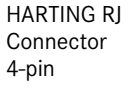
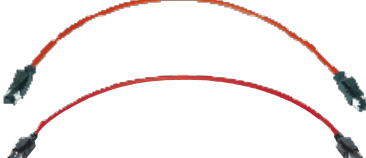
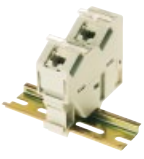
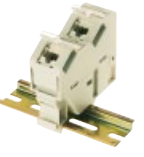


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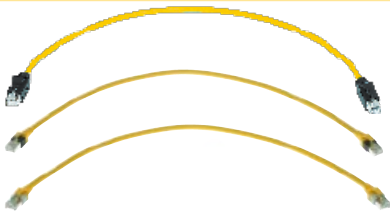
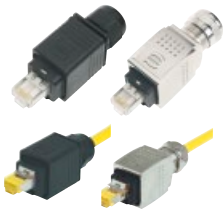
Fast Ethernet 100 Mbit/s 4-pin & POF Ethernet IEEE 802.3

Profile spec

Connectors		System Cable	
Inside IP 20 Protection Class			HARTING RJ Industrial® RJ45 Connector 4-pin IP 20, RJ45, Cat. 5
			HARTING PushPull RJ45 Connector 4-pin IP 65 / IP 67, Cat. 5
Outside IP 65 / IP 67 Protection Class			Han® PushPull RJ45 Connector 4-pin plastic / metal IP 65 / IP 67, Cat. 5
			Han® 3 A RJ45 Connector 4-pin plastic / metal IP 65 / IP 67, Cat. 5
			HARAX® M12 D-coding Connector 4-pin IP 65 / IP 67, Cat. 5 (with IDC contacts)
			Han® PushPull SCRJ Connector POF Variant 14 plastic / metal IP 65 / IP 67
			Han® 3 A RJ45 Hybrid Connector, 4-pin plastic / metal IP 65 / IP 67, Cat. 5 with 4x power supply
			HARTING RJ Industrial® RJ45 Connector 4-pin IP 20, RJ45, Cat. 5
Inside IP 65 / IP 67 Protection Class			Han® PushPull RJ45 Connector 4-pin plastic / metal IP 65 / IP 67, Cat. 5
			HARAX® M12 D-coding Connector 4-pin IP 65 / IP 67, Cat. 5

	Outlets and Panel feed-through	Cable	Application
® RJ45 lded	 HARTING Cabinet Outlet RJ45 IP 20, Cat. 6	Typ A (for fixed layouts)  Industrial Cat. 5 Standard Cable 4-wire AWG 22/1, solid, PVC	
45 lded 2	 HARTING PushPull RJ45 Panel feed-through IP 65 / IP 67, Cat. 5	Typ B (for flexible layouts)  Industrial Cat. 5 Stranded Cable 4-wire AWG 22/7, stranded, PVC	
2	 Han® PushPull RJ45 Panel feed-through plastic / metal IP 65 / IP 67, Cat. 6 Socket horizontal, vertical	 Industrial Cat. 5 Outdoor Cable 4-wire AWG 22/7, stranded, PVC	 AIDA*
2	 Han® 3 A RJ45 Panel feed-through IP 65 / IP 67, Cat. 5	Typ C (for special applications)  Industrial Cat. 5 Trailing Cable 4-wire AWG 22/7, stranded, PUR	
2	 Han® 3 A RJ45 Metal Outlet IP 65 / IP 67, Cat. 5	 Ha-VIS EtherRail® Cat. 5 Flexible or ultra flexible cable 4-wire AWG 22/7 or AWG 22/19, Elastomer	
2	 Han® 3 A RJ45 Metal Outlet IP 65 / IP 67, Cat. 6	POF Cable  POF Cable Type B flexible, incidental movement or vibrations	 AIDA*
2/7 oly	 Han® PushPull SCRJ Panel feed-through plastic / metal IP 65 / IP 67	 Industrial Cat. 5 Hybrid Cable 4-wire AWG 22/7, stranded with 4x power supply, FRNC	
® RJ45 lded	 HARTING Cabinet Outlet RJ45 IP 20, Cat. 6	Typ B (for flexible layouts)  Industrial Cat. 5 Stranded Cable 4-wire AWG 22/7, stranded, PVC	
2	 Han® PushPull RJ45 Panel feed-through plastic / metal IP 65 / IP 67, Cat. 6 Socket horizontal, vertical	 Industrial Cat. 5 Outdoor Cable 4-wire AWG 22/7, stranded, PVC	
2	 Han® M12 D-coding Panel feed-through IP 65 / IP 67, Cat. 5 straight or angled		

Gigabit Ethernet
1000 Mbit/s
8-pin

Connectors		System Cable	
Inside IP 20 Protection Class			HARTING RJ Industrial System Cable 8-wire IP 20, Cat. 5, flexible Industrial Ethernet Patchcable RJ45, 8-wire IP 20, Cat. 6 or Cat. 5, AV
			HARTING PushPull RJ45 System Cable, flexible 8-wire IP 65 / IP 67, Cat. 6, flexible
			Han PushPull RJ45 System Cable 8-wire plastic / metal IP 65 / IP 67, Cat. 6
			Han 3 A RJ45 System Cable 8-wire IP 65 / IP 67, Cat. 6, flexible
			
Outside IP 65 / IP 67 Protection Class			
			han-speed M12 System Cable 8-wire IP 67, Cat. 6
			Han 3 A RJ45 Hybrid System Cable 8-wire IP 65 / IP 67, Cat. 6, flexible
	Ha-VIS preLink® HIFF and accessories		Ha-VIS preLink® System Cable 8-wire AWG 27/7
Ha-VIS preLink® HIFF and accessories			
			

d Cabling

Outlets and Panel feed-through		Cables
ial® RJ45 8-wire AWG 26/7	 HARTING Cabinet Outlet RJ45 IP 20, Cat. 6	 Industrial Cat. 6_A Stranded cable 8-wire AWG 26/7, stranded, PVC or PUR
RJ45 ole ible	 HARTING PushPull RJ45 10G Panel feed-through IP 65 / IP 67, Cat. 6  HARTING PushPull Outlet RJ45 IP 65 / IP 67, Cat. 6	 Industrial Cat. 6_A Outdoor Cable 8-wire AWG 26/7, stranded, PVC
10G e	 Han® PushPull RJ45 Panel feed-through plastic / metal IP 65 / IP 67, Cat. 6 Socket horizontal, vertical	 Industrial Cat. 5 Stranded cable 8-wire AWG 26/7, stranded, PUR
ible	 Han® 3 A RJ45 Panel feed-through IP 65 / IP 67, Cat. 6  Han® 3 A RJ45 Metal Outlet IP 65 / IP 67, Cat. 5  Han® 3 A RJ45 Metal Outlet IP 65 / IP 67, Cat. 6	 Industrial Cat. 5 Trailing Cable 8-wire AWG 26/19, PUR
	 Han-Max® Panel feed-through RJ45 IP 65 / IP 67, Cat. 5	
		 Industrial Cat. 5 Outdoor cable, 8-wire AWG 26/7, stranded, PVC
rid ible	 Han® 3 A RJ45 Hybrid Panel feed-through plastic / metal IP 65 / IP 67, Cat. 5	 Industrial Cat. 6 Hybrid Cable, 8-wire 4x power supply for fixed and flexible Installation AWG 28/7, PUR
	 Ha-VIS preLink® HIFF RJ45 AP Box IP 20, Cat. 6  Han® 3 A RJ45 Metal Outlet IP 65 / IP 67, Cat. 6	 Industrial Cat. 7 Installation Cable 8-wire for fixed Installation AWG 23/1, solid, PUR

IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

RJ45

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

HARTING
PushPull**Han® PushPull**

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender changer [on page B·1 48]

Han®
PushPull**Han® 3 A**

- Connectors [on page B·1 62]
- System cables [on page B·1 64]
- Panel feed-throughs [on page B·1 68]
- Distribution modules and Outlets [on page B·1 74]

Han® 3 A

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 78]
- System cables [on page B·1 80]
- Panel feed-throughs [on page B·1 82]
- Cables [on page B·1 84]

Han® 3 A
Hybrid**M12 D-coding**

- Connectors [on page B·1 86]
- System cables [on page B·1 88]
- Panel feed-throughs [on page B·1 94]

M12
D-coding**Cables**

- Type A, B, C [on page B·1 98]
- Type B, Outdoor [on page B·1 101]
- Ha-VIS EtherRail® [on page B·1 102]

Cables

Tools

[on page B·1 106]

Tools

B·1

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Introduction

The chapter on „HARTING Ethernet Cabling – 4-wire” describes the complete HARTING product line for installing Ethernet cabling at machines, plants and production facilities in an industrial environment.

The product line includes:

- Four-wire cables for setting up flexible connections and for fixed installations.
- Connector components in IP 20 and IP 65 / IP 67 versions, designed for on-site assembly
- Assembled system cables in IP 20 and IP 65 / IP 67 versions
- Industrial outlets, Panel feed-throughs and adapters in IP 20 and IP 65 / IP 67 versions
- Accessories and tools

The four-wire cabling is specially designed for Ethernet transmission of data with a max. transmission rate of 100 Mbit/sec.

Data can be reliably transmitted at either 10 Mbit/sec. or 100 Mbit/sec., with the clear assignment of the four wires to the first, second, third and sixth contacts of the RJ45 connector.

This complies with the following specifications:

- 10 Mbit/sec. Ethernet, corresponding to 10Base-T
- 100 Mbit/sec. Ethernet, corresponding to 100Base-T (Fast Ethernet)

Cabling components based on the M12 D-coding system are also a part of the four-wire cable product line, since both RJ45 and M12 connectors are common in automation engineering.

In addition to IEEE 802.3 Ethernet, the following Ethernet-based Fieldbus applications, with or without real-time functionality, can be transmitted (not a complete listing):

- PROFINET (including PROFINET RT / real-time), according to IEC 61784-5-3
- EtherNet/IP
- Modbus/TCP
- Ethernet Powerlink
- SERCOS III

This type of cabling is driven by the progressive implementation of various Fieldbus systems on Ethernet platforms.

The special requirements placed on the cabling are often developed by manufacturing companies and user organizations. These requirements sometimes

contain specific characteristics for connecting applications and networks.

Withal these somewhat proprietary trends in development, there is also a movement towards international standardization, for example within the IEC SC65C committee. The key points, particularly for the field of cabling, are established in IEC 61918.

However the adoption of the ISO/IEC 24702 norm - for generic cabling in industrial buildings - ensures seamless communication between eight-wire building cabling and four-wire machinery-island cabling.

Essentially, all Ethernet-based Fieldbus systems are running on standard-compliant eight-wire cables, according to ISO/IEC 24702 Category 5 /Class D, or higher.

HARTING's four-wire cabling components are specified, developed and manufactured in technical compliance with the established requirements mentioned above.

Thus Harting provides the operator with a complete line of cabling products - products which are specially tailored to the requirements of Ethernet-based Fieldbus systems.

An overview of the advantages of four-wire cabling:

- PROFINET compliant cabling infrastructure - can be used for all PROFINET functions and conformance classes.
- Supports all safety features and real-time requirements of PROFINET.
- Can be extended and integrated to existing PROFINET infrastructures without difficulty.
- Compliance with the AIDA Directive (Automation Initiative of German Domestic Automobile Manufacturers) facilitates roll-outs within the automotive industry.
- The use of PROFINET compliant connectors reduces product variety and simplifies the purchasing and storage of components.
- Special solutions for simultaneous (hybrid) and separate transmission of power supplies extend the functionality of the network.
- Superior quality of the cabling system guarantees long life span and high operational reliability.
- Simple and convenient planning, installation and reliable operation of the network save costs and deliver a high ROI.
- The PROFINET cabling system is a part of HARTING's AUTOMATION IT network solution – all solutions coming from one source.

IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

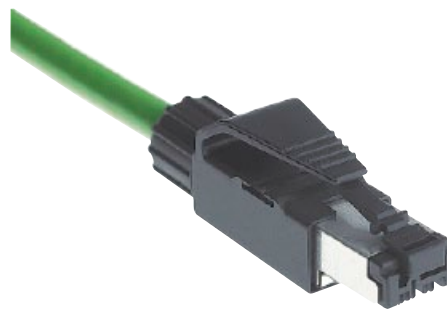
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- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail [on page B·1 100]

Tools

[on page B·1 104]

Connector sets



HARTING RJ Industrial®
Connector set, 4-pole
to make up RJ45 system cables

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact

Mounting	Field-assembly
Wire termination	Via IDC contacts, tool-less
Cable options	Suitable for solid and stranded cores
– Strand gauge	AWG 24/7 ... AWG 22/7 (stranded) AWG 23/1 ... AWG 22/1 (solid) AWG 26/7 (09 45 151 1109)
– Strand diameter	max. 1.6 mm (09 45 151 1100 / 09 45 151 1108) max. 1.2 mm (09 45 151 1109)
– Cable sheath diameter	6.1 ... 6.9 mm
Degree of protection	IP 20
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages

RJ45 Ethernet-Data connector suitable for industry
Tool-less field-assembly with *HARAX*® rapid termination in IDC technology
Compact design
Ergonomical unlocking clip
Less weight assures shock- and vibration-resisting connection
Category of transmission Cat. 5
Suitable for termination of solid and stranded cables
Up to 10x reconductable
PROFINET compliant

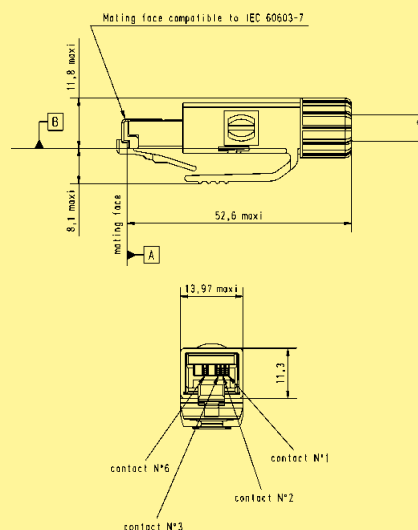
Identification	Part number	Drawing	Dimensions in mm
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HARTING RJ Industrial®
Connector set, 4-pole
 for AWG 24 ... AWG 22
 great package with 100 pieces

for AWG 26

09 45 151 1100
 09 45 151 1108
 09 45 151 1109

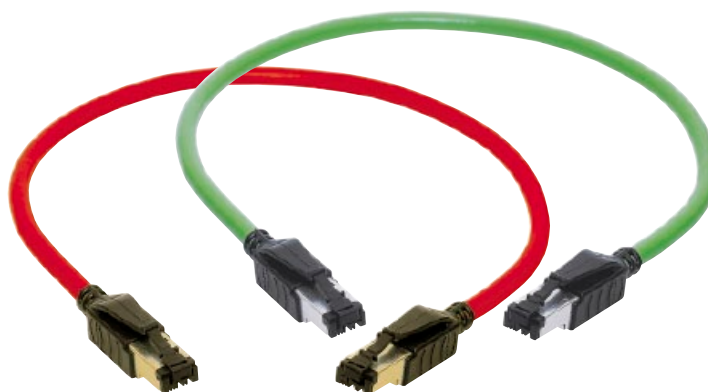
Set consists of:
 Housing including shielding
 splice element
 Cable gland
 Assembly instructions



RJ45

System cables

HARTING RJ Industrial®
System cable, 4-wire, straight
RJ45 connection cable for control or
distributor cabinets or within controllers



IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types RJ45, overmoulded

Cable types

Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C
Application PROFINET	Green	Green	Green
Application SERCOS III		Red	Red

Wiring	4-pole, 1:1 (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request

Advantages

Robust industrial design
Available also as Multiport version for especially space-critical
port configurations on switches or devices
PROFINET compliant
SERCOS III compliant

Identification	Part number		SERCOS III	
	Standard	Multiport		
HARTING RJ Industrial® System cable, 4-wire Type A	Length 1.5 m	09 45 771 0023	09 47 343 4006	
	Length 3.0 m	09 45 771 0025	09 47 343 4009	
	Length 5.0 m	09 45 771 0027	09 47 343 4012	
	Length 10.0 m	09 45 771 0051	09 47 343 4018	
	Length 20.0 m	09 45 771 0053	09 47 343 4020	
HARTING RJ Industrial® System cable, 4-wire Type B	Length 1.5 m	09 45 771 1123	09 47 343 4034	09 47 020 2003 018
	Length 3.0 m	09 45 771 1125	09 47 343 4037	09 47 020 2005 018
	Length 5.0 m	09 45 771 1127	09 47 343 4040	09 47 020 2007 018
	Length 10.0 m	09 45 771 1151	09 47 343 4046	09 47 020 2012 018
	Length 20.0 m	09 45 771 1153	09 47 343 4048	09 47 020 2014 018
HARTING RJ Industrial® System cable, 4-wire Type C	Length 1.5 m	09 45 771 1164	09 47 343 4090	09 47 020 2023 018
	Length 3.0 m	09 45 771 1166	09 47 343 4093	09 47 020 2025 018
	Length 5.0 m	09 45 771 1168	09 47 343 4096	09 47 020 2027 018
	Length 10.0 m	09 45 771 1173	09 47 343 4102	09 47 020 2032 018
	Length 20.0 m	09 45 771 1175	09 47 343 4104	09 47 020 2034 018

System cables



HARTING RJ Industrial® System cable, 4-wire, straight

RJ45 connection cable, first end straight, second side open,
for control or distributor cabinets or within controllers

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
-------	-------------------------------------	---------------	--------------------------	---------------------------	--------------------------	--------	-------------------------------------	--------	--------------------------

Connector types RJ45, overmoulded

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring	4-pole, 1:1 (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 3 m / 5 m other lengths available on request

Advantages

Robust industrial design
For especially space-saving cabling
PROFINET compliant

Identification

Part number

HARTING RJ Industrial® System cable, angled, 4-wire

one side pre-assembled,
second side open
Type A

Length 1.5 m
Length 3.0 m
Length 5.0 m
Length 10.0 m
Length 20.0 m

09 45 771 0064
09 45 771 0066
09 45 771 0068
09 45 771 0073
09 45 771 0075

HARTING RJ Industrial® System cable, angled, 4-wire

one side pre-assembled,
second side open
Type B

Length 1.5 m
Length 3.0 m
Length 5.0 m
Length 10.0 m
Length 20.0 m

09 45 771 0123
09 45 771 0125
09 45 771 0127
09 45 771 0151
09 45 771 0153

HARTING RJ Industrial® System cable, angled, 4-wire

one side pre-assembled,
second side open
Type C

Length 1.5 m
Length 3.0 m
Length 5.0 m
Length 10.0 m
Length 20.0 m

09 45 771 0164
09 45 771 0166
09 45 771 0168
09 45 771 0173
09 45 771 0175

HARTING RJ Industrial® System cable, angled, 4-wire

one side pre-assembled,
second side open
Outdoor

Length 1.5 m
Length 3.0 m
Length 5.0 m
Length 10.0 m
Length 20.0 m

09 45 771 0102
09 45 771 0104
09 45 771 0106
09 45 771 0111
09 45 771 0113

System cables



HARTING RJ Industrial®
System cable, 4-wire, angled
RJ45 connection cable, angled left to angled right,
for control or distributor cabinets or within controllers

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types RJ45, overmoulded

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring	4-pole, 1:1 (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 3 m / 5 m other lengths available on request

Advantages	Robust industrial design For especially space-saving cabling PROFINET compliant
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Identification

Part number

HARTING RJ Industrial®
 System cable, angled,
 4-wire

 Type A,
 angled left to angled right

Length 0.5 m	09 47 050 6001
Length 1.0 m	09 47 050 6002
Length 1.5 m	09 47 050 6003
Length 2.0 m	09 47 050 6004
Length 3.0 m	09 47 050 6005
Length 5.0 m	09 47 050 6007

HARTING RJ Industrial®
 System cable, angled,
 4-wire

 Type B,
 angled left to angled right

Length 0.5 m	09 47 050 6023
Length 1.0 m	09 47 050 6024
Length 1.5 m	09 47 050 6025
Length 2.0 m	09 47 050 6026
Length 3.0 m	09 47 050 6027
Length 5.0 m	09 47 050 6029

HARTING RJ Industrial®
 System cable, angled,
 4-wire

 Type C,
 angled left to angled right

Length 0.5 m	09 47 050 6045
Length 1.0 m	09 47 050 6046
Length 1.5 m	09 47 050 6047
Length 2.0 m	09 47 050 6048
Length 3.0 m	09 47 050 6049
Length 5.0 m	09 47 050 6051

HARTING RJ Industrial®
 System cable, angled,
 4-wire

 Outdoor,
 angled left to angled right

Length 0.5 m	09 47 050 6067
Length 1.0 m	09 47 050 6068
Length 1.5 m	09 47 050 6069
Length 2.0 m	09 47 050 6070
Length 3.0 m	09 47 050 6071
Length 5.0 m	09 47 050 6073

System cables

HARTING RJ Industrial® System cable, 4-wire, angled

RJ45 connection cable, angled top to angled bottom,
for control or distributor cabinets or within controllers



IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types RJ45, overmoulded

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring	4-pole, 1:1 (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 3 m / 5 m other lengths available on request

Advantages	Robust industrial design For especially space-saving cabling PROFINET compliant
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Identification

Part number

HARTING RJ Industrial® System cable, angled, 4-wire

Type A,
angeld top to angled bottom

Length 0.5 m	09 47 030 4001
Length 1.0 m	09 47 030 4002
Length 1.5 m	09 47 030 4003
Length 2.0 m	09 47 030 4004
Length 3.0 m	09 47 030 4005
Length 5.0 m	09 47 030 4007

