09 48 284 7756 100
15 m	09 48 284 7756 150
20 m	09 48 284 7756 200

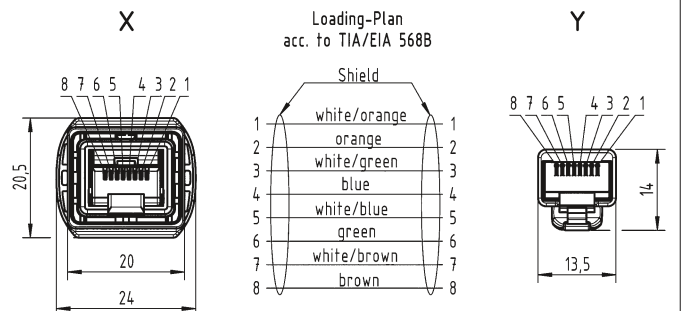


### HARTING PushPull,

Copper cable (round),  
 Wiring 1:1,  
 Pre-assembled on both  
 sides,  
 Fully shielded,  
 360° shielding contact,  
 PVC,  
 Yellow,  
 -20 °C ... +75 °C



1 m	09 48 284 7757 010
2 m	09 48 284 7757 020
3 m	09 48 284 7757 030
5 m	09 48 284 7757 050
7 m	09 48 284 7757 070
10 m	09 48 284 7757 100
15 m	09 48 284 7757 150
20 m	09 48 284 7757 200



Identification	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull,</b> Copper cable (round), Wiring 1:1, Pre-assembled on both sides Fully shielded, 360° shielding contact, PVC (outdoor), Black, -20 °C ... +75 °C	1 m 2 m 3 m 5 m 7 m 10 m 15 m 20 m	09 48 284 7758 010 09 48 284 7758 020 09 48 284 7758 030 09 48 284 7758 050 09 48 284 7758 070 09 48 284 7758 100 09 48 284 7758 150 09 48 284 7758 200		





HARTING PushPull type acc. to IEC 61076-3-106 variant 4  
LC duplex panel feed-through and connector

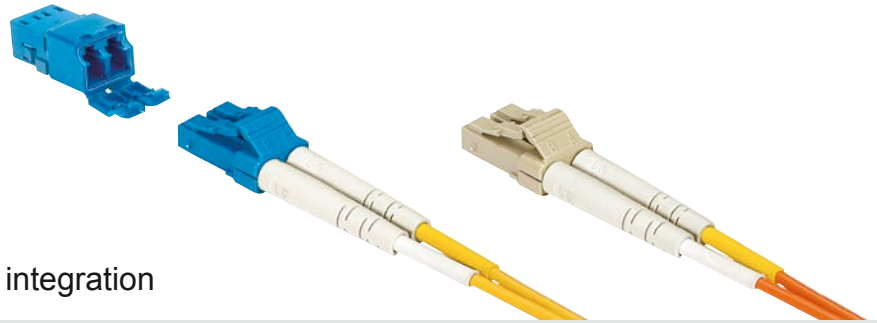
## Advantages

- Optical PushPull connector based on LC with small form factor (requires 50 % compared to SC and ST)
- EasyInstall and Compact panel feed-through for simple device integration
- Optical module with inserts acc. to IEC 61754-20
- One-piece LC body assures high mechanical stability
- A & B parts identification for Duplex according TIA 568 standard

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Degree of protection	IP65 / IP67
Mating face	LC acc. to IEC 61754-20
Cable diameter	5.8 ... 7.2 mm
Mating cycles	min. 200
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black Zinc die-cast, shining
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull LC duplex</b>			
Cable side			
Multimode GOF	09 57 402 0500 000		
(metal version)	09 57 409 0500 000		
Singlemode GOF	09 57 402 0501 000		
(metal version)	09 57 409 0501 000		
Device side EasyInstall version			
Multimode GOF	09 57 441 0500 000		
(metal version)	09 57 468 0500 000		
Singlemode GOF	09 57 441 0501 000		
(metal version)	09 57 468 0501 000		
Device side Compact version			
Multimode GOF	09 57 442 0502 001		
Singlemode GOF	09 57 442 0503 001		



LC duplex IP20 adapter for device integration

## Advantages

- Small form factor requires 50 % (compared to SC and ST)
- Compact, space-saving design
- High packing density
- A & B parts identification according TIA 568 standard
- Complement adapter for IP67 connector on device side

## Technical characteristics

Degree of protection	IP20
Mating interface	LC duplex with two fibres
Temperature range	-40 °C ... +70 °C

Identification	Part number	Drawing	Dimensions in mm															
Device side																		
Adapter		<table border="1"> <thead> <tr> <th></th> <th>min.</th> <th>max.</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>26.60</td> <td>26.80</td> </tr> <tr> <td>H</td> <td>9.35</td> <td>9.45</td> </tr> <tr> <td>J</td> <td>12.80</td> <td>12.90</td> </tr> <tr> <td>K</td> <td>15.24</td> <td>15.34</td> </tr> </tbody> </table>		min.	max.	G	26.60	26.80	H	9.35	9.45	J	12.80	12.90	K	15.24	15.34	
	min.		max.															
G	26.60		26.80															
H	9.35		9.45															
J	12.80	12.90																
K	15.24	15.34																
Multimode GOF	09 57 400 0003 000																	
Singlemode GOF	09 57 400 0004 000																	
Connector LC duplex																		
Multimode GOF	09 57 400 0001 000																	
Singlemode GOF	09 57 400 0002 000																	





9 / 125 µm  
HARTING PushPull  
HARTING PushPull

## Features


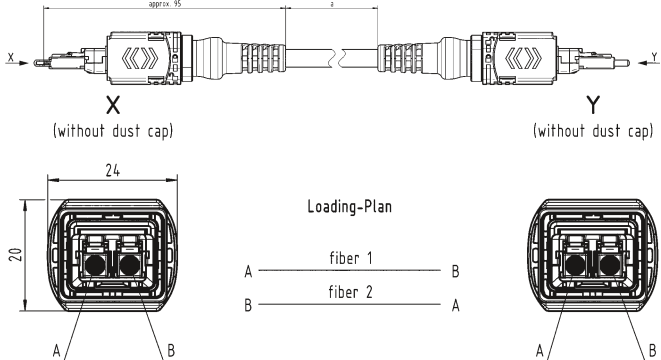

- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	9 / 125 µm
Connector 1	HARTING PushPull
Connector 2	HARTING PushPull
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
HARTING PushPull, FO cable, Singlemode, Overmoulded, Pre-assembled on both sides  	1 m	33 61 221 0010 001		
	2 m	33 61 221 0020 001		
	3 m	33 61 221 0030 001		
	4 m	33 61 221 0040 001		
	5 m	33 61 221 0050 001		
	6 m	33 61 221 0060 001		
	7 m	33 61 221 0070 001		
	8 m	33 61 221 0080 001		
	9 m	33 61 221 0090 001		
	10 m	33 61 221 0100 001		
	11 m	33 61 221 0110 001		
	12 m	33 61 221 0120 001		
	13 m	33 61 221 0130 001		
	14 m	33 61 221 0140 001		
	15 m	33 61 221 0150 001		
	20 m	33 61 221 0200 001		
	25 m	33 61 221 0250 001		
	30 m	33 61 221 0300 001		
	35 m	33 61 221 0350 001		
	40 m	33 61 221 0400 001		
45 m	33 61 221 0450 001			
50 m	33 61 221 0500 001			
60 m	33 61 221 0600 001			
70 m	33 61 221 0700 001			
80 m	33 61 221 0800 001			
90 m	33 61 221 0900 001			
100 m	33 61 221 1000 001			
FO cable, Singlemode, Not assembled  	10 m	33 58 751 0100 002		
	20 m	33 58 751 0200 002		
	100 m	33 58 751 1000 002		



50 / 125 µm  
HARTING PushPull  
HARTING PushPull

## Features


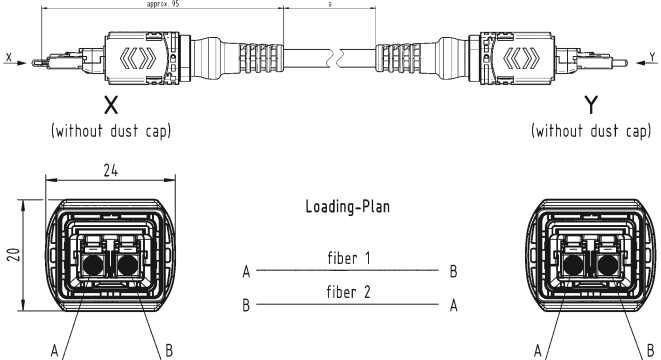

- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	50 / 125 µm
Connector 1	HARTING PushPull
Connector 2	HARTING PushPull
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull,</b> FO cable, Multimode, Overmoulded, Pre-assembled on both sides 	1 m	33 61 221 0010 002		
	2 m	33 61 221 0020 002		
	3 m	33 61 221 0030 002		
	4 m	33 61 221 0040 002		
	5 m	33 61 221 0050 002		
	6 m	33 61 221 0060 002		
	7 m	33 61 221 0070 002		
	8 m	33 61 221 0080 002		
	9 m	33 61 221 0090 002		
	10 m	33 61 221 0100 002		
	11 m	33 61 221 0110 002		
	12 m	33 61 221 0120 002		
	13 m	33 61 221 0130 002		
	14 m	33 61 221 0140 002		
	15 m	33 61 221 0150 002		
	20 m	33 61 221 0200 002		
	25 m	33 61 221 0250 002		
	30 m	33 61 221 0300 002		
	35 m	33 61 221 0350 002		
	40 m	33 61 221 0400 002		
45 m	33 61 221 0450 002			
50 m	33 61 221 0500 002			
60 m	33 61 221 0600 002			
70 m	33 61 221 0700 002			
80 m	33 61 221 0800 002			
90 m	33 61 221 0900 002			
100 m	33 61 221 1000 002			
FO cable, Multimode, Not assembled 	10 m	33 58 751 0100 003		
	20 m	33 58 751 0200 003		
	100 m	33 58 751 1000 003		



62,5 / 125 µm  
 HARTING PushPull  
 HARTING PushPull

## Features


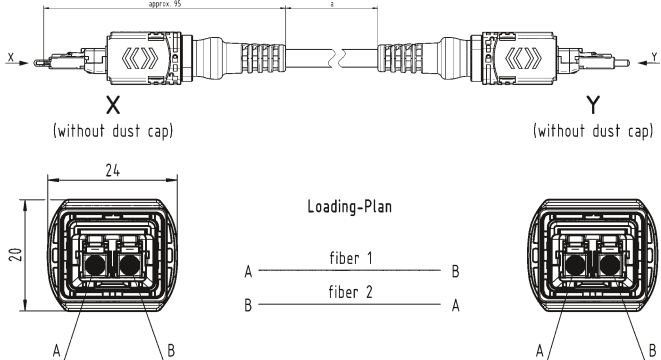

- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	62,5 / 125 µm
Connector 1	HARTING PushPull
Connector 2	HARTING PushPull
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm, 7 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull,</b> FO cable, Multimode, Overmoulded, Pre-assembled on both sides 	1 m	33 61 221 0010 003		
	2 m	33 61 221 0020 003		
	3 m	33 61 221 0030 003		
	4 m	33 61 221 0040 003		
	5 m	33 61 221 0050 003		
	6 m	33 61 221 0060 003		
	7 m	33 61 221 0070 003		
	8 m	33 61 221 0080 003		
	9 m	33 61 221 0090 003		
	10 m	33 61 221 0100 003		
	11 m	33 61 221 0110 003		
	12 m	33 61 221 0120 003		
	13 m	33 61 221 0130 003		
	14 m	33 61 221 0140 003		
	15 m	33 61 221 0150 003		
	20 m	33 61 221 0200 003		
	25 m	33 61 221 0250 003		
	30 m	33 61 221 0300 003		
	35 m	33 61 221 0350 003		
	40 m	33 61 221 0400 003		
45 m	33 61 221 0450 003			
50 m	33 61 221 0500 003			
60 m	33 61 221 0600 003			
70 m	33 61 221 0700 003			
80 m	33 61 221 0800 003			
90 m	33 61 221 0900 003			
100 m	33 61 221 1000 003			
FO cable, Multimode, Not assembled 	10 m	33 58 751 0100 001		
	20 m	33 58 751 0200 001		
	100 m	33 58 751 1000 001		



9 / 125 µm  
HARTING PushPull  
LC duplex

## Features


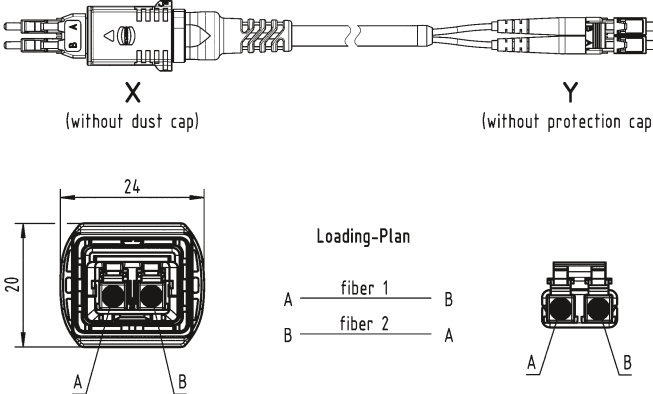

- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	9 / 125 µm
Connector 1	HARTING PushPull
Connector 2	LC duplex
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull,</b> FO cable, Singlemode, Overmoulded, Pre-assembled on both sides 	1 m	33 61 431 0010 001		
	2 m	33 61 431 0020 001		
	3 m	33 61 431 0030 001		
	4 m	33 61 431 0040 001		
	5 m	33 61 431 0050 001		
	6 m	33 61 431 0060 001		
	7 m	33 61 431 0070 001		
	8 m	33 61 431 0080 001		
	9 m	33 61 431 0090 001		
	10 m	33 61 431 0100 001		
	11 m	33 61 431 0110 001		
	12 m	33 61 431 0120 001		
	13 m	33 61 431 0130 001		
	14 m	33 61 431 0140 001		
	15 m	33 61 431 0150 001		
	20 m	33 61 431 0200 001		
	25 m	33 61 431 0250 001		
	30 m	33 61 431 0300 001		
	35 m	33 61 431 0350 001		
	40 m	33 61 431 0400 001		
45 m	33 61 431 0450 001			
50 m	33 61 431 0500 001			
60 m	33 61 431 0600 001			
70 m	33 61 431 0700 001			
80 m	33 61 431 0800 001			
90 m	33 61 431 0900 001			
100 m	33 61 431 1000 001			
FO cable, Singlemode, Not assembled 	10 m	33 58 751 0100 002		
	20 m	33 58 751 0200 002		
	100 m	33 58 751 1000 002		



50 / 125  $\mu\text{m}$   
HARTING PushPull  
LC duplex

## Features


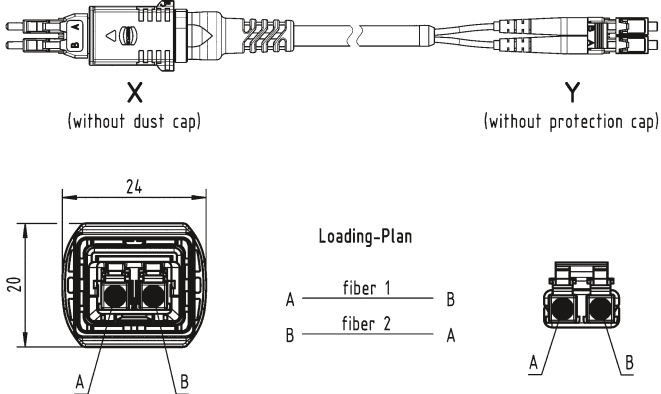

- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	50 / 125 $\mu\text{m}$
Connector 1	HARTING PushPull
Connector 2	LC duplex
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
HARTING PushPull, FO cable, Multimode, Overmoulded, Pre-assembled on both sides  	1 m	33 61 431 0010 002		
	2 m	33 61 431 0020 002		
	3 m	33 61 431 0030 002		
	4 m	33 61 431 0040 002		
	5 m	33 61 431 0050 002		
	6 m	33 61 431 0060 002		
	7 m	33 61 431 0070 002		
	8 m	33 61 431 0080 002		
	9 m	33 61 431 0090 002		
	10 m	33 61 431 0100 002		
	11 m	33 61 431 0110 002		
	12 m	33 61 431 0120 002		
	13 m	33 61 431 0130 002		
	14 m	33 61 431 0140 002		
	15 m	33 61 431 0150 002		
	20 m	33 61 431 0200 002		
	25 m	33 61 431 0250 002		
	30 m	33 61 431 0300 002		
	35 m	33 61 431 0350 002		
	40 m	33 61 431 0400 002		
45 m	33 61 431 0450 002			
50 m	33 61 431 0500 002			
60 m	33 61 431 0600 002			
70 m	33 61 431 0700 002			
80 m	33 61 431 0800 002			
90 m	33 61 431 0900 002			
100 m	33 61 431 1000 002			
FO cable, Multimode, Not assembled  	10 m	33 58 751 0100 003		
	20 m	33 58 751 0200 003		
	100 m	33 58 751 1000 003		



62,5 / 125  $\mu\text{m}$   
HARTING PushPull  
LC duplex

## Features


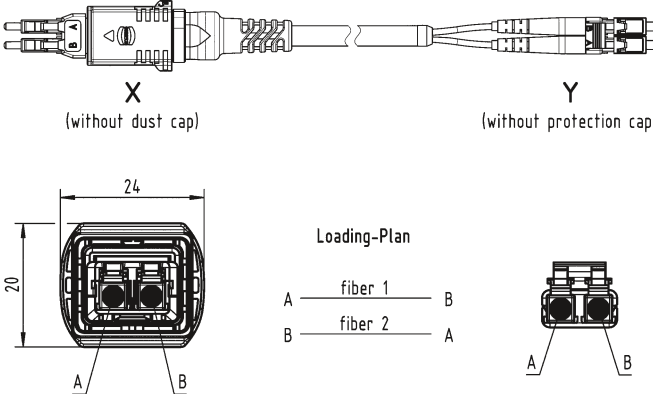

- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

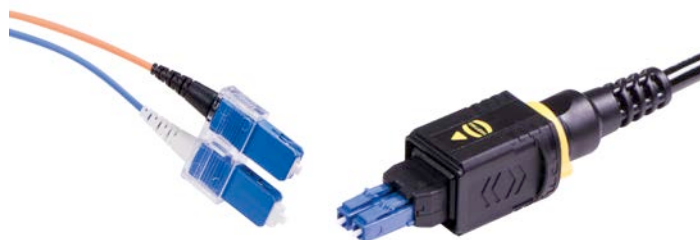
## Technical characteristics

Number of cores	62,5 / 125 $\mu\text{m}$
Connector 1	HARTING PushPull
Connector 2	LC duplex
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm, 7 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
HARTING PushPull, FO cable, Multimode, Overmoulded, Pre-assembled on both sides  	1 m	33 61 431 0010 003		
	2 m	33 61 431 0020 003		
	3 m	33 61 431 0030 003		
	4 m	33 61 431 0040 003		
	5 m	33 61 431 0050 003		
	6 m	33 61 431 0060 003		
	7 m	33 61 431 0070 003		
	8 m	33 61 431 0080 003		
	9 m	33 61 431 0090 003		
	10 m	33 61 431 0100 003		
	11 m	33 61 431 0110 003		
	12 m	33 61 431 0120 003		
	13 m	33 61 431 0130 003		
	14 m	33 61 431 0140 003		
	15 m	33 61 431 0150 003		
	20 m	33 61 431 0200 003		
	25 m	33 61 431 0250 003		
	30 m	33 61 431 0300 003		
	35 m	33 61 431 0350 003		
	40 m	33 61 431 0400 003		
45 m	33 61 431 0450 003			
50 m	33 61 431 0500 003			
60 m	33 61 431 0600 003			
70 m	33 61 431 0700 003			
80 m	33 61 431 0800 003			
90 m	33 61 431 0900 003			
100 m	33 61 431 1000 003			
FO cable, Multimode, Not assembled  	10 m	33 58 751 0100 001		
	20 m	33 58 751 0200 001		
	100 m	33 58 751 1000 001		



9 / 125 µm  
HARTING PushPull  
SC duplex

## Features



- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	9 / 125 µm
Connector 1	HARTING PushPull
Connector 2	SC duplex
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull,</b> FO cable, Singlemode, Overmoulded, Pre-assembled on both sides 	1 m	33 61 431 0010 004		
	2 m	33 61 431 0020 004		
	3 m	33 61 431 0030 004		
	4 m	33 61 431 0040 004		
	5 m	33 61 431 0050 004		
	6 m	33 61 431 0060 004		
	7 m	33 61 431 0070 004		
	8 m	33 61 431 0080 004		
	9 m	33 61 431 0090 004		
	10 m	33 61 431 0100 004		
	11 m	33 61 431 0110 004		
	12 m	33 61 431 0120 004		
	13 m	33 61 431 0130 004		
	14 m	33 61 431 0140 004		
	15 m	33 61 431 0150 004		
	20 m	33 61 431 0200 004		
	25 m	33 61 431 0250 004		
	30 m	33 61 431 0300 004		
	35 m	33 61 431 0350 004		
	40 m	33 61 431 0400 004		
	45 m	33 61 431 0450 004		
50 m	33 61 431 0500 004			
60 m	33 61 431 0600 004			
70 m	33 61 431 0700 004			
80 m	33 61 431 0800 004			
90 m	33 61 431 0900 004			
100 m	33 61 431 1000 004			
FO cable, Singlemode, Not assembled	10 m	33 58 751 0100 002		
	20 m	33 58 751 0200 002		
	100 m	33 58 751 1000 002		





50 / 125  $\mu\text{m}$   
HARTING PushPull  
SC duplex

## Features


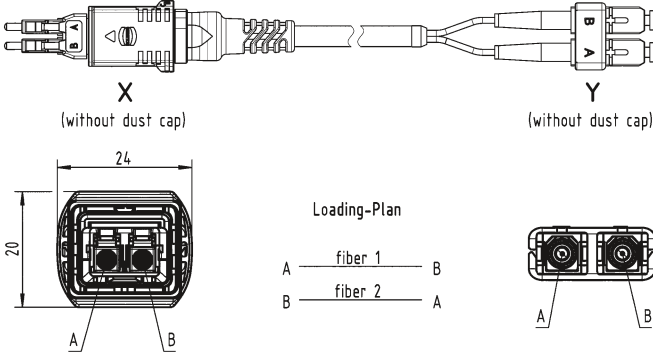

- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	50 / 125 $\mu\text{m}$
Connector 1	HARTING PushPull
Connector 2	SC duplex
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull,</b> FO cable, Multimode, Overmoulded, Pre-assembled on both sides  	1 m	33 61 431 0010 005		
	2 m	33 61 431 0020 005		
	3 m	33 61 431 0030 005		
	4 m	33 61 431 0040 005		
	5 m	33 61 431 0050 005		
	6 m	33 61 431 0060 005		
	7 m	33 61 431 0070 005		
	8 m	33 61 431 0080 005		
	9 m	33 61 431 0090 005		
	10 m	33 61 431 0100 005		
	11 m	33 61 431 0110 005		
	12 m	33 61 431 0120 005		
	13 m	33 61 431 0130 005		
	14 m	33 61 431 0140 005		
	15 m	33 61 431 0150 005		
	20 m	33 61 431 0200 005		
	25 m	33 61 431 0250 005		
	30 m	33 61 431 0300 005		
	35 m	33 61 431 0350 005		
	40 m	33 61 431 0400 005		
45 m	33 61 431 0450 005			
50 m	33 61 431 0500 005			
60 m	33 61 431 0600 005			
70 m	33 61 431 0700 005			
80 m	33 61 431 0800 005			
90 m	33 61 431 0900 005			
100 m	33 61 431 1000 005			
FO cable, Multimode, Not assembled  	10 m	33 58 751 0100 003		
	20 m	33 58 751 0200 003		
	100 m	33 58 751 1000 003		



62,5 / 125  $\mu\text{m}$   
HARTING PushPull  
SC duplex

## Features


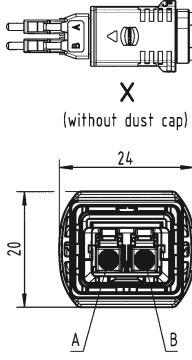
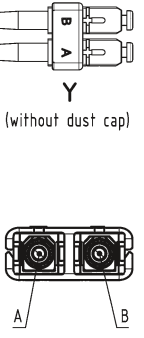

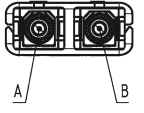
- Transmission of up to 10 Gbit/s
- Flexible, space saving
- Simple handling by HARTING PushPull
- Suitable for outdoor applications

## Technical characteristics

Number of cores	62,5 / 125 $\mu\text{m}$
Connector 1	HARTING PushPull
Connector 2	SC duplex
Limiting temperature	-40 ... +85 °C
Schutz nach IEC 60529	IP65 / IP67
Cable diameter	6,5 mm, 7 mm
Material (hood/housing)	Thermoplastic
Material (cable)	PUR (polyurethane)
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull,</b> FO cable, Multimode, Overmoulded, Pre-assembled on both sides 	1 m	33 61 431 0010 006	 <p><b>X</b> (without dust cap)</p>	 <p><b>Y</b> (without dust cap)</p>
	2 m	33 61 431 0020 006		
	3 m	33 61 431 0030 006		
	4 m	33 61 431 0040 006		
	5 m	33 61 431 0050 006		
	6 m	33 61 431 0060 006		
	7 m	33 61 431 0070 006		
	8 m	33 61 431 0080 006		
	9 m	33 61 431 0090 006		
	10 m	33 61 431 0100 006		
	11 m	33 61 431 0110 006		
	12 m	33 61 431 0120 006		
	13 m	33 61 431 0130 006		
	14 m	33 61 431 0140 006		
	15 m	33 61 431 0150 006		
	20 m	33 61 431 0200 006		
	25 m	33 61 431 0250 006		
	30 m	33 61 431 0300 006		
	35 m	33 61 431 0350 006		
	40 m	33 61 431 0400 006		
45 m	33 61 431 0450 006			
50 m	33 61 431 0500 006			
60 m	33 61 431 0600 006			
70 m	33 61 431 0700 006			
80 m	33 61 431 0800 006			
90 m	33 61 431 0900 006			
100 m	33 61 431 1000 006			
 FO cable, Multimode, Not assembled	10 m	33 58 751 0100 001	<p>Loading-Plan</p> <p>A — fiber 1 — B</p> <p>B — fiber 2 — A</p>	
	20 m	33 58 751 0200 001		
	100 m	33 58 751 1000 001		