HARTING RJ Industrial® System cable, angled, 4-wire

Type B,
angeld top to angled bottom

Length 0.5 m	09 47 030 4023
Length 1.0 m	09 47 030 4024
Length 1.5 m	09 47 030 4025
Length 2.0 m	09 47 030 4026
Length 3.0 m	09 47 030 4027
Length 5.0 m	09 47 030 4029

HARTING RJ Industrial® System cable, angled, 4-wire

Type C,
angeld top to angled bottom

Length 0.5 m	09 47 030 4045
Length 1.0 m	09 47 030 4046
Length 1.5 m	09 47 030 4047
Length 2.0 m	09 47 030 4048
Length 3.0 m	09 47 030 4049
Length 5.0 m	09 47 030 4051

HARTING RJ Industrial® System cable, angled, 4-wire

Outdoor,
angeld top to angled bottom

Length 0.5 m	09 47 030 4067
Length 1.0 m	09 47 030 4068
Length 1.5 m	09 47 030 4069
Length 2.0 m	09 47 030 4070
Length 3.0 m	09 47 030 4071
Length 5.0 m	09 47 030 4073

HARTING Ethernet Cabling – 4-wire



System cables



Exit left



Exit right



Exit top



Exit bottom

HARTING RJ Industrial® System cable, 4-wire, angled

RJ45 connection cable, first end angled, second side open,
for control or distributor cabinets or within controllers

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types RJ45, overmoulded, one side pre-assembled

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring	First end 4-pole, (RJ45 contacts 1/2 and 3/6), other side open
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 3 m / 5 m other lengths available on request

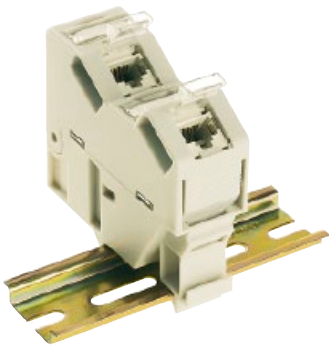
Advantages

Robust industrial design
For especially space-saving cabling
Exact length can be customised
HARTING RJ Industrial® connector (09 45 151 1100) as ideal completion
PROFINET compliant

Identification	Part number angled left	angled right	angled top	angled bottom
HARTING RJ Industrial® System cable angled, 4-wire one side pre-assembled, second side open Type A				
Length 0.5 m	09 47 050 0001	09 47 060 0001	09 47 030 0001	09 47 040 0001
Length 1.0 m	09 47 050 0002	09 47 060 0002	09 47 030 0002	09 47 040 0002
Length 1.5 m	09 47 050 0003	09 47 060 0003	09 47 030 0003	09 47 040 0003
Length 2.0 m	09 47 050 0004	09 47 060 0004	09 47 030 0004	09 47 040 0004
Length 3.0 m	09 47 050 0005	09 47 060 0005	09 47 030 0005	09 47 040 0005
Length 5.0 m	09 47 050 0007	09 47 060 0007	09 47 030 0007	09 47 040 0007
HARTING RJ Industrial® System cable angled, 4-wire one side pre-assembled, second side open Type B				
Length 0.5 m	09 47 050 0023	09 47 060 0023	09 47 030 0023	09 47 040 0023
Length 1.0 m	09 47 050 0024	09 47 060 0024	09 47 030 0024	09 47 040 0024
Length 1.5 m	09 47 050 0025	09 47 060 0025	09 47 030 0025	09 47 040 0025
Length 2.0 m	09 47 050 0026	09 47 060 0026	09 47 030 0026	09 47 040 0026
Length 3.0 m	09 47 050 0027	09 47 060 0027	09 47 030 0027	09 47 040 0027
Length 5.0 m	09 47 050 0029	09 47 060 0029	09 47 030 0029	09 47 040 0029
HARTING RJ Industrial® System cable angled, 4-wire one side pre-assembled, second side open Type C				
Length 0.5 m	09 47 050 0045	09 47 060 0045	09 47 030 0045	09 47 040 0045
Length 1.0 m	09 47 050 0046	09 47 060 0046	09 47 030 0046	09 47 040 0046
Length 1.5 m	09 47 050 0047	09 47 060 0047	09 47 030 0047	09 47 040 0047
Length 2.0 m	09 47 050 0048	09 47 060 0048	09 47 030 0048	09 47 040 0048
Length 3.0 m	09 47 050 0049	09 47 060 0049	09 47 030 0049	09 47 040 0049
Length 5.0 m	09 47 050 0051	09 47 060 0051	09 47 030 0051	09 47 040 0051
HARTING RJ Industrial® System cable angled, 4-wire one side pre-assembled, second side open Outdoor				
Length 0.5 m	09 47 050 0067	09 47 060 0067	09 47 030 0067	09 47 040 0067
Length 1.0 m	09 47 050 0068	09 47 060 0068	09 47 030 0068	09 47 040 0068
Length 1.5 m	09 47 050 0069	09 47 060 0069	09 47 030 0069	09 47 040 0069
Length 2.0 m	09 47 050 0070	09 47 060 0070	09 47 030 0070	09 47 040 0070
Length 3.0 m	09 47 050 0071	09 47 060 0071	09 47 030 0071	09 47 040 0071
Length 5.0 m	09 47 050 0073	09 47 060 0073	09 47 030 0073	09 47 040 0073



Distribution modules and Outlets



HARTING Cabinet Outlet RJ45, 8-poles
RJ45 distribution module for IP 20 environments (top-hat rail mounting)

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / RJ45 (Twisted Pair)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 ... 22 (0.5 ... 0.65 mm) solid and stranded
Strand insulation	0.7 ... 1.6 mm
Cable diameter	6 ... 9 mm
Shielding	Fully shielded, 360° shielding contact
Mounting	To 35 mm top-hat mounting rail acc. to DIN EN 60 715, alignable
Dimensions (H x W x D)	82 x 28.4 x 74 mm
Degree of protection	IP 20
Operating temperature range	–20 °C ... +70 °C
Housing material	Polycarbonate, UL94 V-0
Colour	Grey
Advantages	Simple mounting Cable entering optionally from bottom or from top side Dust protection caps Port identification Angled outputs

Identification	Part number	Drawing	Dimensions in mm
HARTING Cabinet Outlet RJ45 consisting of: 2-port housing with dust protection caps and labels 2x RJ45 female module, Cat. 6 Assembly instructions	20 76 102 8000		

IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

Cables

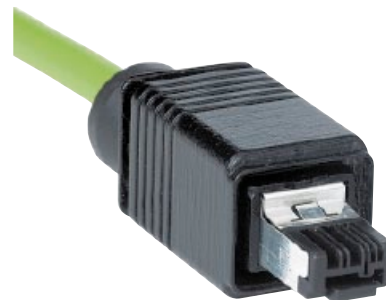
- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail [on page B·1 100]

Tools

[on page B·1 104]

Connector sets

HARTING PushPull RJ45
Connector set, 4-pole
to make up HARTING PushPull system cables RJ45



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	HARTING PushPull RJ45 connector acc. to ISO/IEC 24 702, variant 4							
Number of contacts	4							
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1							
Transmission rate	10/100 Mbit/s							
Shielding	fully shielded, 360° shielding contact							
Mounting	Field-assembly							
Wire termination	via IDC contacts, tool-less							
Cable options								
– Strand gauge	AWG 24/7 ... AWG 22/7 (stranded) AWG 23/1 ... AWG 22/1 (solid)							
– Strand diameter	max. 1.6 mm							
– Cable sheath diameter	4.9 ... 8.6 mm							
Degree of protection	IP 65 / IP 67							
Operating temperature range	–40 °C ... +70 °C							
Housing material	Polyamide and polycarbonate, UL94 V-0							
Colour	Black							
Advantages	Tool-less field-assembly with <i>HARAX</i>® rapid termination in IDC technology Suitable for termination of solid and stranded cables Up to 10x reconductable Space-saving IP 65 / IP 67 interface Easy handling IP 65 / IP 67 standard interface for structured cabling in buildings according to ISO/IEC 24 702 respectively EN 50 173-3							

Identification

Part number

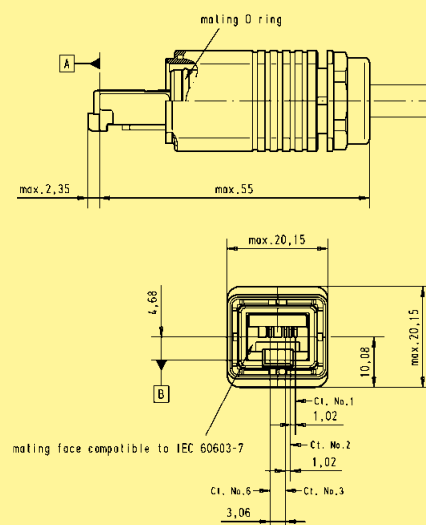
Drawing

Dimensions in mm

HARTING PushPull RJ45 Connector set, 4-pole

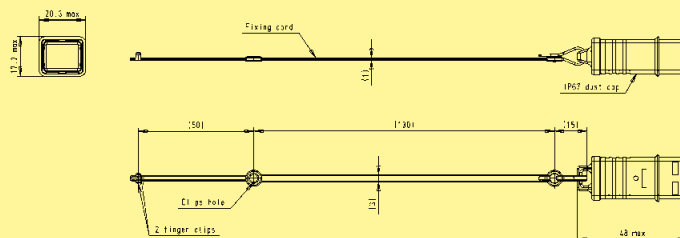
09 45 145 1100

Set consists of:
PushPull housing with RJ45 connector and shielding
Cable gland
Assembly instructions



Protection cover for PushPull connectors

09 45 845 0010



System cables



HARTING PushPull RJ45

System cable, 4-wire

RJ45 connection cable, PushPull screwed, for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types

HARTING PushPull RJ45

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring

4-poles (RJ45 contacts 1/2 and 3/6)

Transmission performance

Category 5 / Class D up to 100 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate

10/100 Mbit/s

Shielding

Fully shielded, 360° shielding contact

Standard lengths

1.5 m / 3 m / 5 m / 10 m / 20 m
other lengths available on request

Advantages

Space-saving IP 65 / IP 67 interface

Easy handling

IP 65 / IP 67 standard interface for structured cabling in buildings according to ISO/IEC 24 702 respectively EN 50 173-3

Identification

Part number

HARTING PushPull RJ45
 System cable, 4-wire
 Type A

Length 1.5 m	09 45 745 1123
Length 3.0 m	09 45 745 1125
Length 5.0 m	09 45 745 1127
Length 10.0 m	09 45 745 1151
Length 20.0 m	09 45 745 1153

HARTING PushPull RJ45
 System cable, 4-wire
 Type B

Length 1.5 m	09 45 745 1164
Length 3.0 m	09 45 745 1166
Length 5.0 m	09 45 745 1168
Length 10.0 m	09 45 745 1173
Length 20.0 m	09 45 745 1175

HARTING PushPull RJ45
 System cable, 4-wire
 Type C

Length 1.5 m	09 45 745 0023
Length 3.0 m	09 45 745 0025
Length 5.0 m	09 45 745 0027
Length 10.0 m	09 45 745 0051
Length 20.0 m	09 45 745 0053

HARTING PushPull RJ45
 System cable, 4-wire
 Outdoor

Length 1.5 m	09 45 745 0064
Length 3.0 m	09 45 745 0066
Length 5.0 m	09 45 745 0068
Length 10.0 m	09 45 745 0073
Length 20.0 m	09 45 745 0075

System cables



HARTING PushPull RJ45

System cable, 4-wire

RJ45 connection cable, PushPull, overmoulded, for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types HARTING PushPull RJ45, overmoulded

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring 4-poles (RJ45 contacts 1/2 and 3/6)

Transmission performance Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate 10/100 Mbit/s

Shielding Fully shielded, 360° shielding contact

Standard lengths 1.5 m / 3 m / 5 m / 10 m / 20 m
other lengths available on request

Advantages

Space-saving IP 65 / IP 67 interface

Protected cable duct via overmoulding

Easy handling

IP 65 / IP 67 standard interface for structured cabling in buildings according to ISO/IEC 24 702 respectively EN 50 173-3

Identification

Part number

HARTING PushPull RJ45
 System cable, 4-wire
 Type A

Length 1.5 m	09 47 363 6003
Length 3.0 m	09 47 363 6005
Length 5.0 m	09 47 363 6007
Length 10.0 m	09 47 363 6012
Length 20.0 m	09 47 363 6014

HARTING PushPull RJ45
 System cable, 4-wire
 Type B

Length 1.5 m	09 47 363 6025
Length 3.0 m	09 47 363 6027
Length 5.0 m	09 47 363 6029
Length 10.0 m	09 47 363 6034
Length 20.0 m	09 47 363 6036

HARTING PushPull RJ45
 System cable, 4-wire
 Type C

Length 1.5 m	09 47 363 6047
Length 3.0 m	09 47 363 6049
Length 5.0 m	09 47 363 6051
Length 10.0 m	09 47 363 6056
Length 20.0 m	09 47 363 6058

HARTING PushPull RJ45
 System cable, 4-wire
 Outdoor

Length 1.5 m	09 47 363 6069
Length 3.0 m	09 47 363 6071
Length 5.0 m	09 47 363 6073
Length 10.0 m	09 47 363 6078
Length 20.0 m	09 47 363 6080

System cables



HARTING PushPull RJ45
System cable, angled,
4-wire

RJ45 connection cable, PushPull, for IP 65 / IP 67 applications,
first end angled, second side open,

Exit left

Exit right

Exit top

Exit bottom

IP 20 ☐	IP 65 / IP 67 ☒	IP 65 / IP 67 to IP 20 ☐	Cat. 5 ☒	Cat. 6 ☐
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Connector types HARTING PushPull RJ45, overmoulded, angled,
one side pre-assembled

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring 4-poles (RJ45 contacts 1/2 and 3/6)
Transmission performance Category 5 / Class D up to 100 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate 10/100 Mbit/s
Shielding Fully shielded, 360° shielding contact

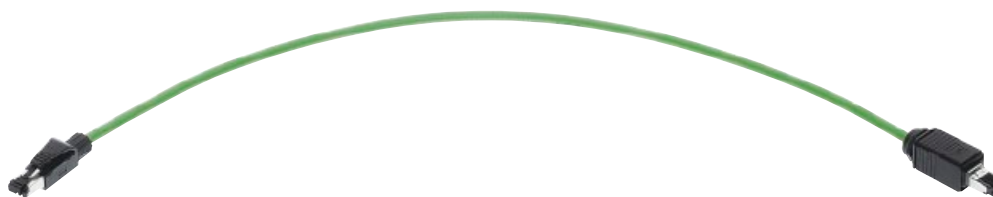
Standard lengths 1.5 m / 3 m / 5 m / 10 m / 20 m
other lengths available on request

Advantages

Robust cable duct via overmoulding
For especially space-saving cabling
Exact length can be customised
HARTING RJ Industrial® connector (09 45 151 1100) as ideal completion
IP 65 / IP 67 standard interface for structured cabling in buildings according to ISO/IEC 24 702 respectively EN 50 173-3

Identification	Part number angled left	angled right	angled top	angled bottom
HARTING PushPull RJ45 System cable, angled, 4-wire one side pre-assembled, second side open Type A Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	 09 47 390 0003 09 47 390 0005 09 47 390 0007 09 47 390 0012 09 47 390 0014	 09 47 400 0003 09 47 400 0005 09 47 400 0007 09 47 400 0012 09 47 400 0014	 09 47 370 0003 09 47 370 0005 09 47 370 0007 09 47 370 0012 09 47 370 0014	 09 47 380 0003 09 47 380 0005 09 47 380 0007 09 47 380 0012 09 47 380 0014
HARTING PushPull RJ45 System cable, angled, 4-wire one side pre-assembled, second side open Type B Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	 09 47 390 0025 09 47 390 0027 09 47 390 0029 09 47 390 0034 09 47 390 0036	 09 47 400 0025 09 47 400 0027 09 47 400 0029 09 47 400 0034 09 47 400 0036	 09 47 370 0025 09 47 370 0027 09 47 370 0029 09 47 370 0034 09 47 370 0036	 09 47 380 0025 09 47 380 0027 09 47 380 0029 09 47 380 0034 09 47 380 0036
HARTING PushPull RJ45 System cable, angled, 4-wire one side pre-assembled, second side open Type C Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	 09 47 390 0047 09 47 390 0049 09 47 390 0051 09 47 390 0056 09 47 390 0058	 09 47 400 0047 09 47 400 0049 09 47 400 0051 09 47 400 0056 09 47 400 0058	 09 47 370 0047 09 47 370 0049 09 47 370 0051 09 47 370 0056 09 47 370 0058	 09 47 380 0047 09 47 380 0049 09 47 380 0051 09 47 380 0056 09 47 380 0058
HARTING PushPull RJ45 System cable, angled, 4-wire one side pre-assembled, second side open Outdoor Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	 09 47 390 0069 09 47 390 0071 09 47 390 0073 09 47 390 0078 09 47 390 0080	 09 47 400 0069 09 47 400 0071 09 47 400 0073 09 47 400 0078 09 47 400 0080	 09 47 370 0069 09 47 370 0071 09 47 370 0073 09 47 370 0078 09 47 370 0080	 09 47 380 0069 09 47 380 0071 09 47 380 0073 09 47 380 0078 09 47 380 0080

System cables



HARTING PushPull RJ45

System cable, 4-wire

RJ45 connection cable, PushPull, to RJ45 IP 20

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Connector types HARTING PushPull RJ45 and RJ45 IP 20

Cable types

Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C
Application PROFINET	Green	Green	Green

Wiring 4-poles (RJ45 contacts 1/2 and 3/6)

Transmission performance Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate 10/100 Mbit/s

Shielding Fully shielded, 360° shielding contact

Standard lengths 1.5 m / 3 m / 5 m / 10 m / 20 m
other lengths available on request

Advantages

Space-saving IP 65 / IP 67 interface

Easy change-over from harsh industrial environment to protected IP 20 environment

Easy handling for all applications

Identification

Part number

HARTING PushPull RJ45
System cable, 4-wire
Type A

Length 1.5 m	09 45 701 1123
Length 3.0 m	09 45 701 1125
Length 5.0 m	09 45 701 1127
Length 10.0 m	09 45 701 1151
Length 20.0 m	09 45 701 1153

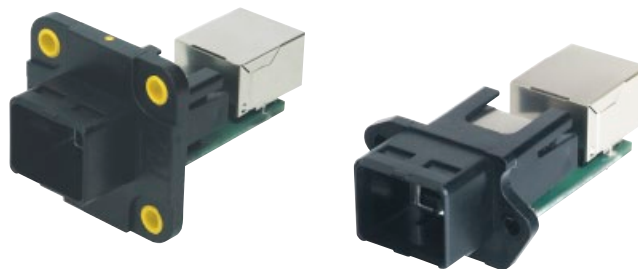
HARTING PushPull RJ45
System cable, 4-wire
Type B

Length 1.5 m	09 45 701 1164
Length 3.0 m	09 45 701 1166
Length 5.0 m	09 45 701 1168
Length 10.0 m	09 45 701 1173
Length 20.0 m	09 45 701 1175

HARTING PushPull RJ45
System cable, 4-wire
Type C

Length 1.5 m	09 45 701 0023
Length 3.0 m	09 45 701 0025
Length 5.0 m	09 45 701 0027
Length 10.0 m	09 45 701 0051
Length 20.0 m	09 45 701 0053

Panel feed-throughs



HARTING PushPull RJ45 Panel feed-through, 8-poles

RJ45 Panel feed-through for control or distributor cabinets

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / 1x RJ45 (IP 20) 1x HARTING PushPull RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	21 mm x 27 mm (Compact) ø 28 ... 30 mm (EasyInstall)
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polycarbonate, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Metallic
Advantages	Small, space-saving PushPull interface with IP 65 / IP 67 Easy handling of RJ45 system cables in the control cabinet Mounting to casings Category of transmission Cat. 5 IP 65 / IP 67 standard interface for structured cabling in buildings according to ISO/IEC 24 702 respectively EN 50 173-3

HARTING PushPull

Distribution modules and Outlets

HARTING PushPull RJ45

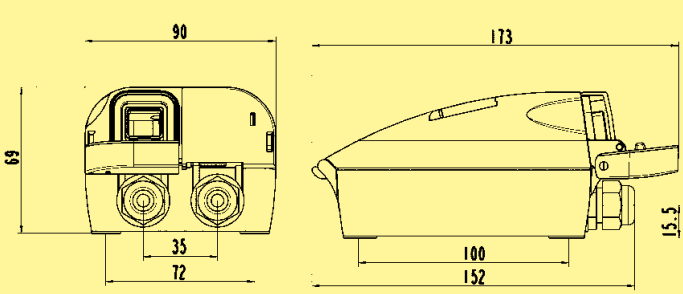
Outlet, 8-poles

RJ45 Industrial Outlet for IP 65 / IP 67 environments



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / HARTING PushPull RJ45 (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 ... 22 (0.5 ... 0.65 mm) solid and stranded
Strand insulation	0.7 ... 1.6 mm
Cable diameter	6 ... 9 mm
Shielding	Fully shielded, 360° shielding contact
Mounting	Wall mounting
Dimensions (H x W x D)	152 x 90 x 69 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	-20 °C ... +70 °C
Housing material	Polycarbonate, UL94 V-0
Colour	Black (similar RAL 9011) or White (similar RAL 9010)
Advantages	Simple mounting Cable entering optionally from bottom or from top side Self-closing protection caps in IP 65 / IP 67 IP 65 / IP 67 label

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull RJ45 Outlet Black white consisting of: 2-port outlet housing with protection caps, cable management, cable glands and label 2x RJ45 female modules, Category 6 1x blind plug (if only 1 cable is used) Assembly instructions	09 45 845 1500 09 45 845 1501		

IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

Cables

- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail [on page B·1 100]

Tools

[on page B·1 104]

Connector sets

Han® PushPull RJ45
Connector set, 4-pole, plastic
to make up Han® PushPull system cables RJ45



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	Han® PushPull RJ45 connector acc. to ISO/IEC 24 702
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts, tool-less
Cable options	Suitable for solid and stranded cores
– Strand gauge	AWG 24/7 ... AWG 22/7 (stranded) AWG 23/1 ... AWG 22/1 (solid)
– Strand diameter	max. 1.6 mm
– Cable sheath diameter	5 ... 9.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

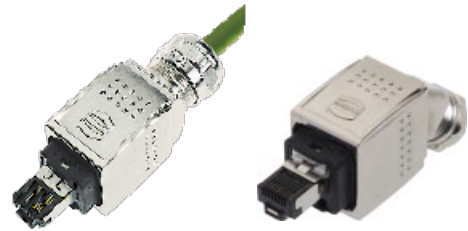
Advantages
Field-assembly connector, IP 65 / IP 67
Category of transmission Cat. 5

Mounting information
Tool-less field-assembly with *HARAX*® rapid termination in
IDC technology
Up to 10x reconductable
PROFINET compliant
AIDA compliant

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 connector set Plastic Set consists of: PushPull housing with male insert HARTING RJ Industrial® Category 5, 4-pole, IDC contact and shielding Cable gland Assembly instructions 6.5 ... 9.5 mm clamp range 5 ... 8 mm clamp range	 09 35 221 0421 09 35 222 0421		
Han® PushPull RJ45 PN connector set Plastic Set consists of: PushPull housing with male insert HARTING RJ Industrial® Category 5, 4-pole, IDC contact and shielding Cable gland Assembly instructions 6.5 ... 9.5 mm clamp range PROFINET identification: PROFINET O-Plug RJ45	 09 35 226 0421		
Protection Cover IP 65 / IP 67 IP 40	 09 35 002 5411 09 35 002 5412		

Connector sets

Han® PushPull RJ45
Connector set, 4-pole, metal
to make up Han® PushPull RJ45 system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
Connector type	Han® PushPull RJ45 connector acc. to ISO/IEC 24 702								
Locking	PushPull technology according to IEC 61 076-3-117, variant 14								
Number of contacts	4								
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1								
Transmission rate	10/100 Mbit/s								
Shielding	Fully shielded, 360° shielding contact								
Mounting	Field-assembly								
Wire termination	Via IDC contacts, tool-less								
Cable options	Suitable for solid and stranded cores								
– Strand gauge	AWG 24/7 ... AWG 22/7 (stranded) AWG 23/1 ... AWG 22/1 (solid)								
– Strand diameter	max. 1.6 mm								
– Cable sheath diameter	4 ... 11 mm (straight) 6.5 ... 9.5 mm (angled)								
Degree of protection	IP 65 / IP 67								
Operating temperature range	–40 °C ... +70 °C								
Housing material	Zinc die-cast								
Colour	Nickel-plated								
Advantages	Field-assembly connector, IP 65 / IP 67 Category of transmission Cat. 5								
Mounting information	Tool-less field-assembly with <i>HARAX</i> ® rapid termination in IDC technology Up to 10x reconductable PROFINET compliant AIDA compliant								

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 connector set, metal Set consists of: PushPull housing with male insert HARTING RJ Industrial® Category 5, 4-pole, IDC contact and shielding Cable gland Assembly instructions 4 ... 11 mm clamp range straight entry	09 35 221 0401		
Han® PushPull RJ45 PN connector set, metal Set consists of: PushPull housing with male insert HARTING RJ Industrial® PN Category 5, 4-pole, IDC contact and shielding Cable gland Assembly instructions 4 ... 11 mm clamp range straight entry PROFINET identification: PROFINET O-Plug RJ45 Set consists of: PushPull housing with male insert HARTING RJ Industrial® PN Category 5, 4-pole, IDC contact and shielding Cable gland Assembly instructions clamp range 6.5 ... 9.5 mm angled entry, bottom Set consists of: PushPull housing with male insert HARTING RJ Industrial® PN Category 5, 4-pole, IDC contact and shielding Cable gland Assembly instructions clamp range 6.5 ... 9.5 mm angled entry, top	09 35 226 0401 09 35 226 0402 09 35 226 0403		
Protection Cover IP 65 / IP 67	09 35 002 5411		

Connector sets

Han® PushPull Connector set
SCRJ, plastic
to make up Han® PushPull system cables SCRJ



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☐
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Connector type	Han® PushPull SCRJ connector according to IEC 61 754-24
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of fibres	2
Transmission performance	Depends on the fibre type used
Fibre types	Glass fibre MM 50 / 125 µm and 62.5 / 125 µm Glass fibre SM 10 / 125 µm POF ¹⁾ 1 mm HCS ²⁾ 200 µm / 230 µm
Mounting	Field-assembly via SC contacts
Cable options	
– Cable sheath diameter	6.5 ... 9.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages	Field-assembly F.O. connector, IP 65 / IP 67 PROFINET compliant AIDA compliant
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¹⁾ POF = Polymer-Optical Fibre
²⁾ HCS® = Hard Clad Silica (registered trademark of SpecTran Corporation)

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull SCRJ Connector set Plastic Set consists of: PushPull housing with SCRJ feeding Cable gland Assembly instructions SC POF ¹⁾ contact 1 mm PROFINET identification: PROFINET O-Plug SCRJ	09 35 241 0421	2x SC-POF Stecker mit Klemm-Mutter 2x SC-POF connector with lock nut 26,2 22	
Set consists of: PushPull housing with SCRJ feeding Cable gland Assembly instructions	09 35 241 0422		
SC contacts order separately			
Set consists of: housing IP 20 with SCRJ feeding SC POF ¹⁾ contact 1 mm	09 35 002 4002	Datencontainer SCRJ data container SCRJ 2x SC-POF Stecker mit Klemm-Mutter 2x SC-POF connector with lock nut 26,2 22	
Contacts SC POF ¹⁾ contact, 1 mm SC 125 GI contact SC 230 HCS ^{®2)} contact	20 10 001 5217 20 10 125 5211 20 10 230 5211		

¹⁾ POF = Polymer-Optical Fibre

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

Connector sets

Han® PushPull SCRJ

Connector set, metal

to make up Han® PushPull SCRJ system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☐
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Connector type	Han® PushPull SCRJ connector according to IEC 61 754-24
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of fibres	2
Transmission performance	Depends on the fibre type used
Fibre types	Glass fibre MM 50 / 125 µm and 62.5 / 125 µm Glass fibre SM 10 / 125 µm POF ¹⁾ 1 mm HCS ²⁾ 200 µm / 230 µm
Mounting	Field-assembly via SC contacts
Cable options	
– Cable sheath diameter	6.5 ... 9.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Zinc die-cast
Colour	Nickel-plated

Advantages

Field-assembly F.O. connector, IP 65 / IP 67
PROFINET compliant
AIDA compliant

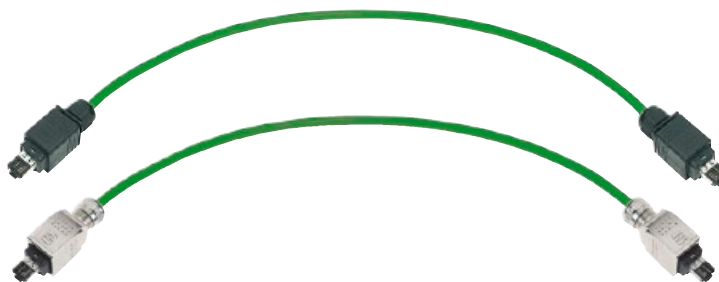
¹⁾ POF = Polymer-Optical Fibre

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

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull SCRJ Connector set Metal Set consists of: PushPull housing with SCRJ feeding Cable gland Assembly instructions SC POF ¹⁾ contact 1 mm PROFINET identification: PROFINET O-Plug SCRJ	09 35 241 0401	2x SC-POF Stecker mit Klemm-Mutter 2x SC-POF connector with lock nut	
Set consists of: PushPull housing with SCRJ feeding Cable gland Assembly instructions	09 35 241 0402		
Order SC contacts separately			
Contacts SC POF ¹⁾ contact, 1 mm SC 125 GI contact SC 230 HCS ^{®2)} contact	20 10 001 5217 20 10 125 5211 20 10 230 5211		

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

System cables



Han® PushPull RJ45

System cable, 4-wire

RJ45 connection cable, Han® PushPull, for IP 65 / IP 67 applications

IP 20



IP 65 / IP 67



IP 65 / IP 67
to IP 20



Cat. 5



Cat. 6



Connector types

Han® PushPull RJ45

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring

4-poles (RJ45 contacts 1/2 and 3/6)

Transmission performance

Category 5 / Class D up to 100 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate

10/100 Mbit/s

Shielding

Fully shielded, 360° shielding contact

Standard lengths

1.5 m / 3 m / 5 m / 10 m / 20 m
other lengths available on request

Advantages

Space-saving IP 65 / IP 67 interface
AIDA compliant
PROFINET compliant
Easy handling

Identification	Part number			
	Plastic version	Metal version	Metal, overmoulded	
Han® PushPull RJ45 System cable, 4-wire Type A				
Length 1.5 m	09 47 555 5003	09 47 565 6003	09 47 565 7003	
Length 3.0 m	09 47 555 5005	09 47 565 6005	09 47 565 7005	
Length 5.0 m	09 47 555 5007	09 47 565 6007	09 47 565 7007	
Length 10.0 m	09 47 555 5012	09 47 565 6012	09 47 565 7012	
Length 20.0 m	09 47 555 5014	09 47 565 6014	09 47 565 7014	
Han® PushPull RJ45 System cable, 4-wire Type B				
Length 1.5 m	09 47 555 5033	09 47 565 6033	09 47 565 7033	
Length 3.0 m	09 47 555 5035	09 47 565 6035	09 47 565 7035	
Length 5.0 m	09 47 555 5037	09 47 565 6037	09 47 565 7037	
Length 10.0 m	09 47 555 5042	09 47 565 6042	09 47 565 7042	
Length 20.0 m	09 47 555 5044	09 47 565 6044	09 47 565 7044	
Han® PushPull RJ45 System cable, 4-wire Type C				
Length 1.5 m	09 47 555 5063	09 47 565 6063	09 47 565 7063	
Length 3.0 m	09 47 555 5065	09 47 565 6065	09 47 565 7065	
Length 5.0 m	09 47 555 5067	09 47 565 6067	09 47 565 7067	
Length 10.0 m	09 47 555 5072	09 47 565 6072	09 47 565 7072	
Length 20.0 m	09 47 555 5074	09 47 565 6074	09 47 565 7074	
Han® PushPull RJ45 System cable, 4-wire Outdoor				
Length 1.5 m	09 47 555 5093	09 47 565 6093	09 47 565 7093	
Length 3.0 m	09 47 555 5095	09 47 565 6095	09 47 565 7055	
Length 5.0 m	09 47 555 5097	09 47 565 6097	09 47 565 7097	
Length 10.0 m	09 47 555 5102	09 47 565 6102	09 47 565 7102	
Length 20.0 m	09 47 555 5104	09 47 565 6104	09 47 565 7104	

System cables



Han® PushPull SCRJ

System cable

SCRJ connection cable, Han® PushPull, for IP 65 / IP 67 applications

IP 20



IP 65 / IP 67



IP 65 / IP 67
to IP 20



Cat. 5



Cat. 6



Connector types

Han® PushPull SCRJ

Cable types

Cable type	Type B
Cables	for indoor applications
Fibre type	polymere fibre
Sheath material	PUR
Single strand diameter	2.2 mm
Sheath diameter	7.8 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Application PROFINET	Green

Standard lengths

1 m / 2 m / 5 m / 10 m / 20 m
other lengths available on request

Advantages

Space-saving IP 65 / IP 67 interface
AIDA compliant
PROFINET compliant
Easy handling

Identification	Part number		
	Plastic version	Metal version	
Han® PushPull SCRJ System cable both sides pre-assembled, SCRJ connectors IP 20 to IP 20 Length 1.0 m Length 2.0 m Length 5.0 m Length 10.0 m Length 20.0 m	33 02 211 0010 001 33 02 211 0020 001 33 02 211 0050 001 33 02 211 0100 001 33 02 211 0200 001		
Han® PushPull SCRJ System cable one side pre-assembled, SCRJ connector IP 20 to open Length 1.0 m Length 2.0 m Length 5.0 m Length 10.0 m Length 20.0 m	33 02 111 0010 001 33 02 111 0020 001 33 02 111 0050 001 33 02 111 0100 001 33 02 111 0200 001		
Han® PushPull SCRJ System cable both sides pre-assembled, SCRJ connectors IP 65 / IP 67 to IP 20 Length 1.0 m Length 2.0 m Length 5.0 m Length 10.0 m Length 20.0 m	33 53 411 0010 001 33 53 411 0020 001 33 53 411 0050 001 33 53 411 0100 001 33 53 411 0200 001	33 53 411 0010 002 33 53 411 0020 002 33 53 411 0050 002 33 53 411 0100 002 33 53 411 0200 002	
Han® PushPull SCRJ System cable both sides pre-assembled, SCRJ connectors IP 65 / IP 67 to IP 65 / IP 67 Length 1.0 m Length 2.0 m Length 5.0 m Length 10.0 m Length 20.0 m	33 53 211 0010 001 33 53 211 0020 001 33 53 211 0050 001 33 53 211 0100 001 33 53 211 0200 001	33 53 211 0010 002 33 53 211 0020 002 33 53 211 0050 002 33 53 211 0100 002 33 53 211 0200 002	
Han® PushPull SCRJ System cable one side pre-assembled, SCRJ connector IP 65 / IP 67 to open Length 1.0 m Length 2.0 m Length 5.0 m Length 10.0 m Length 20.0 m	33 53 111 0010 001 33 53 111 0020 001 33 53 111 0050 001 33 53 111 0100 001 33 53 111 0200 001	33 53 111 0010 002 33 53 111 0020 002 33 53 111 0050 002 33 53 111 0100 002 33 53 111 0200 002	

Panel feed through

Han® PushPull RJ45
Panel feed through, plastic

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Connector type	Han® PushPull RJ45 connector acc. to ISO/IEC 24 702
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact (Cat. 6)
Degree of protection	IP 65 / IP 67
Mating cycles	min. 750
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black
Advantages	Device integration via RJ45 PCB connectors PROFINET compliant AIDA compliant

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 Panel feed through including housing and printed board with 2 x RJ45 jack horizontally mounted	09 35 221 0331		Panel cut out
including housing and printed board with RJ45 jack and RJ45 jack vertically mounted in the IP 20 range	09 35 223 0331		Panel cut out
including housing and printed board with RJ45 jack and 47° jack vertically mounted in the IP 20 range	09 35 224 0331		Panel cut out
including housing and bulkhead Cat. 6 with 2 RJ45 jacks horizontally mounted in the IP 20 range	09 35 225 0331		Panel cut out

Panel feed through

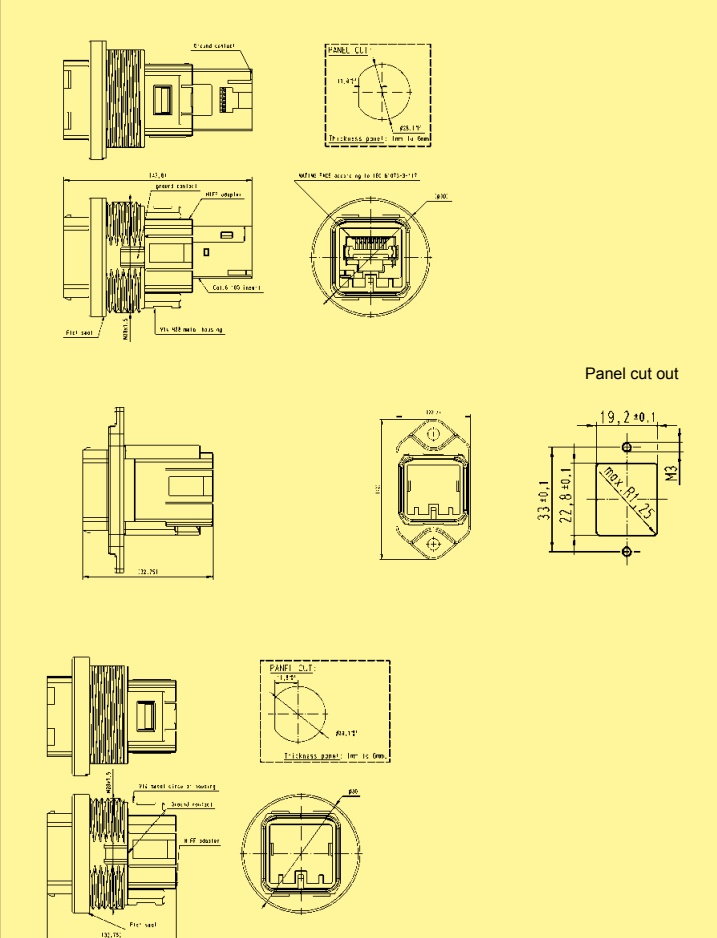
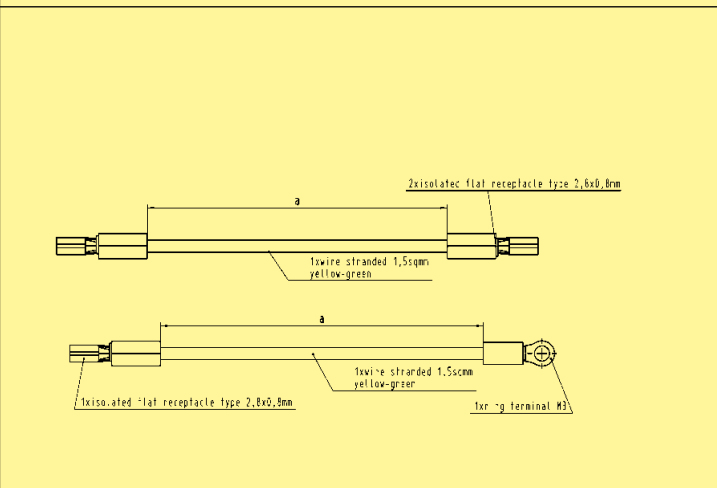
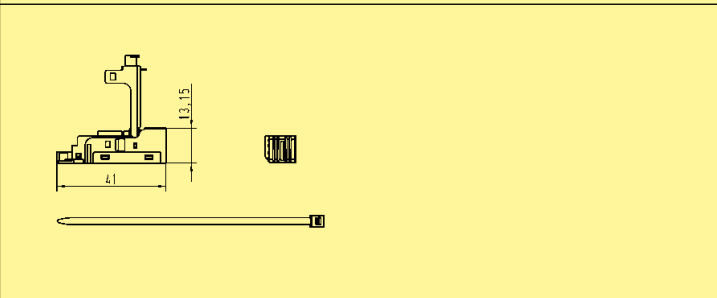


Han® PushPull RJ45
Panel feed through, metal

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector acc. to ISO/IEC 24 702							
Locking	PushPull technology according to IEC 61 076-3-117, variant 14							
Number of contacts	8							
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1							
Transmission rate	Category 6 / Class E _A suitable for 1 / 10 Gigabit Ethernet 10/100 Mbit/s / 1/10 Gbit/s							
Shielding	Fully shielded, 360° shielding contact (Cat. 6)							
Degree of protection	IP 65 / IP 67							
Mating cycles	min. 750							
Operating temperature range	–40 °C ... +70 °C							
Housing material	Zinc die-cast							
Colour	Nickel-plated							
Advantages	Device integration via RJ45 PCB connectors PROFINET compliant AIDA compliant							

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 Panel feed through including housing and printed board with 2 x RJ45 jack horizontally mounted	09 35 221 0311		Panel cut out
including housing and printed board with RJ45 jack and RJ45 jack vertically mounted in the IP 20 range	09 35 223 0311		Panel cut out
including housing and printed board with RJ45 jack and 47° jack vertically mounted in the IP 20 range	09 35 224 0311		Panel cut out
including housing and bulkhead Cat. 6 with 2 x RJ45 jacks horizontally mounted in the IP 20 range	09 35 225 0311		Panel cut out

Han® PushPull RJ45 Panel feed through including bulkhead housing for circular panel cut out, flat seal and HARTING RJ Industrial® 10G RJ45 bulkhead, isolated bulkhead fixture to mount HIFF inserts (e.g. HARTING RJ Industrial® 10G RJ45 coupler or Ha-VIS preLink® RJ45 module) including bulkhead housing for rectangular panel cut out, incl. plastic adapter Order inserts separately to mount HIFF inserts (e.g. HARTING RJ Industrial® 10G RJ45 coupler or Ha-VIS preLink® RJ45 module) including bulkhead housing for circular panel cut out, incl. plastic adapter and fixing nut Order inserts separately	09 35 225 0312 09 35 012 0311 09 35 012 0312	
Patch cord 1.5 mm² for potential equalization between RJ45 insert and bulkhead housing with 2 x flat receptacle with flat receptacle and ring terminal M3	09 45 500 0001 09 45 500 0002	
Ha-VIS preLink® Set RJ45 female AWG 22/23 consists of: • 1x Ha-VIS preLink® module RJ45 female • 1x Ha-VIS preLink® termination block • 1x cable clip	20 82 001 0001	