Number of contacts

# 20

0.5 A / 30 V

PVB jack

Adapter



## Technical characteristics

Number of contacts	20
Electrical data acc. to EN 61984	0.5 A 30 V
Rated current	0.5 A
Rated voltage	30 V
Limiting temperature	-40 °C ... +80 °C

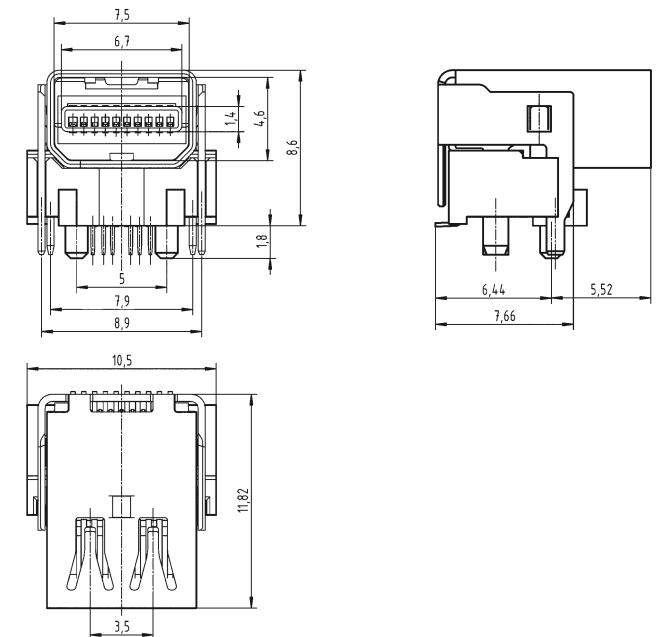
## Technical characteristics

Mating cycles	≥ 100
Degree of protection acc. to IEC 60529	IP20, IP65 / IP67, when mated
Material (hood/housing)	Polyamide Polybutylene terephthalate (PBT)
Colour (hood/housing)	Black
RoHS	compliant

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

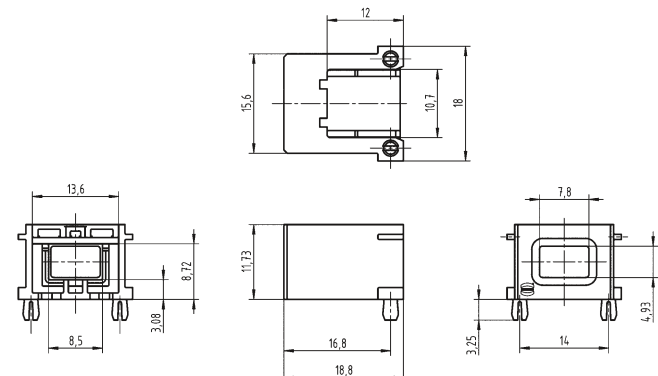
HARTING PushPull,  
PCB jack,  
Solder termination,  
Polyamide

09 45 551 1000<sup>1)</sup>  
09 45 551 1000 333<sup>2)</sup>



HARTING PushPull,  
Adapter,  
Polybutylenterephthalat (PBT)

09 45 545 1002



All solder jacks and adapter PCB's are suitable for the HARTING PushPull bulkhead mounting housings 09 45 545 0042 / ... 0043

<sup>1)</sup> Packaging: Tape & Reel à 400 pieces

<sup>2)</sup> Sample, Packaging: 1 piece



20x AWG 32  
Mini DisplayPort  
Mini DisplayPort

## Technical characteristics

Number of cores	20
Core structure	20x AWG 32
Connector 1	Mini DisplayPort
Connector 2	Mini DisplayPort
Limiting temperature	-40 ... +80 °C
Transmission characteristics	DisplayPort 1.2, DisplayPort 1.1
Material (cable)	TPE

## Technical characteristics

Colour (cable)	Black
RoHS	compliant

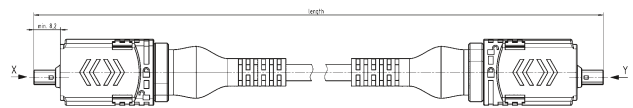
## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

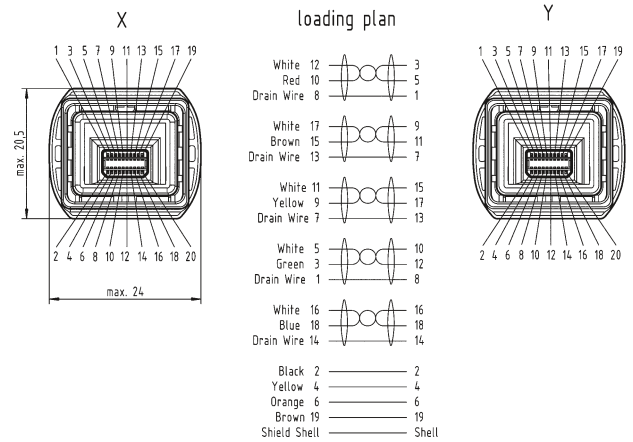
**HARTING PushPull,**  
Copper cable (round),  
Pre-assembled on both  
sides,  
DisplayPort 1.2

0.5 m	09 45 145 1000
1 m	09 45 145 1001
1.5 m	09 45 145 1002
2 m	09 45 145 1003



**HARTING PushPull,**  
Copper cable (round),  
Pre-assembled on both  
sides,  
DisplayPort 1.1

3 m	09 45 145 1004
-----	----------------





20x AWG 32  
Mini DisplayPort  
IP20

## Technical characteristics

Number of cores	20
Core structure	20x AWG 32
Connector 1	Mini DisplayPort
Connector 2	Mini DisplayPort
Limiting temperature	-40 ... +80 °C
Transmission characteristics	DisplayPort 1.2, DisplayPort 1.1
Material (cable)	TPE

## Technical characteristics

Colour (cable)	Black
RoHS	compliant

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

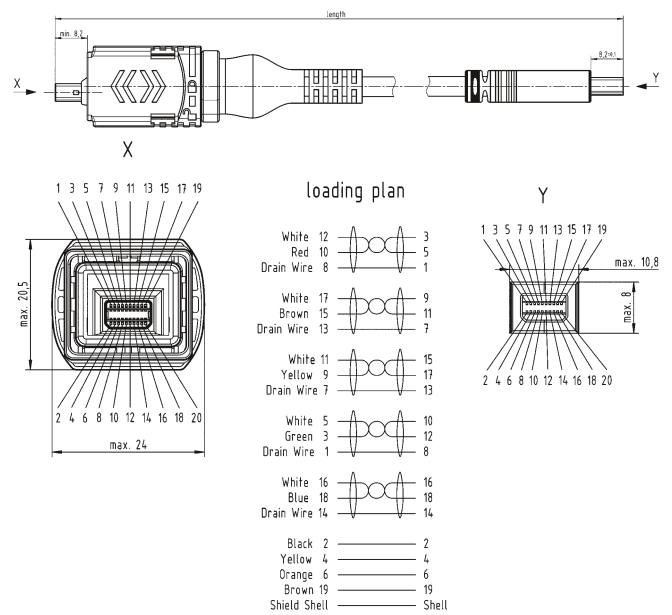
**HARTING PushPull,**  
Copper cable (round),  
Pre-assembled on both  
sides,  
DisplayPort 1.2

0.5 m	09 45 145 1010
1 m	09 45 145 1011
1.5 m	09 45 145 1012
2 m	09 45 145 1013



**HARTING PushPull,**  
Copper cable (round),  
Pre-assembled on both  
sides,  
DisplayPort 1.1

3 m	09 45 145 1014
-----	----------------





HARTING PushPull, type acc. to IEC 61 076-3-106 variant 4  
10 poles 50 V / 5 A

## Features

- HARTING PushPull technology
- For the transmission of analog, low voltage and bus signals
- Fully shielded
- 10 contacts
- Touch-proof
- Easy and fast cable installation

## Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-106 variant 4
Degree of protection	IP65 / IP67
Mating face	acc. to IEC/PAS 61076-3-113
Number of contacts	10
Electrical data acc. to DIN EN 61984	5 A 50 V 1.5 kV 3
Contact resistance	10 mΩ
Termination	Crimp or solder
Conductor cross section	AWG 24 ... 18; 0.25 ... 0.82 mm <sup>2</sup>
Conductor diameter	max. 2.1 mm
Outer cable diameter	4.5 ... 10 mm
Shielding	Fully shielded, 360° shielding contact
Mating cycles	min. 500
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

### Identification

### Part number

### Drawing

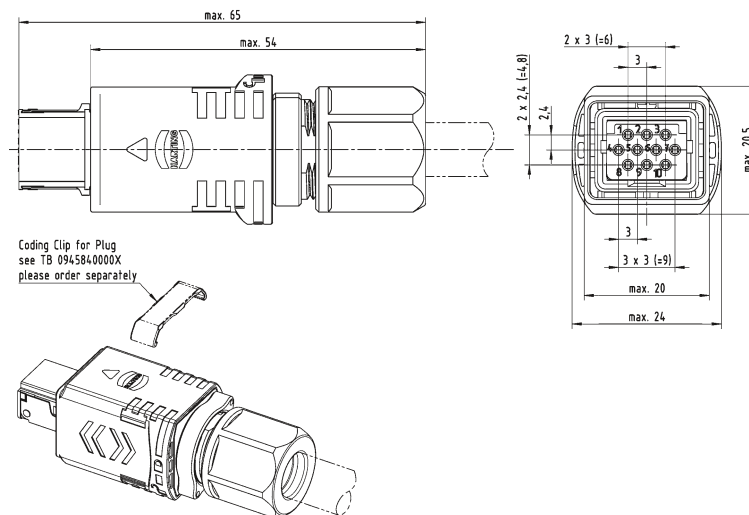
### Dimensions in mm

#### HARTING PushPull Signal

Connector set 10 poles  
incl. plastic housing  
and female insert

09 45 145 9011

Order D-Sub crimp female con-  
tacts separately



#### D-Sub crimp contacts for cable side

female, turned  
AWG 24-20; 0.25 - 0.52 mm<sup>2</sup>

09 67 000 8476<sup>1)</sup>

female, turned  
AWG 22-18; 0.33 - 0.82 mm<sup>2</sup>

09 67 000 3476<sup>1)</sup>

female, stamped  
AWG 24-20; 0.25 - 0.56 mm<sup>2</sup>

09 67 000 8278<sup>2)</sup>

<sup>1)</sup> To be used with crimp tool 09 99 000 0501. Suitable locator: 09 99 000 0531

<sup>2)</sup> To be used with crimp tool 09 99 000 0175.

Identification	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull Signal</b> Insert for panel feed-through HIFF, 10 poles incl. male insert  Order D-Sub crimp male contacts separately	09 45 545 9010		
<b>D-Sub crimp contacts                      for device side</b>  male, turned AWG 24-20; 0.25-0.52 mm <sup>2</sup>  male, turned AWG 22-18; 0.33-0.82 mm <sup>2</sup>  male, stamped AWG 24-20; 0.25-0.56 mm <sup>2</sup>	09 67 000 8576 <sup>1)</sup>  09 67 000 3576 <sup>1)</sup>  09 67 000 8178 <sup>2)</sup>		
<b>HARTING PushPull</b> suitable bulkhead mounted housing, plastic  Compact	09 45 545 0041		
<b>HARTING PushPull Signal                      solder jack angled</b> suitable bulkhead mounted housings  with fixing clip  without fixing clip	09 45 545 9011  09 45 545 0042  09 45 545 0043	panel cutting 	
<b>HARTING PushPull Signal                      solder jack straight</b> suitable bulkhead mounted housing	09 45 545 9012  09 45 545 0040		

<sup>1)</sup> To be used with crimp tool 09 99 000 0501. Suitable locator: 09 99 000 0531  
<sup>2)</sup> To be used with crimp tool 09 99 000 0175.





10x AWG 20  
 HARTING PushPull Signal 10-pin  
 HARTING PushPull Signal 10-pin

## Features

- Double-sided IP65/IP67 protection
- Simple handling by HARTING PushPull
- 10-pin

## Technical characteristics

Number of cores	10
Core structure	10x AWG 20
Connector 1	HARTING PushPull, Signal, 10-pin
Connector 2	HARTING PushPull, Signal, 10-pin
Rated current	5 A
Rated voltage	50 V
Limiting temperature	-40 ... +80 °C
Material (cable)	PVC
Colour (cable)	Grey

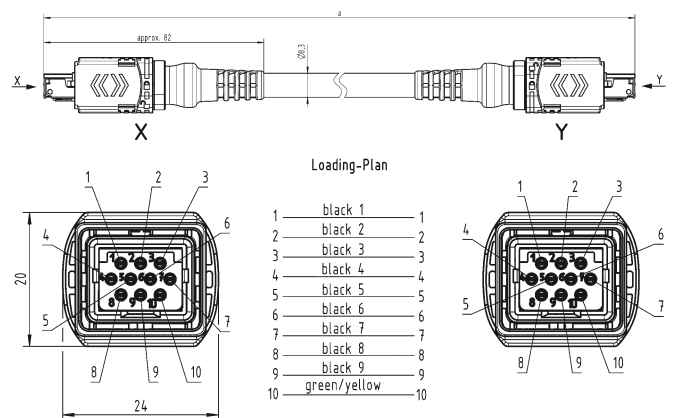
## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

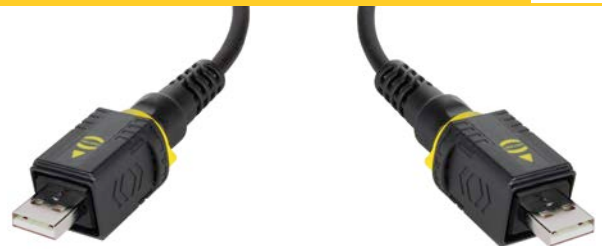
HARTING PushPull,  
 Copper cable (round),  
 Wiring 1:1,  
 Pre-assembled on both  
 sides

0.5 m	09 48 313 18A6 005
1 m	09 48 313 18A6 010
1.5 m	09 48 313 18A6 015
2 m	09 48 313 18A6 020
3 m	09 48 313 18A6 030
4 m	09 48 313 18A6 040
5 m	09 48 313 18A6 050
7.5 m	09 48 313 18A6 075
10 m	09 48 313 18A6 100
15 m	09 48 313 18A6 150
20 m	09 48 313 18A6 200









4 wires  
 HARTING PushPull USB 2.0 Type A  
 HARTING PushPull USB 2.0 Type A

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

## Technical characteristics

Number of cores	4
Core structure	4 wires
Connector 1	HARTING PushPull, USB 2.0, Type A
Connector 2	HARTING PushPull, USB 2.0, Type A
Material (cable)	PVC
Colour (cable)	Black

## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

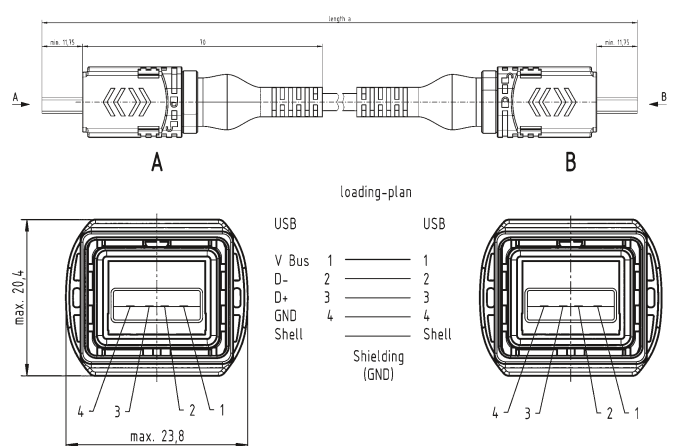
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0.5 m	09 45 445 1900
1 m	09 45 445 1901
1.5 m	09 45 445 1902
2 m	09 45 445 1903
3 m	09 45 445 1904
5 m	09 45 445 1905





4 wires  
 HARTING PushPull USB 2.0 Type A  
 IP20 USB 2.0 Type A

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

## Technical characteristics

Number of cores	4
Core structure	4 wires
Connector 1	HARTING PushPull, USB 2.0, Type A
Connector 2	IP20, USB 2.0, Type A
Material (cable)	PVC
Colour (cable)	Black

## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

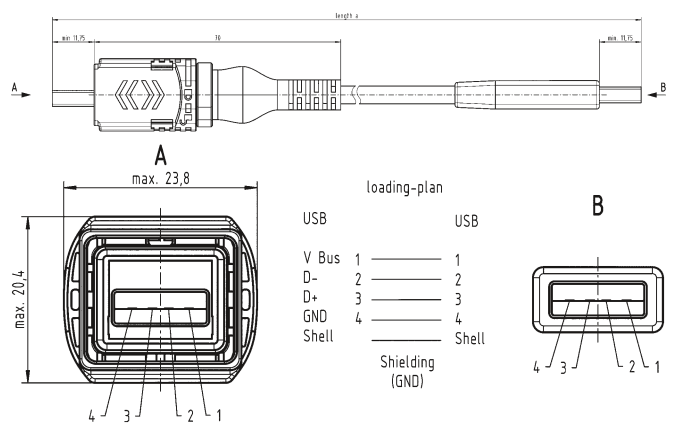
Other cable lengths on request!

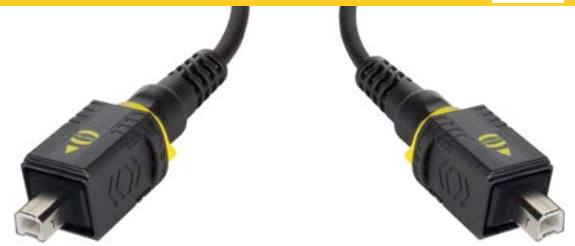
Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0.5 m	09 45 445 1910
1 m	09 45 445 1911
1.5 m	09 45 445 1912
2 m	09 45 445 1913
3 m	09 45 445 1914
5 m	09 45 445 1915





4 wires  
 HARTING PushPull USB 2.0 Type B  
 HARTING PushPull USB 2.0 Type B

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

## Technical characteristics


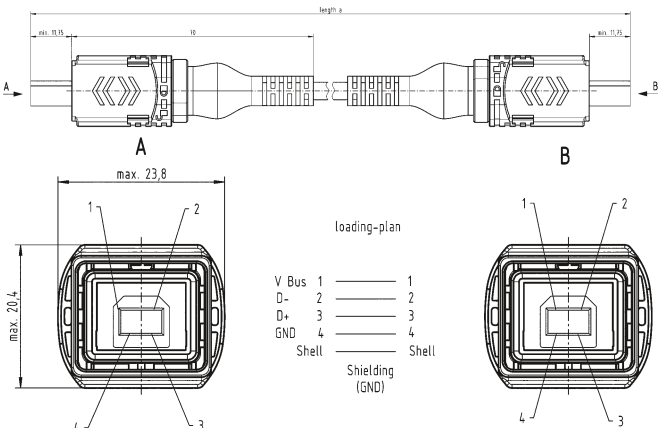
Number of cores	4
Core structure	4 wires
Connector 1	HARTING PushPull, USB 2.0, Type B
Connector 2	HARTING PushPull, USB 2.0, Type B
Material (cable)	PVC
Colour (cable)	Black

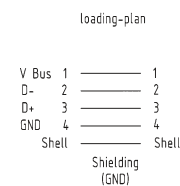
## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
USB, Copper cable (round), Pre-assembled on both sides 	0.5 m 1 m 1.5 m 2 m 3 m 5 m	09 45 445 3900 09 45 445 3901 09 45 445 3902 09 45 445 3903 09 45 445 3904 09 45 445 3905		





4 wires  
 HARTING PushPull USB 2.0 Type B  
 IP20 USB 2.0 Type B

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

## Technical characteristics

Number of cores	4
Core structure	4 wires
Connector 1	HARTING PushPull, USB 2.0, Type B
Connector 2	IP20, USB 2.0, Type B
Material (cable)	PVC
Colour (cable)	Black

## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

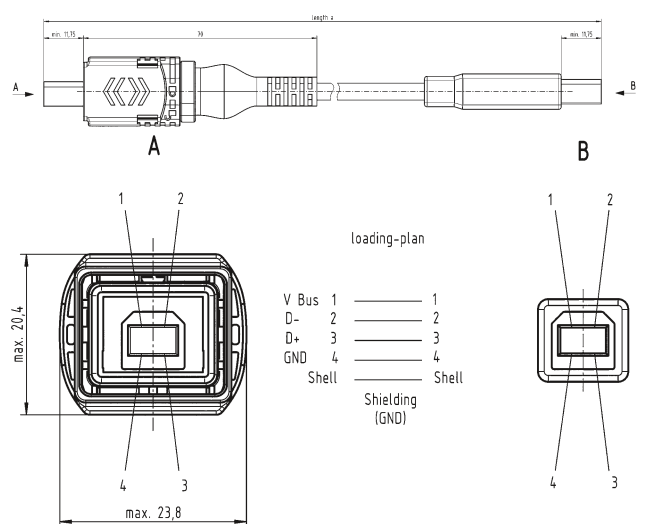
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0.5 m	09 45 445 3910
1 m	09 45 445 3911
1.5 m	09 45 445 3912
2 m	09 45 445 3913
3 m	09 45 445 3914
5 m	09 45 445 3915







4 wires  
 HARTING PushPull USB 2.0 Type A  
 HARTING PushPull USB 2.0 Type B

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

## Technical characteristics

Number of cores	4
Core structure	4 wires
Connector 1	HARTING PushPull, USB 2.0, Type A
Connector 2	HARTING PushPull, USB 2.0, Type B
Material (cable)	PVC
Colour (cable)	Black

## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

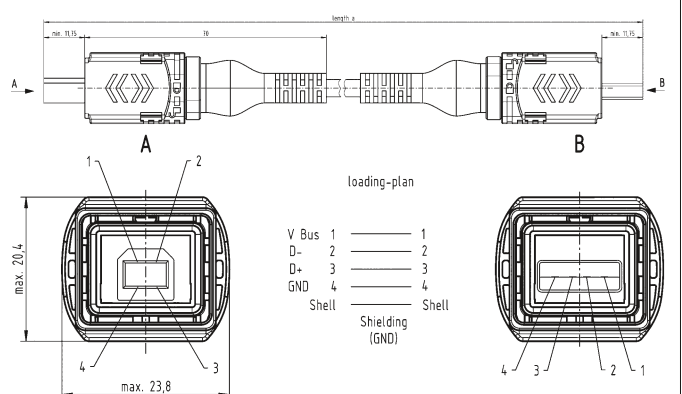
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0.5 m	09 45 445 4900
1 m	09 45 445 4901
1.5 m	09 45 445 4902
2 m	09 45 445 4903
3 m	09 45 445 4904
5 m	09 45 445 4905





4 wires  
 HARTING PushPull USB 2.0 Type B  
 IP20 USB 2.0 Type A

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

## Technical characteristics

Number of cores	4
Core structure	4 wires
Connector 1	HARTING PushPull, USB 2.0, Type B
Connector 2	IP20, USB 2.0, Type A
Material (cable)	PVC
Colour (cable)	Black

## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

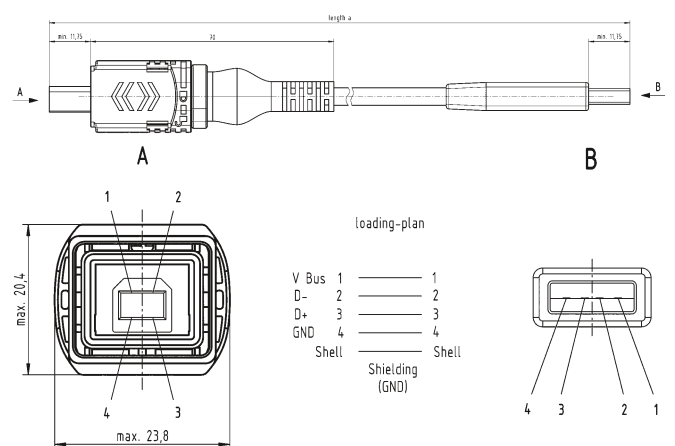
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0,5 m	09 45 445 4910
1 m	09 45 445 4911
1,5 m	09 45 445 4912
2 m	09 45 445 4913
3 m	09 45 445 4914
5 m	09 45 445 4915





4 wires  
 HARTING PushPull USB 2.0 Type A  
 IP20 USB 2.0 Type B

**Features**

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

**Technical characteristics**

Number of cores	4
Core structure	4 wires
Connector 1	HARTING PushPull, USB 2.0, Type A
Connector 2	IP20, USB 2.0, Type B
Material (cable)	PVC
Colour (cable)	Black

**Specifications and approvals**

IEC 61076-3-106 variant 4 (V4), PushPull technology

**Details**

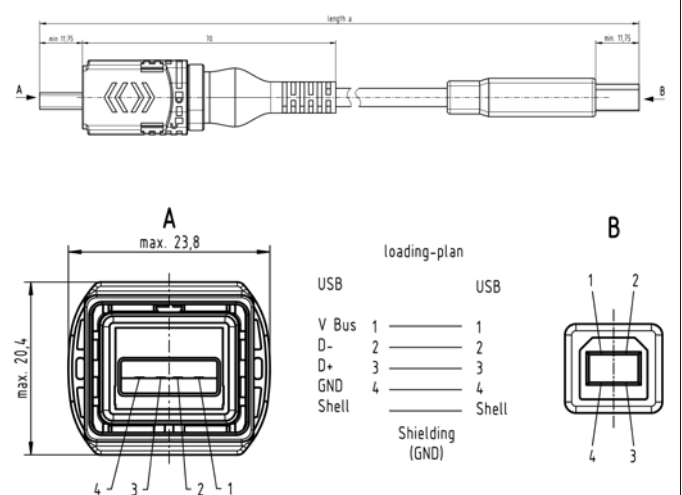
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0.5 m	09 45 445 2930
1 m	09 45 445 2931
1.5 m	09 45 445 2932
2 m	09 45 445 2933
3 m	09 45 445 2934
5 m	09 45 445 2935





9 wires  
 HARTING PushPull USB 3.0 Type A  
 HARTING PushPull USB 3.0 Type A

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 2.0 compatible

## Technical characteristics

Number of cores	9
Core structure	9 wires
Connector 1	HARTING PushPull, USB 3.0, Type A
Connector 2	HARTING PushPull, USB 3.0, Type A
Material (cable)	PVC
Colour (cable)	Black

## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

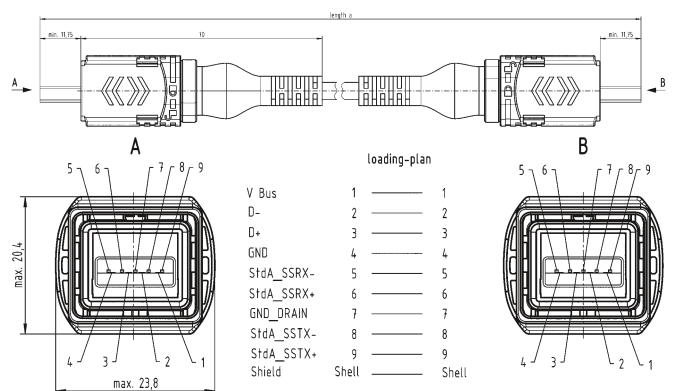
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0.5 m	09 45 445 2900
1 m	09 45 445 2901
1.5 m	09 45 445 2902
2 m	09 45 445 2903
3 m	09 45 445 2904
5 m	09 45 445 2905





9 wires  
 HARTING PushPull USB 3.0 Type A  
 IP20 USB 3.0 Type A

## Features

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 3.0 compatible

## Technical characteristics


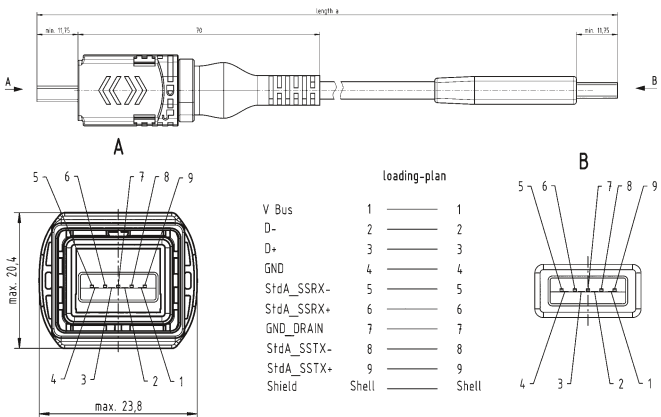
Number of cores	9
Core structure	9 wires
Connector 1	HARTING PushPull, USB 3.0, Type A
Connector 2	IP20, USB 3.0, Type A
Material (cable)	PVC
Colour (cable)	Black

## Specifications and approvals

IEC 61076-3-106 variant 4 (V4), PushPull technology

## Details

Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
USB, Copper cable (round), Pre-assembled on both sides 	0.5 m	09 45 445 2910		
	1 m	09 45 445 2911		
	1.5 m	09 45 445 2912		
	2 m	09 45 445 2913		
	3 m	09 45 445 2914		
	5 m	09 45 445 2915		



9 wires  
 HARTING PushPull USB 3.0 Type A  
 IP20 USB 3.0 Type B

**Features**

- HARTING PushPull technology
- 360° shielding
- Flexible, space saving
- Robust industrial design
- USB 3.0 compatible

**Technical characteristics**

Number of cores	9
Core structure	9 wires
Connector 1	HARTING PushPull, USB 3.0, Type A
Connector 2	IP20, USB 3.0, Type B
Material (cable)	PVC
Colour (cable)	Black

**Specifications and approvals**

IEC 61076-3-106 variant 4 (V4), PushPull technology

**Details**

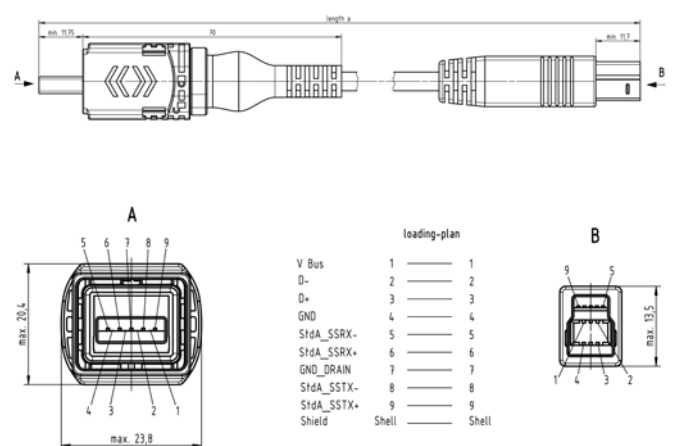
Other cable lengths on request!

Identification	Cable length	Part number	Drawing	Dimensions in mm
----------------	--------------	-------------	---------	------------------

USB,  
 Copper cable (round),  
 Pre-assembled on both  
 sides



0.5 m	09 45 445 2940
1 m	09 45 445 2941
1.5 m	09 45 445 2942
2 m	09 45 445 2943
3 m	09 45 445 2944
5 m	09 45 445 2945



HARTING offers with the HARTING PushPull Power connector a universal solution for the power supply in compact and robust applications. It is in its element wherever small dimensions are combined with a high protection class.

The connector is available in a 4 pole 48 V and a 2 pole 250 V version. The power contacts can carry up to 12 resp. 16 A each (see deratings). In spite of this high current carrying capacity the connector gets by with minimal dimensions and fulfils the industrial requirements for clearances and creepage distances at the same time (pollution degree 3 and overvoltage category III).

Additionally the HARTING PushPull Power connector offers the protection class of IP67 and 65. Beside numerous industrial use cases it is thereby suited for diverse applications in the fields of transportation and telecommunication.

The cable side of the HARTING PushPull Power is terminated with crimping technology. For the receptacle several solutions with different termination technologies are offered.

- Regulations**
- VDE 0110
  - DIN EN 61984

**Advantages**

- Minimum space requirements in spite of high current carrying capacity
- Very compact housing in a high protection class
- Protection against contact on plug AND receptacle side enables an easy and safe installation
- For low voltage (48 V) and for power supply (250 V) available
- Codeable without losing contacts
- Different termination technologies for individual device integration

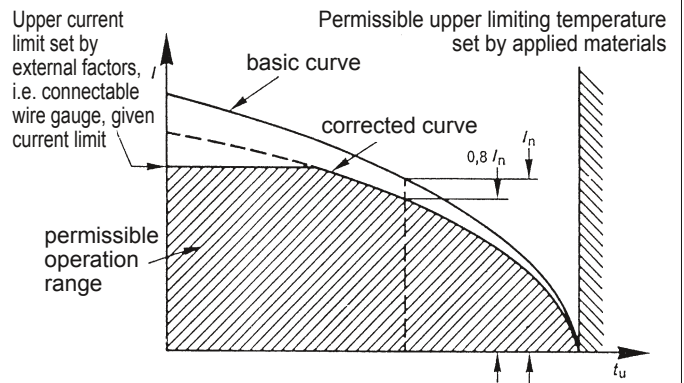
**Typical application areas**

- Factory and building automation
- Industrial electronics
- Telecommunication and wireless networks
- Transportation
- Industrial monitoring and camera systems
- Lighting and display technology
- Access control systems

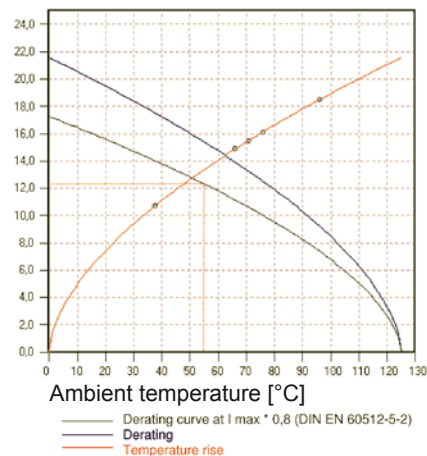
**Current carrying capacity**

The current carrying capacity is determined in tests which are conducted on the basis of the DIN IEC 60512-5-2. The current carrying capacity is limited by the thermal properties of materials which are used for inserts as well as by the insulating materials. These components have a limiting temperature which should not be exceeded.

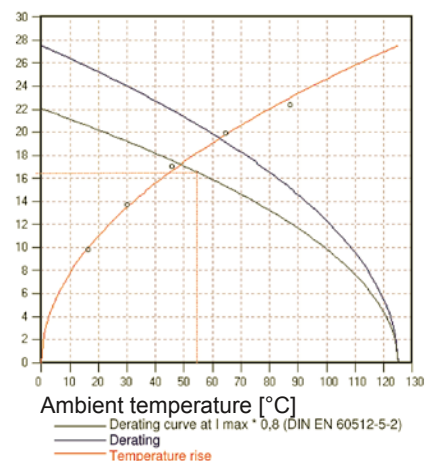
**Example of a current capacity curve**



**Derating-Diagram for low voltage, 48 V; 4x 12 A**



**Derating-Diagram for power supply, 250 V; 2x 16 A**









HARTING PushPull Power 4/0,  
type acc. to IEC 61076-3-106 variant 4  
connector 4 poles 48 V / 12 A

## Advantages

- Power connectors for devices
- Compact, space-saving design
- Touch-proof according to IEC DIN EN 60529
- Polarisation with the aid of coding pins
- Cable side: Male with crimp termination
- 4 different coding variants without loss of contact

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Degree of protection	IP65 / IP67
Number of contacts	4
Electrical data acc. to EN 61984	12 A 48 V 1.5 kV 3
Cable diameter	4.5 ... 10 mm
Termination	Crimp
Termination cross section	0.75 - 2.5 mm <sup>2</sup> (AWG 20 - 12) stranded
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
<b>Connector set</b> incl. 4 turned crimp contacts (male) for 1.5 mm <sup>2</sup> , insulation body, housing, cable gland	09 46 145 4420		
<b>Connector set</b> without contacts	09 46 145 4421		
<b>Accessories – crimp contacts male</b> 0.75 mm <sup>2</sup> (AWG 20 - 18)	09 46 500 0403		
1.0 mm <sup>2</sup> (AWG 18)	09 46 500 0407		
1.5 mm <sup>2</sup> (AWG 16 - 14)	09 46 500 0401		
2.5 mm <sup>2</sup> (AWG 12)	09 46 500 0405		
<b>Accessories – crimp contacts female</b> 0.75 mm <sup>2</sup> (AWG 20 - 18)	09 46 500 0404		
1.0 mm <sup>2</sup> (AWG 18)	09 46 500 0408		
1.5 mm <sup>2</sup> (AWG 16 - 14)	09 46 500 0402		
2.5 mm <sup>2</sup> (AWG 12)	09 46 500 0406		
<b>Accessories – Coding pin set</b> to avoid accidental incorrect mating a coding system is required. This coding pins are inserted without loss of contact.	09 46 840 0000		

Number of contacts

# 4

4G 1,5 mm<sup>2</sup>

HARTING PushPull (V4) Power 4-polig

HARTING PushPull (V4) Power 4-polig



## Technical characteristics

Number of cores	4
Core structure	4G 1.5 mm <sup>2</sup>
Connector	1 HARTING PushPull (V4) Power 4-pin
Connector 2	HARTING PushPull (V4) Power 4-pin
Rated current	12 A
Rated voltage	48 V
Limiting temperature -	40 ... +80 °C
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (cable)	PUR (polyurethane)
Colour (cable)	Grey

## Specifications and approvals

IEC 61076-3-106 Variante 4 (V4)

## Details

Other cable lengths on request!

Identification	Conductor cross-section (mm <sup>2</sup> )	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull (V4),</b> Copper cable (round), Wiring 1:1, Cable assemblies, Pre-assembled on both sides, Crimp termination, Unshielded	1.5	0.5 m	33 59 222 0050 002		
	1.5	1 m	33 59 222 0100 002		
	1.5	2 m	33 59 222 0200 002		
	1.5	3 m	33 59 222 0300 002		
	1.5	4 m	33 59 222 0400 002		
	1.5	5 m	33 59 222 0500 002		
	1.5	7.5 m	33 59 222 0750 002		
	1.5	10 m	33 59 222 1000 002		
	1.5	15 m	33 59 222 1500 002		
	1.5	20 m	33 59 222 2000 002		
	1.5	30 m	33 59 222 3000 002		



HARTING PushPull Power 2/0,  
type acc. to IEC 61076-3-106 variant 4  
panel feed-through and connector, 3 poles, 250 V / 16 A

## Advantages

- Power connectors for devices
- Compact, space-saving design
- Touch-proof according to IEC DIN EN 60 529
- Polarisation with the aid of coding pins
- Cable side: Male with crimp termination
- Device side: female with crimp termination
- 4 different coding variants without loss of contact

## Technical characteristics

Locking	PushPull Technology acc. to IEC 61076-3-106 variant 4
Degree of protection	IP65 / IP67
Number of contacts	2 + PE
Electrical data acc. to EN 61984	16 A 250 V 4 kV 3
Cable diameter	4.5 ... 10 mm
Termination	Crimp
Termination cross section	0.75 - 2.5 mm <sup>2</sup> (AWG 20 - 12) stranded
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
Components device side			
Panel feed-through set insulation body (black)	09 46 245 3420		
Power-female with solder termination angled	09 46 500 3400		
Power-female with crimp termination without contacts	09 46 500 3401		
Connector set incl. 3 turned crimp contacts (male) for 1.5 mm <sup>2</sup> , insulation body (black), housing, cable gland	09 46 145 3420		
Connector set without contacts	09 46 145 3421		
Coding pin set to avoid accidental incorrect mating a coding system is required. This coding pins are inserted without loss of contact.	09 46 840 0000		

Number of contacts

**2+**

3G 1,5 mm<sup>2</sup>

HARTING PushPull (V4) Power 3-polig

HARTING PushPull (V4) Power 3-polig



## Technische Kennwerte

Number of cores	3
Core structure	3G 1.5 mm <sup>2</sup>
Connector	1 HARTING PushPull (V4) Power 3-pin
Connector 2	HARTING PushPull (V4) Power 3-pin
Rated current	16 A
Rated voltage	250 V
Limiting temperature -	40 ... +80 °C
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (cable)	PUR (polyurethane)
Colour (cable)	Grey

## Normen und Zulassungen

IEC 61076-3-106 Variante 4 (V4)

## Hinweise

Weitere Kabellängen auf Anfrage!

Identification	Conductor cross-section (mm <sup>2</sup> )	Cable length	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull (V4),</b> Copper cable (round), Wiring 1:1, Cable assemblies, Pre-assembled on both sides, Crimp termination, Unshielded, PushPull	1,5	0,5 m	33 59 222 0050 001		
	1,5	1 m	33 59 222 0100 001		
	1,5	2 m	33 59 222 0200 001		
	1,5	3 m	33 59 222 0300 001		
	1,5	4 m	33 59 222 0400 001		
	1,5	5 m	33 59 222 0500 001		
	1,5	7,5 m	33 59 222 0750 001		
	1,5	10 m	33 59 222 1000 001		
	1,5	15 m	33 59 222 1500 001		
	1,5	20 m	33 59 222 2000 001		
	1,5	30 m	33 59 222 3000 001		



Identification

Part number

HARTING PushPull Power  
8-indent crimping tool incl. positioner

09 46 800 0000

Locator HARTING PushPull Power  
contacts for Buchanan crimping tool  
(09 99 000 0001)

09 46 800 0010



For wire gauges  
0.08 ... 4.0 mm<sup>2</sup>  
(AWG 28 ... 12).

Insertion tool

09 46 800 0099

Extraction tool

09 46 800 0098



For an easy insertion and  
extraction of the male and  
female crimp contacts into /  
out of the insulator body.

### Crimp connection

A perfect crimp connection is gastight, therefore corrosion free and amounts to a cold weld of the parts being connected. For this reason, major features in achieving high quality crimp connections are the design of the contact crimping parts and of course the crimping tool itself. Wires to be connected must be carefully matched with the correct size of crimp contacts. If these basic requirements are met, users will be assured of highly reliable connections with low contact resistance and high resistance to corrosive attack.

The economic and technical advantages are:

- Constant contact resistance as a result of precisely repeated crimp connection quality
- Corrosion free connections as a result of cold weld action
- Pre-preparation of cable forms with crimp contacts fitted
- Optimum cost cable connection

Requirements for crimp connectors are laid down in DIN IEC 60352-2, Amend. 2, as illustrated in the table.

#### Pull out force of stranded wire

The main criterion to judge the quality of a crimp connection is the retention force achieved by the wire conductor in the terminal section of the contact. DIN IEC 60352, part 2, defines the extraction force in relation to the cross-section of the conductor. When fitted using HARTING crimping tools and subject to their utilization in an approved manner, our crimp connectors comply with the required extraction forces.

### Tensile strength of crimped connections

Conductor cross-section		Tensile strength
mm <sup>2</sup>	AWG	N
0.08	28	11
0.12	26	15
0.14		18
0.22	24	28
0.25		32
0.32	22	40
0.5	20	60
0.75		85
0.82	18	90
1.0		108
1.3	16	135
1.5		150
2.1	14	200
2.5		230
3.3	12	275
4.0		310

Extract from DIN IEC 60352-2, Amend. 2, Table IV

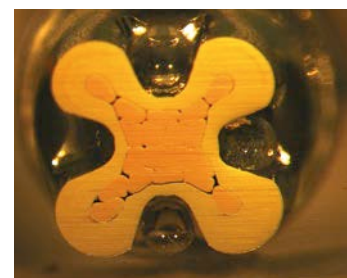
### Crimping tools

Crimping tools (hand operated or automatic) are carefully designed to produce with high pressure forming parts a symmetrical connection of the crimping part of the contact and the wire being connected with the minimum increase in size at the connection point. The positioner automatically locates the crimp and wire at the correct point in the tool.

A ratchet in the tool performs 2 functions:

- ① It prevents insertion of the crimp into the tool for crimping before the jaws are fully open
- ② It prevents the tool being opened before the crimping action is completed

Identical, perfectly formed, connections can be produced using this crimping system.



Crimp-cross section  
HARTING crimp profile

Identification	Part number	Drawing	Dimensions in mm
<b>Transport protection</b>  for device side IP40	09 45 845 0003		
<b>Protection cover</b> for device side IP65 / IP67			
Version with passive locking without cord	09 45 845 0009 024		
Version with passive locking with plastic cord for fixing screw M3	09 45 845 0009		
Version with passive locking with nylon cord for fixing screw M2.5 / M3	09 45 845 0011 024		
Version with active locking without cord	09 45 845 0015		
Version with active locking with plastic cord for fixing screw M3	09 45 845 0014		
Version with active locking with nylon cord for fixing screw M2.5 / M3	09 45 845 0013		
<b>Protection cover</b> for connectors IP65 / IP67	09 45 845 0010		
<b>Blinding plate</b> to close PushPull Compact panel cuttings	09 45 845 0019		





HARTING PushPull, type acc. to IEC 61 076-3-106 variant 4  
cable to cable housing

### Features

- HARTING PushPull technology
- Ideal for prototyping
- Can be combined with panel feed-throughs for power, data and signal

### Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-106 variant 4
Degree of protection	IP65 / IP67
Outer cable diameter	6.5 ... 9.5 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
<b>HARTING PushPull cable to cable housings, plastic</b> (Order housing bulkhead mounting and insert separately)  for outer cable diameter 6.5 ... 9.5 mm	09 45 345 0000	2X M2.5x10 self tapping screws according to EN ISO 7092 	
<b>HARTING PushPull bulkhead housings, plastic</b> (Order housing bulkhead mounting and insert separately)	09 45 345 0001	2X M2.5x10 self tapping screws according to EN ISO 7092 	
<b>Suitable bulkhead housing, plastic</b> for RJ45 / Signal	09 45 545 0028		
<b>Inserts for RJ45 / Signal</b> RJ 45: 8 poles, Cat. 6 / class E <sub>A</sub> Ha-Vis preLink® set AWG 22/23 HARTING RJ Industrial® cable jack with IDC termination AWG 22-24, 8 poles AWG 24-28, 8 poles AWG 22-24, 4 poles, Cat. 5  Signal: 10 poles, 50 V / 5 A*	20 82 001 0001  09 45 545 1562 09 45 545 1561 09 45 545 1120  09 45 545 9010		

\* Order D-Sub crimp male contacts separately (see pages 02.19 and 02.20)



Ethernet ports copper 2x HARTING PushPull (V4) RJ45 (IP65 / IP67)

## Features

- Simple mounting
- Cable entering optionally from bottom or from topside
- Self-closing protection caps in IP65 / IP67
- IP65 / IP67 Label
- Compatible with RJ45 female inserts (HIFF-version)

## Technical characteristics

Transmission characteristics	Cat. 6 <sub>A</sub> , Class E <sub>A</sub> up to 500 MHz
Data rate	10 Mbit/s, 100 Mbit/s, 1 Gbit/s, 10 Gbit/s
Limiting temperature	-20 ... +70 °C
Conductor cross-section	0.22 ... 0.32 mm <sup>2</sup> Solid 0.22 ... 0.32 mm <sup>2</sup> Stranded
Conductor cross-section	AWG 24 ... AWG 22
Wire outer diameter	1.7 mm
Degree of protection acc. to IEC 60529	IP65 / IP67
Cable diameter	6 ... 9 mm
Fixing	Wall mounting
Material (hood/housing)	Polycarbonate (PC) Fibre-glass reinforced
Colour (hood/housing)	Black, White
Material flammability class acc. to UL 94	V-0

### Identification

### Part number

### Drawing

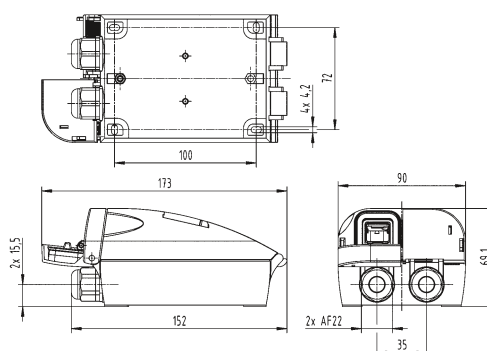
### Dimensions in mm

#### HARTING PushPull (V4),

IDC termination,  
Fully shielded, 360° shielding contact,  
Outlet,  
Black,  
Pack contents:  
2-port outlet housing with protection caps,  
Cable management,  
Cable gland,  
Label,  
2x RJ45 jack,  
Dummy plugs,  
Assembly instructions



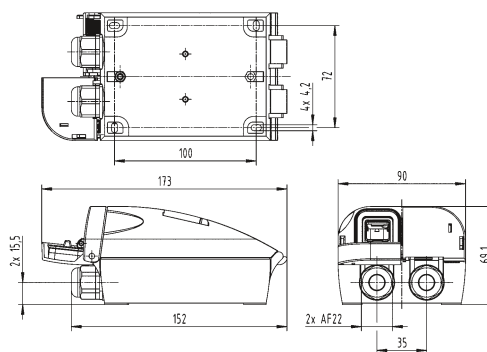
09 45 845 1562

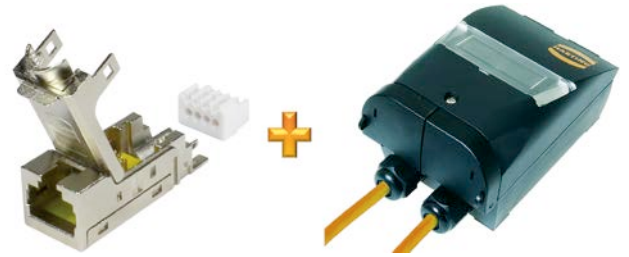


#### HARTING PushPull (V4),

IDC termination,  
Fully shielded, 360° shielding contact,  
Outlet,  
White,  
Pack contents:  
2-port outlet housing with protection caps,  
Cable management,  
Cable gland,  
Label,  
2x RJ45 jack,  
Dummy plugs,  
Assembly instructions

09 45 845 1563





## Technical characteristics

Limiting temperature	-20 ... +70 °C
Degree of protection acc. to IEC60529	IP65 / IP67
Cable diameter	6 ... 9 mm
Fixing	Wall mounting

## Technical characteristics

Material (hood/housing)	Polycarbonate (PC) Fibre-glass reinforced
Colour (hood/housing)	Black
Material flammability class acc.to UL 94	V-0

### Identification

### Part number

### Drawing

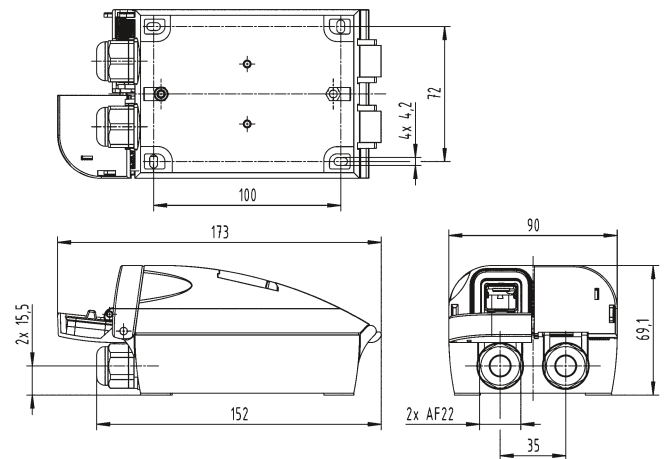
### Dimensions in mm

**HHARTING PushPull (V4),**  
Outlet,  
Empty,  
for fixture of 2x RJ45 female inserts,  
Black



Please order insert separately.