Panel feed through



Han® PushPull SCRJ
Panel feed through, plastic

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☐
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Connector type	Han® PushPull SCRJ connector according to IEC 61 754-24
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of fibres	2
Transmission performance	Depends on the fibre type used
Fibre types	Glass fibre MM 50 / 125 µm and 62.5 / 125 µm Glass fibre SM 10 / 125 µm POF ¹⁾ 1 mm HCS ²⁾ 200 µm / 230 µm
Degree of protection	IP 65 / IP 67
Mating cycles	min. 750
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages	Han® PushPull SCRJ for POF ¹⁾ is according the requirements of AIDA (German Domestic Automobile Manufacturers) PROFINET compliant AIDA compliant
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¹⁾ POF = Polymer-Optical Fibre
²⁾ HCS® = Hard Clad Silica (registered trademark of SpecTran Corporation)

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull SCRJ Panel feed through Panel feed through	09 35 242 0333		
SCRJ IP 20 POF connector	09 35 002 4002		
Contacts SC POF ¹⁾ contact, 1 mm SC 125 GI contact SC 230 HCS ²⁾ contact	20 10 001 5217 20 10 125 5211 20 10 230 5211		
Protection Cover with cord IP 65 / IP 67	09 35 002 5402		

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

Panel feed through



Han® PushPull SCRJ
Panel feed through, metal

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☐
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Connector type	Han® PushPull SCRJ connector according to IEC 61 754-24							
Locking	PushPull technology according to IEC 61 076-3-117, variant 14							
Number of fibres	2							
Transmission performance	Depends on the fibre type used							
Fibre types	Glass fibre MM 50 / 125 µm and 62.5 / 125 µm Glass fibre SM 10 / 125 µm POF ¹⁾ 1 mm HCS ²⁾ 200 µm / 230 µm							
Degree of protection	IP 65 / IP 67							
Mating cycles	min. 750							
Operating temperature range	–40 °C ... +70 °C							
Housing material	Zinc die-cast							
Colour	Nickel-plated							
Advantages	Han® PushPull SCRJ for POF ¹⁾ is according the requirements of AIDA (German Domestic Automobile Manufacturers) PROFINET compliant AIDA compliant							

¹⁾ POF = Polymer-Optical Fibre

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

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull SCRJ Panel feed through Panel feed through	09 35 242 0313		
SCRJ IP 20 POF connector	09 35 002 4002		
Contacts SC POF ¹⁾ contact, 1 mm SC 125 GI contact SC 230 HCS ²⁾ contact	20 10 001 5217 20 10 125 5211 20 10 230 5211		
Protection Cover with cord IP 65 / IP 67	09 35 002 5402		

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

Gender Changer



Han® PushPull RJ45
Gender Changer, metal

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector acc. to ISO/IEC 24 702
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Degree of protection	IP 65 / IP 67
Mating cycles	min. 750
Mounting	Surface mounting with 4 screws type M5
Operating temperature range	–20 °C ... +70 °C
Housing material	Aluminium, anodised

Advantages

Extension of Han® PushPull system cable RJ45
Robust design
AIDA compliant
Only one connection according to PROFINET guideline

Identification

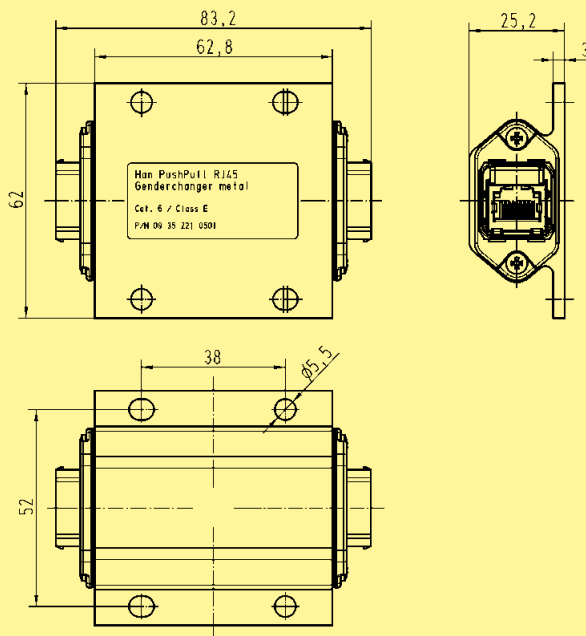
Han® PushPull RJ45
Gender Changer, metal

including housing and
printed board
with 2x RJ45 jack

Part number

09 35 221 0501

Drawing



IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

Cables

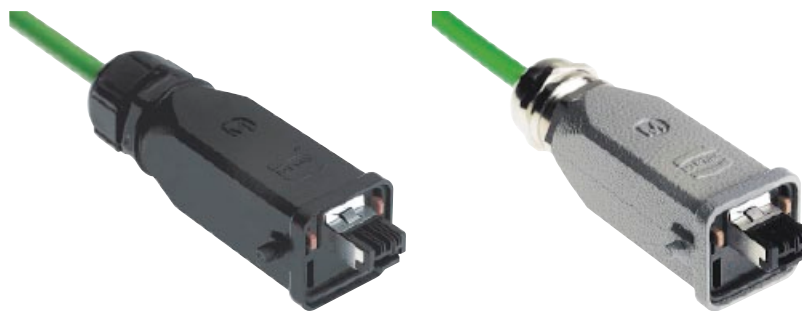
- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail [on page B·1 100]

Tools

[on page B·1 104]

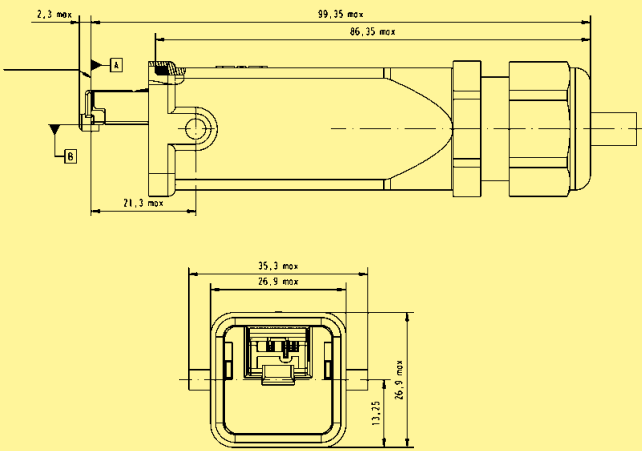
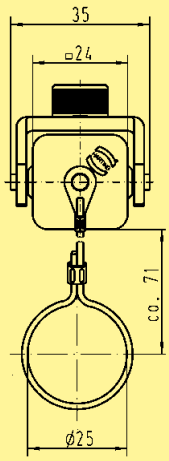
Connector sets

Han® 3 A RJ45
Connector set, 4-pole
to make up Han® 3 A system cables RJ45



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	Han® 3 A RJ45 connector acc. to IEC 61 918
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts, tool-less
Cable options	
– Strand gauge	AWG 24/7 ... AWG 22/7 (stranded) AWG 23/1 ... AWG 22/1 (solid)
– Strand diameter	max. 1.6 mm
– Cable sheath diameter	5 ... 9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast
Colour	Black
Advantages	Tool-less field-assembly with <i>HARAX</i>® rapid termination in IDC technology Category of transmission Cat. 5 Coding possible Up to 10x reductable PROFINET compliant

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Connector set, 4-pole Plastic version straight style angled style Metal version Standard straight style angled style Metal version M straight style angled style Set consists of: Han® 3 A housing including RJ45 connector and shielding Cable gland Assembly instructions	09 45 125 1100 09 45 125 1104 09 45 115 1100 09 45 115 1104 09 45 115 1102 09 45 115 1106	 Dimensions valid for straight Plastic version	
Protection cover for Han® 3 A connector Plastic version Metal version Standard Metal version M	09 20 003 5442 09 20 003 5422 09 37 003 5402	 Dimensions valid for Plastic version	
Set of coding pins	09 46 820 0000		

System cables



Han® 3 A RJ45
System cable, 4-wire

Han® 3 A RJ45 connection cable for harsh industrial environments

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types Han® 3 A RJ45 metal

Cable types

Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C	–45 °C ... +60 °C
Application PROFINET	Green	Green	Green	Black

Wiring	4-poles, 1:1 (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request

Advantages

Robust design
Use on-site made possible by IP 65 / IP 67 protection
Easy handling for all applications
PROFINET compliant

Identification

Part number

Han® 3 A RJ45
System cable, 4-wire
Type A

Length 1.5 m	09 45 715 1123
Length 3.0 m	09 45 715 1125
Length 5.0 m	09 45 715 1127
Length 10.0 m	09 45 715 1151
Length 20.0 m	09 45 715 1153

Han® 3 A RJ45
System cable, 4-wire
Type B

Length 1.5 m	09 45 715 1164
Length 3.0 m	09 45 715 1166
Length 5.0 m	09 45 715 1168
Length 10.0 m	09 45 715 1173
Length 20.0 m	09 45 715 1175

Han® 3 A RJ45
System cable, 4-wire
Type C

Length 1.5 m	09 45 715 0023
Length 3.0 m	09 45 715 0025
Length 5.0 m	09 45 715 0027
Length 10.0 m	09 45 715 0051
Length 20.0 m	09 45 715 0053

Han® 3 A RJ45
System cable, 4-wire
Outdoor

Length 1.5 m	09 45 715 0064
Length 3.0 m	09 45 715 0066
Length 5.0 m	09 45 715 0068
Length 10.0 m	09 45 715 0073
Length 20.0 m	09 45 715 0075

System cables

Han® 3 A RJ45 System cable, 4-wire

Han® 3 A RJ45 connection cable for harsh industrial environments, change-over to IP 20



IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Connector types Han® 3 A RJ45 metal (IP 65 / IP 67) / RJ45 (IP 20)

Cable types

Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	–40 °C ... +70 °C	–40 °C ... +70 °C	–40 °C ... +70 °C
Application PROFINET	Green	Green	Green

Wiring	4-pole, 1:1 (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request

Advantages

Robust design
Easy change-over from harsh industrial environment
to protected IP 20 environment
Easy handling for all applications
PROFINET compliant

Identification

Part number

Han® 3 A RJ45
System cable, 4-wire
Type A

Length 1.5 m	09 45 700 1123
Length 3.0 m	09 45 700 1125
Length 5.0 m	09 45 700 1127
Length 10.0 m	09 45 700 1151
Length 20.0 m	09 45 700 1153

Han® 3 A RJ45
System cable, 4-wire
Type B

Length 1.5 m	09 45 700 1164
Length 3.0 m	09 45 700 1166
Length 5.0 m	09 45 700 1168
Length 10.0 m	09 45 700 1173
Length 20.0 m	09 45 700 1175

Han® 3 A RJ45
System cable, 4-wire
Type C

Length 1.5 m	09 45 700 0023
Length 3.0 m	09 45 700 0025
Length 5.0 m	09 45 700 0027
Length 10.0 m	09 45 700 0051
Length 20.0 m	09 45 700 0053

Panel feed-throughs



Han® 3 A RJ45

Panel feed-through, 8-poles, Cat. 5

RJ45 Panel feed-through for control or distributor cabinets

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (IP 20)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast
Colour	Black
Advantages	Simple mounting RJ45 plug-compatible Different versions cover all applications Coding possible PROFINET compliant

Han® 3 A

Panel feed-throughs

Han® 3 A RJ45 10G
Panel feed-through, 8-poles

RJ45 Panel feed-through for control or distributor cabinets



IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination 2 / 1x Han® 3 A RJ45 (IP 65 / IP 67)
1x RJ45 (Twisted Pair) (IP 20)

Transmission performance Category 6 / Class E_A up to 500 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate 10/100 Mbit/s / 1/10 Gbit/s

Shielding Fully shielded, 360° shielding contact

Mounting Screwable to steel plate covers

Dimensions See drawing

Panel cut-out 20 mm x 22 mm

Mounting hole Diameter 3.4 mm

Degree of protection IP 65 / IP 67

Operating temperature range –40 °C ... +70 °C

Plastic version
Housing material Polyamide, UL94 V-0
Colour Black

Metal version Standard
Housing material Zinc, die-cast
Colour Grey

Metal version M
Housing material Zinc, die-cast
Colour Black

Advantages
Simple mounting
RJ45 plug-compatible
Various versions cover all applications
Coding possible
PROFINET compliant

Han® 3 A

Panel feed-throughs

Han® 3 A RJ45
 Double-coupling, 8-poles
 RJ45 double-coupling for control or distributor cabinets



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s

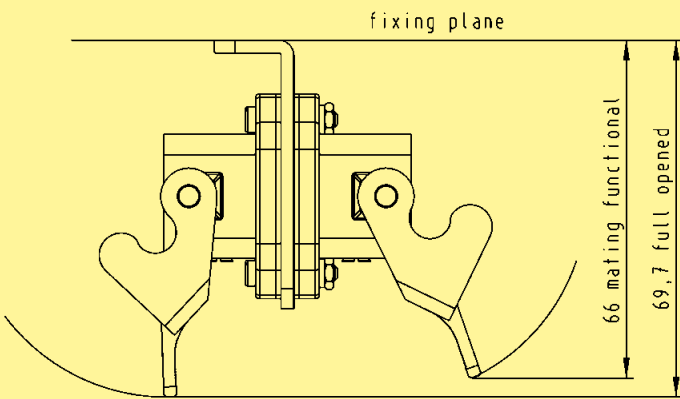
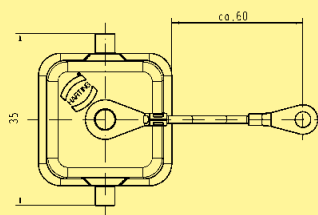
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C

Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black

Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey

Metal version M	
Housing material	Zinc, die-cast
Colour	Black

Advantages	Simple mounting
	RJ45 plug-compatible
	Different versions cover all applications
	Coding possible
	PROFINET compliant

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 double-coupling Plastic version Accessories IP 65 / IP 67 protection cap for Panel feed-through	09 45 225 1107 09 20 003 5445		
Han® 3 A RJ45 double-coupling Metal version Standard Accessories IP 65 / IP 67 protection cap for Panel feed-through	09 45 215 1107 09 20 003 5425	Dimensions valid for Plastic version	
Han® 3 A RJ45 double-coupling Metal version M Accessories IP 65 / IP 67 protection cap for Panel feed-through	09 45 215 1110 09 37 003 5405		
Accessories Set of coding pins	09 45 820 0000		

Distribution modules and Outlets

Han® 3 A RJ45
Metal Outlet, Cat. 6, 8-poles
RJ45 Industrial Outlet for IP 65 / IP 67 environments

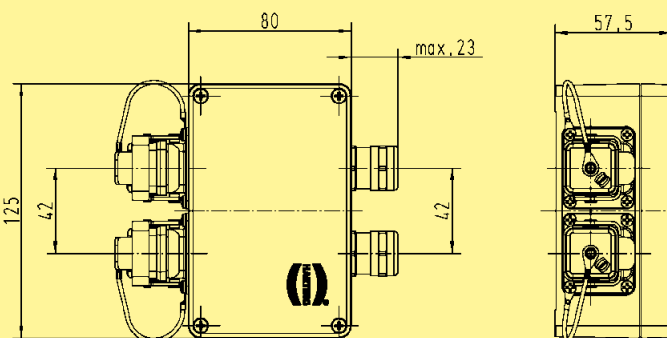


IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 ... 22 (0.5 ... 0.65 mm) solid and stranded
Strand insulation	0.7 ... 1.6 mm
Cable diameter	5 ... 9 mm
Shielding	Fully shielded, 360° shielding contact
Mounting	Wall mounting
Dimensions (H x W x D)	125 x 80 x 57.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	-20 °C ... +70 °C
Housing material	Aluminium, die-cast
Colour	Grey RAL 7037

Advantages

Robust metal housing for use in harsh industrial environments
Simple mounting
Lockable Han® 3 A connector ports
PROFINET compliant

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Metal Outlet, Cat. 6 consisting of: 2-port metal housing with protection caps and cable glands 2x RJ45 female module, Cat. 6 Assembly instructions	20 79 302 0922		

Distribution modules and Outlets



Han® 3 A RJ45
Metal Outlet, Cat. 5, 8-poles
 RJ45 Industrial Outlet for IP 65 / IP 67 environments

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminating via LSA-PLUS tool
Strand diameter	AWG 26 ... 22 (0.35 ... 0.65 mm) solid and stranded
Strand insulation	0.7 ... 1.6 mm
Cable diameter	5 ... 9 mm
Shielding	Fully shielded, 360° shielding contact

Mounting	Wall mounting
Dimensions (H x W x D)	105 x 105 x 40.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Aluminium, die-cast
Colour	Grey RAL 7037

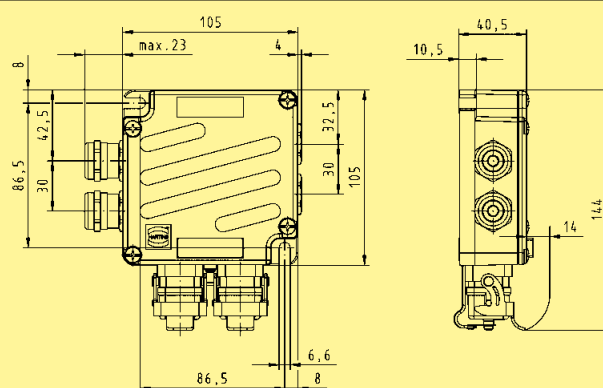
Advantages	Robust metal housing for use in harsh industrial environments Simple mounting Cable feeding optionally from the left or from the right side Lockable Han® 3 A connector ports PROFINET compliant
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Identification	Part number	Drawing	Dimensions in mm
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Han® 3 A RJ45
Metal Outlet, Cat. 5

consisting of:
 2-port metal housing with protection caps, cable glands and blanking piece
 PCB module with LSA-PLUS strips
 Label
 Assembly instructions

09 45 815 1100



IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

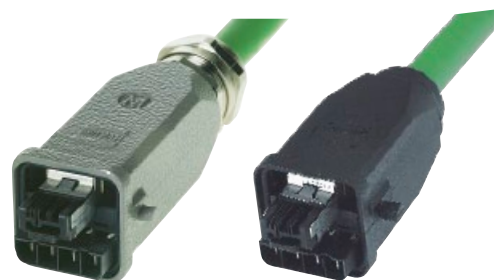
Cables

- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail [on page B·1 100]

Tools

[on page B·1 104]

Connector sets



Han® 3 A RJ45 Hybrid Connector set, 4-pole

to make up Han® 3 A RJ45 Hybrid system cables

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type Han® 3 A RJ45 Hybrid connector according to IEC 61 918

Number of contacts 4 + 4x power contacts (48 V / 16 A)

Transmission performance Category 5 / Class D up to 100 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate 10/100 Mbit/s

Shielding Fully shielded, 360° shielding contact

Mounting Field-assembly

Wire termination Via IDC contacts, tool-less

Cable options Hybrid cable (2 x 2 data + 4x power)

– Wire gauge (data) AWG 24/7 ... AWG 22/7 (stranded)

AWG 23/1 ... AWG 22/1 (solid)

– Wire gauge (power) 1.5 mm², stranded

– Strand diameter (data) max. 1.6 mm

– Strand diameter (power) max. 2.6 mm

– Cable sheath diameter 10 ... 11 mm

Degree of protection IP 65 / IP 67

Operating temperature range –40 °C ... +70 °C

Plastic version

Housing material

Polyamide, UL94 V-0

Colour

Black

Metal version Standard

Housing material

Zinc, die-cast

Colour

Grey

Advantages

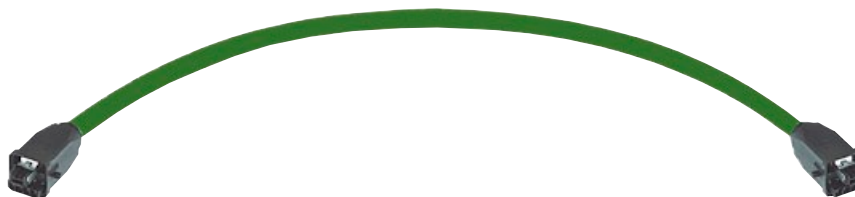
Tool-less field-assembly with *HARAX*® rapid termination in
IDC technology

Category of transmission Cat. 5

PROFINET compliant

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Hybrid Connector set, 4-pole Plastic version straight style Metal version Standard straight style Set consists of: Han® 3 A Hybrid housing including RJ45 connector and shielding Cable gland Assembly instructions	09 45 125 1300 10 12 005 2001		
Protection cover for Han® 3 A connector Plastic version Metal version Standard	09 20 003 5442 09 20 003 5422	Dimensions valid for Plastic version	

System cables



Han® 3 A Hybrid

System cable RJ45, 4-wire

Han® 3 A Hybrid connection cable for harsh industrial environments

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types	Han® 3 A RJ45 Hybrid, plastic / metal
Cable types	4 x AWG 22/7, star quad, shielded + 4 power cores
Sheath material	FRNC
Wiring	4-poles (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s + Power supply
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–20 °C ... +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Green
Advantages	Robust design Use on-site made possible via IP 65 / IP 67 protection Easy handling for applications with additional power supply PROFINET compliant

Identification

Part number

Han® 3 A RJ45 Hybrid
System cable, 4-wire,
plastic

Length 1.5 m	09 45 725 1323
Length 3.0 m	09 45 725 1325
Length 5.0 m	09 45 725 1327
Length 10.0 m	09 45 725 1351
Length 20.0 m	09 45 725 1353

Han® 3 A RJ45 Hybrid
System cable, 4-wire,
metal

Length 1.5 m	09 45 715 1364
Length 3.0 m	09 45 715 1366
Length 5.0 m	09 45 715 1368
Length 10.0 m	09 45 715 1373
Length 20.0 m	09 45 715 1375

Panel feed-throughs



Han® 3 A RJ45 Hybrid
Panel feed-through, 8-poles

Hybrid Panel feed-through for control or distributor cabinets

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (IP 20)
Termination power supply	4x contacts in the Han® 3 A connector (IP 65 / IP 67) 4x contacts for power supply via cage-clamp terminal (48 V / 16 A) (IP 20)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast
Colour	Black
Advantages	Simple mounting RJ45 plug-compatible Additional power supply via hybrid cable Coding possible PROFINET compliant

Han® 3 A Hybrid

Cables

Industrial Cat. 5 Hybrid Cable
PROFINET Hybrid Type B,
4-wire + 4 power wires
to make up hybrid system cables



IP 20	☐	IP 65 / IP 67	☒	FRNC	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad + 4 power cores, double shielding
Core structure	4x AWG 22/7, star quad, shielded + 4 power cores, 84 x 0.15, , stranded
Sheath material	FRNC
Cable sheath diameter	9.7 ... 10.3 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid

Operating temperature range -20 °C ... +80 °C

Standard lengths 10 m / 20 m / 50 m / 100 m

Colour Green

Printing HARTING specific printing

Advantages

Robust design suitable for industry
PROFINET compliant
Additional power supply
Halogen free, LSZH
UL AWM 21 282

Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 5 Hybrid cable
PROFINET Hybrid Type B,
4x data + 4x power wires
FRNC

10 m ring
20 m ring
50 m ring
100 m reel
500 m reel

09 45 600 0310
09 45 600 0330
09 45 600 0340
09 45 600 0300
09 45 600 0320



IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

Cables

- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail [on page B·1 100]

Tools

[on page B·1 104]

Connector sets



HARAX® M12
Connector D-coding, 4-pole
to make up HARTING system cables M12

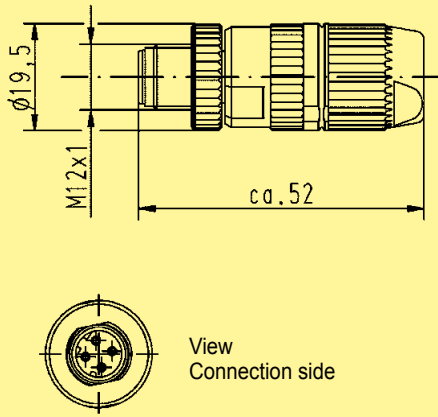
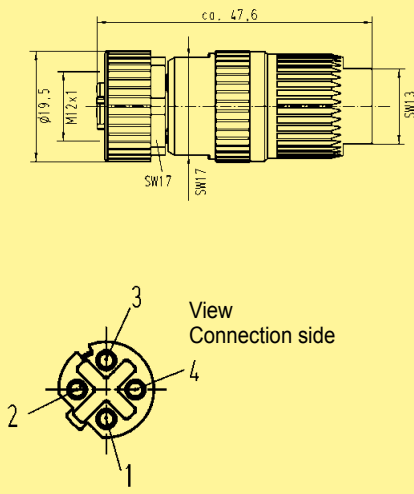
IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	HARAX® connector M12-L, D-coding
Number of contacts	4
Transmission performance	Class D according to ISO/IEC 11 801:2002
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts
Cable options	
– Strand diameter	AWG 24 ... AWG 22 (Cord)
– Cable sheath diameter	4.5 ... 8.8 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–25 °C ... +85 °C
Housing material	Metal

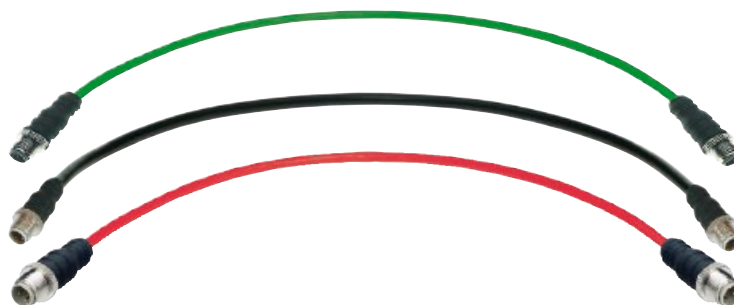
Advantages	Field-assembly M12 connector Compact design Tool-less assembly
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Specifications	IEC 60 352-4 IEC 60 947-5-2
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Approvals	
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Identification	Part number	Drawing	Dimensions in mm
HARAX® M12 Connector D-coding, 4-pole, male straight style 	21 03 281 1405	 View Connection side	
HARAX® M12 Connector D-coding, 4-pole, female straight style	21 03 281 2405	 View Connection side	

System cables



Han® M12

System cable, 4-wire, straight

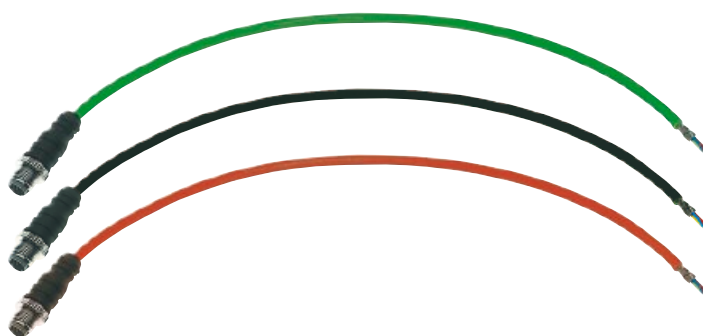
Han® M12 connection cable, D-coding, for harsh industrial environments, pre-assembled on both sides

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types	2x Han® M12 D-coding, overmoulded
Cable types	4 x AWG 22/7, Star quad, double shielding
Sheath material	PUR / PVC
Wiring	4-pole, 1:1
Transmission performance	Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–25 °C ... +70 °C
Standard lengths	1 m / 1.5 m / 3 m / 5 m / 7.5 m / 10 m / 20 m other lengths available on request
Colour	Green / Black Red (SERCOS III)
Advantages	Robust design Use on-site made possible by IP 65 / IP 67 protection PUR variants are useable as trailing cables

Identification	PUR	Part number PVC	SERCOS III PUR	Drawing	Dimensions in mm
Han® M12 System cable, 4-wire	Green	Black	Red		
Length 1.0 m	21 03 485 1401	09 47 222 2002	09 47 222 2002 018		
Length 1.5 m	21 03 485 1451	09 47 222 2003	09 47 222 2003 018		
Length 3.0 m	21 03 485 1403	09 47 222 2005	09 47 222 2005 018		
Length 5.0 m	21 03 485 1405	09 47 222 2006	09 47 222 2007 018		
Length 7.5 m	21 03 485 1457	09 47 222 2022	09 47 222 2018 018		
Length 10.0 m	21 03 485 1410	09 47 222 2011	09 47 222 2012 018		
Length 20.0 m	21 03 485 1420	09 47 222 2013	09 47 222 2014 018		

System cables



Han® M12

System cable, 4-wire

Han® M12 connection cable, D-coding,
for harsh industrial environments, second side open

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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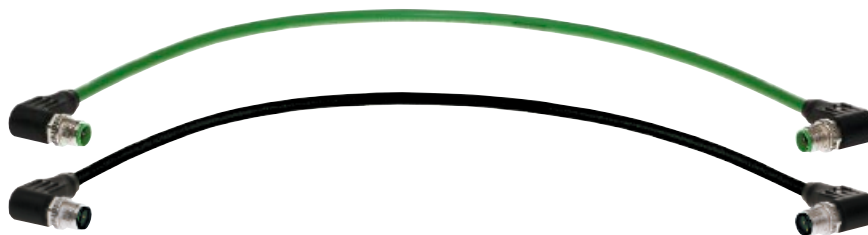
Connector types	1x Han® M12 D-coding, overmoulded second side open
Cable types	4 x AWG 22/7, Star quad, double shielding
Sheath material	PUR / PVC
Wiring	4-pole
Transmission performance	Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–25 °C ... +70 °C
Standard lengths	1 m / 1.5 m / 3 m / 5 m / 7.5 m / 10 m / 20 m other lengths available on request
Colour	Green / Black Red (SERCOS III)
Advantages	Robust design Use on-site made possible by IP 65 / IP 67 protection PUR variants are useable as trailing cables

M12
D-coding

Identification	PUR	Part number PVC	SERCOS III PUR	Drawing	Dimensions in mm
Han® M12 System cable, 4-wire	Green	Black	Red		
Length 1.0 m	21 03 585 1401	09 47 220 0002	09 47 220 0002 018		
Length 1.5 m	21 03 585 1451	09 47 220 0003	09 47 220 0003 018		
Length 3.0 m	21 03 585 1403	09 47 220 0005	09 47 220 0005 018		
Length 5.0 m	21 03 585 1405	09 47 220 0006	09 47 220 0007 018		
Length 7.5 m	21 03 585 1457	09 47 220 0022	09 47 220 0018 018		
Length 10.0 m	21 03 585 1410	09 47 220 0011	09 47 220 0012 018		
Length 20.0 m	21 03 585 1420	09 47 220 0013	09 47 220 0014 018		

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System cables



Han® M12

System cable, 4-wire, angled

Han® M12 connection cable, D-coding, for harsh industrial environments
pre-assembled on both sides

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types	2x Han® M12 D-coding, angled, overmoulded
Cable types	4 x AWG 22/7, Star quad, double shielding
Sheath material	PUR / PVC
Wiring	4-pole, 1:1
Transmission performance	Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact

Operating temperature range –25 °C ... +70 °C

Standard lengths 1 m / 1.5 m / 3 m / 5 m / 7.5 m / 10 m / 20 m
other lengths available on request

Colour Green / Black

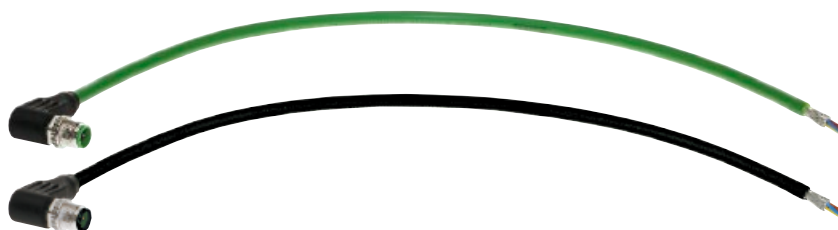
Advantages

Robust design
Use on-site made possible by IP 65 / IP 67 protection
PUR variants are useable as trailing cables

M12
D-coding

Identification	PUR	Part number PVC	Drawing	Dimensions in mm
Han® M12 System cable, angled, 4-wire	Green	Black		
Length 1.0 m	21 03 485 3401	09 47 808 0002		
Length 1.5 m	21 03 485 3451	09 47 808 0003		
Length 3.0 m	21 03 485 3403	09 47 808 0005		
Length 5.0 m	21 03 485 3405	09 47 808 0006		
Length 7.5 m	21 03 485 3457	09 47 808 0022		
Length 10.0 m	21 03 485 3410	09 47 808 0011		
Length 20.0 m	21 03 485 3420	09 47 808 0013		

System cables



Han® M12

System cable, 4-wire, angled

Han® M12 connection cable, D-coding, for harsh industrial environments
second side open

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types	1x Han® M12 D-coding, angled, overmoulded second side open
Cable types	4 x AWG 22/7, Star quad, double shielding
Sheath material	PUR / PVC
Wiring	4-pole
Transmission performance	Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact

Operating temperature range –25 °C ... +70 °C

Standard lengths 1 m / 1.5 m / 3 m / 5 m / 7.5 m / 10 m / 20 m
other lengths available on request

Colour Green / Black

Advantages

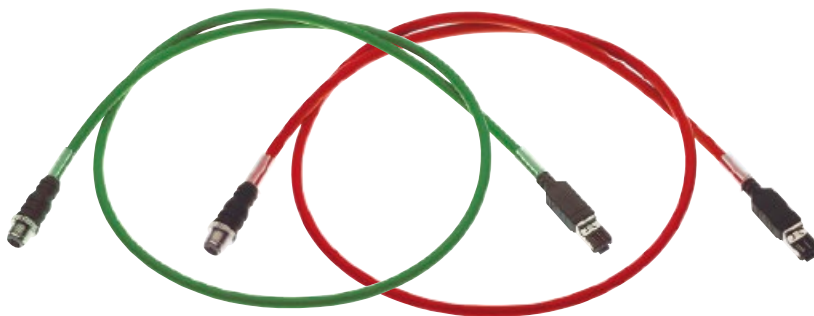
Robust design
Use on-site made possible by IP 65 / IP 67 protection
PUR variants are useable as trailing cables

M12
D-coding

Identification	Part number		Drawing	Dimensions in mm
	PUR	PVC		
Han® M12 System cable, angled, 4-wire	Green	Black		
Length 1.0 m	21 03 585 3401	09 47 800 0002		
Length 1.5 m	21 03 585 3451	09 47 800 0003		
Length 3.0 m	21 03 585 3403	09 47 800 0005		
Length 5.0 m	21 03 585 3405	09 47 800 0006		
Length 7.5 m	21 03 585 3457	09 47 800 0022		
Length 10.0 m	21 03 585 3410	09 47 800 0011		
Length 20.0 m	21 03 585 3420	09 47 800 0013		

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System cables



Han® M12 / RJ45
System cable, 4-wire

Han® M12 connection cable, D-coding, to RJ45 (IP 20), overmoulded

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Connector types	Han® M12 D-coding, overmoulded (IP 65 / IP 67) RJ45 4-pole, contacts 1/2 and 3/6, overmoulded (IP 20)
Cable types	4 x AWG 22/7, Star quad, double shielding
Sheath material	PUR / PVC
Wiring	4-pole
Transmission performance	Cat. 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact

Operating temperature range –25 °C ... +70 °C

Standard lengths 1 m / 3 m / 5 m / 10 m
other lengths available on request

Colour Green / Black
Red (SERCOS III)

Advantages

Robust design
PUR variants are useable as trailing cables
PROFINET compliant

Contact assignment	Signal	M12 D-coding	RJ45
	TD+	1	1
	TD-	3	2
	RD+	2	3
	RD-	4	6

Identification	PUR	Part number PVC	SERCOS III PUR	Drawing	Dimensions in mm
Han® M12 / RJ45 System cable, 4-adrig	Green	Black	Red		
Length 1.0 m	09 45 700 5022	09 45 700 5063	09 47 220 2003 018		
Length 3.0 m	09 45 700 5025	09 45 700 5066	09 47 220 2005 018		
Length 5.0 m	09 45 700 5027	09 45 700 5068	09 47 220 2007 018		
Length 10.0 m	09 45 700 5051	09 45 700 5073	09 47 220 2012 018		
Length 20.0 m	09 45 700 5053	09 45 700 5075	09 47 220 2014 018		

System cables

Additional technical information about overmoulded System cables M12

IP 20	☒	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Electrical characteristics at 20 °C

Contact resistance:	$\leq 20 \text{ m}\Omega$
Insulation resistance:	$\geq 500 \text{ M}\Omega$
Dielectric withstand voltage:	
contact - contact	1 kV
contact - ground	1.5 kV

Electrical characteristics after damp heat cycles

Contact resistance:	$\leq 20 \text{ m}\Omega$
Insulation resistance:	$\geq 100 \text{ M}\Omega$
Dielectric withstand voltage:	
contact - contact	1 kV
contact - ground	1.5 kV

For reliable and proof connection it is recommended to use the dynamometric screwdriver Han® M12 (part number 09 99 000 0382; see page B·1 104).

Panel feed-throughs



Han® M12

Panel feed-through D-coding

M12 Panel feed-through for control or distributor cabinets

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / 1x M12 D-coding (IP 65 / IP 67) 1x RJ45 (IP 20)
Transmission performance	Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	Diameter 16.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–5 °C ... +60 °C
Housing material	Metal / plastic
Colour	Black
Advantages	Simple mounting RJ45 plug-compatible on back side PROFINET compliant

Identification	Part number	Drawing	Dimensions in mm
Han® M12 Panel feed-through D-coding straight	21 03 381 2400		
Han® M12 Panel feed-through D-coding angled	21 03 381 4400		

IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

Cables

- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail® [on page B·1 100]

Tools

[on page B·1 104]

Cables



Industrial Cat. 5 Standard cable, 4-wire

Type A

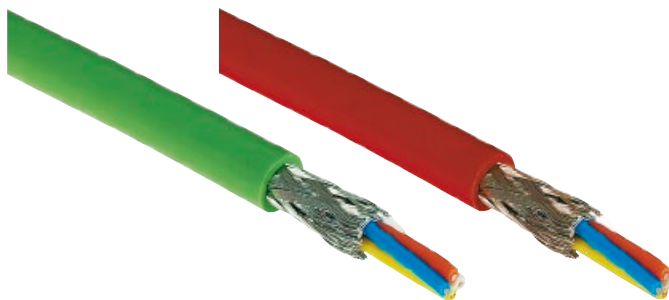
for permanent installation or to make up PROFINET system cables

IP 20	☒	IP 65 / IP 67	☒	PVC	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad, double shielding
Core structure	4 x AWG 22/1, solid
Wire insulation	PE, Ø 1.5 mm
Sheath material	PVC
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	–40 °C ... +75 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Printing	HARTING specific printing
Advantages	Robust design suitable for industry PROFINET compliant Easy stripping of cable sheath and screening braid with stripping tool 09 45 800 0000 RoHS compliant

Identification	Part number PVC	Drawing	Dimensions in mm
Industrial Cat. 5 Standard cable Type A, 4-wire 20 m ring 50 m ring 100 m ring 500 m drum	Green 09 45 600 0130 09 45 600 0140 09 45 600 0100 09 45 600 0110		

Cables



Industrial Cat. 5 stranded cable, 4-wire
Type B
to make up PROFINET / SERCOS III system cables

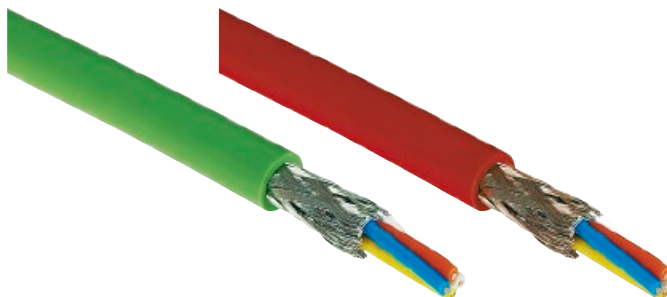
IP 20	☒	IP 65 / IP 67	☒	PVC	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad, double shielding
Core structure	4 x AWG 22/7, tinned copper wire, stranded
Wire insulation	PE, Ø 1.56 mm
Sheath material	PVC
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	–40 °C ... +70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green (PROFINET) Red (SERCOS III)
Printing	HARTING specific printing
Advantages	Robust design suitable for industry PROFINET compliant (Green) SERCOS III compliant (Red) Easy stripping of cable sheath and screening braid with stripping tool 09 45 800 0000 RoHS compliant

Identification	PUR	Part number PVC	SERCOS III PUR	Drawing	Dimensions in mm
Industrial Cat. 5 stranded cable Type B, 4-wire	Green	Green	Red		
20 m ring	09 45 600 0139	09 45 600 0132	09 45 600 0134		
50 m ring	09 45 600 0149	09 45 600 0142	09 45 600 0144		
100 m ring	09 45 600 0109	09 45 600 0102	09 45 600 0104		
500 m drum	09 45 600 0119	09 45 600 0112	09 45 600 0114		

Cables

Industrial Cat. 5 stranded cable, 4-wire,
useable as trailing cables,
Type C
to connect to mobile equipment
to make up PROFINET / SERCOS III system cables



IP 20	☐	IP 65 / IP 67	☒	PUR	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad, double shielding
Core structure	4 x AWG 22/7, stranded
Wire insulation	PE, Ø 1.5 mm
Sheath material	PUR
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	–40 °C ... +70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green (PROFINET) Red (SERCOS III)
Printing	HARTING specific printing
Advantages	Robust design suitable for industry PROFINET compliant (Green) SERCOS III compliant (Red) Useable as trailing cables Easy stripping of cable sheath and screening braid with stripping tool 09 45 800 0000 RoHS compliant

Identification	Part number		Drawing	Dimensions in mm
	PUR	SERCOS III PUR		
Industrial Cat. 5 stranded cable, 4-wire, useable as trailing cables, Type C				
	Green	Red		
20 m ring	09 45 600 0131	09 45 600 0137		
50 m ring	09 45 600 0141	09 45 600 0147		
100 m ring	09 45 600 0101	09 45 600 0107		
500 m drum	09 45 600 0111	09 45 600 0117		

Cables



Industrial Cat. 5 stranded cable, 4-wire,
Type B, outdoor
to make up PROFINET system cables

IP 20	☐	IP 65 / IP 67	☒	PVC	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad, double shielding
Core structure	4 x AWG 22/7, stranded
Wire insulation	PE, Ø 1.56 mm
Sheath material	PVC
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid

Operating temperature range –45 °C ... +60 °C

Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black
Printing	HARTING specific printing

Advantages

Robust design suitable for industry
PROFINET compliant
UV protected
Easy stripping of cable sheath and screening braid with
stripping tool **09 45 800 0000**
RoHS compliant

Identification	Part number PVC	Drawing	Dimensions in mm
Industrial Cat. 5 stranded cable, 4-wire, Type B, outdoor	Black		
20 m ring 50 m ring 100 m ring 500 m drum	09 45 600 0135 09 45 600 0145 09 45 600 0105 09 45 600 0115		

Cables



Ha-VIS EtherRail®
stranded cable, Cat. 5, 4-wire
for installation within and outside rail vehicles

IP 20	☐	IP 65 / IP 67	☒	Elastomer	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad, double shielding
Core structure	4 x AWG 22/7, tinned copper wire, stranded
Wire insulation	PE-Foam Skin, Ø 1.5 mm
Sheath material	Elastomer, electron beam cross-linked
Cable sheath diameter	6.6 +/-0.2 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	-40 °C ... +90 °C
Standard lengths	100 m / 500 m / 1000 m
Colour	Black
Tests / Certificats	Tests and certificats according to DIN, N FF, BS and ASTM, detail information see Technical Data sheet

Advantages	Robust design Fire protection according to EN 45 545-1, -2 and -5 Flame-retardant and heat resistant according to DIN 5510 (1-4) and EN 50 264-1 UV protected RoHS compliant Halogen free small Ø permits RJ45 assembly
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Identification	Part number Elastomer	Drawing	Dimensions in mm
Ha-VIS EtherRail® stranded cable, Cat. 5 4-wire 100 m ring 500 m drum 1000 m drum	Black 09 45 600 0108 09 45 600 0118 09 45 600 0128		

Cables



Ha-VIS EtherRail®

ultra flexible cable, Cat. 5, 4-wire

for installation within and outside rail vehicles and especially between coaches

IP 20	☐	IP 65 / IP 67	☒	Elastomer	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad, double shielding
Core structure	4 x AWG 22/19, tinned copper wire, ultra flexible
Wire insulation	PE, Ø 1.98 mm
Sheath material	Elastomer, electron beam cross-linked
Cable sheath diameter	7.4 +/- 1 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	-40 °C ... +90 °C
Standard lengths	100 m / 500 m / 1000 m
Colour	Black
Tests / Certificats	Tests and certificats according to DIN, N FF, BS and ASTM, detail information see Technical Data sheet
Advantages	Robust design, especially suitable between coaches Fire protection according to EN 45 545-1, -2 and -5 Flame-retardant and heat resistant according to DIN 5510 (1-4) and EN 50 264-1 UV protected RoHS compliant Halogen free

Identification	Part number Elastomer	Drawing	Dimensions in mm
Ha-VIS EtherRail® ultra flexible cable, Cat. 5 4-wire 100 m ring 500 m drum 1000 m drum	Black 09 45 600 0138 09 45 600 0148 09 45 600 0158		

System cables

Additional technical information about overmoulded System cables

IP 20	☒	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Electrical characteristics at 20 °C

Contact resistance:	$\leq 20 \text{ m}\Omega$
Insulation resistance:	$\geq 500 \text{ M}\Omega$
Dielectric withstand voltage:	
contact - contact	1 kV
contact - ground	1.5 kV

Electrical characteristics after damp heat cycles

Contact resistance:	$\leq 20 \text{ m}\Omega$
Insulation resistance:	$\geq 100 \text{ M}\Omega$
Dielectric withstand voltage:	
contact - contact	1 kV
contact - ground	1.5 kV

IP 20**RJ45**

- Connectors [on page B·1 8]
- System cables [on page B·1 10]
- Distribution modules and Outlets [on page B·1 20]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·1 22]
- System cables [on page B·1 24]
- Panel feed-throughs [on page B·1 32]
- Distribution modules and Outlets [on page B·1 34]

Han® PushPull

- Connectors [on page B·1 36]
- System cables [on page B·1 44]
- Panel feed-throughs / Gender Changer [on page B·1 48]

Han® 3 A

- Connectors [on page B·1 60]
- System cables [on page B·1 62]
- Panel feed-throughs [on page B·1 66]
- Distribution modules and Outlets [on page B·1 72]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·1 76]
- System cables [on page B·1 78]
- Panel feed-throughs [on page B·1 80]
- Cables [on page B·1 82]

M12 D-coding

- Connectors [on page B·1 84]
- System cables [on page B·1 86]
- Panel feed-throughs [on page B·1 92]

Cables

- Type A, B, C [on page B·1 96]
- Type B, Outdoor [on page B·1 99]
- Ha-VIS EtherRail [on page B·1 100]

Tools

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Identification	Part number	
HARTING RJ Industrial® Stripping Tool Stripping tool for Ethernet cables including blade cassette Spare blade cassette	09 45 800 0000 09 45 800 0001	 The RJ Industrial Stripping Tool is ready to remove insulation from Ethernet cables for fast mounting with diameters from 2.5 to 8 mm quick and easy. It allows to remove cable sheath and shielding braid in one.
Stripping tool	09 45 800 0002	
HARTING RJ Industrial® LSA-Punch Down Tool	09 45 800 0020	 The LSA-Punch Down Tool is used to wire RJ45 Industrial Metal Outlets (part no. 09 45 815 1100). The various conductors are cut to length and inserted into the insulation displacement contacts in a single pass.
Han® M12 dynamometric screwdriver SW 18 or 13	09 99 000 0382	
Cable shear	09 45 800 0004	
Wire cutter	09 45 800 0005	

IP 20

RJ45

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RJ45

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

HARTING
PushPull**Han® PushPull**

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han®
PushPull**Han® 3 A**

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

Han® 3 A
RJ45 Hybrid**har-speed M12**

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

har-speed
M12**Han-Max®**

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Han-
Max®**Cables**

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Cables

Tools

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Tools

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Han-Max®	
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HARTING mounting tools B-2 100

Introduction

The chapter on „HARTING Ethernet Cabling – 8-wire“ describes the complete HARTING product line for installing application-neutral cabling at machines, plants and buildings in an industrial environment.

The product line includes:

- Eight-wire cables for setting up flexible connections and for fixed installations.
- Connector components in IP 20 and IP 65 / IP 67, designed for on-site assembly
- Assembled system cables in IP 20 and IP 65 / IP 67 versions
- Industrial outlets, Panel feed-throughs and adapters in IP 20 and IP 65 / IP 67 versions
- Accessories and tools

The advantage of application-neutral eight-wire cabling is that all necessary services from all applications can be transmitted without needing to change cable.

This is especially important for all IP-based data, for control protocols and also for voice services such as those carried by Ethernet according to IEEE 802.3x.

- 10 and 100 Mbit/sec. Ethernet, corresponding to 10Base-T and 100Base-T (Fast Ethernet)
- Gigabit Ethernet according to IEEE 802.3ab, corresponding to 1000Base-T
- Voice over IP (VoIP)
- Analog voice, data and video signals
- Power over Ethernet (PoE) according to IEEE 802.3af and future applications such as:
- 10 Gigabit Ethernet according to IEEE 802.3an
- Power over Ethernet Plus (PoE+) according to IEEE 802.3af

and also Ethernet-based Fieldbus applications, with and without real-time functionality, such as:

- PROFINET (including PROFINET RT / real-time), according to IEC 61784-5-3
- EtherNet/IP, Modbus/TCP and Ethernet Powerlink

This type of cabling is globally standardized because of the advantages it offers and its distribution through ISO/IEC 11801. In Europe it has been established in EN 50173-3.

The special requirements for industrial cable use are described in the ISO/IEC 24702 and in its European equivalent EN 50173-3.

HARTING's eight-wire cabling components are specified, developed and manufactured in strict

technical compliance with the established requirements mentioned above.

The trends are towards higher transmission rates and larger bandwidths, but operators are also seeking environmentally-safe products and products which are safe in cases of malfunction or fire.

For these latter two areas of safety, HARTING is constantly developing and testing its products. Individual components are also certified accordingly.

Thus in this chapter, products are specified for:

- Cat. 5 (up to 100 MHz), Cat. 6 (up to 250 MHz), and Cat. 6A (up to 500 MHz)
- Non-Halogen cabling materials such as LSZH, FRNC and PUR
- Suitable for use in electrical or distribution cabinets under IP 20. Also for use in harsh industrial environments and for outdoor installations corresponding to IP 65 / IP 67

To the user, HARTING provides a high-performance, future-oriented line of cabling products which are sure to fulfill all present and future requirements.

An overview of the advantages of eight-wire cabling:

- Profile-independent cabling infrastructure which can be used for all Ethernet applications
- Supports all safety features and real-time requirements of various applications
- Can be extended and integrated into existing IT infrastructures without difficulty
- Conforms to ISO/IEC 24702 standard and facilitates roll-outs at companies operating internationally.
- The use of standardized connectors reduces product variety and simplifies the purchasing and storage of components
- Future-oriented design ensures the convenient application of new technologies such as Gigabit Ethernet or PoE
- Superior quality of the cabling system guarantees long life span and high operational reliability
- Simple and convenient planning, installation and reliable operation of the network - thus saving costs and delivering a high ROI
- The eight-wire generic cabling system is a part of HARTING's AUTOMATION IT network solution - all solutions coming from one source

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- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
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Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
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- Connectors [on page B·2 78]
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- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
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Tools

[on page B·2 100]

Connector sets

HARTING RJ Industrial®
Connector set, 8-pole
to make up RJ45 system cables



IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact

Mounting	Field-assembly possible
Wire termination	Via piercing contacts
Cable options	
– Strand gauge	AWG 28/7 ... AWG 24/7 (stranded)
– Strand diameter	max. 1.05 mm (including insulation)
– Cable sheath diameter	6.1 ... 6.9 mm
Degree of protection	IP 20
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

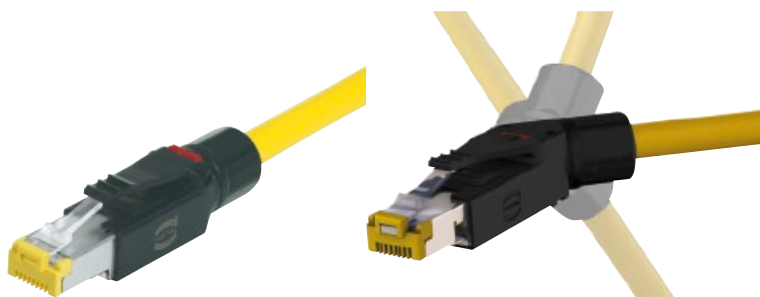
Advantages Field-assembly connector, Cat. 6

Mounting information If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® Connector set, 8-pole with White cable manager great package with 100 pieces Blue cable manager great package with 100 pieces Set consists of: Housing including shielding Splice element Cable gland Assembly instructions	09 45 151 1500 09 45 151 1500 XL 09 45 151 1510 09 45 151 1510 XL		
HARTING RJ Industrial® Gigalink Mounting tools for HARTING RJ Industrial® Gigalink connectors	09 45 800 0500		

Connector sets

HARTING RJ Industrial® 10G
Connector set, 8-pole
to make up RJ45 system cables



IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact

Mounting	Field-assembly possible
Wire termination	Via IDC contacts, tool-less

Cable options	
– Strand gauge	AWG 27 ... AWG 22 (solid / stranded)
– Strand diameter	max. 1.6 mm (including insulation)
– Cable sheath diameter	4.5 ... 9 mm

Degree of protection	IP 20
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages

RJ45 Ethernet-Data connector suitable for industry
Tool-less field-assembly with *HARAX*® rapid termination in IDC technology
Compact design
Ergonomical unlocking clip
Less weight assures shock- and vibration-resisting connection
Category of transmission Cat. 6
Suitable for termination of solid and stranded cables

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® 10G Connector set, 8-pole Set consists of: Housing including shielding Splice element Cable gland Assembly instructions straight	09 45 151 1560		
angled 45° angled version (four different cable outlets possible)	09 45 151 1561		
HARTING RJ Industrial® 10G colour clips for HARTING RJ Industrial® 10G connectors package with 50 pieces Colour:	White 09 45 850 0001 Grey 09 45 850 0002 Yellow 09 45 850 0003 Magenta 09 45 850 0005 Red 09 45 850 0007 Blue 09 45 850 0008 Green 09 45 850 0009 Brown 09 45 850 0010		

System cables



HARTING RJ Industrial®

Patch cable, overmoulded, 8-wire, Cat. 5 / Cat. 5e

RJ45 connection cable for control or distributor cabinets or within controllers

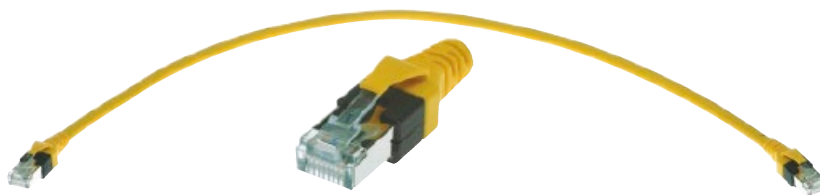
IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types	RJ45, overmoulded, with locking lever protection
Cable types	4 x 2, Twisted Pair, shielded, SF/UTP
Sheath material	PUR, halogen free LSZH
Wiring	8-pole, 1:1
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	0 °C ... +60 °C
Standard lengths	0.5 m / 1 m / 2 m / 3 m / 5 m / 7.5 m other lengths available on request
Colour	Yellow
Advantages	Robust industrial design High operational reliability in vibration-prone locations Halogen free RoHS compliant

Identification		Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® Patch cable, 8-wire, Cat. 5 / 5e, overmoulded		Yellow		
Length	0.20	09 47 474 7001		
Length	0.30	09 47 474 7002		
Length	0.40	09 47 474 7003		
Length	0.50	09 47 474 7004		
Length	0.60	09 47 474 7005		
Length	0.70	09 47 474 7006		
Length	0.80	09 47 474 7007		
Length	0.90	09 47 474 7008		
Length	1.00	09 47 474 7009		
Length	1.50	09 47 474 7010		
Length	2.00	09 47 474 7011		
Length	2.50	09 47 474 7012		
Length	3.00	09 47 474 7013		
Length	3.50	09 47 474 7024		
Length	4.00	09 47 474 7014		
Length	5.00	09 47 474 7015		
Length	6.00	09 47 474 7016		
Length	7.00	09 47 474 7017		
Length	7.50	09 47 474 7018		
Length	8.00	09 47 474 7019		
Length	9.00	09 47 474 7020		
Length	10.00	09 47 474 7021		
Length	15.00	09 47 474 7022		
Length	20.00	09 47 474 7023		
HARTING RJ Industrial® colour clips for HARTING RJ Industrial® connectors package with 10 pieces Colour:				
	Grey	09 45 850 0002		
	Yellow	09 45 850 0003		
	Orange	09 45 850 0005		
	Red	09 45 850 0007		
	Blue	09 45 850 0008		
	Green	09 45 850 0009		
	Black	09 45 850 0011		



System cables



HARTING RJ Industrial®

Patch cable, overmoulded, 8-wire, Cat. 6

RJ45 connection cable for control or distributor cabinets or within controllers

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	RJ45, overmoulded, with locking lever protection
Cable types	4 x 2, Twisted Pair, shielded, S/FTP
Sheath material	PUR, halogen free LSZH
Wiring	8-pole, 1:1 or crossed
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	0 °C ... +60 °C

Standard lengths	0.5 m / 1 m / 2 m / 3 m / 5 m / 7.5 m other lengths available on request
Colour	Yellow

Advantages

Robust industrial design
Easy handling for all applications
Halogen free
RoHS compliant

Identification		Part number		Drawing	Dimensions in mm
HARTING RJ Industrial® Patch cable, 8-wire, Cat. 6, overmoulded		Yellow 1:1	Yellow crossed		
Length	0,20	09 47 474 7101	09 47 474 7141		
Length	0,30	09 47 474 7102	09 47 474 7142		
Length	0,40	09 47 474 7103	09 47 474 7143		
Length	0,50	09 47 474 7104	09 47 474 7144		
Length	0,60	09 47 474 7105	09 47 474 7145		
Length	0,70	09 47 474 7106	09 47 474 7146		
Length	0,80	09 47 474 7107	09 47 474 7147		
Length	0,90	09 47 474 7108	09 47 474 7148		
Length	1,00	09 47 474 7109	09 47 474 7149		
Length	1,50	09 47 474 7110	09 47 474 7150		
Length	2,00	09 47 474 7111	09 47 474 7151		
Length	2,50	09 47 474 7112	09 47 474 7152		
Length	3,00	09 47 474 7113	09 47 474 7153		
Length	4,00	09 47 474 7114	09 47 474 7154		
Length	5,00	09 47 474 7115	09 47 474 7155		
Length	6,00	09 47 474 7116	09 47 474 7156		
Length	7,00	09 47 474 7117	09 47 474 7157		
Length	7,50	09 47 474 7118	09 47 474 7158		
Length	8,00	09 47 474 7119	09 47 474 7159		
Length	9,00	09 47 474 7120	09 47 474 7160		
Length	10,00	09 47 474 7121	09 47 474 7161		
Length	15,00	09 47 474 7122	09 47 474 7162		
Length	20,00	09 47 474 7123	09 47 474 7163		
HARTING RJ Industrial® colour clips for HARTING RJ Industrial® connectors package with 10 pieces Colour:		Grey 09 45 850 0002 Yellow 09 45 850 0003 Orange 09 45 850 0005 Red 09 45 850 0007 Blue 09 45 850 0008 Green 09 45 850 0009 Black 09 45 850 0011			



System cables



Ha-VIS Smart Patch Cable IP 20 Cat. 6

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	HARTING RJ45 Industrial®
Cable types	4 x 2, Twisted Pair, shielded, AWG 27
Sheath material	PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C to +70 °C
Standard lengths	1 m / 2 m / 5 m / 7 m / 10 m other lengths available on request
Colour	Yellow
Advantages	Easy and fast illuminated detection of patch cables via integrated LEDs Compact and space saving plug by dual boot design Capable for Multiport applications Flame retardant Halogen free Colour coding option

Identification	Part number PUR	Drawing	Dimensions in mm
Ha-VIS Smart Patch Cable IP 20 Cat. 6	Yellow		
Length 1.0 m	09 47 474 7201		
Length 2.0 m	09 47 474 7203		
Length 5.0 m	09 47 474 7206		
Length 7.0 m	09 47 474 7208		
Length 10.0 m	09 47 474 7211		
further lengths on request			

Identification	Part number	Drawing	Dimensions in mm
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Ha-VIS Smart Patchkabel
Detektor

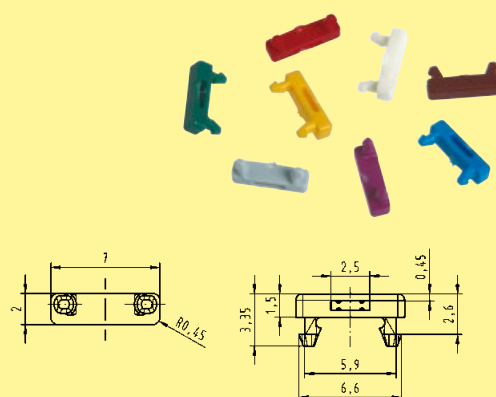
09 47 900 0001



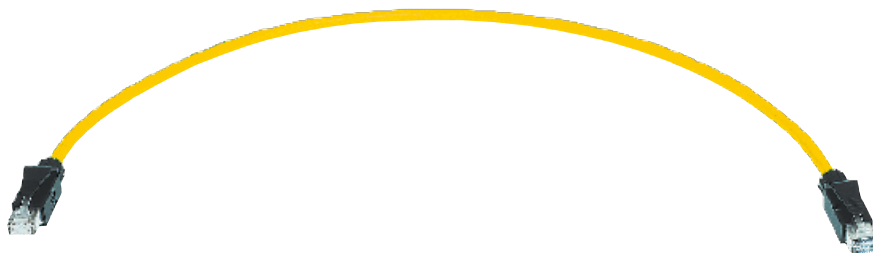
HARTING RJ Industrial® 10G
colour clips

for HARTING RJ Industrial® 10G
connectors
package with 50 pieces

Colour:	White	09 45 850 0001
	Grey	09 45 850 0002
	Yellow	09 45 850 0003
	Magenta	09 45 850 0005
	Red	09 45 850 0007
	Blue	09 45 850 0008
	Green	09 45 850 0009
	Brown	09 45 850 0010



System cables



HARTING RJ Industrial®
System cable, 8-wire, Cat. 6

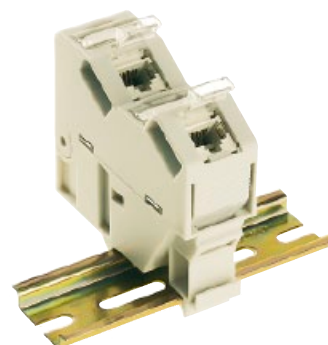
RJ45 connection cable for control or distributor cabinets or within controllers

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	RJ45
Cable types	4 x 2, Twisted Pair, shielded, PIMF
Sheath material	PVC / PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C ... +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Yellow
Advantages	Robust industrial design High operational reliability in vibration-prone locations