09 45 845 1560





Number of contacts

**4**



## Technical characteristics

Number of contacts	4
Transmission characteristics	Cat. 5, Class D up to 100 MHz
Limiting temperature	-40 ... +70 °C
Mating cycles	≥ 750
Conductor cross-section	0.22 ... 0.32 mm <sup>2</sup> solid and stranded
Conductor cross-section	AWG 24 ... AWG 22
Wire outer diameter	1.7 mm
Degree of protection acc. to IEC 60529	IP20
Cable diameter	5 ... 9 mm
Material (insert)	Polycarbonate (PC)
Colour (insert)	White, Yellow

## Technical characteristics

Material (hood/housing)	Zinc die-cast
Surface (hood/housing)	Nickel plated
Material flammability class acc. to UL 94	V-2
RoHS	compliant

## Specifications and approvals

DNV GL



Identification

Part number

Drawing

Dimensions in mm

HARTING RJ Industrial®,  
Female,  
RJ45,  
HIFF version,  
IDC termination,  
Fully shielded, 360° shielding contact

09 45 545 1120





## Technical characteristics

Number of contacts	8
Transmission characteristics	Cat. 6 <sup>A</sup> , Class E <sup>A</sup> up to 500 MHz
Data rate	10 Mbit/s, 100 Mbit/s, 1 Gbit/s, 10 Gbit/s
Limiting temperature	-40 ... +85 °C, -40 ... +70 °C
Mating cycles	≥ 750
Conductor cross-section	0.22 ... 0.32 mm <sup>2</sup> , 0.1 ... 0.12 mm <sup>2</sup> 0.08 ... 0.22 mm <sup>2</sup> solid and stranded 0.22 ... 0.32 mm <sup>2</sup> solid and stranded
Conductor cross-section	AWG 24 ... AWG 22 AWG 27 ... AWG 26 AWG 28 ... AWG 24
Wire outer diameter	1.2 mm, 1.7 mm
Degree of protection acc. to IEC 60529	IP20

## Technical characteristics

Cable diameter	5 ... 9 mm
Material (insert)	Polycarbonate (PC)
Colour (insert)	White, Yellow
Material (hood/housing)	Zinc die-cast
Surface (hood/housing)	Nickel plated
Material flammability class acc. to UL 94	V-2
RoHS	compliant

## Specifications and approvals

EN 45545-2 R26: HL1, HL2, HL3  
 UL 1863 DUXR2.E470046  
 CSA-C22.2 No. 182.4, No. 233-09 DUXR8.E470046  
 DNV GL



Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

preLink®,  
 Female module,  
 With terminal block,  
 preLink® IDC insulation displacement  
 termination,  
 AWG 23/22



20 82 001 0001

preLink®,  
 Female module,  
 With terminal block,  
 preLink® IDC insulation displacement  
 termination,  
 AWG 27/26

20 82 001 0002



Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

preLink®,  
 Female module,  
 without terminal block,  
 preLink® IDC insulation displacement  
 termination,  
 AWG 23/22,  
 AWG 27/26



20 82 000 0002

HARTING RJ Industrial®,  
 Female,  
 RJ45,  
 HIFF version,  
 IDC termination,  
 Fully shielded, 360° shielding contact,  
 AWG 28 ... AWG 24



09 45 545 1561

HARTING RJ Industrial®,  
 Female,  
 RJ45,  
 HIFF version,  
 IDC termination,  
 Fully shielded, 360° shielding contact,  
 AWG 24 ... AWG 22



09 45 545 1562



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
Housing bulkhead mounting for device integration and RJ45 jacks

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Device integration via RJ45 PCB connectors

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60 603-7
Termination type	Jack with solder termination
Mating cycles	min. 750
Temperature range	-40 °C ... +85 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

### Identification

### Part number

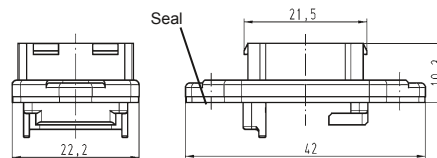
### Drawing

### Dimensions in mm

Components device side

Housing bulkhead mounting plastic

09 35 002 0321



replacement flat seal

09 35 002 9901

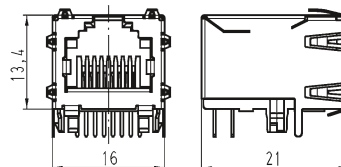
Protection cover IP65 / IP67

09 35 002 5402

RJ45 jack

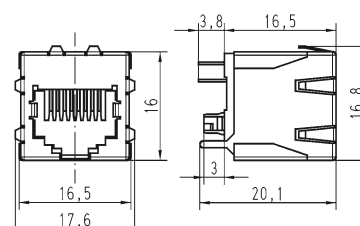
Solder variant, 90° angled

09 35 002 2101<sup>1)</sup>  
09 35 002 2101 333<sup>3)</sup>



Solder variant, 180° straight

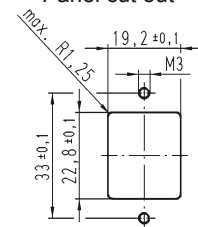
09 35 002 2102<sup>2)</sup>  
09 35 002 2102 333<sup>3)</sup>



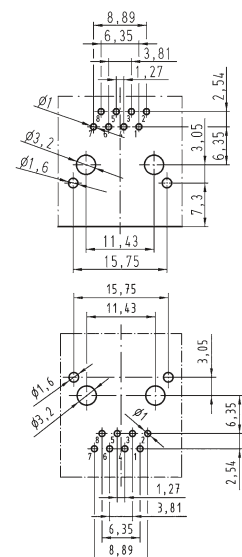
Solder variant, 180° straight, Reflow

09 35 002 2106<sup>4)</sup>

### Panel cut out



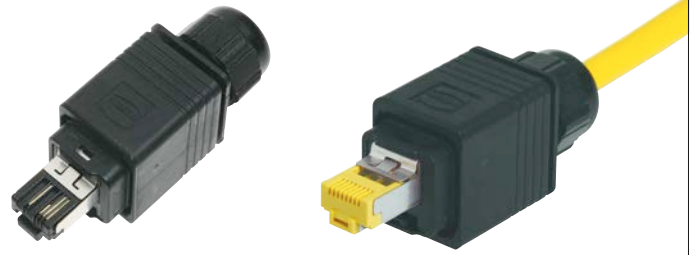
### PCB layout



1) Packaging: Blister à 360 pieces  
2) Packaging: Blister à 400 pieces  
3) Sample Packaging: 1 piece  
4) Packaging: Tape & Reel à 120 pieces







Han® PushPull, type acc. to IEC 61 076-3-117 variant 14 RJ45 connector

## Features

- HARTING PushPull technology
- Field-assembly connector with IDC contacts
- Fully shielded

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60 603-7
Shielding	Fully shielded, 360° shielding contact
Number of contacts	4 respectively 8
Transmission performance	acc. to ISO/IEC 11 801:2002, EN 50 173-1, category 5 / class D up to 100 MHz, category 6 / class E <sub>A</sub> up to 500 MHz
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Termination for Cat. 5	with IDC contacts, no tools needed / field-assembly
	Conductor cross section AWG 24/7 - 22/7 (stranded) AWG 23/1 - 22/1 (solid)
	Cable diameter 1.6 mm
for Cat. 6	Conductor cross section AWG 22/7 - 27/7 (stranded) AWG 22/1 - 27/1 (solid)
	Cable diameter 1.6 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black, UL 94 V0

## Identification

## Part number

## Drawing

## Dimensions in mm

### Connector set, plastic

incl. housing and male insert

Han® RJ Industrial  
Category 5, 4 poles, IDC contacts

6.5 - 9.5 mm clamp range  
5 - 8 mm clamp range

09 35 221 0421  
09 35 222 0421

Han® RJ Industrial PN  
Category 5, 4 poles, IDC contacts

6.5 - 9.5 mm clamp range

PROFINET-Identification:  
PROFINET O-Plug RJ45

09 35 226 0421

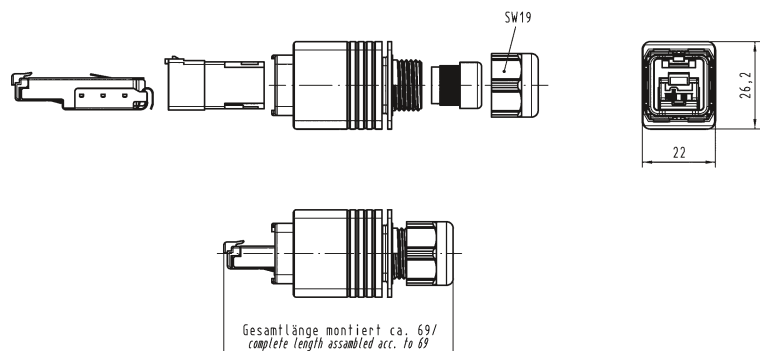
Han® RJ Industrial 10G  
Category 6, 8 poles, IDC contacts

6.5 - 9.5 mm clamp range  
5 - 8 mm clamp range

09 35 225 0421  
09 35 228 0421

Security Clip

09 35 002 9910





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
RJ45 connector

## Features

- HARTING PushPull technology
- Field-assembly connector with piercing contacts
- Fully shielded

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60 603-7
Shielding	Fully shielded, 360° shielding contact
Number of contacts	8
Transmission performance	acc. to ISO/IEC 11 801:2002, EN 50 173-1, category 6 <sub>A</sub> / class E <sub>A</sub> up to 500 MHz
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Termination	with piercing contacts
Conductor cross section	AWG 24/7 - 27/7 (stranded)
Cable diameter	1.05 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black, UL 94 V0

## Identification

## Part number

## Drawing

## Dimensions in mm

Connector set, plastic  
incl. housing and male insert  
5 - 8 mm clamp range

Han® RJ Industrial  
Category 6<sub>A</sub>, 8 poles, piercing contacts

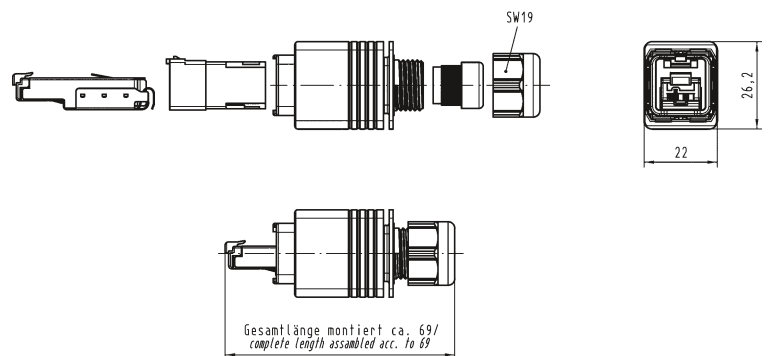
Security Clip

suitable assembly tool

09 35 227 0421

09 35 002 9910

09 45 800 0520





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
Housing bulkhead mounting for device integration and RJ45 jacks

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Device integration via RJ45 PCB connectors

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60 603-7
Termination type	Jack with solder termination
Mating cycles	min. 750
Temperature range	-40 °C ... +85 °C
Housing material	Zinc die-cast, nickel plated

Identification	Part number	Drawing	Dimensions in mm
Components device side			
Housing bulkhead mounting metal	09 35 002 0301		
Replacement flat seal	09 35 002 9901		
Protection cover IP65 / IP67	09 35 002 5402		
RJ45 jack			
Solder variant, 90° angled	09 35 002 2101 <sup>1)</sup> 09 35 002 2101 333 <sup>3)</sup>		
Solder variant, 180° straight	09 35 002 2102 <sup>2)</sup> 09 35 002 2102 333 <sup>3)</sup>		
Solder variant, 180° straight, Reflow	09 35 002 2106 <sup>4)</sup>		

1) Packaging: Blister à 360 pieces  
2) Packaging: Blister à 400 pieces  
3) Sample Packaging: 1 piece  
4) Packaging: Tape & Reel à 120 pieces



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
RJ45 10G panel feed through

## Features

- HARTING PushPull technology
- Compact and robust design
- 360° shielding
- RJ45 mating compatible
- Transmission category 6, performance class E<sub>A</sub>, suitable for 1/10 Gigabit Ethernet
- PROFINET conform

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117 variant 14
Mating face	RJ45 acc. to IEC 60 603-7
Transmission performance	Category 6 / class E <sub>A</sub> acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Screwable to cover plates
Degree of protection	IP65 / IP67
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

### Identification

### Part number

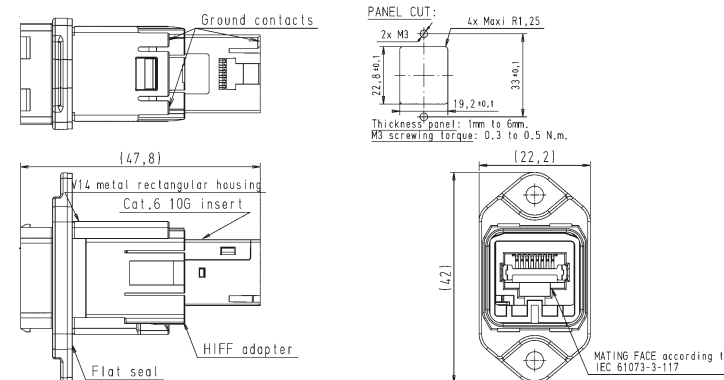
### Drawing

### Dimensions in mm

#### Han® PushPull RJ45 10G

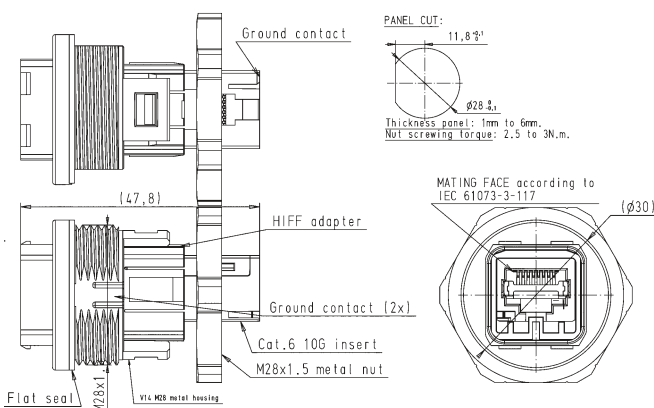
Panel feed through, Cat. 6 including bulkhead housing for rectangular panel cut out, flat seal and HARTING RJ Industrial® 10G RJ45 bulkhead, isolated bulkhead fixture

09 35 225 0311



Panel feed through, Cat. 6 including bulkhead housing for circular panel cut out, flat seal and HARTING RJ Industrial® 10G RJ45 bulkhead, isolated bulkhead fixture

09 35 225 0312







Han® PushPull RJ45 Genderchanger Metal  
Cat. 6 / class E<sub>A</sub>

## Features

- High degree of protection IP65 / IP67
- Robust metal housing
- Standard PROFINET component of the German automotive production
- Allows usage of different cable types (Type B, C) e.g. in robots application
- Extension of cords according to PROFINET guideline
- Can be count as one connection acc. to IEC 11 801 Chapter 10.2.4

## Technical characteristics

Transmission performance	Cat. 6 / class E <sub>A</sub> up to 500 MHz
Connector	Han® PushPull RJ45 (PROFINET conform)
Locking	PushPull technology acc. to IEC 61076-3-117 variant 14
Mating face	RJ45 acc. to IEC 60603-7
Mating cycles	min. 750
Housing material	Aluminium anodized
Dimensions	61.2 x 62 x 25.2 mm (unmated)
Degree of protection acc. to DIN 60529	IP65 / IP67 (mated)
Mounting	Wall mountable with 4 screws (type M5)
Temperature range	-40 °C ... +70 °C
Maximum permissible humidity	30 % ... 95 % (no condensation)

Identification

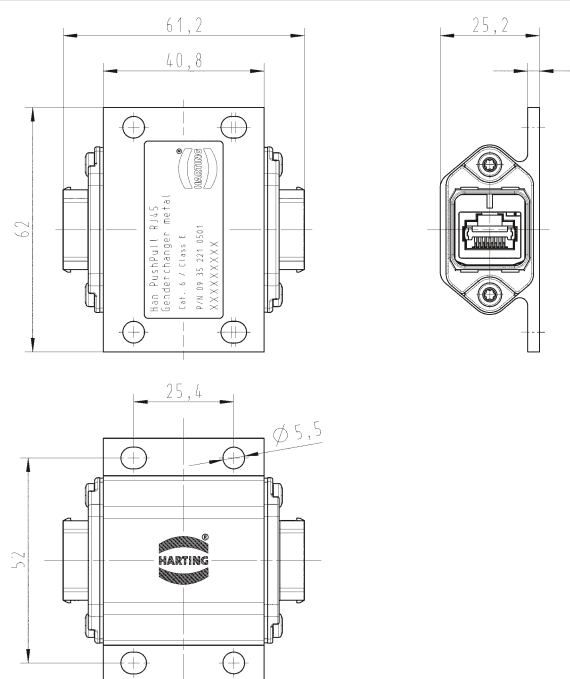
Part number

Drawing

Dimensions in mm

Han® PushPull RJ45  
Genderchanger metal

09 35 221 0501







## Han® PushPull RJ45 Coupling Metal Category 6 / class E<sub>A</sub>

### Features

- High degree of protection IP65 / IP67
- Robust metal housing
- Standard PROFINET component of the German automotive production
- Extension of cords according to PROFINET guideline
- Can be count as one connection acc. to IEC 11801 Chapter 10.2.4
- For an easy robot termination and a fast exchange of tube packages

### Technical characteristics

Transmission performance	Category 6 / class E <sub>A</sub> up to 500 MHz
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Locking	PushPull technology acc. to IEC 61076-3-117 variant 14
Mating face	RJ45 acc. to IEC 60603-7
Number of contacts	8
Usable cables	
Termination cross section	AWG 22-24 stranded/solid
Cable diameter	5 ... 9 mm
Conductor diameter	1.3 ... 1.6 mm
Mating cycles	min. 750
Housing material	Aluminium die-cast
Degree of protection acc. to DIN 60529	IP65 / IP67
Temperature range	-40 °C ... +70 °C

#### Identification

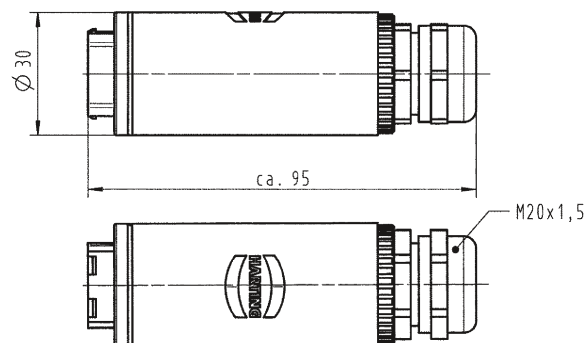
#### Part number

#### Drawing

#### Dimensions in mm

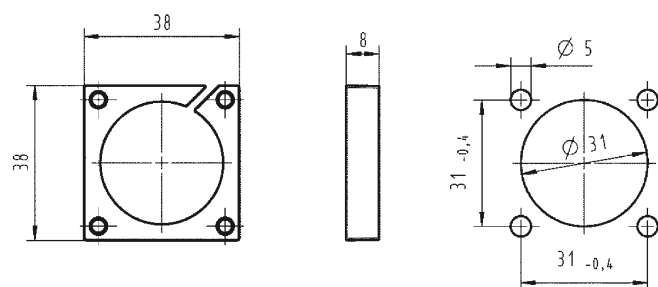
Han® PushPull RJ45  
Coupling metal  
including housing,  
Ha-VIS preLink® RJ45 jack,  
bulkhead housing  
and cable gland

61 04 201 1084 01



Fixing flange

61 04 600 0182 02





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14 RJ45 connector

## Features

- HARTING PushPull technology
- Field-assembly connector with IDC contacts
- Fully shielded

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60 603-7
Shielding	Fully shielded, 360° shielding contact
Number of contacts	4 respectively 8
Transmission performance	acc. to ISO/IEC 11 801:2002, EN 50 173-1, category 5 / class D up to 100 MHz category 6 / class E <sub>A</sub> up to 500 MHz
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Termination	with IDC contacts, no tools needed / field-assembly
for Cat. 5	
Conductor cross section	AWG 24/7 - 22/7 (stranded) AWG 23/1 - 22/1 (solid)
Cable diameter	1.6 mm
for Cat. 6	
Conductor cross section	AWG 22/7 - 27/7 (stranded) AWG 22/1 - 27/1 (solid)
Cable diameter	1.6 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

Connector set, metal

incl. housing and male insert

Han® RJ Industrial  
Category 5, 4 poles, IDC contacts  
6.5 - 9.5 mm clamp range

09 35 221 0401

Han® RJ Industrial PN  
Category 5, 4 poles, IDC contacts  
6.5 - 9.5 mm clamp range

09 35 226 0401

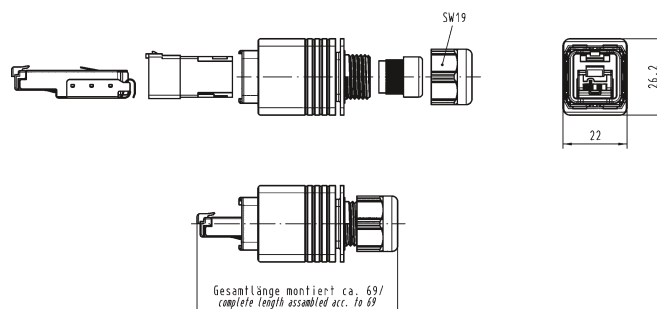
PROFINET-Identification:  
PROFINET O-Plug RJ45

Han® RJ Industrial PN  
Category 5, 4 poles, IDC contacts  
5 - 8 mm clamp range

09 35 222 0401

Han® RJ Industrial 10G  
Category 6, 8 poles, IDC contacts  
4 - 11 mm clamp range

09 35 225 0401



Number of contacts

# 4



## Features

- HARTING PushPull (V14) technology
- 360° shielding
- Field assembly
- No side cutter needed anymore – integrated cutting blades behind the IDC contacts cut the wires to the correct length • Weitbereichsschneidklemme für starre und flexible
- Wide range IDC for solid and stranded wires from AWG 26 to AWG 22
- Suitable for all PoE versions

## Technical characteristics

Number of contacts	4
Transmission characteristics	Cat. 5, Class D up to 100 MHz
Data rate	10 Mbit/s, 100 Mbit/s
Limiting temperature	-40 ... +85 °C
Mating cycles	≥ 750
Conductor cross-section	0.12 ... 0.32 mm <sup>2</sup> Stranded 0.12 ... 0.32 mm <sup>2</sup> Solid
Conductor cross-section	AWG 26/7 ... AWG 22/7 Stranded AWG 24/1 ... AWG 22/1 Solid
Wire outer diameter	0.8 mm ... 1.6 mm
Degree of protection acc.	IP65 / IP67
Cable diameter	6.5 ... 9.5 mm
Material (hood/housing)	Zinc die-cast
Surface (hood/housing)	Nickel plated

## Specifications and approvals

IEC 60603-7 Mating face  
IEC 11801  
EN 50173-1  
IEC 61076-3-117 Variant 14  
DNV GL



Identification

Part number

Drawing

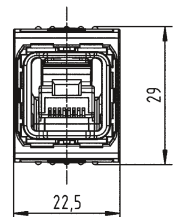
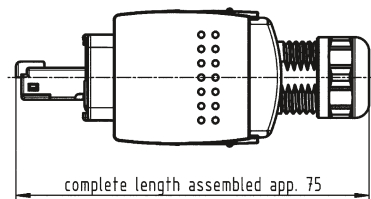
Dimensions in mm

Han® PushPull (V14),

Connector,  
AIDA compliant,  
PROFINET,  
Straight,  
IDC termination,  
Fully shielded, 360° shielding contact



09 35 229 0401



When installing a PROFINET system, observe the PROFINET installation guideline.