Identification	Part number		Drawing	Dimensions in mm
	PVC	PUR		
HARTING RJ Industrial® System cable, 8-wire, Cat. 6	Yellow	Yellow		
Length 1.5 m	09 45 751 1523	09 45 751 1563		
Length 3.0 m	09 45 751 1525	09 45 751 1565		
Length 5.0 m	09 45 751 1527	09 45 751 1567		
Length 10.0 m	09 45 751 1551	09 45 751 1572		
Length 20.0 m	09 45 751 1553	09 45 751 1574		

Distribution modules and Outlets



HARTING Cabinet Outlet RJ45, 8-poles

RJ45 distribution module for IP 20 environments (top-hat rail mounting)

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / RJ45 (Twisted Pair)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 ... 22 (0.5 ... 0.65 mm) solid and stranded
Strand insulation	0.7 ... 1.6 mm
Cable diameter	6 ... 9 mm
Shielding	Fully shielded, 360° shielding contact
Mounting	To 35 mm top-hat mounting rail acc. to DIN EN 60 715, alignable
Dimensions (H x W x D)	82 x 28.4 x 74 mm
Degree of protection	IP 20
Operating temperature range	–20 °C ... +70 °C
Housing material	Polycarbonate, UL94 V-0
Colour	Light grey RAL 7035

Advantages

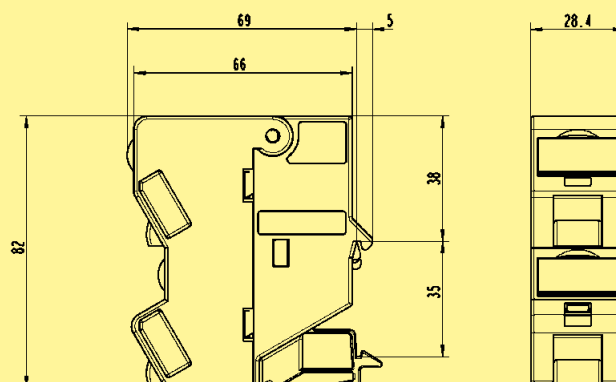
- Simple mounting
- Cable entering optionally from bottom or from top side
- Dust protection caps
- Port identification
- Angled outputs

Identification	Part number	Drawing	Dimensions in mm
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HARTING Cabinet Outlet RJ45

consisting of:
2-port housing
including dust protection caps
and labels
2x RJ45 female modules, Cat. 6
Assembly instructions

20 76 102 8000



IP 20

RJ45

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Tools

[on page B·2 100]

Connector sets



HARTING PushPull RJ45
Connector set, 8-pole
to make up PushPull RJ45 system cables

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	HARTING PushPull RJ45 connector acc. to ISO/IEC 24 702, variant 4								
Number of contacts	8								
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1								
Transmission rate	10/100/1000 Mbit/s								
Shielding	Fully shielded, 360° shielding contact								
Mounting	Field-assembly possible								
Wire termination	Via piercing contacts								
Cable options									
– Strand gauge	AWG 28/7 ... AWG 24/7 (stranded)								
– Strand diameter	max. 1.05 mm (including insulation)								
– Cable sheath diameter	4.9 ... 8.6 mm								
Degree of protection	IP 65 / IP 67								
Operating temperature range	–40 °C ... +70 °C								
Housing material	Polyamide and polycarbonate, UL94 V-0								
Colour	Black								
Advantages	Space-saving connector assembly via PushPull interface Standard conform to ISO/IEC 24 702								
Mounting information	If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)								

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull RJ45 Connector set, 8-pole with White cable manager great package with 100 pieces Blue cable manager great package with 100 pieces Set consists of: PushPull housing including RJ45 connector and shielding Splice element Cable gland Assembly instructions	09 45 145 1500 09 45 145 1500 XL 09 45 145 1510 09 45 145 1510 XL		
Protection cover for PushPull connectors	09 45 845 0010		
HARTING RJ Industrial® Gigalink Mounting tools for HARTING RJ Industrial® Gigalink connectors	09 45 800 0500		

Connector sets

HARTING PushPull RJ45 10G
Connector set, 8-pole
to make up PushPull RJ45 system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	HARTING PushPull RJ45 connector acc. to ISO/IEC 24 702, variant 4								
Number of contacts	8								
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1								
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s								
Shielding	Fully shielded, 360° shielding contact								
Mounting	Field-assembly								
Wire termination	Via IDC contacts, tool-less								
Cable options									
– Strand gauge	AWG 27 ... AWG 22 (solid / stranded)								
– Strand diameter	max. 1.6 mm (including insulation)								
– Cable sheath diameter	4.9 ... 8.6 mm								
Degree of protection	IP 65 / IP 67								
Operating temperature range	–40 °C ... +70 °C								
Plastic version									
Housing material	Polyamide and polycarbonate, UL94 V-0								
Colour	Black								
Advantages	Space-saving connector assembly via PushPull interface Field-assembly connector, in IP 65 / IP 67 Standard conform to ISO/IEC 24 702								

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull RJ45 10G Connector set, 8-pole plastic version Set consists of: PushPull housing including RJ45 connector and shielding Splice element Cable gland Assembly instructions	09 45 145 1560	Dimensions valid for plastic version	
Protection cover for PushPull connectors plastic version	09 45 845 0010		
HARTING PushPull RJ45 10G colour clips for HARTING PushPull RJ45 10G connectors package with 10 pieces Colour:	White 09 45 840 0011 Yellow 09 45 840 0013 Red 09 45 840 0017 Blue 09 45 840 0018 Green 09 45 840 0019	On request : color ring for Pg9 nut TB 09 45 840 001X	

Connector sets

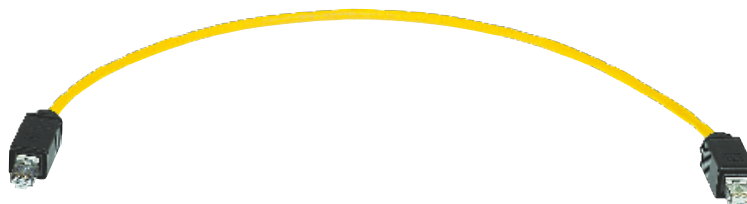
HARTING PushPull LC duplex
Connector set
Panel feed-through and connector

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☐
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Connector type	HARTING PushPull LC duplex connector acc. to IEC 61 754-20-100							
Number of contacts	2							
Transmission rate	10/100/1000 Mbit/s							
Locking	PushPull Technology acc. to IEC 61 076-3-106 variant 4							
Degree of protection	IP 65 / IP 67							
Mating face	LC acc. to IEC 61 754-20							
Cable diameter	4.9 ... 8.6 mm							
Mating cycles	min. 100							
Temperature range	-40 °C ... +85 °C							
Housing material	Plastic, Polyamide, UL94 V-0							
Colour	Black							
Advantages	Optical PushPull connector based on LC with small form factor (requires 50 % compared to SC and ST) Optical module with inserts acc. to IEC 61 754-20 One-piece LC body assures high mechanical stability A & B parts identification for duplex according TIA 568 standard							

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull LC duplex Connector set			
Cable side			
Multimode GOF	09 57 402 0500 000		
Singlemode GOF	09 57 402 0501 000		
Device side EasyInstall			
Multimode GOF	09 57 441 0500 000		
Singlemode GOF	09 57 441 0501 000		
Device side Compact housing			
Multimode GOF	09 57 442 0502 001		
Singlemode GOF	09 57 442 0503 001		
Protection cover for PushPull connectors	09 45 845 0010		
for PushPull device side with active locking M3	09 45 845 0014		
with passive locking M3	09 45 845 0009		

System cables



HARTING PushPull RJ45

System cable, 8-wire

RJ45 connection cable HARTING PushPull for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	HARTING PushPull
Cable types	4 x 2, Twisted Pair, shielded, PIMF
Sheath material	PVC / PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C ... +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Yellow
Advantages	Standardised PushPull interface for IP 65 / IP 67 according to ISO/IEC 24 702 Easy and safe operation Especially space-saving

Identification	Part number		Drawing	Dimensions in mm
	PVC	PUR		

HARTING PushPull RJ45
System cable, 8-wire

Yellow

Yellow

Length 1.5 m

09 45 745 1523

09 45 744 1523

Length 3.0 m

09 45 745 1525

09 45 744 1525

Length 5.0 m

09 45 745 1527

09 45 744 1527

Length 10.0 m

09 45 745 1551

09 45 744 1532

Length 20.0 m

09 45 745 1553

09 45 744 1534

System cables



HARTING PushPull RJ45

System cable, 8-wire

connection cable HARTING PushPull to RJ45 (IP 20)

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☒
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Connector types	HARTING PushPull and RJ45 (IP 20)
Cable types	4 x 2, Twisted Pair, shielded, PIMF
Sheath material	PVC
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C ... +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Yellow
Advantages	Standardised PushPull interface for IP 65 / IP 67 according to ISO/IEC 24 702 Easy transition from harsh industrial environment into saved IP 20 environment

Identification	Part number PVC	Drawing	Dimensions in mm
HARTING PushPull RJ45 System cable, 8-wire	Yellow		
Length 1.5 m	09 45 701 1509		
Length 3.0 m	09 45 701 1510		
Length 5.0 m	09 45 701 1511		
Length 10.0 m	09 45 701 1512		
Length 20.0 m	09 45 701 1514		

Panel feed-throughs



HARTING PushPull RJ45 10G

Panel feed-through, 8-poles

RJ45 Panel feed-through for control or distributor cabinets

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination

2 / 1x RJ45 (IP 20)
1x PushPull RJ45 (IP 65 / IP 67)

Transmission performance

Category 6 / Class E_A up to 500 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate

10/100 Mbit/s / 1/10 Gbit/s

Mounting

Screwable to steel plate covers

Dimensions

See drawing

Panel cut-out

21 mm x 27 mm (Compact)
ø 28 ... 30 mm (EasyInstall)

Degree of protection

IP 65 / IP 67

Operating temperature range

–40 °C ... +70 °C

Housing material

Polycarbonate, UL94 V-0

Colour

Black

Advantages

Small, space-saving PushPull interface with IP 65 / IP 67

Easy handling of RJ45 system cables in the control cabinet

Mounting to casings

Category of transmission Cat. 6

IP 65 / IP 67 standard interface for structured cabling for
buildings according to ISO/IEC 24 702 respectively EN 50 173-3

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull RJ45 Compact Panel feed-through plastic consisting of: Housing bulkhead mounting Compact including flat gasket 2x RJ45 female module mounted on PCB Assembly instructions board drillings for M2.5	09 45 245 1560		
HARTING PushPull RJ45 EasyInstall Panel feed-through plastic consisting of: Housing bulkhead mounting Easy Install including integrated seal RJ45 female module mounted on PCB Assembly instructions board drillings for M3	09 45 245 1590		
Protection cover IP 65 / IP 67, with fixing ring Version with active locking and plastic strap for fixing screw M3 Version with active locking without fixing screw Version with passive locking and plastic strap for fixing screw M3 Version with passive locking and Nylon strap for fixing screw M2,5 / M3	09 45 845 0014 09 45 845 0015 09 45 845 0009 09 45 845 0011 024		
Transport protection for housing bulkhead mounting, IP 40	09 45 845 0003		

Distribution modules and Outlets

HARTING PushPull RJ45

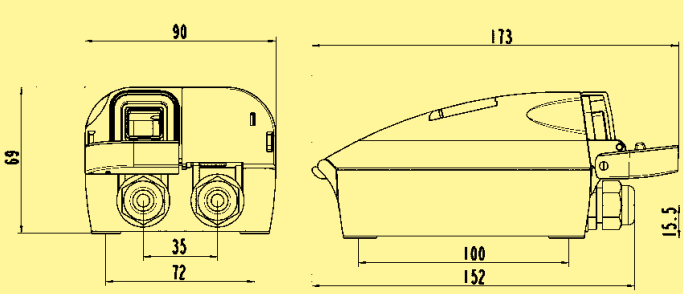
Outlet, 8-poles

RJ45 Industrial Outlet for IP 65 / IP 67 environments



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / PushPull RJ45 (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 ... 22 (0.5 ... 0.65 mm) solid and stranded
Strand insulation	0.7 ... 1.6 mm
Cable diameter	6 ... 9 mm
Shielding	Fully shielded, 360° shielding contact
Mounting	Wall mounting
Dimensions (H x W x D)	152 x 90 x 69 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–20 °C ... +70 °C
Housing material	Polycarbonate, UL94 V-0
Colour	Black (similar RAL 9011) or White (similar RAL 9010)
Advantages	Simple mounting Cable entering optionally from bottom or from top side Self-closing protection caps in IP 65 / IP 67 IP 65 / IP 67 label IP 65 / IP 67 standard interface for structured cabling for buildings according to ISO/IEC 24 702 respectively EN 50 173-3

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull RJ45 Outlet Black white consisting of: 2-port outlet housing with protection caps, cable management, cable glands and label 2x RJ45 female modules, Category 6 1x blind plug (if only 1 cable is used) Assembly instructions	09 45 845 1500 09 45 845 1501		

IP 20**RJ45**

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Tools

[on page B·2 100]

Connector sets



Han® PushPull RJ45
Connector set, 8-pole

to make up Han® PushPull RJ45 system cables

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	Via piercing contacts
Cable options	
– Strand gauge	AWG 27/7 ... AWG 24/7 (stranded)
– Strand diameter	max. 1.05 mm (including insulation)
– Cable sheath diameter	5 ... 8 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages

Space-saving connector assembly via PushPull interface
Field-assembly connector, Cat. 6, in IP 65 / IP 67
AIDA compliant

Mounting information

If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 Connector set, 8-pole Plastic Cable diameter 5 ... 8 mm White cable manager Blue cable manage	09 35 223 0421 09 35 224 0421		26.2 22
HARTING RJ Industrial® Gigalink Mounting tools for HARTING RJ Industrial® Gigalink connectors	09 45 800 0500		

Connector sets



Han® PushPull RJ45 10G

Connector set, 8-pole

to make up Han® PushPull RJ45 system cables

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts , tool-less
Cable options	Suitable for solid and stranded cores
– Strand gauge	AWG 27 ... AWG 22 (solid / stranded)
– Strand diameter	max. 1.6 mm (including insulation)
– Cable sheath diameter	6.5 ... 9.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages

Space-saving connector assembly via PushPull interface
Field-assembly connector, in IP 65 / IP 67
AIDA compliant

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 10G Connector set, 8-pole Plastic Cable diameter 6.5 ... 9.5 mm	09 35 225 0421		
Protection Cover IP 65 / IP 67	09 35 002 5411		
IP 40	09 35 002 5412		

Connector sets



Han® PushPull RJ45
Connector set, 8-pole

to make up Han® PushPull RJ45 system cables

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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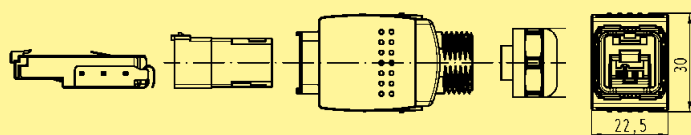
Connector type	Han® PushPull RJ45 connector
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	Via piercing contacts
Cable options	
– Strand gauge	AWG 27/7 ... AWG 24/7 (stranded)
– Strand diameter	max. 1.05 mm (including insulation)
– Cable sheath diameter	4 ... 11 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Zinc die-cast
Colour	Nickel-plated

Advantages

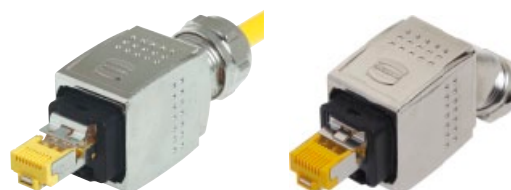
Space-saving connector assembly via PushPull interface
Field-assembly connector, Cat. 6, in IP 65 / IP 67
AIDA compliant

Mounting information

If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 Connector set, 8-pole Metal Cable diameter 4 ... 11 mm White cable manager Blue cable manage	09 35 223 0401 09 35 224 0401		
HARTING RJ Industrial® Gigalink Mounting tools for HARTING RJ Industrial® Gigalink connectors	09 45 800 0500		

Connector sets



Han® PushPull RJ45 10G

Connector set, 8-pole

to make up Han® PushPull RJ45 system cables

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts , tool-less
Cable options	Suitable for solid and stranded cores
– Strand gauge	AWG 27 ... AWG 22 (solid / stranded)
– Strand diameter	max. 1.6 mm (including insulation)
– Cable sheath diameter	4 ... 11 mm (straight) 6.5 ... 9.5 mm (angled)
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Zinc die-cast
Colour	Nickel-plated

Advantages

Space-saving connector assembly via PushPull interface
Field-assembly connector, in IP 65 / IP 67
AIDA compliant

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 10G Connector set, 8-pole Metal Cable diameter 4 ... 11 mm straight entry Cable diameter 6.5 ... 9.5 mm angled entry, bottom Cable diameter 6.5 ... 9.5 mm angled entry, top	09 35 225 0401 09 35 225 0402 09 35 225 0403	 	
Protection Cover IP 65 / IP 67 IP 40	09 35 002 5411 09 35 002 5412	 	

System cables



Han® PushPull RJ45

System cable, 8-wire

RJ45 connector cable Han® PushPull for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	Han® PushPull RJ45
Cable types	4 x 2, Twisted Pair, shielded
Sheath material	PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C ... +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Yellow
Advantages	Standardised PushPull interface for IP 65 / IP 67 Easy and safe operation Especially space-saving AIDA compliant

Identification	Part number		Drawing	Dimensions in mm
	Plastic	Metal		
Han® PushPull RJ45 System cable, 8-wire	Yellow	Yellow		
	Length 1.5 m	09 47 575 7001	09 47 585 8001	
	Length 3.0 m	09 47 575 7002	09 47 585 8002	
	Length 5.0 m	09 47 575 7003	09 47 585 8003	
	Length 10.0 m	09 47 575 7004	09 47 585 8004	
	Length 20.0 m	09 47 575 7005	09 47 585 8005	

Panel feed through

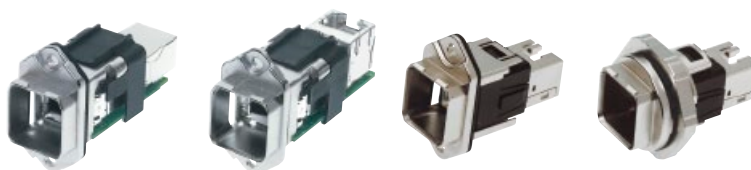


Han® PushPull RJ45
Panel feed through, plastic

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1 Category 6 / Class E _A suitable for 1 / 10 Gigabit Ethernet
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact (Cat. 6)
Degree of protection	IP 65 / IP 67
Mating cycles	min. 750
Operating temperature range	–40 °C ... +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black
Advantages	Device integration via RJ45 PCB connectors Compact design High packing density AIDA compliant

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 Panel feed through including housing and printed board Cat. 5 with 2 x RJ45 jack horizontally mounted including housing and printed board Cat. 5 with RJ45 jack and RJ45 jack vertically mounted in the IP20 range including housing and printed board Cat. 5 with RJ45 jack and 47° jack vertically mounted in the IP20 range	09 35 221 0331 09 35 223 0331 09 35 224 0331	 	Panel cut out Panel cut out Panel cut out
Han® PushPull RJ45 Panel feed through, Cat. 6 including housing and HARTING RJ Industrial® 10G RJ45 coupler	09 35 225 0331		Panel cut out
Han® PushPull RJ45 Panel feed through for assembly with all HIFF compatible inserts (e.g. Ha-VIS preLink®) Please order inserts separately.	09 35 012 0331		Panel cut out
Ha-VIS preLink® Set Cat. 6 RJ45 female AWG 22/23 consists of: • 1x Ha-VIS preLink® module RJ45 female • 1x Ha-VIS preLink® termination block • 1x cable clip	20 82 001 0001		

Panel feed through

Han® PushPull RJ45
Panel feed through, metal

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector
Locking	PushPull technology according to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1 Category 6 / Class E _A suitable for 1 / 10 Gigabit Ethernet
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact (Cat. 6)
Degree of protection	IP 65 / IP 67
Mating cycles	min. 750
Operating temperature range	–40 °C ... +70 °C
Housing material	Zinc die-cast
Colour	Nickel-plated

Advantages

Device integration via RJ45 PCB connectors
Compact design
High packing density
AIDA compliant

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull RJ45 Panel feed through including housing, bulkhead mounting, with flat seal and printed board Cat. 5 with 2 x RJ45 jack horizontally mounted	09 35 221 0311		Panel cut out
including housing, bulkhead mounting, with flat seal and printed board Cat. 5 with RJ45 jack and RJ45 jack vertically mounted in the IP 20 range	09 35 223 0311		Panel cut out
including housing, bulkhead mounting, with flat seal and printed board Cat. 5 with RJ45 jack and 47° jack vertically mounted in the IP 20 range	09 35 224 0311		Panel cut out
including housing, bulkhead mounting, with flat seal and bulkhead Cat. 6 with 2 x RJ45 jack horizontally mounted	09 35 225 0311		Panel cut out

Identification

Part number

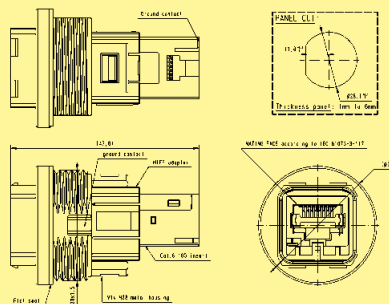
Drawing

Dimensions in mm

Han® PushPull RJ45 Panel feed through

including bulkhead housing for circular panel cut out, flat seal and HARTING RJ Industrial® 10G RJ45 bulkhead, isolated bulkhead fixture