Number of contacts

# 8



## Features

- HARTING PushPull (V14) technology
- 360° shielding
- Category of transmission Cat. 6A
- Field assembly
- No side cutter needed anymore – integrated cutting blades behind the IDC contacts cut the wires to the correct length
- Wide range IDC for solid and stranded wires from AWG 26 to AWG 22
- Suitable for all PoE versions

## Technical characteristics

Number of contacts	8
Transmission characteristics	Cat. 6A, Class E <sub>A</sub> up to 500 MHz
Data rate	10 Mbit/s, 100 Mbit/s, 1 Gbit/s, 2,5 Gbit/s, 5 Gbit/s, 10 Gbit/s
Limiting temperature	-40 ... +85 °C
Mating cycles	≥ 750
Conductor cross-section	0.12 ... 0.32 mm <sup>2</sup> Stranded 0.12 ... 0.32 mm <sup>2</sup> Solid
Conductor cross-section	AWG 26/7 ... AWG 22/7 Stranded AWG 24/1 ... AWG 22/1 Solid
Wire outer diameter	0.8 mm ... 1.6 mm
Degree of protection acc. to IEC 60529	IP65 / IP67
Cable diameter	6.5 ... 9.5 mm
Material (hood/housing)	Zinc die-cast
Surface (hood/housing)	Nickel plated

## Specifications and approvals

IEC 60603-7 Mating face  
IEC 11801  
EN 50173-1  
IEC 61076-3-117 Variant 14  
DNV GL



Identification

Part number

Drawing

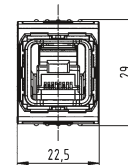
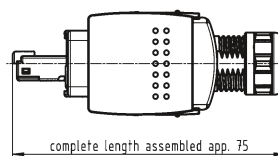
Dimensions in mm

Han® PushPull (V14),

Connector,  
AIDA compliant,  
PROFINET,  
Straight,  
IDC termination,  
Fully shielded, 360° shielding contact



09 35 220 0401

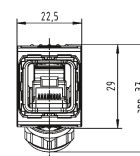
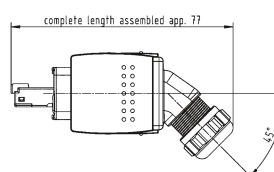


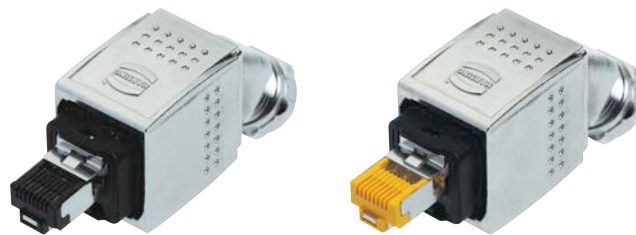
Han® PushPull (V14),

Connector,  
AIDA compliant,  
PROFINET,  
Angled bottom,  
IDC termination,  
Fully shielded, 360° shielding contact



09 35 220 0402





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
RJ45 connector angled

## Features

- HARTING PushPull technology
- Angled cable exit 45° to the top / bottom for a space saving cabling
- Field-assembly connector with IDC contacts
- Fully shielded

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60 603-7
Shielding	Fully shielded, 360° shielding contact
Number of contacts	4 respectively 8
Transmission performance	acc. to ISO/IEC 11 801:2002, EN 50 173-1, category 5 / class D up to 100 MHz category 6 / class E <sub>A</sub> up to 500 MHz
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Termination	with IDC contacts, no tools needed / field-assembly
for Cat. 5	
Conductor cross section	AWG 24/7 - 22/7 (stranded) AWG 23/1 - 22/1 (solid)
Cable diameter	1.6 mm
for Cat. 6	
Conductor cross section	AWG 22/7 - 27/7 (stranded) AWG 22/1 - 27/1 (solid)
Cable diameter	1.6 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

Connector set,  
metal

incl. housing  
and male insert

Han® RJ Industrial PN

Category 5, 4 poles, IDC contacts,  
6.5 - 9.5 mm clamp range

Cable exit bottom side

09 35 226 0402

Cable exit top side

09 35 226 0403

Han® RJ Industrial 10G

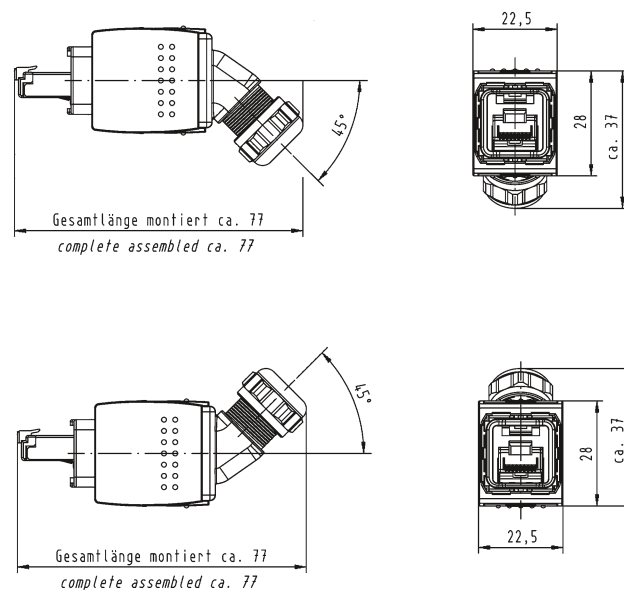
Category 6, 8 poles, IDC contacts,  
6.5 - 9.5 mm clamp range

Cable exit bottom side

09 35 225 0402

Cable exit top side

09 35 225 0403





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
RJ45 connector

## Features

- HARTING PushPull technology
- Compact design
- For space saving fitting conditions
- Connector with piercing contacts
- 360° shielding

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60 603-7
Shielding	Fully shielded, 360° shielding contact
Number of contacts	8
Transmission performance	acc. to ISO/IEC 11 801:2002, EN 50 173-1, category 6 <sub>A</sub> / class E <sub>A</sub> up to 500 MHz
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s with piercing contacts
Termination	
Conductor cross section	AWG 24/7 - 27/7 (stranded)
Cable diameter	1.05 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

### Identification

### Part number

### Drawing

### Dimensions in mm

#### Connector set, metal

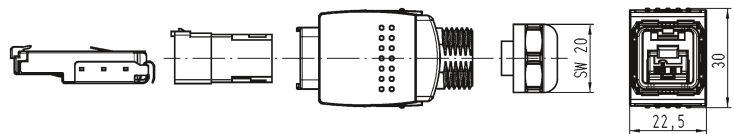
incl. housing  
and male insert  
4 - 11 mm clamp range

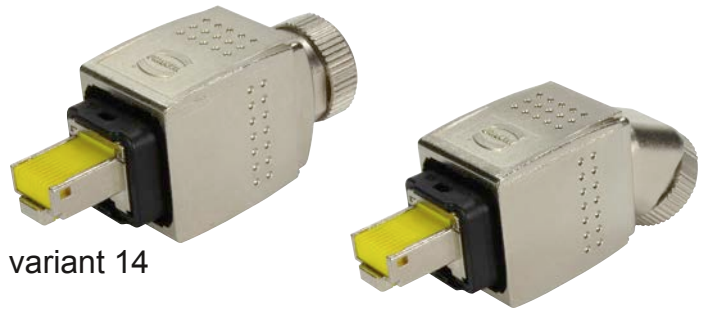
Han® RJ Industrial  
Category 6, 8 poles,  
piercing contacts

09 35 227 0401

suitable assembly tool

09 45 800 0520





Han® PushPull, type acc. to IEC 61076-3-117 variant 14 preLink® RJ45-connector, straight and angled

## Advantages

- HARTING PushPull technology
- 45° angled cable entry, bottom side, for space saving cabling
- 360° shielding
- Category of transmission Cat. 6A
- Suitable for solid and stranded wires
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

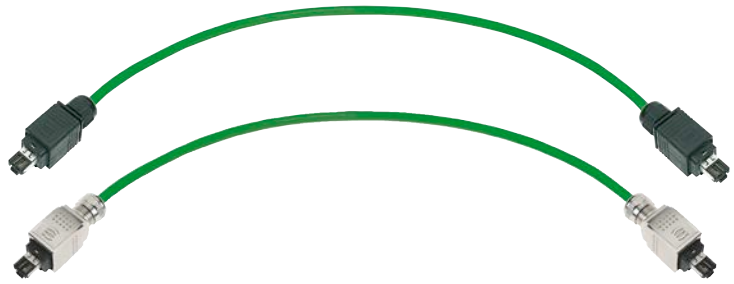
## Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-117
Degree of protection	IP65 / IP67
Mating face	RJ45 acc. to IEC 60603-7
Number of contacts	8
Transmission category	Category 6A, class E <sub>A</sub> , suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6A / class E <sub>A</sub> up to 500 MHz acc. to ISO/IEC 11801:2002, EN 50173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	preLink® IDC termination
Cable termination for preLink® Connectable cables	terminal module, yellow, 20 82 000 0001
– Conductor cross section	AWG 23 ... AWG 22 (solid and stranded)
– Conductor diameter	1.3 ... 1.6 mm
Cable termination for preLink® Connectable cables	terminal module, white, 20 82 000 0003
– Conductor cross section	AWG 27 ... AWG 26 (solid and stranded)
– Conductor diameter	0.8 ... 1.1 mm
Cable diameter	6.3 ... 8.8 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull preLink® RJ45 connector, straight	20 82 104 0001		
Han® PushPull preLink® RJ45 connector, angled	20 82 104 0045		
Ha-VIS preLink® RJ45 terminal module AWG 22/23, yellow <sup>1)</sup> AWG 26/27, white <sup>1)</sup>	20 82 000 0001 20 82 000 0003		
Ha-VIS preLink® assembly tool	20 82 000 9901		

<sup>1)</sup> Packaging with 10 pieces





Han® PushPull RJ45 system cable, 4-wire, Cat. 5

## Features

- Connector types Han® PushPull RJ45 (V14)
- Category Cat. 5
- Number of wires 4
- Wiring 1:1
- Sheath material PVC/PUR

## Application

- Industrial Cabling
- Within switch cabinets
- On machines and control units

## Benefits

- Standardised PushPull interface for IP65/IP67
- Very space-saving
- AIDA compliant
- PROFINET compliant
- Useable as trailing cable (type C)
- Easy and intuitive handling with HARTING PushPull technology

## Technical characteristics

- Connector types Han® PushPull RJ45
- Cable type 4 x AWG 22/7, Cat. 5, Star quad, double shielding
- Sheath material
  - Type B PVC
  - Type C PUR
- Wiring 4 pole, contacts 1/2 and 3/6
- Transmission performance Category 5 class D up to 100 MHz acc. to ISO/IEC 11801, EN 50 173-1
- Data rate 10/100 Mbit/s
- Shielding Fully shielded, 360° shielding contact
- Operating temperature range
  - Type B -40 °C ... +70 °C
  - Type B outdoor -45 °C ... +60 °C
  - Type C -40 °C ... +70 °C
- Colour
  - Type B Green
  - Type B outdoor Black
  - Type C Green



Identification	Plastic version	Part number Metal version	Metal, overmoulded
<p>Han® PushPull RJ45 system cable, 4-wire Type B</p> <p>Length 1.5 m 3.0 m 5.0 m 10.0 m 20.0 m</p>	<p>09 47 555 5033 09 47 555 5035 09 47 555 5037 09 47 555 5042 09 47 555 5044</p>	<p>09 47 565 6033 09 47 565 6035 09 47 565 6037 09 47 565 6042 09 47 565 6044</p>	<p>09 47 565 7033 09 47 565 7035 09 47 565 7037 09 47 565 7042 09 47 565 7044</p>
<p>Han® PushPull RJ45 system cable, 4-wire Type C</p> <p>Length 1.5 m 3.0 m 5.0 m 10.0 m 20.0 m</p>	<p>09 47 555 5063 09 47 555 5065 09 47 555 5067 09 47 555 5072 09 47 555 5074</p>	<p>09 47 565 6063 09 47 565 6065 09 47 565 6067 09 47 565 6072 09 47 565 6074</p>	<p>09 47 565 7063 09 47 565 7065 09 47 565 7067 09 47 565 7072 09 47 565 7074</p>
<p>Han® PushPull RJ45 system cable, 4-wire Type B, outdoor</p> <p>Length 1.5 m 3.0 m 5.0 m 10.0 m 20.0 m</p>	<p>09 47 555 5093 09 47 555 5095 09 47 555 5097 09 47 555 5102 09 47 555 5104</p>	<p>09 47 565 6093 09 47 565 6095 09 47 565 6097 09 47 565 6102 09 47 565 6104</p>	<p>09 47 565 7093 09 47 565 7095 09 47 565 7097 09 47 565 7102 09 47 565 7104</p>

Other cable lengths on request



Han® PushPull RJ45 system cable, 8-wire, Cat. 6<sub>A</sub>

## Features

- Connector types Han® PushPull RJ45 (V14)
- Category Cat. 6<sub>A</sub>
- Number of wires 8
- Wiring 1:1
- Sheath material PUR

## Application

- Industrial Cabling
- Within switch cabinets
- On machines and control units

## Benefits

- Standardised PushPull interface for IP65/IP67
- Especially space-saving
- AIDA compliant
- Easy and intuitive handling with HARTING PushPull technology

## Technical characteristics

- Connector types Han® PushPull RJ45
- Cable type 4 x 2, Twisted Pair, shielded
- Sheath material PUR
- Wiring 8 pole, 1:1
- Transmission performance Category 6<sub>A</sub>, Class E<sub>A</sub> up to 500 MHz acc. to ISO/IEC 11801, EN 50 173-1
- Data rate 10 Mbit/s, 100 Mbit/s, 1 Gbit/s, 2,5 Gbit/s, 5 Gbit/s, 10 Gbit/s
- Shielding Fully shielded, 360° shielding contact
- Operating temperature range -10 °C ... +70 °C
- Colour Green/Yellow

Identification	Part number		
	Plastic	Metal	Metal
Han® PushPull RJ45 system cable, 8-wire	Yellow	Yellow	PROFINET Green
Length 1.5 m	09 47 575 7001	09 47 585 8001	09 48 171 7165 015
3.0 m	09 47 575 7002	09 47 585 8002	09 48 171 7165 030
5.0 m	09 47 575 7003	09 47 585 8003	09 48 171 7165 050
10.0 m	09 47 575 7004	09 47 585 8004	09 48 171 7165 100
20.0 m	09 47 575 7005	09 47 585 8005	09 48 171 7165 200



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14 cable to cable housing

## Features




- HARTING PushPull technology
- Ideal for prototyping
- Can be combined with panel feed-throughs for power, data and signal

## Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-117 variant 14
Degree of protection	IP65 / IP67
Outer cable diameter	6.5 ... 9.5 mm / 9 ... 13 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
<b>Han® PushPull cable to cable housings, plastic</b> (Order housing bulkhead mounting and insert separately)		2X REMFORM $\phi 3 \times 8$ TORX screws 	
for outer cable diameter 6.5 ... 9.5 mm	09 35 002 0431		
for outer cable diameter 9 ... 13 mm	09 35 002 0433	2X REMFORM $\phi 3 \times 8$ TORX screws 	
<b>Suitable bulkhead housing, plastic</b> for RJ45	09 35 012 0331		<b>Panel cut out</b> 
<b>Inserts for RJ45</b> RJ 45: 8 poles, Cat. 6 / class E <sub>A</sub> Ha-Vis preLink® set AWG 22/23 HARTING RJ Industrial® cable jack with IDC termination	20 82 001 0001		
AWG 22-24, 8 poles	09 45 545 1562		
AWG 24-28, 8 poles	09 45 545 1561		
AWG 22-24, 4 poles, Cat. 5	09 45 545 1120		

## Han® PushPull, type acc. to IEC 61 076-3-117 variant 14 Accessories

Identification	Part number	Drawing	Dimensions in mm
<b>Han® PushPull protection cover IP65 / IP67</b> for device side without fixing cord with fixing cord with nylon fixing cord IP40	09 35 002 5403 XL <sup>1)</sup> 09 35 002 5402 09 35 002 5402 XL <sup>1)</sup> 09 35 002 5404 09 35 002 5404 XL <sup>2)</sup> 61 04 600 0194 00		
<b>Han® PushPull protection cover IP65 / IP67</b> for cable side without fixing cord with nylon fixing cord	09 35 002 5411 09 35 002 5413		
<b>Han® PushPull protection cover IP40</b> for cable side	09 35 002 5412		

<sup>1)</sup> Packaging with 100 pieces

<sup>2)</sup> Packaging with 250 pieces



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
 Housing bulkhead mounting for device integration  
 Optical connector based on SCRJ

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Device integration via transceiver
- Han® PushPull SCRJ for POF is according the requirements of AIDA (German Domestic Automobile Manufacturers)

## Technical characteristics

Locking	PushPull technology
Degree of protection	IP65 / IP67
Mating face	SCRJ acc. to IEC 61 754-24
Fiber Typen	POF <sup>1)</sup> 1 mm HCS <sup>2)</sup> 200 µm / 230 µm MM 62.5 µm / 125 µm MM 50 µm / 125 µm SM 10 µm / 125 µm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

### Identification

### Part number

### Drawing

### Dimensions in mm

#### Components device side

Housing bulkhead mounting  
 Optical transceiver  
 not included

plastic

09 35 002 0323

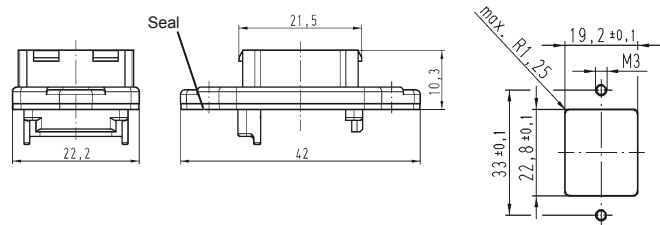
Replacement flat seal

09 35 002 9901

Protection cover IP65 / IP67

09 35 002 5402

Reference for transceiver  
 as well as mounting instruction  
 on request



1) POF = Polymer-Optical Fibre

2) HCS® = Hard Clad Silica (registered trademark of SpecTran Corporation)



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
RJ45 panel feed through  
for optical connector based on SCRJ

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Han® PushPull SCRJ for POF is according the requirements of AIDA (German Domestic Automobile Manufacturers)

## Technical characteristics

Locking	PushPull technology
Degree of protection	IP65 / IP67
Mating face	SCRJ acc. to IEC 61 754-24
Fiber Typen	POF <sup>1)</sup> 1 mm HCS <sup>2)</sup> 200 µm / 230 µm MM 62.5 µm / 125 µm MM 50 µm / 125 µm SM 10 µm / 125 µm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

### Identification

### Part number

### Drawing

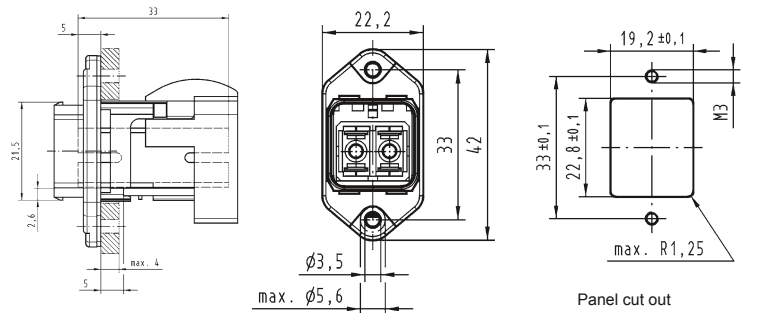
### Dimensions in mm

#### Han® PushPull SCRJ

Panel feed through

09 35 242 0333

SC contacts order separately



#### SCRJ IP20

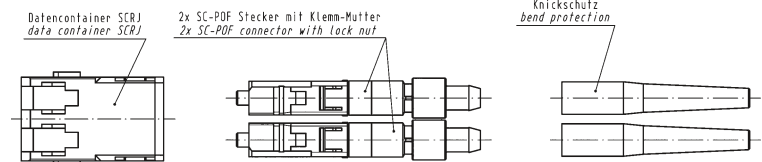
#### POF connector

with fast termination

09 35 002 4002

with crimp termination

09 35 002 4003



#### Contacts

SC POF contact, 1 mm

20 10 001 5217

SC 125 GI contact

20 10 125 5211

SC 230 HCS contact

20 10 230 5211

<sup>1)</sup> POF = Polymer-Optical Fibre

<sup>2)</sup> HCS® = Hard Clad Silica (registered trademark of SpecTran Corporation)



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
SCRJ connector

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Han® PushPull SCRJ for POF is according the requirements of AIDA (German Domestic Automobile Manufacturers)
- Field installable

## Technical characteristics

Locking	PushPull technology
Degree of protection	IP65 / IP67
Mating face	SCRJ acc. to IEC 61 754-24
Fiber Typen	POF <sup>1)</sup> 1 mm HCS <sup>2)</sup> 200 µm / 230 µm MM 62.5 µm / 125 µm MM 50 µm / 125 µm SM 10 µm / 125 µm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0
Cable diameter	6.5 - 9.5 mm

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

### Connector set, plastic

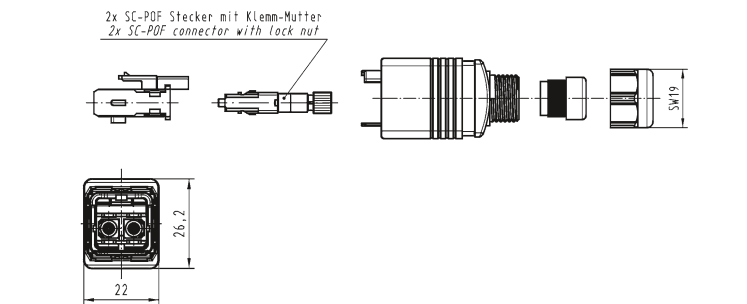
incl. housing and SCRJ insert,  
POF contacts

PROFINET-Identification:  
PROFINET O-Plug SCRJ

incl. housing and SCRJ insert  
SC contacts order separately

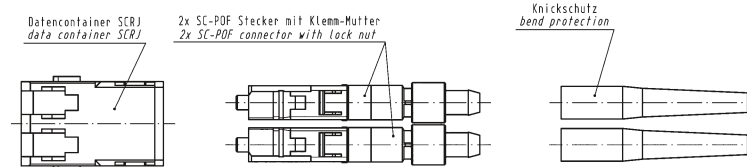
09 35 241 0421

09 35 241 0422



### SCRJ IP20 POF connector

09 35 002 4002



### Protection cover IP65 / IP67

09 35 002 5411

### Contacts

SC POF contact, 1 mm  
SC 125 GI contact  
SC 230 HCS contact

20 10 001 5217  
20 10 125 5211  
20 10 230 5211

Tooling see page 02.57

<sup>1)</sup> POF = Polymer-Optical Fibre

<sup>2)</sup> HCS® = Hard Clad Silica (registered trademark of SpecTran Corporation)





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
 Housing bulkhead mounting for device integration  
 Optical connector based on SCRJ

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Device integration via transceiver
- Han® PushPull SCRJ for POF is according the requirements of AIDA (German Domestic Automobile Manufacturers)

## Technical characteristics

Locking	PushPull technology
Degree of protection	IP65 / IP67
Mating face	SCRJ acc. to IEC 61 754-24
Fiber Typen	POF <sup>1)</sup> 1 mm HCS <sup>2)</sup> 200 µm / 230 µm MM 62.5 µm / 125 µm MM 50 µm / 125 µm SM 10 µm / 125 µm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel plated

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

### Components device side

Housing bulkhead mounting  
 Optical transceiver  
 not included

metal

09 35 002 0303

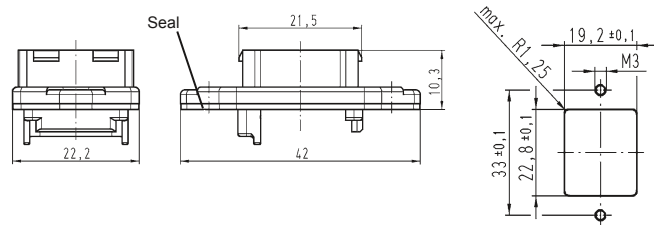
Replacement flat seal

09 35 002 9901

Protection cover IP65 / IP67

09 35 002 5402

Reference for transceiver  
 as well as mounting instruction  
 on request



1) POF = Polymer-Optical Fibre

2) HCS® = Hard Clad Silica (registered trademark of SpecTran Corporation)



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
 RJ45 panel feed through  
 for optical connector based on SCRJ

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Han® PushPull SCRJ for POF is according the requirements of AIDA (German Domestic Automobile Manufacturers)

## Technical characteristics

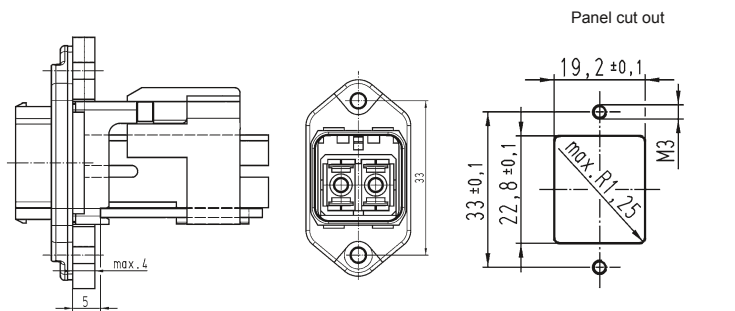
Locking	PushPull technology
Degree of protection	IP65 / IP67
Mating face	SCRJ acc. to IEC 61 754-24
Fiber Typen	POF <sup>1)</sup> 1 mm HCS <sup>2)</sup> 200 µm / 230 µm MM 62.5 µm / 125 µm MM 50 µm / 125 µm SM 10 µm / 125 µm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel plated

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

### Han® PushPull SCRJ

- Panel feed through
- SC contacts order separately

09 35 242 0313

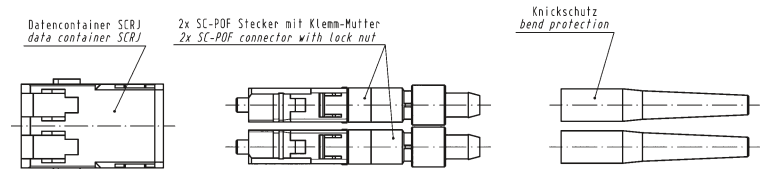


### SCRJ IP20 POF connector

- with fast termination
- with crimp termination

09 35 002 4002

09 35 002 4003



### Contacts

SC POF contact, 1 mm	20 10 001 5217
SC 125 GI contact	20 10 125 5211
SC 230 HCS contact	20 10 230 5211

1) POF = Polymer-Optical Fibre  
 2) HCS® = Hard Clad Silica (registered trademark of SpecTran Corporation)



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
SCRJ connector with fast termination

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Han® PushPull SCRJ for POF is according the requirements of AIDA (German Domestic Automobile Manufacturers)
- Field installable

## Technical characteristics

Locking	PushPull technology
Degree of protection	IP65 / IP67
Mating face	SCRJ acc. to IEC 61 754-24
Fiber Typen	POF <sup>1)</sup> 1 mm HCS <sup>®2)</sup> 200 µm / 230 µm MM 62.5 µm / 125 µm MM 50 µm / 125 µm SM 10 µm / 125 µm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel plated
Flammability acc. to UL 94	V0
Cable diameter	6.5 - 9.5 mm

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

**Connector set, metal**  
incl. housing and SCRJ insert,  
POF contacts

09 35 241 0401

PROFINET-Identification:  
PROFINET O-Plug SCRJ

incl. housing and SCRJ insert  
SC contacts order separately

09 35 241 0402

**SCRJ IP20  
POF connector**

09 35 002 4002

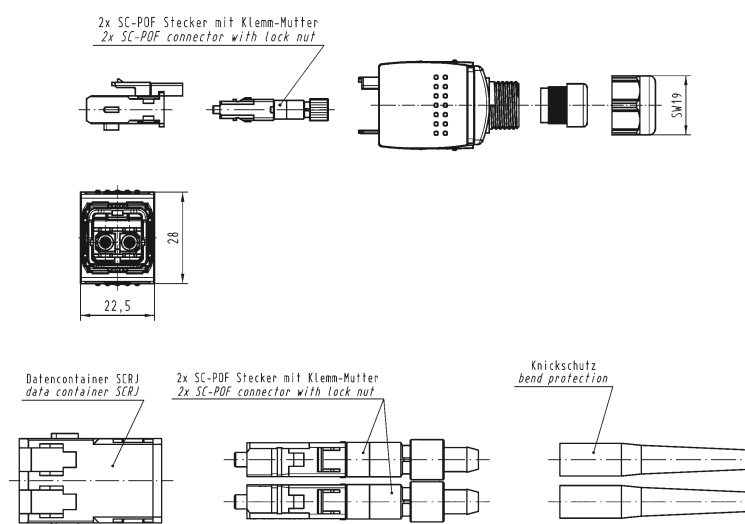
**Protection cover IP65 / IP67**

09 35 002 5411

### Contacts

- SC POF contact, 1 mm
- SC 125 GI contact
- SC 230 HCS contact

20 10 001 5217  
20 10 125 5211  
20 10 230 5211





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
SCRJ crimp connector

## Features

- HARTING PushPull technology
- Compact design
- High packing density
- Han® PushPull SCRJ for POF is according the requirements of AIDA (German Domestic Automobile Manufacturers)

## Technical characteristics

Locking	PushPull technology
Degree of protection	IP65 / IP67
Mating face	SCRJ acc. to IEC 61 754-24
Fiber Typen	POF <sup>1)</sup> 980 µm / 1000 µm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel plated
Flammability acc. to UL 94	V0
Cable diameter	6.5 - 9.5 mm

### Identification

### Part number

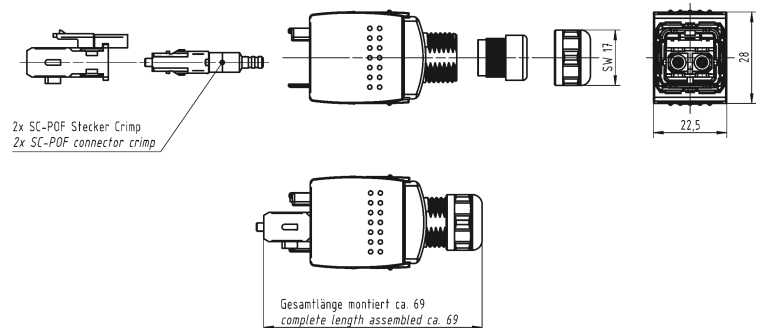
### Drawing

### Dimensions in mm

#### Connector set, metal

incl. housing and SCRJ insert,  
POF crimp contacts

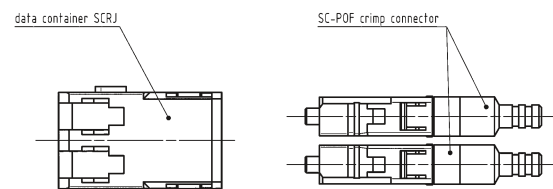
09 35 242 0401



#### SCRJ IP20

POF crimp connector

09 35 002 4003



#### Protection cover

IP65 / IP67

09 35 002 5411

#### Contacts

SC POF crimp contact

20 10 001 5211



## Han® PushPull SCRJ Genderchanger Metal

### Features

- High degree of protection IP65 / IP67
- Robust metal housing
- Standard PROFINET component of the German automotive production
- Allows usage of different cable types (Type B, C) e.g. in robots application
- Extension of cords according to PROFINET guideline

### Technical characteristics

Locking	PushPull technology
Degree of protection	IP65 / IP67 (mated)
Mating face	SCRJ acc. to IEC 61 754-24
Fibre types	POF, GOF, HCS
Number of contacts	2
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated
Dimensions	43.3 x 42 x 29 mm (unmated)
Mounting	Wall mountable with 2 screws (type M3)

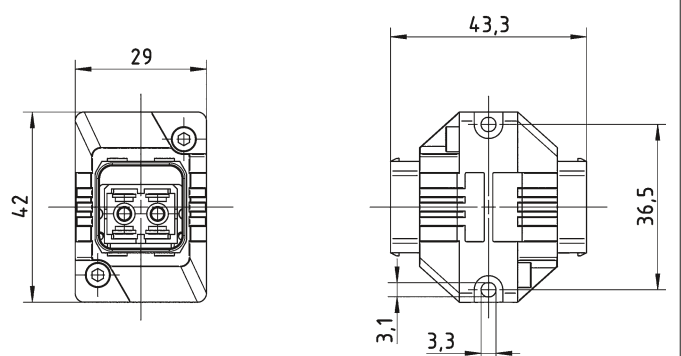
#### Identification

Han® PushPull SCRJ Genderchanger metal

#### Part number

09 35 241 0501

#### Drawing





Han® PushPull SCRJ POF crimp  
Assembly tools for polymer-optical fibres

## Features

- Cable insulation (PUR / PVC) is stripped without damage
- The 'crimping' and 'precision cutting' operations are completed within the one tool
- Specialized cutting method with an automatically advancing round blade for an accurate cutting result requiring no final polishing
- Optical display indicating remaining operations
- Simultaneous crimping of two contacts (duplex handling)

## Technical characteristics

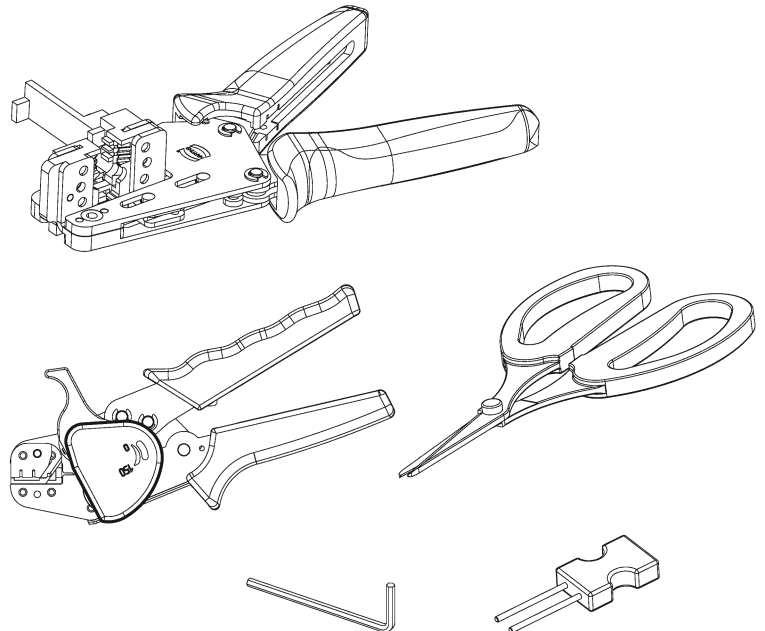
Connector type	SCRJ crimp connector acc. to IEC 61 754-24
Locking	PushPull technology acc. to IEC 61 076-3-117 variant 14 (AIDA compliant)
Insertion loss	typically 1.5 to 2.0 dB
Termination SC contacts	Crimp termination technique
Fibre dimensions	POF 980 / 1000 µm
Fibre outer diameter	2.2 mm
Cable outer diameter	7 to 8.5 mm
No. of cutting operations	Maximum 2500

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

Assembly tool set  
for POF crimp cutting,  
without final polishing

09 35 000 9915

The set contains  
- one crimping and cutting tool  
for 2500 operations  
- one sheath stripping tool  
- one Kevlar shear  
- one loading device for SC  
contacts  
Supplied in a robust plastic case



Replacement cutting tool

09 35 000 9914

Replacement crimp  
and cutting tool

09 35 000 9917



## Han® PushPull SCRJ POF Assembly tools for polymer-optical fibres

### Features

- Cable insulation (PUR / PVC) is stripped without damage
- The 'stripping' and 'precision cutting' operations are completed within the one tool
- Specialized cutting method with an automatically advancing round blade for an accurate cutting result requiring no final polishing
- Optical display indicating remaining operations
- Simultaneous handling of twin fibers (duplex mode)

### Technical characteristics

Connector type	SCRJ connector acc. to IEC 61754-24
Locking	PushPull technology acc. to IEC 61076-3-117 variant 14 (AIDA compliant)
Insertion loss	typically 1.5 to 2.0 dB
Termination SC contacts	Fast termination technique, reusable
Fibre dimensions	POF 980 / 1000 µm
Fibre outer diameter	2.2 mm
Cable outer diameter	7 to 8.5 mm
No. of cutting operations	Maximum 2500

Identification	Part number	Drawing	Dimensions in mm
<b>Assembly tool set for POF cutting, without final polishing</b>  The set contains - one stripping and cutting tool for 2500 operations - one sheath stripping tool - one Kevlar shear - one positioner for SCRJ contacts Supplied in a robust plastic case	09 35 000 9913		
Replacement cutting tool for 2500 operations	09 35 000 9914		
Replacement stripping and cutting tool	09 35 000 9916		
<b>Assembly tool set for POF cutting, with final polishing</b> Without an optical meter With an optical meter	20 99 000 3016 20 99 000 3013		
Polishing wheel (grinding wheel) for POF cables 2.2	20 99 000 1099		
Sand paper for POF, grain size 1000	20 80 001 9911		





Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
10 poles 50 V / 5 A

## Features

- HARTING PushPull technology
- For the transmission of analog, low voltage and bus signals
- Fully shielded
- 10 contacts
- Touch-proof
- Easy and fast cable installation

## Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-117 variant 14
Degree of protection	IP65 / IP67
Mating face	acc. to IEC/PAS 61076-3-119
Number of contacts	10
Electrical data acc. to DIN EN 61984	5 A 50 V 1.5 kV 3
Contact resistance	10 mΩ
Termination	Crimp
Conductor cross section	AWG 24 ... 18; 0.25 ... 0.82 mm <sup>2</sup>
Conductor diameter	max. 2.1 mm
Outer cable diameter	6.5 ... 9.5 mm / 4 ... 11 mm
Shielding	Fully shielded, 360° shielding contact
Mating cycles	min. 500
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black Zinc die-cast, nickel-plated
Flammability acc. to UL 94	V0

### Identification

### Part number

### Drawing

### Dimensions in mm

#### Han® PushPull Signal Insert

for panel feed-through HIFF,  
10 poles  
incl. male insert

Order D-Sub crimp male con-  
tacts separately

#### D-Sub crimp contacts for device side<sup>3)</sup>

male, turned  
AWG 24-20; 0.25-0.56 mm<sup>2</sup>

male, turned  
AWG 22-18; 0.33-0.82 mm<sup>2</sup>

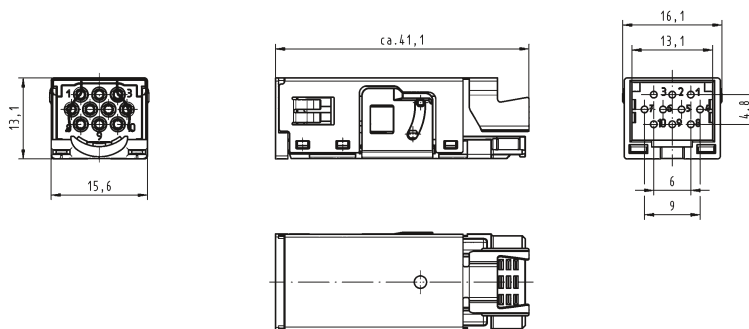
male, stamped  
AWG 24-20; 0.25-0.56 mm<sup>2</sup>

09 45 545 9010

09 67 000 8576<sup>1)</sup>

09 67 000 3576<sup>1)</sup>

09 67 000 8178<sup>2)</sup>



<sup>1)</sup> To be used with crimp tool 09 99 000 0501. Suitable locator: 09 99 000 0531

<sup>2)</sup> To be used with crimp tool 09 99 000 0175.

<sup>3)</sup> For all useable D-Sub contacts please see chapter 05.

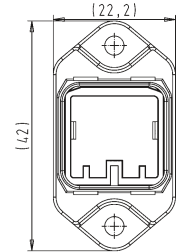
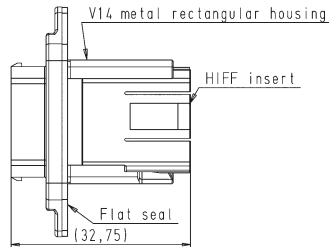
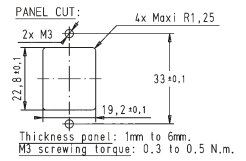
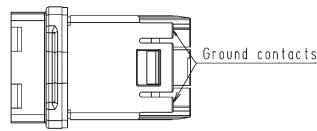


Identification      Part number      Drawing      Dimensions in mm

**Han® PushPull panel feed-through HIFF to hold the 10 poles insert**

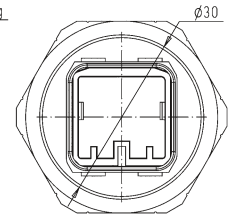
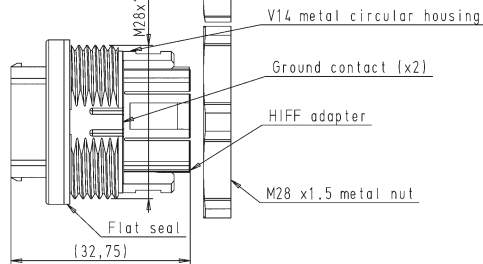
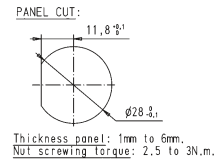
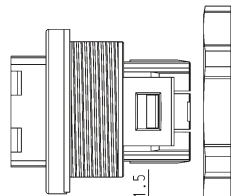
Metal rectangular

09 35 012 0311



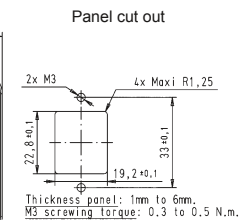
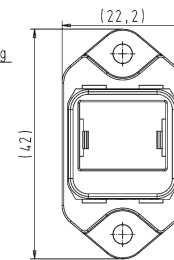
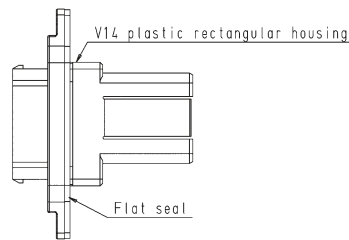
Metal circular

09 35 012 0312



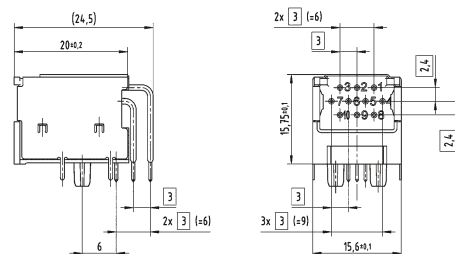
Plastic rectangular

09 35 012 0331



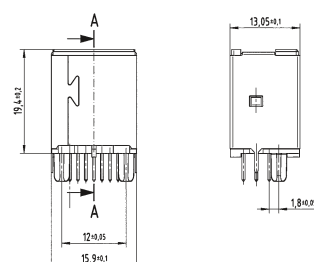
**Han® PushPull Signal solder jack angled**

09 35 002 6001



**Han® PushPull Signal solder jack straight**

09 35 002 6002



suitable housings, bulkhead mounting

Metal

09 35 002 0303

Plastic

09 35 002 0323



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
10 poles 50 V / 5 A

## Features

- HARTING PushPull technology
- For the transmission of analog, low voltage and bus signals
- Fully shielded
- 10 contacts
- Touch-proof
- Easy and fast cable installation

## Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-117 variant 14
Degree of protection	IP65 / IP67
Mating face	acc. to IEC/PAS 61 076-3-119
Number of contacts	10
Electrical data acc. to DIN EN 61984	5 A 50 V 1.5 kV 3
Contact resistance	10 mΩ
Termination	Crimp
Conductor cross section	AWG 24 ... 18; 0.25 ... 0.82 mm <sup>2</sup>
Conductor diameter	max. 2.1 mm
Outer cable diameter	6.5 ... 9.5 mm / 4 ... 11 mm
Shielding	Fully shielded, 360° shielding contact
Mating cycles	min. 500
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black Zinc die-cast, nickel-plated
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

### Han® PushPull Signal

Connector set 10 poles  
incl. metal housing  
and female insert

4 ... 7 / 7 ... 11 mm clamp range  
7 ... 11 mm clamp range

09 35 261 0401  
09 35 262 0401

Connector set 10 poles  
incl. plastic housing  
and female insert

4 ... 6.5 mm clamp range  
6.5 ... 9.5 mm clamp range  
9 ... 13 mm clamp range

09 35 262 0423  
09 35 261 0421  
09 35 261 0423

Order D-Sub crimp female  
contacts separately

D-Sub crimp contacts  
for cable side<sup>3)</sup>

female, turned  
AWG 24-20; 0.25 - 0.52 mm<sup>2</sup>

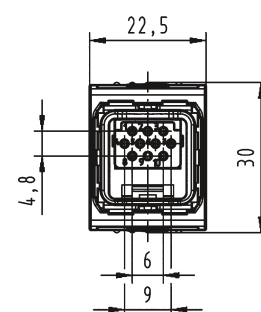
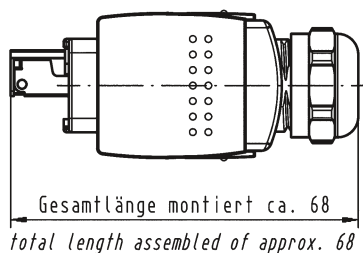
09 67 000 8476<sup>1)</sup>

female, turned  
AWG 22-18; 0.33 - 0.82 mm<sup>2</sup>

09 67 000 3476<sup>1)</sup>

female, stamped  
AWG 24-20; 0.25 - 0.56 mm<sup>2</sup>

09 67 000 8278<sup>2)</sup>



<sup>1)</sup> To be used with crimp tool 09 99 000 0501. Suitable locator: 09 99 000 0531

<sup>2)</sup> To be used with crimp tool 09 99 000 0175.

<sup>3)</sup> For all useable D-Sub contacts please see chapter 05.



Han® PushPull, type acc. to IEC 61 076-3-118  
Housing bulkhead mounting and power females for device integration

## Features

- HARTING PushPull technology
- Compact, space-saving design
- Touch-proof
- Device side: male
  - Solder variant, angled and straight
- 4 times coding without contact loss

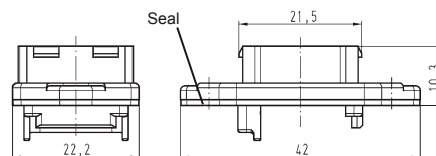
## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-118
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data acc. to DIN EN 61984	16 A 230/400 V 4 kV 3
Termination	Male insert with solder termination
Mating cycles	min. 500
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

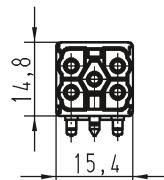
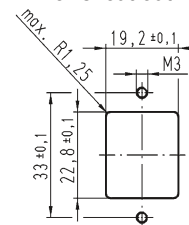
Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

### Components device side

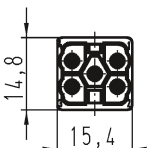
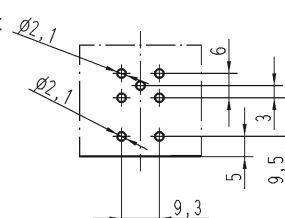
Housing bulkhead mounting plastic	09 35 002 0323		
Replacement flat seal	09 35 002 9901		
Protection cover IP65 / IP67	09 35 002 5402		
Protection cover IP40	09 35 002 5401		
Coding pins	09 35 000 6190		
Male insert with solder termination angled	09 35 002 3003		
Male insert with solder termination straight	09 35 002 3004		



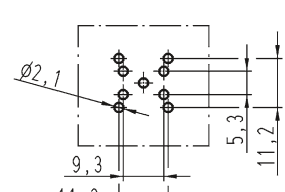
Panel cut out

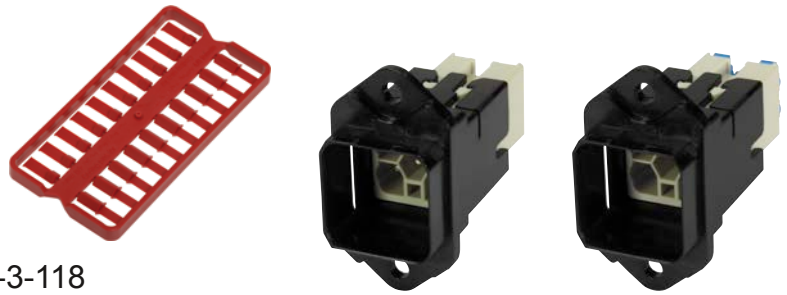


PCB layout



PCB layout





Han® PushPull, type acc. to IEC 61 076-3-118  
 Panel feed-through, 5 poles, 690 V, 16 A

**Features**

- HARTING PushPull technology
- Compact, space-saving design
- Touch-proof
- Panel feed-through: male
  - crimp termination
  - Han-Quick Lock® termination technology
- 4 times coding without contact loss
- NEW: Larger termination cross section for conductors 0.25 - 1.5 mm<sup>2</sup>

**Technical characteristics**

Locking	PushPull technology acc. to IEC 61 076-3-117 variant 14
Mating face	acc. to IEC 61 076-3-118
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data	16 A 690 V 8 kV 3
acc. to DIN EN 61 984	0.25 – 2.5 mm <sup>2</sup>
Termination cross section	min. 500
Mating cycles	-40 °C ... +70 °C
Temperature range	Plastic, black
Housing material	V0
Flammability acc. to UL 94	

**Identification**

**Part number**

**Drawing**

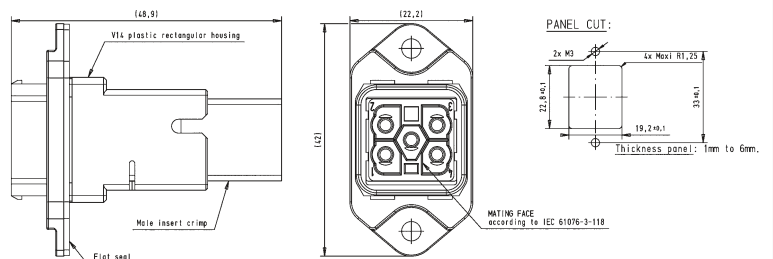
**Dimensions in mm**

**Han® PushPull Power 4/0  
 Panel feed-through**

5 poles, 690 V / 16 A  
 incl. bulkhead housing and male insert

with crimp termination  
 (Order crimp male contacts separately)

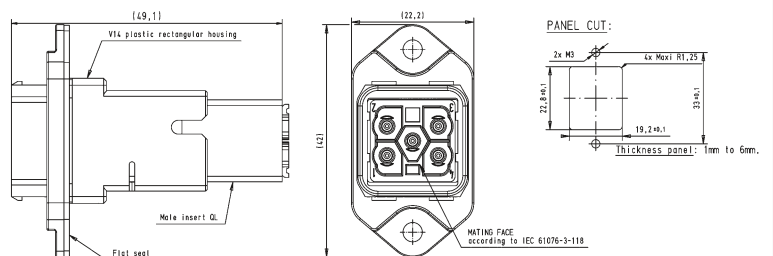
09 35 231 0331



with Han-Quick Lock® termination

0.5 ... 2.5 mm<sup>2</sup>  
 0.25 ... 1.5 mm<sup>2</sup>

09 35 232 0331  
 09 35 234 0331



**Coding element**

10 pieces each for device and cable side  
 enables 4 times coding without contact loss

09 35 000 6190



Han® PushPull, type acc. to IEC 61 076-3-118  
 Panel feed-through, 5 poles, 690 V, 16 A

**Features**

- HARTING PushPull technology
- Compact, space-saving design
- Touch-proof
- Panel feed-through: male
  - crimp termination
  - Han-Quick Lock® termination technology
- 4 times coding without contact loss
- NEW: Larger termination cross section for conductors 0.25 - 1.5 mm<sup>2</sup>

**Technical characteristics**

Locking	PushPull technology acc. to IEC 61 076-3-117 variant 14 acc. to IEC 61 076-3-118
Mating face	acc. to IEC 61 076-3-118
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data	
acc. to DIN EN 61 984	16 A 690 V 8 kV 3
Termination cross section	0.25 – 2.5 mm <sup>2</sup>
Mating cycles	min. 500
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

**Han® PushPull Power 4/0  
 Panel feed-through M25**

5 poles, 690 V / 16 A  
 incl. bulkhead housing and male insert, circular panel cut out

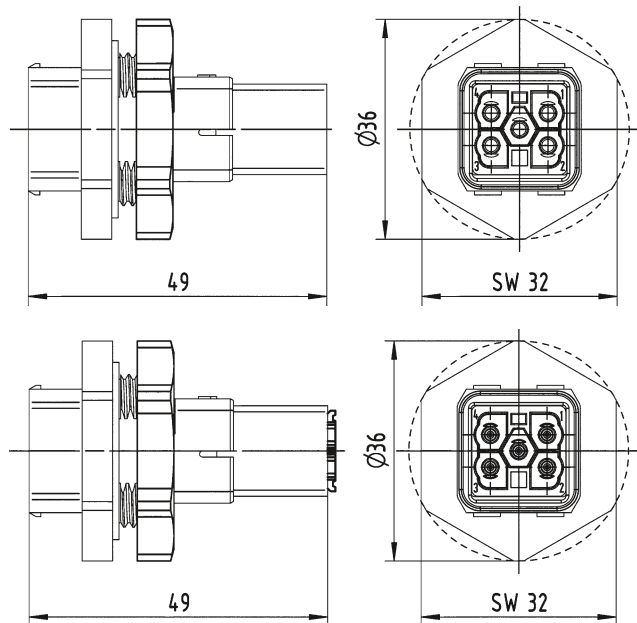
with crimp termination  
 (Order crimp male contacts separately)

09 35 231 0332

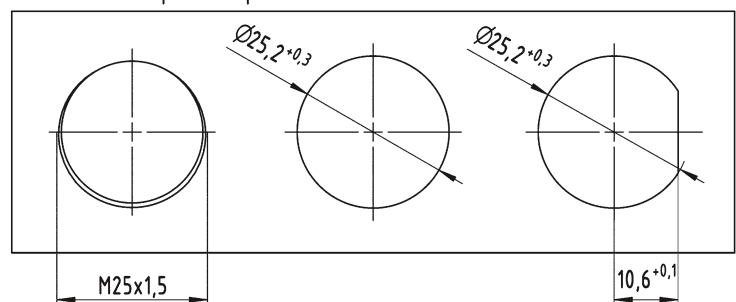
with Han-Quick Lock® termination

0.5 ... 2.5 mm<sup>2</sup>  
 0.25 ... 1.5 mm<sup>2</sup>

09 35 232 0332  
 09 35 234 0332



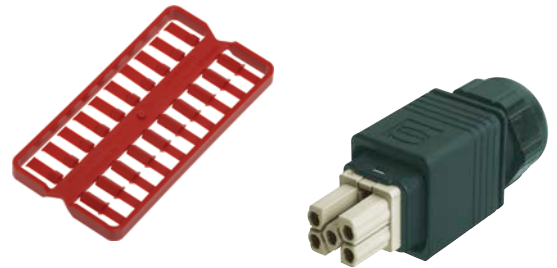
possible panel cut outs - thickness max. 3 mm



**Coding element**

10 pieces each for device and cable side  
 enables 4 times coding without contact loss

09 35 000 6190



Han® PushPull, type acc. to IEC 61 076-3-118  
Connector, 5 poles, 690 V, 16 A

Features

- HARTING PushPull technology
- Compact, space-saving design
- Touch-proof
- Cable side: female
  - crimp termination
  - Han-Quick Lock® termination technology
 Field-assembly without special tools
- 4 times coding without contact loss
- NEW: Larger termination cross section for conductors 0.25 - 1.5 mm<sup>2</sup>

Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117 variant 14
Mating face	acc. to IEC 61 076-3-118
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data	16 A 690 V 8 kV 3
acc. to DIN EN 61 984	0.25 – 2.5 mm <sup>2</sup>
Termination cross section	min. 500
Mating cycles	-40 °C ... +70 °C
Temperature range	Plastic, black
Housing material	V0
Flammability acc. to UL 94	

Identification	Part number	Drawing	Dimensions in mm
<b>Connector set, plastic</b> incl. housing and female insert  with crimp termination 9 – 13 mm clamp range Han® P crimp contacts order separately	09 35 231 0423		
with crimp termination 6.5 – 9.5 mm clamp range Han® P crimp contacts order separately	09 35 231 0421		
with Han-Quick Lock® termination 9 – 13 mm clamp range for termination cross section 0.5 - 2.5 mm <sup>2</sup>	09 35 232 0423		
with Han-Quick Lock® termination 6.5 – 9.5 mm clamp range for termination cross section 0.5 - 2.5 mm <sup>2</sup> for termination cross section 0.25 - 1.5 mm <sup>2</sup>	09 35 232 0421 09 35 234 0421		
Protection cover IP65 / IP67	09 35 002 5411		
Protection cover IP40	09 35 002 5412		
Coding pins	09 35 000 6190		
Security Clip	09 35 002 9910		



Han® PushPull, type acc. to IEC 61 076-3-118  
Housing bulkhead mounting and power females for device integration

## Features

- HARTING PushPull technology
- Compact, space-saving design
- Touch-proof
- Device side: male
  - Solder variant, angled and straight
- 4 times coding without contact loss

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-118
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data acc. to DIN EN 61984	16 A 230/400 V 4 kV 3
Termination	Male insert with solder termination
Mating cycles	min. 500
Temperature range	-40 °C ... +70 °C
Flammability acc. to UL 94	V0
Housing material	Zinc die-cast, nickel plated Plastic, black (female)

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

### Components device side

Housing bulkhead mounting metal	09 35 002 0303		
Replacement flat seal	09 35 002 9901		
Protection cover IP65 / IP67	09 35 002 5402		
Protection cover IP40	09 35 002 5401		
Coding pins	09 35 000 6190		
Male insert with solder termination angled	09 35 002 3003		
Male insert with solder termination straight	09 35 002 3004		





Han® PushPull, type acc. to IEC 61 076-3-118  
Panel feed-through, 5 poles, 690 V, 16 A

## Features

- HARTING PushPull technology
- Compact, space-saving design
- Touch-proof
- Panel feed-through: male
  - crimp termination
  - Han-Quick Lock® termination technology
- 4 times coding without contact loss
- NEW: Larger termination cross section for conductors 0.25 - 1.5 mm<sup>2</sup>

## Technical characteristics

Locking	PushPull technology acc. to IEC 61 076-3-117 variant 14
Mating face	acc. to IEC 61 076-3-118
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data	16 A 690 V 8 kV 3
acc. to DIN EN 61 984	0.25 – 2.5 mm <sup>2</sup>
Termination cross section	min. 500
Mating cycles	-40 °C ... +70 °C
Temperature range	Zinc die-cast, nickel-plated
Housing material	V0
Flammability acc. to UL 94	

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

### Han® PushPull Power 4/0 Panel feed-through

5 poles, 690 V / 16 A  
incl. bulkhead housing  
and male insert

Rectangular panel cut out  
with crimp termination  
(Order crimp male contacts  
separately)

09 35 231 0311

with Han-Quick Lock®  
termination

0.5 ... 2.5 mm<sup>2</sup>

09 35 232 0311

0.25 ... 1.5 mm<sup>2</sup>

09 35 234 0311

Circular panel cut out  
with crimp termination  
(Order crimp male contacts  
separately)

09 35 231 0312

with Han-Quick Lock®  
termination

0.5 ... 2.5 mm<sup>2</sup>

09 35 232 0312

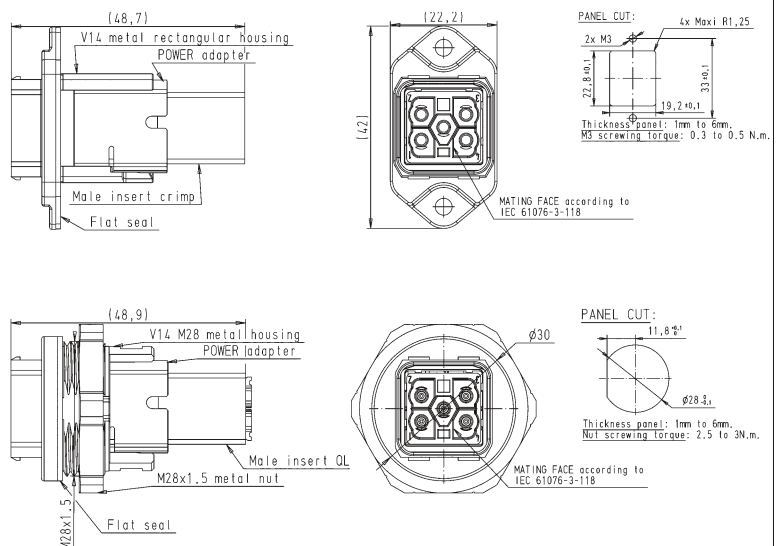
0.25 ... 1.5 mm<sup>2</sup>

09 35 234 0312

### Coding element

10 pieces each for device and  
cable side  
enables 4 times coding without  
contact loss

09 35 000 6190







Han® PushPull, type acc. to IEC 61 076-3-118  
Connector, 5 poles, 690 V, 16 A

**Features**

- HARTING PushPull technology
- Compact, space-saving design
- Touch-proof
- Cable side: female
  - crimp termination
  - Han-Quick Lock® termination technology
 Field-assembly without special tools
- 4 times coding without contact loss
- NEW: Larger termination cross section for conductors 0.25 - 1.5 mm<sup>2</sup>

**Technical characteristics**

Locking	PushPull technology acc. to IEC 61 076-3-117 variant 14
Mating face	acc. to IEC 61 076-3-118
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data	16 A 690 V 8 kV 3
acc. to DIN EN 61 984	0.25 – 2.5 mm <sup>2</sup>
Termination cross section	min. 500
Mating cycles	-40 °C ... +70 °C
Temperature range	Zinc die-cast, nickel-plated
Housing material	V0
Flammability acc. to UL 94	

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

**Connector set, metal**

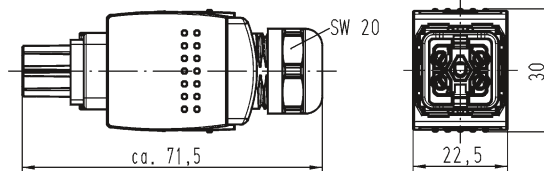
incl. housing and female insert

with crimp termination  
4 – 11 mm clamp range  
Han® P crimp contacts  
order separately

09 35 231 0401

with Han-Quick Lock® termination  
4 – 11 mm clamp range  
for termination cross section 0.5 - 2.5 mm<sup>2</sup>  
for termination cross section 0.25 - 1.5 mm<sup>2</sup>

09 35 232 0401  
09 35 234 0401



Protection cover IP65 / IP67

09 35 002 5411

Protection cover IP40

09 35 002 5412

Coding pins

09 35 000 6190

## Han® PushPull, type acc. to IEC 61 076-3-118 variant 14 Accessories

Identification	Part number	Drawing	Dimensions in mm								
Crimping tool	09 99 000 0888		<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>Tool setting</th> </tr> </thead> <tbody> <tr> <td>0.5 - 1.0 mm<sup>2</sup></td> <td>Ø 1.15 mm</td> </tr> <tr> <td>1.5 mm<sup>2</sup></td> <td>Ø 1.25 mm</td> </tr> <tr> <td>2.5 mm<sup>2</sup></td> <td>Ø 1.35 mm</td> </tr> </tbody> </table>	Wire gauge	Tool setting	0.5 - 1.0 mm <sup>2</sup>	Ø 1.15 mm	1.5 mm <sup>2</sup>	Ø 1.25 mm	2.5 mm <sup>2</sup>	Ø 1.35 mm
Wire gauge	Tool setting										
0.5 - 1.0 mm <sup>2</sup>	Ø 1.15 mm										
1.5 mm <sup>2</sup>	Ø 1.25 mm										
2.5 mm <sup>2</sup>	Ø 1.35 mm										
Locator Han P® for crimping tool 09 99 000 0888	09 99 000 0886										
Removal tool Han P®	09 99 000 0319										
Coding pins for 4 times coding without contact loss	09 35 000 6190										

Identification	Part number		Drawing	Dimensions in mm																		
	Male contact	Female contact																				
<b>Crimp contacts Han® P</b> silver plated  for 0.5 mm <sup>2</sup> for 0.75 mm <sup>2</sup> for 1.0 mm <sup>2</sup> for 1.5 mm <sup>2</sup> for 2.5 mm <sup>2</sup>	09 35 000 6103 09 35 000 6104 09 35 000 6105 09 35 000 6106 09 35 000 6107	09 35 000 6203 09 35 000 6204 09 35 000 6205 09 35 000 6206 09 35 000 6207		<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>for 0.5 mm<sup>2</sup> AWG 20</td> <td>1.15 mm</td> <td>6 mm</td> </tr> <tr> <td>for 0.75 mm<sup>2</sup> AWG 18</td> <td>1.30 mm</td> <td>6 mm</td> </tr> <tr> <td>for 1.0 mm<sup>2</sup> AWG 18</td> <td>1.45 mm</td> <td>6 mm</td> </tr> <tr> <td>for 1.5 mm<sup>2</sup> AWG 16</td> <td>1.75 mm</td> <td>6 mm</td> </tr> <tr> <td>for 2.5 mm<sup>2</sup> AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	Ø	Stripping length	for 0.5 mm <sup>2</sup> AWG 20	1.15 mm	6 mm	for 0.75 mm <sup>2</sup> AWG 18	1.30 mm	6 mm	for 1.0 mm <sup>2</sup> AWG 18	1.45 mm	6 mm	for 1.5 mm <sup>2</sup> AWG 16	1.75 mm	6 mm	for 2.5 mm <sup>2</sup> AWG 14	2.25 mm	6 mm
Wire gauge	Ø	Stripping length																				
for 0.5 mm <sup>2</sup> AWG 20	1.15 mm	6 mm																				
for 0.75 mm <sup>2</sup> AWG 18	1.30 mm	6 mm																				
for 1.0 mm <sup>2</sup> AWG 18	1.45 mm	6 mm																				
for 1.5 mm <sup>2</sup> AWG 16	1.75 mm	6 mm																				
for 2.5 mm <sup>2</sup> AWG 14	2.25 mm	6 mm																				



Han® PushPull, type acc. to IEC 61 076-3-117 variant 14  
cable to cable housing

## Features

- HARTING PushPull technology
- Ideal for prototyping
- Can be combined with panel feed-throughs for power, data and signal

## Technical characteristics

Locking	PushPull technology acc. to IEC 61076-3-117 variant 14
Degree of protection	IP65 / IP67
Outer cable diameter	6.5 ... 9.5 mm / 9 ... 13 mm
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

**Han® PushPull cable to cable housings, plastic**  
(Order housing bulkhead mounting and insert separately)

for outer cable diameter  
6.5 ... 9.5 mm

09 35 002 0431

for outer cable diameter  
9 ... 13 mm

09 35 002 0433

**Suitable bulkhead housing, plastic**

for power, 5 poles, 690 V / 16 A,  
incl. housing bulkhead mounting  
and insert

with crimp termination  
(Order Han® P crimp male  
contacts separately)

09 35 231 0331

with Han-Quick Lock®  
termination

0.5 ... 2.5 mm<sup>2</sup>

09 35 232 0331

0.25 ... 1.5 mm<sup>2</sup>

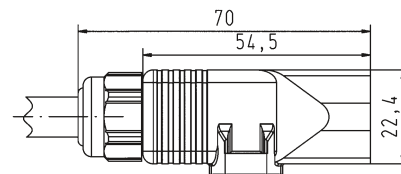
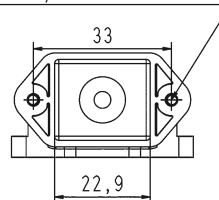
09 35 234 0331

**Coding element power**

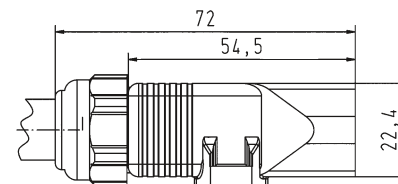
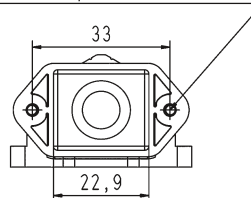
10 pieces each for device and  
cable side

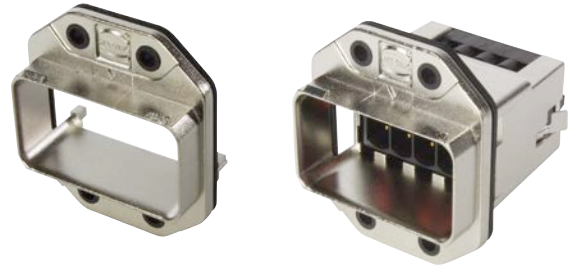
09 35 000 6190

2X REMFORM  $\phi 3 \times 8$  TORX screws



2X REMFORM  $\phi 3 \times 8$  TORX screws





Housing bulkhead mounting for device integration

## Features

- HARTING PushPull technology
- Robust design
- Device side: male
  - Spring cage connection
- AIDA-conform (German Domestic Automobile Manufactures)

## Technical characteristics

Locking	PushPull technology according to IEC PAS 61076-3-126
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data acc. to DIN EN 61984	16 A 24 V 4 kV
Termination	Spring cage connection
Mating cycles	min. 100
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel plated Plastic, black (female)

Identification	Part number	Drawing	Dimensions in mm
<b>Components device side</b>  Housing bulkhead mounting metal	09 35 014 0301		
<b>Panel feed-through, metal</b> incl. housing and male insert with spring cage connection and with fixed coding with variable coding	09 35 433 0311 09 35 434 0311		
<b>Replacement coding</b> (packing unit = 120 pieces)	14 95 000 0051 00		
<b>Protection cover</b> IP65 / IP67	09 35 004 5402 09 35 004 5402 XL	(100 pieces)	
<b>Protection cover IP40</b>	61 04 600 0195 00		



## Han® PushPull L Power 4/0 Genderchanger Metal

### Features

- High degree of protection IP65 / IP67
- Robust metal housing
- Standard PROFINET component of the German automotive production
- Allows usage of different cable types (Type B,C) e.g. in robots application
- Extension of cords according to PROFINET guideline

### Technical characteristics

Connector	Han® PushPull L Power 4/0
Locking	PushPull technology according to IEC PAS 61076-3-126
Electrical transmission	16 A / 24 V
Number of contacts	5
Mating cycles	min. 500
Housing material	Aluminium anodized
Dimensions	83.4 x 62 x 40.7 mm (unmated)
Degree of protection acc. to DIN 60529	IP65 / IP67 (mated)
Mounting	Wall mountable with 4 screws (type M5)
Temperature range	-20 °C ... +50 °C
Maximum permissible humidity	30 % ... 95 % (no condensation)

### Identification

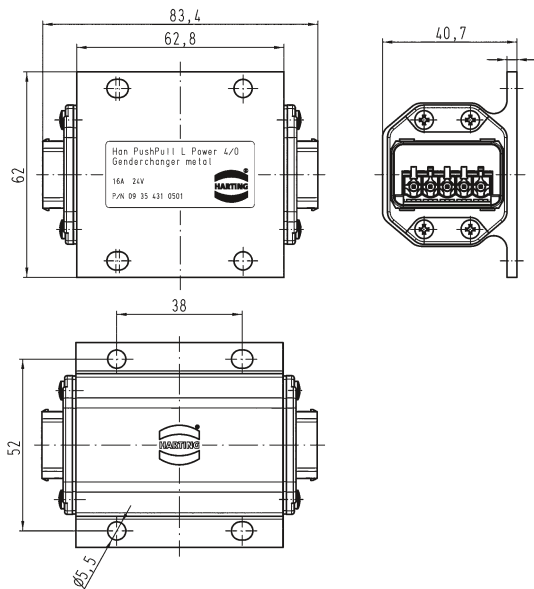
### Part number

### Drawing

### Dimensions in mm

Han® PushPull L Power 4/0 Genderchanger metal including housing and printed board with 2 x male insert with solder termination

09 35 431 0501





## Han® PushPull L Power 4/0 Coupling Metal

### Features

- High degree of protection IP65 / IP67
- Robust metal housing
- Standard PROFINET component of the German automotive production
- Extension of cords according to PROFINET guideline
- For an easy robot termination and a fast exchange of tube packages

### Technical characteristics

Locking	PushPull technology according to IEC PAS 61076-3-126
Electrical transmission	16 A / 24 V
Number of contacts	5
Mating cycles	min. 500
Housing material	Aluminium die-cast
Degree of protection acc. to DIN 60529	IP65 / IP67
Temperature range	-40 °C ... +70 °C

#### Identification

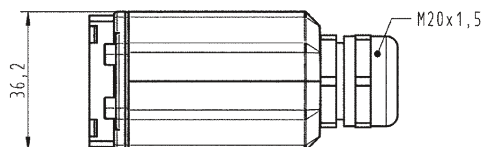
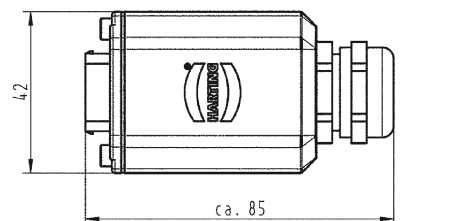
#### Part number

#### Drawing

#### Dimensions in mm

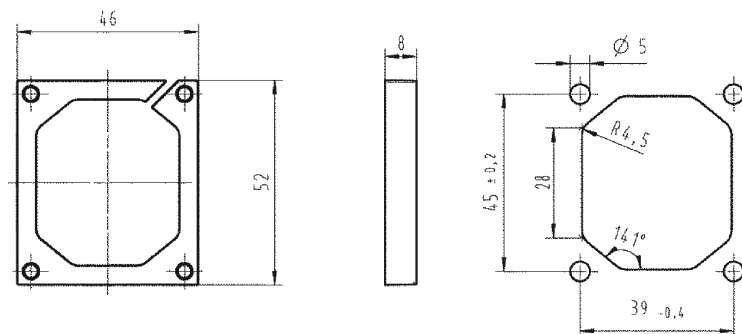
Han® PushPull L  
Power 4/0  
Coupling metal  
including housing,  
contact insert Power L,  
bulkhead housing  
and cable gland

61 04 201 1085 01



Fixing flange

61 04 600 0183 02



Number of contacts

# 5

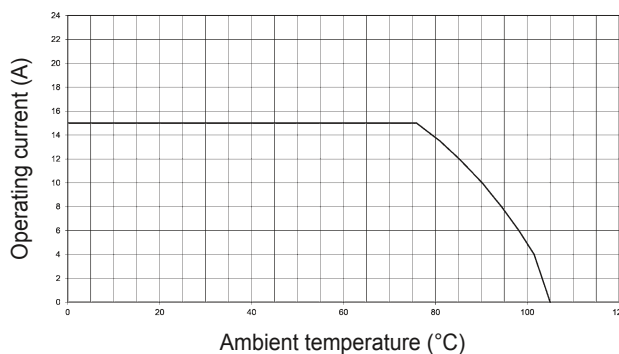
15 A 24 V 4 kV 3



## Technical characteristics

Number of contacts	5
Rated current	15 A
Rated voltage	24 V
Rated impulse voltage	4 kV
Pollution degree	3
Limiting temperature	0 ... +55 °C
Storage temperature	-40 ... +70 °C
Mating cycles	≥ 500
Conductor cross-section	0.75 ... 2.5 mm <sup>2</sup>
Conductor cross-section	AWG 18 ... AWG 13
Locking type	PushPull
Degree of protection acc. to IEC 60529	IP65 / IP67
Tightening torque	3 Nm
Material (insert)	Polyamide (PA)
Material (hood/housing)	Zinc die-cast
Material (contacts)	Copper alloy
Surface (contacts)	Sn over Ni, Termination side Au over Ni, Mating side

## Derating



## Specifications and approvals

DNV GL

Identification

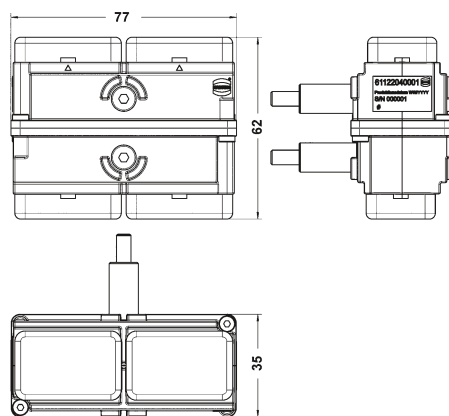
Part number

Drawing

Dimensions in mm

**Han® PushPull (V14),**  
AIDA H-distributor,  
Connector,  
Distributor,  
AIDA compliant,  
Han® PushPull (V14),  
Pack contents:  
Distributor,  
2 fixing screws,  
4 Transport protection covers,  
2 distance sleeves

61 12 204 0001 02





Connector, 5 poles, 24 V, 16 A

## Features

- HARTING PushPull technology
- Robust design
- Cable side: female
  - spring force connection
- AIDA-conform  
(German Domestic Automobile Manufactures)
- Enlarged size for an optimized connection of 2.5 mm<sup>2</sup> conductor cross sections

## Technical characteristics

Locking	PushPull technology according to IEC PAS 61076-3-126
Degree of protection	IP65 / IP67
Number of contacts	4 + PE
Electrical data acc. to DIN EN 61984	16 A 24 V 1.5 kV 3
Termination	Spring force connection
Termination cross section	0.75 ... 2.5 mm <sup>2</sup>
Mating cycles	min. 100
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel plated

Identification	Part number	Drawing	Dimensions in mm
<b>Connector set, metal</b> incl. housing and female insert with spring force connection and  with fixed coding 6 - 10 mm clamp range 9 - 13 mm clamp range  with variable coding 9 - 13 mm clamp range 6 - 10 mm clamp range	  09 35 433 0441 09 35 433 0401  09 35 434 0401 09 35 434 0441	<p>Complete length assembled acc. to 80</p> <p>fixed coding key</p> <p>Pin 5</p> <p>Pin 1</p>	  36 30
<b>Replacement coding</b> (packing unit = 120 pieces)	14 95 000 0054 000		
<b>Protection cover</b> IP65 / IP67	09 35 004 5412 09 35 004 5412 XL	(100 pieces)	
<b>Separate seal<sup>1)</sup></b> 4 - 6,5 mm clamp range 6 - 10 mm clamp range	09 35 004 9907 09 35 004 9908		

<sup>1)</sup> Packaging with 10 pieces





## PushPull XS SFP Device integration and system cable



Identification	Part number	Drawing	Dimensions in mm
<p>Fibre optic cable PUR jacket, multi mode 50/125 OM3 overmoulded bend relief suitable for housings, long and also usable in the same port as PushPull XS SFP RJ45 double side assembly with PushPull XS SFP</p>	33 26 231 xxx0 012 <sup>1)</sup>		
<p>Fibre optic cable PUR jacket, multi mode 50/125 OM3 overmoulded bend relief suitable for housings, short double side assembly with PushPull XS SFP</p>	33 26 231 xxx0 014 <sup>2)</sup>		
<p>Fibre optic cable PUR jacket, multi mode 50/125 OM3 overmoulded bend relief suitable for housings, long and also usable in the same port as PushPull XS SFP RJ45 Page 1: PushPull XS SFP Page 2: LC duplex</p>	33 26 231 xxx0 013 <sup>1)</sup>		
<p>Fibre optic cable PUR jacket, multi mode 50/125 OM3 overmoulded bend relief suitable for housings, short Page 1: PushPull XS SFP Page 2: LC duplex</p>	33 26 231 xxx0 018 <sup>2)</sup>		

1) For housing 09 57 411 0501 201  
2) For housing 09 57 411 0501 200

3) xxx refer Technical characteristics

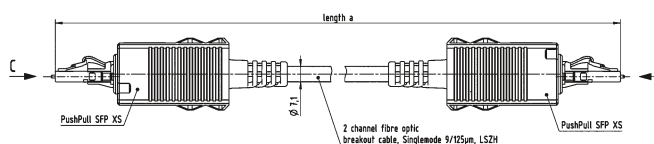
## PushPull XS SFP Device integration and system cable



Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

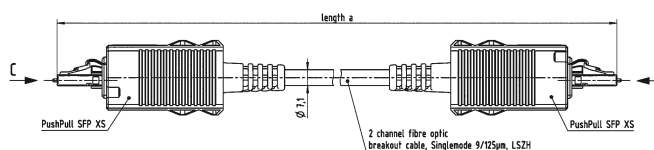
Fibre optic cable  
PUR jacket,  
single mode 9/125 G657.A1  
overmoulded bend relief suitable  
for housings, long  
and also usable in the same  
port as PushPull XS SFP RJ45  
double side assembly with  
PushPull XS SFP

33 26 231 xxx0 011<sup>1)</sup>



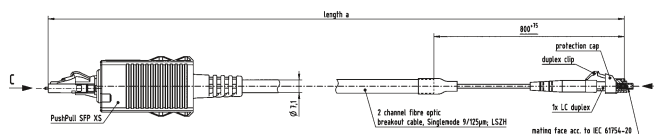
Fibre optic cable  
PUR jacket,  
single mode 9/125 G657.A1  
overmoulded bend relief suitable  
for housings, short  
double side assembly with  
PushPull XS SFP

33 26 231 xxx0 015<sup>2)</sup>



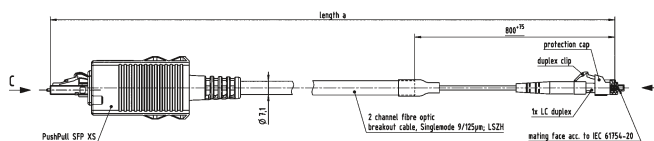
Fibre optic cable  
PUR jacket,  
single mode 9/125 G657.A1  
overmoulded bend relief suitable  
for housings, long  
and also usable in the same  
port as PushPull XS SFP RJ45  
Page 1: PushPull XS SFP  
Page 2: LC duplex

33 26 231 xxx0 016<sup>1)</sup>



Fibre optic cable  
PUR jacket,  
single mode 9/125 G657.A1  
overmoulded bend relief suitable  
for housings, short  
Page 1: PushPull XS SFP  
Page 2: LC duplex

33 26 231 xxx0 017<sup>2)</sup>



1) For housing 09 57 411 0501 201  
2) For housing 09 57 411 0501 200

3) xxx refer Technical characteristics

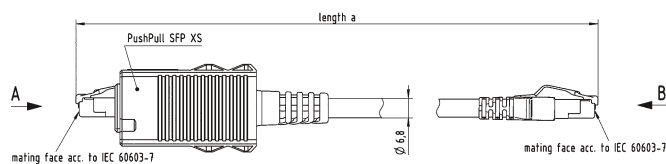


## PushPull XS SFP Device integration and system cables

Identification	Part number	Drawing	Dimensions in mm
----------------	-------------	---------	------------------

**Cat. 6<sub>A</sub> cable**  
 PVC jacket,  
 4x2xAWG26/7  
 single mode 9/125 G657.A1  
 overmoulded bend relief  
 (PushPull XS SFP) suitable for  
 housings, long  
 and also usable in the same port as  
 PushPull XS SFP LC duplex  
 - 3326231xxx0011  
 - 3326231xxx0012  
 - 3326231xxx0013  
 - 3326231xxx0016

33 25 231 xxx0 001



Part number	Page	Part number	Page	Part number	Page	Part number	Page
09 35 000 6103	105	09 35 002 4003	86	09 35 221 0401	74	09 35 242 0313	89
09 35 000 6104	105	09 35 002 4003	89	09 35 221 0421	67	09 35 242 0333	86
09 35 000 6105	105	09 35 002 4003	91				
09 35 000 6106	105			09 35 221 0501	72	09 35 242 0401	91
09 35 000 6107	105	09 35 002 5401	98				
09 35 000 6190	98	09 35 002 5401	102	09 35 222 0401	74	09 35 261 0401	97
09 35 000 6190	99	09 35 002 5402	65	09 35 222 0421	67	09 35 261 0421	97
09 35 000 6190	100	09 35 002 5402	69			09 35 261 0423	97
09 35 000 6190	101	09 35 002 5402	84	09 35 225 0311	70		
09 35 000 6190	102	09 35 002 5402	85	09 35 225 0312	70	09 35 262 0401	97
09 35 000 6190	103	09 35 002 5402	88	09 35 225 0331	66	09 35 262 0423	97
09 35 000 6190	104	09 35 002 5402	98				
09 35 000 6190	105	09 35 002 5402	102	09 35 225 0401	74	09 35 431 0501	108
09 35 000 6190	106	09 35 002 5402 XL	84	09 35 225 0402	77		
		09 35 002 5403 XL	84	09 35 225 0403	77	09 35 433 0311	107
09 35 000 6203	105	09 35 002 5404	84	09 35 225 0421	67	09 35 433 0401	111
09 35 000 6204	105	09 35 002 5404 XL	84			09 35 433 0441	111
09 35 000 6205	105	09 35 002 5411	84	09 35 226 0401	74		
09 35 000 6206	105	09 35 002 5411	87	09 35 226 0402	77	09 35 434 0311	107
09 35 000 6207	105	09 35 002 5411	90	09 35 226 0403	77	09 35 434 0401	111
		09 35 002 5411	91	09 35 226 0421	67	09 35 434 0441	111
		09 35 002 5411	101				
09 35 000 9913	94	09 35 002 5411	104	09 35 227 0401	78	09 45 145 1000	34
09 35 000 9914	93	09 35 002 5412	84	09 35 227 0421	68	09 45 145 1001	34
09 35 000 9914	94	09 35 002 5412	101			09 45 145 1002	34
09 35 000 9915	93	09 35 002 5412	104	09 35 228 0421	67	09 45 145 1003	34
09 35 000 9916	94	09 35 002 5412	84			09 45 145 1004	34
09 35 000 9917	93			09 35 229 0401	75	09 45 145 1010	35
						09 45 145 1011	35
09 35 002 0301	69	09 35 002 6001	96	09 35 231 0311	103	09 45 145 1012	35
09 35 002 0303	88	09 35 002 6002	96	09 35 231 0312	103	09 45 145 1013	35
09 35 002 0303	96			09 35 231 0331	99	09 45 145 1014	35
09 35 002 0303	102	09 35 002 9901	65	09 35 231 0331	106		
09 35 002 0321	65	09 35 002 9901	69	09 35 231 0332	100	09 45 145 1106	13
09 35 002 0323	85	09 35 002 9901	85				
09 35 002 0323	96	09 35 002 9901	88	09 35 231 0401	104	09 45 145 1521	13
09 35 002 0323	98	09 35 002 9901	98	09 35 231 0421	101	09 45 145 1521 XL	13
		09 35 002 9901	102	09 35 231 0423	101	09 45 145 1561	16
		09 35 002 9910	67				
09 35 002 0431	83	09 35 002 9910	68	09 35 232 0311	103	09 45 145 9011	36
09 35 002 0431	106	09 35 002 9910	101	09 35 232 0312	103		
09 35 002 0433	83			09 35 232 0331	99	09 45 195 1100	14
09 35 002 0433	106	09 35 004 5402	107	09 35 232 0331	106		
		09 35 004 5402 XL	107	09 35 232 0332	100	09 45 195 1520	14
09 35 002 2101	65	09 35 004 5412	111			09 45 195 1560	17
09 35 002 2101	69	09 35 004 5412 XL	111	09 35 232 0401	104	09 45 245 1561	11
09 35 002 2101 333	65			09 35 232 0421	101		
09 35 002 2101 333	69	09 35 004 9907	109	09 35 232 0423	101	09 45 245 1920	40
09 35 002 2102	65	09 35 004 9907	111			09 45 245 1930	40
09 35 002 2102	69	09 35 004 9908	109				
09 35 002 2102 333	65	09 35 004 9908	111	09 35 234 0311	103	09 45 295 1130	12
09 35 002 2102 333	69			09 35 234 0312	103		
09 35 002 2106	65	09 35 012 0311	71	09 35 234 0331	99	09 45 345 0000	59
09 35 002 2106	69	09 35 012 0311	96	09 35 234 0331	106	09 45 345 0001	59
		09 35 012 0312	71	09 35 234 0332	100		
09 35 002 3003	98	09 35 012 0312	96			09 45 345 1560	15
09 35 002 3003	102	09 35 012 0331	66	09 35 234 0401	104		
09 35 002 3004	98	09 35 012 0331	83	09 35 234 0421	101	09 45 445 1900	41
09 35 002 3004	102	09 35 012 0331	96			09 45 445 1901	41
				09 35 241 0401	90	09 45 445 1902	41
09 35 002 4002	86	09 35 014 0301	107	09 35 241 0402	90	09 45 445 1903	41
09 35 002 4002	87			09 35 241 0421	87	09 45 445 1904	41
09 35 002 4002	89	09 35 220 0401	76	09 35 241 0422	87	09 45 445 1905	41
09 35 002 4002	90	09 35 220 0402	76			09 45 445 1910	42
				09 35 241 0501	92	09 45 445 1911	42

# List of part numbers



Part number	Page	Part number	Page	Part number	Page	Part number	Page
09 45 445 1912	42	09 45 545 0028	59	09 45 845 0003	58	09 47 555 5042	81
09 45 445 1913	42	09 45 545 0040	8	09 45 845 0009	58	09 47 555 5044	81
09 45 445 1914	42	09 45 545 0040	37	09 45 845 0009 024	58		
09 45 445 1915	42	09 45 545 0041	8	09 45 845 0010	58	09 47 555 5063	81
		09 45 545 0041	37	09 45 845 0011 024	58	09 47 555 5065	81
09 45 445 2900	48	09 45 545 0042	8	09 45 845 0013	58	09 47 555 5067	81
09 45 445 2901	48	09 45 545 0042	37	09 45 845 0014	58	09 47 555 5072	81
09 45 445 2902	48	09 45 545 0043	8	09 45 845 0015	58	09 47 555 5074	81
09 45 445 2903	48	09 45 545 0043	37	09 45 845 0019	58		
09 45 445 2904	48					09 47 555 5093	81
09 45 445 2905	48	09 45 545 1002	33	09 45 845 1560	61	09 47 555 5095	81
09 45 445 2910	49			09 45 845 1562	60	09 47 555 5097	81
09 45 445 2911	49	09 45 545 1120	59	09 45 845 1563	60		
09 45 445 2912	49	09 45 545 1120	62			09 47 555 5102	81
09 45 445 2913	49	09 45 545 1120	66	09 46 145 1000	34	09 47 555 5104	81
09 45 445 2914	49	09 45 545 1120	71	09 46 145 1001	34		
09 45 445 2915	49	09 45 545 1120	83	09 46 145 1002	34	09 47 565 6033	81
09 45 445 2930	47			09 46 145 1003	34	09 47 565 6035	81
09 45 445 2931	47	09 45 545 1561	59	09 46 145 1003	34	09 47 565 6037	81
09 45 445 2932	47	09 45 545 1561	64	09 46 145 1004	34	09 47 565 6042	81
09 45 445 2933	47	09 45 545 1561	66	09 46 145 1010	35	09 47 565 6044	81
09 45 445 2934	47	09 45 545 1561	71	09 46 145 1011	35		
09 45 445 2935	47	09 45 545 1561	83	09 46 145 1012	35	09 47 565 6063	81
09 45 445 2940	50	09 45 545 1562	59	09 46 145 1013	35	09 47 565 6065	81
09 45 445 2941	50	09 45 545 1562	64	09 46 145 1014	35	09 47 565 6067	81
09 45 445 2942	50	09 45 545 1562	66			09 47 565 6072	81
09 45 445 2943	50	09 45 545 1562	71	09 46 145 3420	55	09 47 565 6074	81
09 45 445 2944	50	09 45 545 1562	83	09 46 145 3421	55		
09 45 445 2945	50					09 47 565 6093	81
		09 45 545 1901	40	09 46 145 4420	53	09 47 565 6095	81
		09 45 545 1902	40	09 46 145 4421	53	09 47 565 6097	81
09 45 445 3900	43			09 46 245 3420	55		
09 45 445 3901	43					09 47 565 6102	81
09 45 445 3902	43	09 45 545 9010	37	09 46 245 4020	52	09 47 565 6104	81
09 45 445 3903	43	09 45 545 9010	59	09 46 245 4021	52		
09 45 445 3904	43	09 45 545 9010	95			09 47 565 7033	81
09 45 445 3905	43	09 45 545 9011	37	09 46 245 4420	52	09 47 565 7035	81
09 45 445 3910	44	09 45 545 9012	37			09 47 565 7037	81
09 45 445 3911	44			09 46 500 0401	53	09 47 565 7042	81
09 45 445 3912	44	09 45 551 1000	33	09 46 500 0402	53	09 47 565 7044	81
09 45 445 3913	44	09 45 551 1000 333	33	09 46 500 0403	53		
09 45 445 3914	44			09 46 500 0404	53	09 47 565 7063	81
09 45 445 3915	44			09 46 500 0405	53	09 47 565 7065	81
		09 45 551 1100	9	09 46 500 0406	53	09 47 565 7067	81
		09 45 551 1102	9	09 46 500 0407	53	09 47 565 7072	81
		09 45 551 1103	9	09 46 500 0408	53	09 47 565 7074	81
		09 45 551 1110	9				
09 45 445 4900	45	09 45 551 1110 333	9	09 46 500 3400	55	09 47 565 7093	81
09 45 445 4901	45			09 46 500 3401	55	09 47 565 7095	81
09 45 445 4902	45	09 45 551 1150	10			09 47 565 7097	81
09 45 445 4903	45	09 45 551 1151	10				
09 45 445 4904	45			09 46 500 4400	52		
09 45 445 4905	45	09 45 551 1540	10	09 46 500 4401	52	09 47 565 7102	81
09 45 445 4910	46	09 45 551 1541	10	09 46 500 4402	52	09 47 565 7104	81
09 45 445 4911	46						
09 45 445 4912	46			09 46 800 0000	57	09 47 575 7001	82
09 45 445 4913	46	09 45 800 0520	13	09 46 800 0010	57	09 47 575 7002	82
09 45 445 4914	46	09 45 800 0520	14	09 46 800 0098	57	09 47 575 7003	82
09 45 445 4915	46	09 45 800 0520	68	09 46 800 0099	57	09 47 575 7004	82
		09 45 800 0520	78			09 47 575 7005	82
				09 46 840 0000	53		
09 45 541 1900	39	09 45 840 0004	16	09 46 840 0000	55	09 47 585 8001	82
09 45 541 1902	39	09 45 840 0005	16			09 47 585 8002	82
09 45 541 1906	39	09 45 840 0006	16	09 47 555 5033	81	09 47 585 8003	82
09 45 541 1907	39	09 45 840 0007	16	09 47 555 5035	81	09 47 585 8004	82
09 45 541 1910	39	09 45 840 0008	16	09 47 555 5037	81	09 47 585 8005	82



# List of part numbers



Part number	Page	Part number	Page	Part number	Page	Part number	Page
09 48 171 7165 015	82	09 48 313 18A6 100	38	20 10 230 5211	86	33 58 751 1000 002	24
09 48 171 7165 030	82	09 48 313 18A6 150	38	20 10 230 5211	87	33 58 751 1000 002	27
09 48 171 7165 050	82	09 48 313 18A6 200	38	20 10 230 5211	89	33 58 751 1000 002	30
09 48 171 7165 100	82			20 10 230 5211	90	33 58 751 1000 003	25
09 48 171 7165 200	82	09 57 400 0001 000	23			33 58 751 1000 003	28
		09 57 400 0002 000	23	20 80 001 9911	94	33 58 751 1000 003	31
		09 57 400 0003 000	23				
		09 57 400 0004 000	23	20 82 000 0001	79	33 59 222 0050 001	56
09 48 282 8756 005	18			20 82 000 0002	64	33 59 222 0050 002	54
09 48 282 8756 010	18	09 57 402 0500 000	22	20 82 000 0003	79		
09 48 282 8756 050	18	09 57 402 0501 000	22			33 59 222 0100 001	56
09 48 282 8756 075	18			20 82 000 9901	79	33 59 222 0100 002	54
09 48 282 8756 100	18	09 57 409 0500 000	22				
09 48 282 8756 150	18	09 57 409 0501 000	22	20 82 001 0001	59	33 59 222 0200 001	56
09 48 282 8756 200	18			20 82 001 0001	63	33 59 222 0200 002	54
09 48 282 8757 005	18	09 57 411 0501 200	112	20 82 001 0001	66		
09 48 282 8757 010	18	09 57 411 0501 201	112	20 82 001 0001	71	33 59 222 0300 001	56
09 48 282 8757 050	18	09 57 411 0501 202	112	20 82 001 0001	83	33 59 222 0300 002	54
09 48 282 8757 075	18			20 82 001 0002	63		
09 48 282 8757 100	18	09 57 441 0500 000	22			33 59 222 0400 001	56
09 48 282 8757 150	18	09 57 441 0501 000	22	20 82 104 0001	79	33 59 222 0400 002	54
09 48 282 8757 200	18			20 82 104 0045	79		
09 48 282 8758 005	19	09 57 442 0502 001	22			33 59 222 0500 001	56
09 48 282 8758 010	19	09 57 442 0503 001	22	20 99 000 1099	94	33 59 222 0500 002	54
09 48 282 8758 050	19						
09 48 282 8758 075	19	09 57 468 0500 000	22	20 99 000 3013	94	33 59 222 0750 001	56
09 48 282 8758 100	19	09 57 468 0501 000	22	20 99 000 3016	94	33 59 222 0750 002	54
09 48 282 8758 150	19						
09 48 282 8758 200	19	09 67 000 3476	36	33 11 000 0179 000	112	33 59 222 1000 001	56
		09 67 000 3476	97	33 11 000 0180 000	112	33 59 222 1000 002	54
09 48 284 7756 010	20	09 67 000 3576	37	33 25 231 xxx0 001	115	33 59 222 1500 001	56
09 48 284 7756 020	20	09 67 000 3576	95			33 59 222 1500 002	54
09 48 284 7756 030	20			33 26 231 xxx0 011	114		
09 48 284 7756 050	20	09 67 000 8178	37	33 26 231 xxx0 012	113	33 59 222 2000 001	56
09 48 284 7756 070	20	09 67 000 8178	95	33 26 231 xxx0 013	113	33 59 222 2000 002	54
09 48 284 7756 100	20			33 26 231 xxx0 014	113		
09 48 284 7756 150	20	09 67 000 8278	36	33 26 231 xxx0 015	114	33 59 222 3000 001	56
09 48 284 7756 200	20	09 67 000 8278	97	33 26 231 xxx0 016	114	33 59 222 3000 002	54
09 48 284 7757 010	20			33 26 231 xxx0 017	114		
09 48 284 7757 020	20	09 67 000 8476	36	33 26 231 xxx0 018	113	33 61 221 0010 001	24
09 48 284 7757 030	20	09 67 000 8476	97			33 61 221 0010 002	25
09 48 284 7757 050	20			33 58 751 0100 001	26	33 61 221 0010 003	26
09 48 284 7757 070	20	09 67 000 8576	37	33 58 751 0100 001	29	33 61 221 0020 001	24
09 48 284 7757 100	20	09 67 000 8576	95	33 58 751 0100 001	32	33 61 221 0020 002	25
09 48 284 7757 150	20			33 58 751 0100 002	24	33 61 221 0020 003	26
09 48 284 7757 200	20	09 99 000 0319	105	33 58 751 0100 002	27	33 61 221 0030 001	24
09 48 284 7758 010	21			33 58 751 0100 002	30	33 61 221 0030 002	25
09 48 284 7758 020	21	09 99 000 0886	105	33 58 751 0100 003	25	33 61 221 0030 003	26
09 48 284 7758 030	21	09 99 000 0888	105	33 58 751 0100 003	28	33 61 221 0040 001	24
09 48 284 7758 050	21			33 58 751 0100 003	31	33 61 221 0040 002	25
09 48 284 7758 070	21	14 95 000 0051 00	107			33 61 221 0040 003	26
09 48 284 7758 100	21			33 58 751 0200 001	26	33 61 221 0050 001	24
09 48 284 7758 150	21	14 95 000 0054 000	111	33 58 751 0200 001	29	33 61 221 0050 002	25
09 48 284 7758 200	21			33 58 751 0200 001	32	33 61 221 0050 003	26
		20 10 001 5211	91	33 58 751 0200 002	24	33 61 221 0060 001	24
		20 10 001 5217	86	33 58 751 0200 002	27	33 61 221 0060 002	25
09 48 313 18A6 005	38	20 10 001 5217	87	33 58 751 0200 002	30	33 61 221 0060 003	26
09 48 313 18A6 010	38	20 10 001 5217	89	33 58 751 0200 003	25	33 61 221 0070 001	24
09 48 313 18A6 015	38	20 10 001 5217	90	33 58 751 0200 003	28	33 61 221 0070 002	25
09 48 313 18A6 020	38			33 58 751 0200 003	31	33 61 221 0070 003	26
09 48 313 18A6 030	38	20 10 125 5211	86			33 61 221 0080 001	24
09 48 313 18A6 040	38	20 10 125 5211	87	33 58 751 1000 001	26	33 61 221 0080 002	25
09 48 313 18A6 050	38	20 10 125 5211	89	33 58 751 1000 001	29	33 61 221 0080 003	26
09 48 313 18A6 075	38	20 10 125 5211	90	33 58 751 1000 001	32		

# List of part numbers



Part number	Page	Part number	Page	Part number	Page	Part number	Page
33 61 221 0090 001	24	33 61 221 1000 001	24	33 61 431 0100 004	30	33 61 431 0400 004	30
33 61 221 0090 002	25	33 61 221 1000 002	25	33 61 431 0100 005	31	33 61 431 0400 005	31
33 61 221 0090 003	26	33 61 221 1000 003	26	33 61 431 0100 006	32	33 61 431 0400 006	32
33 61 221 0100 001	24	33 61 431 0010 001	27	33 61 431 0110 001	27	33 61 431 0450 001	27
33 61 221 0100 002	25	33 61 431 0010 002	28	33 61 431 0110 002	28	33 61 431 0450 002	28
33 61 221 0100 003	26	33 61 431 0010 003	29	33 61 431 0110 003	29	33 61 431 0450 003	29
33 61 221 0110 001	24	33 61 431 0010 004	30	33 61 431 0110 004	30	33 61 431 0450 004	30
33 61 221 0110 002	25	33 61 431 0010 005	31	33 61 431 0110 005	31	33 61 431 0450 005	31
33 61 221 0110 003	26	33 61 431 0010 006	32	33 61 431 0110 006	32	33 61 431 0450 006	32
33 61 221 0120 001	24	33 61 431 0020 001	27	33 61 431 0120 001	27	33 61 431 0500 001	27
33 61 221 0120 002	25	33 61 431 0020 002	28	33 61 431 0120 002	28	33 61 431 0500 002	28
33 61 221 0120 003	26	33 61 431 0020 003	29	33 61 431 0120 003	29	33 61 431 0500 003	29
33 61 221 0130 001	24	33 61 431 0020 004	30	33 61 431 0120 004	30	33 61 431 0500 004	30
33 61 221 0130 002	25	33 61 431 0020 005	31	33 61 431 0120 005	31	33 61 431 0500 005	31
33 61 221 0130 003	26	33 61 431 0020 006	32	33 61 431 0120 006	32	33 61 431 0500 006	32
33 61 221 0140 001	24	33 61 431 0030 001	27	33 61 431 0130 001	27	33 61 431 0600 001	27
33 61 221 0140 002	25	33 61 431 0030 002	28	33 61 431 0130 002	28	33 61 431 0600 002	28
33 61 221 0140 003	26	33 61 431 0030 003	29	33 61 431 0130 003	29	33 61 431 0600 003	29
33 61 221 0150 001	24	33 61 431 0030 004	30	33 61 431 0130 004	30	33 61 431 0600 004	30
33 61 221 0150 002	25	33 61 431 0030 005	31	33 61 431 0130 005	31	33 61 431 0600 005	31
33 61 221 0150 003	26	33 61 431 0030 006	32	33 61 431 0130 006	32	33 61 431 0600 006	32
33 61 221 0200 001	24	33 61 431 0040 001	27	33 61 431 0140 001	27	33 61 431 0700 001	27
33 61 221 0200 002	25	33 61 431 0040 002	28	33 61 431 0140 002	28	33 61 431 0700 002	28
33 61 221 0200 003	26	33 61 431 0040 003	29	33 61 431 0140 003	29	33 61 431 0700 003	29
33 61 221 0250 001	24	33 61 431 0040 004	30	33 61 431 0140 004	30	33 61 431 0700 004	30
33 61 221 0250 002	25	33 61 431 0040 005	31	33 61 431 0140 005	31	33 61 431 0700 005	31
33 61 221 0250 003	26	33 61 431 0040 006	32	33 61 431 0140 006	32	33 61 431 0700 006	32
33 61 221 0300 001	24	33 61 431 0050 001	27	33 61 431 0150 001	27	33 61 431 0800 001	27
33 61 221 0300 002	25	33 61 431 0050 002	28	33 61 431 0150 002	28	33 61 431 0800 002	28
33 61 221 0300 003	26	33 61 431 0050 003	29	33 61 431 0150 003	29	33 61 431 0800 003	29
33 61 221 0350 001	24	33 61 431 0050 004	30	33 61 431 0150 004	30	33 61 431 0800 004	30
33 61 221 0350 002	25	33 61 431 0050 005	31	33 61 431 0150 005	31	33 61 431 0800 005	31
33 61 221 0350 003	26	33 61 431 0050 006	32	33 61 431 0150 006	32	33 61 431 0800 006	32
33 61 221 0400 001	24	33 61 431 0060 001	27	33 61 431 0200 001	27	33 61 431 0900 001	27
33 61 221 0400 002	25	33 61 431 0060 002	28	33 61 431 0200 002	28	33 61 431 0900 002	28
33 61 221 0400 003	26	33 61 431 0060 003	29	33 61 431 0200 003	29	33 61 431 0900 003	29
33 61 221 0450 001	24	33 61 431 0060 004	30	33 61 431 0200 004	30	33 61 431 0900 004	30
33 61 221 0450 002	25	33 61 431 0060 005	31	33 61 431 0200 005	31	33 61 431 0900 005	31
33 61 221 0450 003	26	33 61 431 0060 006	32	33 61 431 0200 006	32	33 61 431 0900 006	32
33 61 221 0500 001	24	33 61 431 0070 001	27	33 61 431 0250 001	27	33 61 431 1000 001	27
33 61 221 0500 002	25	33 61 431 0070 002	28	33 61 431 0250 002	28	33 61 431 1000 002	28
33 61 221 0500 003	26	33 61 431 0070 003	29	33 61 431 0250 003	29	33 61 431 1000 003	29
33 61 221 0600 001	24	33 61 431 0070 004	30	33 61 431 0250 004	30	33 61 431 1000 004	30
33 61 221 0600 002	25	33 61 431 0070 005	31	33 61 431 0250 005	31	33 61 431 1000 005	31
33 61 221 0600 003	26	33 61 431 0070 006	32	33 61 431 0250 006	32	33 61 431 1000 006	32
33 61 221 0700 001	24	33 61 431 0080 001	27	33 61 431 0300 001	27	61 04 201 1084 01	73
33 61 221 0700 002	25	33 61 431 0080 002	28	33 61 431 0300 002	28	61 04 201 1085 01	109
33 61 221 0700 003	26	33 61 431 0080 003	29	33 61 431 0300 003	29	61 12 204 0001 02	110
33 61 221 0800 001	24	33 61 431 0080 004	30	33 61 431 0300 004	30	61 04 600 0182 02	73
33 61 221 0800 002	25	33 61 431 0080 005	31	33 61 431 0300 005	31	61 04 600 0183 02	109
33 61 221 0800 003	26	33 61 431 0080 006	32	33 61 431 0300 006	32	61 04 600 0194 00	84
33 61 221 0900 001	24	33 61 431 0090 001	27	33 61 431 0350 001	27	61 04 600 0195 00	107
33 61 221 0900 002	25	33 61 431 0090 002	28	33 61 431 0350 002	28		
33 61 221 0900 003	26	33 61 431 0090 003	29	33 61 431 0350 003	29		
		33 61 431 0090 004	30	33 61 431 0350 004	30		
		33 61 431 0090 005	31	33 61 431 0350 005	31		
		33 61 431 0090 006	32	33 61 431 0350 006	32		
		33 61 431 0100 001	27	33 61 431 0400 001	27		
		33 61 431 0100 002	28	33 61 431 0400 002	28		
		33 61 431 0100 003	29	33 61 431 0400 003	29		





**Pushing Performance**  
Since 1945

**HARTING.com**  
the gateway to your local website.

---