09 35 225 0312

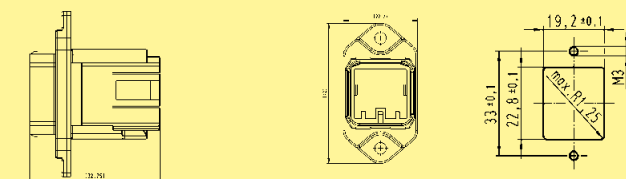


to mount HIFF inserts (e.g. HARTING RJ Industrial® 10G RJ45 coupler or Ha-VIS preLink® RJ45 module)

including bulkhead housing for rectangular panel cut out, incl. plastic adapter

Order inserts separately

09 35 012 0311



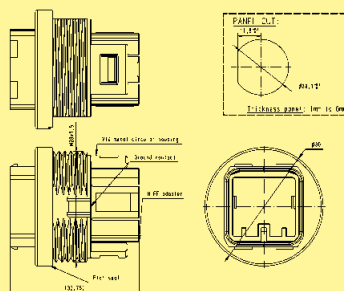
to mount HIFF inserts (e.g. HARTING RJ Industrial® 10G RJ45 coupler or Ha-VIS preLink® RJ45 module)

including bulkhead housing for circular panel cut out, incl. plastic adapter

and fixing nut

Order inserts separately

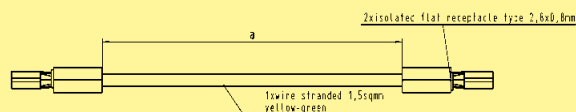
09 35 012 0312



Patch cord 1.5 mm² for potential equalization between RJ45 insert and bulkhead housing

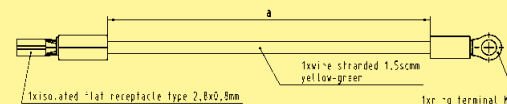
with 2 x flat receptacle

09 45 500 0001



with flat receptacle and ring terminal M3

09 45 500 0002

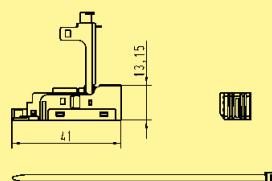


Ha-VIS preLink® Set RJ45 female AWG 22/23

consists of:

- 1x Ha-VIS preLink® module RJ45 female
- 1x Ha-VIS preLink® termination block
- 1x cable clip

20 82 001 0001



Gender Changer



Han® PushPull RJ45
Gender Changer, metal

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	Han® PushPull RJ45 connector
Locking	PushPull technology acc. to IEC/PAS 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Degree of protection	IP 65 / IP 67
Mating cycles	min. 750
Mounting	Surface mounting with 4 screws type M5
Operating temperature range	–20 °C ... +70 °C
Housing material	Aluminium, anodised
Advantages	Extension of Han® PushPull system cable RJ45 Robust design Only one connection according to PROFINET guideline according to IEC 11 801 chapter 10.2.4 AIDA compliant

Identification

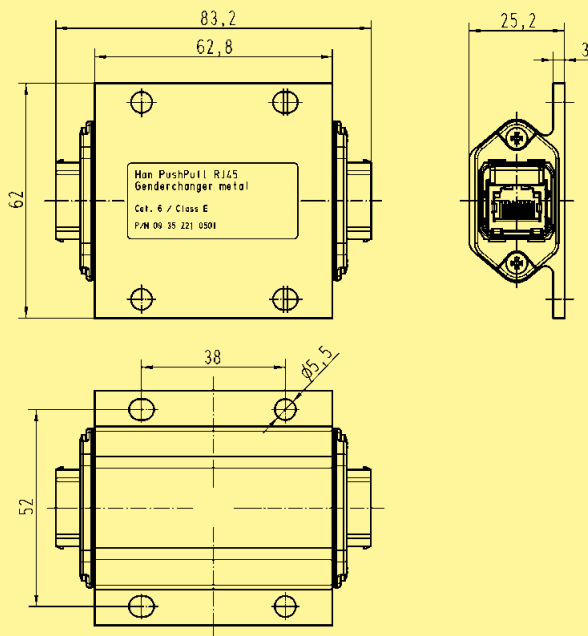
Han® PushPull RJ45
Gender Changer

including housing and
printed board Cat. 6
with 2x RJ45 jack

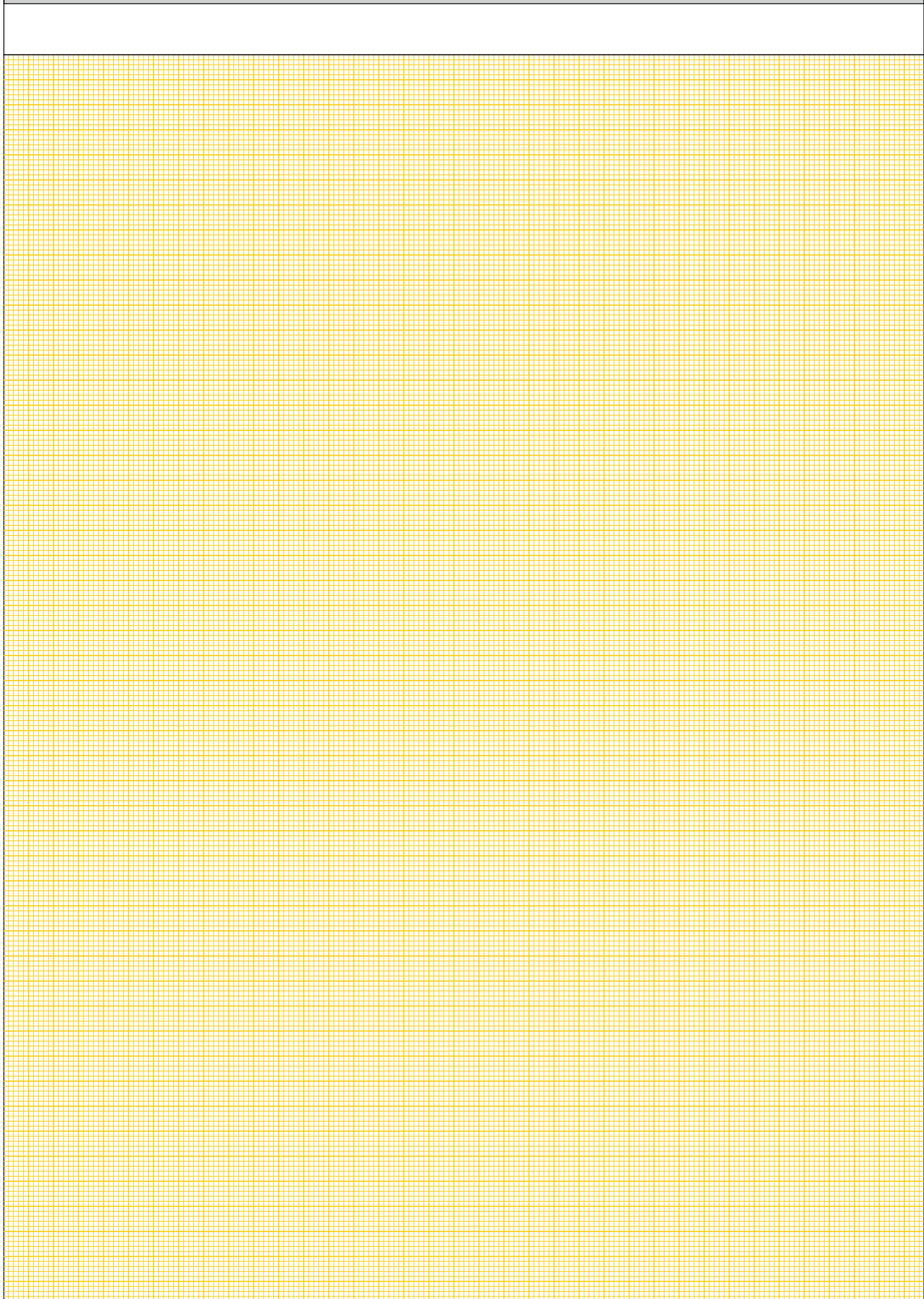
Part number

09 35 221 0501

Drawing



Han®
PushPull



IP 20

RJ45

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

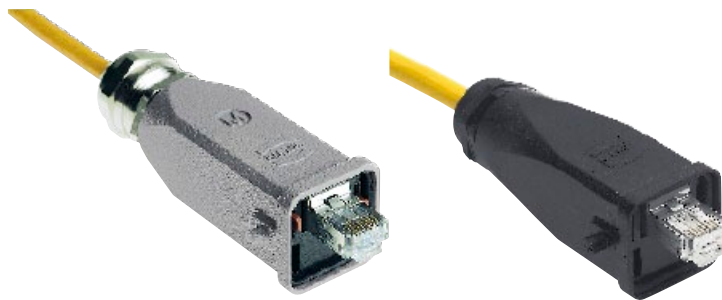
- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Tools

[on page B·2 100]

Connector sets

Han® 3 A RJ45
Connector set, 8-pole
to make up Han® 3 A RJ45 system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	Han® 3 A RJ45 connector
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	Via piercing contacts
Cable options	
– Strand gauge	AWG 28/7 ... AWG 24/7 (stranded)
– Strand diameter	max. 1.05 mm (including insulation)
– Cable sheath diameter	5 ... 9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast
Colour	Black
Advantages	Very robust metal housing Field-assembly connector, Cat. 6, IP 65 / IP 67
Mounting information	If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Connector set, 8-pole Plastic version with White cable manager Blue cable manager Metal version Standard with White cable manager Blue cable manager Metal version M with White cable manager Blue cable manager Set consists of: Han® 3 A housing including RJ45 connector and shielding Cable gland Assembly instructions	09 45 125 1500 09 45 125 1510 09 45 115 1500 09 45 115 1510 09 45 115 1502 09 45 115 1512	mating face according to IEC 60 603-7 Dimensions valid for Metal version Standard	
Protection cover for Han® 3 A connector Plastic version Metal version Standard Metal version M	09 20 003 5442 09 20 003 5422 09 37 003 5402	 Dimensions valid for Plastic version	
HARTING RJ Industrial® Gigalink Mounting tools for HARTING RJ Industrial® Gigalink connectors	09 45 800 0500		

Connector sets

Han® 3 A RJ45 10G
Connector set, 8-pole
to make up Han® 3 A RJ45 system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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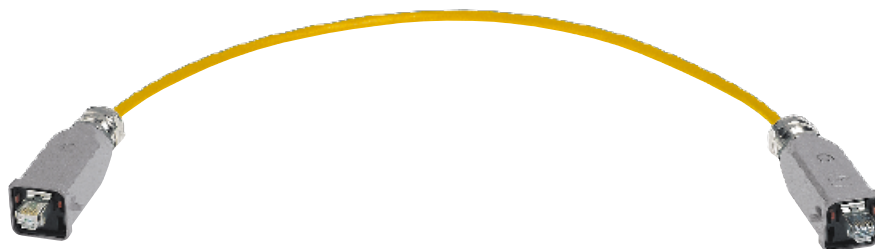
Connector type	Han® 3 A RJ45 connector
Number of contacts	8
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts , tool-less
Cable options	
– Strand gauge	AWG 27 ... AWG 22 (solid, stranded)
– Strand diameter	max. 1.6 mm (including insulation)
– Cable sheath diameter	5 ... 9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey

Advantages

Robust metal housing
Field-assembly connector, IP 65 / IP 67

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 10G Connector set, 8-pole Plastic version Metal version Standard Set consists of: Han® 3 A housing including RJ45 connector and shielding Cable gland Assembly instructions	09 45 125 1560 09 45 115 1560	mating face according to IEC 60 603-7	
Han® 3 A RJ45 10G insert, 8-pole for Han® 3 A hoods	09 45 100 1560	contact 1 contact 8	
Protection cover for Han® 3 A connector Plastic version Metal version Standard Metal version M	09 20 003 5442 09 20 003 5422 09 37 003 5402	Dimensions valid for Plastic version	
Accessories Set of coding pins	09 45 820 0000		

System cables



Han® 3 A RJ45

System cable, 8-wire

RJ45 connector cable Han® 3 A for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	Han® 3 A RJ45
Cable types	4 x 2, Twisted Pair, shielded
Sheath material	PVC / PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C ... +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Yellow
Advantages	Very robust metal housing Han® 3 A for IP 65 / IP 67 Additional locking

Identification	Part number		Drawing	Dimensions in mm
	PVC	PUR		
Han® 3 A RJ45 System cable, 8-wire	Yellow	Yellow		
Length 1.5 m	09 45 715 1523	09 45 715 1563		
Length 3.0 m	09 45 715 1525	09 45 715 1565		
Length 5.0 m	09 45 715 1527	09 45 715 1567		
Length 10.0 m	09 45 715 1551	09 45 715 1572		
Length 20.0 m	09 45 715 1553	09 45 715 1574		

System cables



Han® 3 A RJ45 System cable, 8-wire

RJ45 connector cable Han® 3 A for IP 65 / IP 67 applications to RJ45 (IP 20)

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☒
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Connector types	Han® 3 A RJ45 (IP 65 / IP 67) RJ45 (IP 20)
Cable types	4 x 2, Twisted Pair, shielded
Sheath material	PVC / PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C to +70 °C

Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Yellow

Advantages

Very robust metal housing Han® 3 A for IP 65 / IP 67
Additional locking
Easy change-over from harsh industrial environment
to protected IP 20 environment
Easy handling for all applications

Identification	Part number		Drawing	Dimensions in mm
	PVC	PUR		
Han® 3 A RJ45 System cable, 8-wire IP 65 / IP 67 to IP 20	Yellow	Yellow		
Length 1.5 m	09 45 701 1564	09 45 701 1534		
Length 3.0 m	09 45 701 1566	09 45 701 1536		
Length 5.0 m	09 45 701 1568	09 45 701 1538		
Length 10.0 m	09 45 701 1573	09 45 701 1543		
Length 20.0 m	09 45 701 1575	09 45 701 1545		

Panel feed-throughs



Han® 3 A RJ45

Panel feed-through, 8-poles

RJ45 Panel feed-through for control or distributor cabinets

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (Twisted Pair) (IP 20)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast
Colour	Black
Advantages	Simple mounting RJ45 plug-compatible Various versions cover all applications Coding possible

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Panel feed-through Plastic version straight style angled style Accessories IP 65 / IP 67 protection cover for Panel feed-through	09 45 225 1100 09 45 225 1108 09 20 003 5445	IEC 60603-7 SMC modular jack 12mm height above PCB board Dimensions valid for straight Plastic version	
Han® 3 A RJ45 Panel feed-through Metal version Standard straight style straight style including self-closing protection cap angled style Accessories IP 65 / IP 67 protection cover for Panel feed-through	09 45 215 1100 09 45 215 1103 09 45 215 1108 09 20 003 5425	panel cut out	
Han® 3 A RJ45 Panel feed-through Metal version M straight style angled style Accessories IP 65 / IP 67 protection cover for Panel feed-through	09 45 215 1102 09 45 215 1109 09 37 003 5405	Dimensions valid for Plastic version	
Accessories Set of coding pins	09 45 820 0000		

Panel feed-throughs

Han® 3 A RJ45 10G
Panel feed-through, 8-poles
RJ45 Panel feed-through for control or distributor cabinets



IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination 2 / 1x Han® 3 A RJ45 (IP 65 / IP 67)
1x RJ45 (Twisted Pair) (IP 20)

Transmission performance Category 6 / Class E_A up to 500 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate 10/100 Mbit/s / 1/10 Gbit/s

Shielding Fully shielded, 360° shielding contact

Mounting Screwable to steel plate covers

Dimensions See drawing

Panel cut-out 20 mm x 22 mm

Mounting hole Diameter 3.4 mm

Degree of protection IP 65 / IP 67

Operating temperature range –40 °C ... +70 °C

Plastic version
Housing material Polyamide, UL94 V-0
Colour Black

Metal version Standard
Housing material Zinc, die-cast
Colour Grey

Metal version M
Housing material Zinc, die-cast
Colour Black

Advantages
Simple mounting
RJ45 plug-compatible
Various versions cover all applications
Coding possible

Han® 3 A

Panel feed-throughs

Han® 3 A RJ45
double-coupling, 8-poles
RJ45 double-coupling for control or distributor cabinets



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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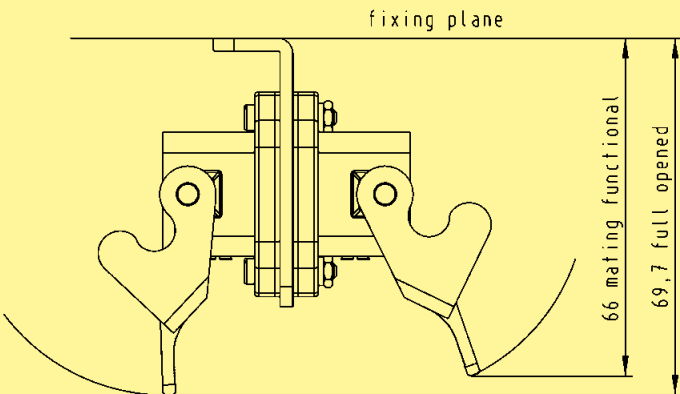
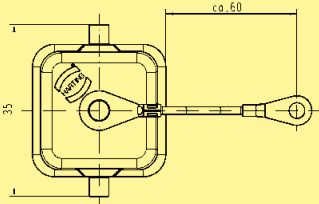
Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C

Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black

Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey

Metal version M	
Housing material	Zinc, die-cast
Colour	Black

Advantages	Simple mounting
	RJ45 plug-compatible
	Various versions cover all applications
	Coding possible

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 double-coupling Plastic version Accessories IP 65 / IP 67 protection cover for Panel feed-through	09 45 225 1107 09 20 003 5445		
Han® 3 A RJ45 double-coupling Metal version Standard Accessories IP 65 / IP 67 protection cover for Panel feed-through	09 45 215 1107 09 20 003 5425	Dimensions valid for Plastic version	
Han® 3 A RJ45 double-coupling Metal version M Accessories IP 65 / IP 67 protection cover for Panel feed-through	09 45 215 1110 09 37 003 5405		
Accessories Set of coding pins	09 45 820 0000		

Distribution modules and Outlets

Han® 3 A RJ45
Metal Outlet, Cat. 6, 8-poles
RJ45 Industrial Outlet for IP 65 / IP 67 environments

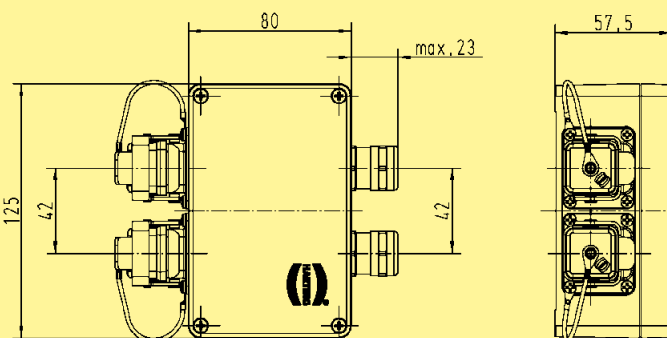


IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 ... 22 (0.5 ... 0.65 mm) solid and stranded
Strand insulation	0.7 ... 1.6 mm
Cable diameter	5 ... 9 mm
Shielding	Fully shielded, 360° shielding contact
Mounting	Wall mounting
Dimensions (H x W x D)	125 x 80 x 57.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–20 °C ... +70 °C
Housing material	Aluminium, die-cast
Colour	Grey RAL 7037

Advantages

Robust metal housing for use in harsh industrial environments
Simple mounting
Lockable Han® 3 A connector ports

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Metal Outlet, Cat. 6 consisting of: 2-port metal housing with protection caps and cable glands 2x RJ45 female module, Cat. 6 Assembly instructions	20 79 302 0922		

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Advantages	Robust metal housing for use in harsh industrial environments Simple mounting Cable feeding optionally from the left or from the right side Lockable Han® 3 A connector ports
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Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Metal Outlet, Cat. 5 consisting of: 2-port metal housing with protection caps, cable glands and blanking plug PCB module with LSA-PLUS strips Label Assembly instructions	09 45 815 1100		

IP 20

RJ45

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
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Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
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har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

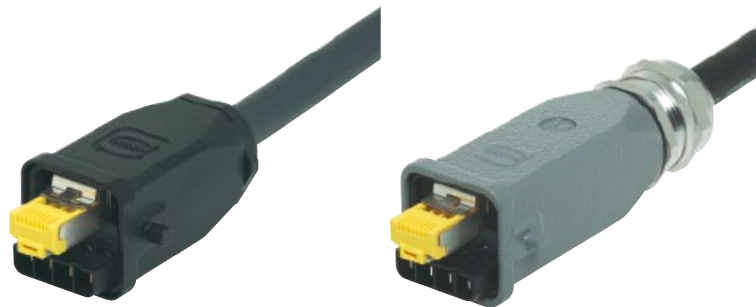
Tools

[on page B·2 100]

Connector sets

Han® 3 A RJ45 Hybrid 10G
Connector set, 8-pole

to make up Han® 3 A RJ45 Hybrid system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	Han® 3 A RJ45 Hybrid connector
Number of contacts	8x RJ45 + 4x power contacts (up to max. 48 V / 16 A)
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts , tool-less
Cable options	Hybrid cable, (4 x 2 data + 4x power)
– Strand gauge (data)	AWG 27 ... AWG 22 (solid / stranded)
– Strand gauge (power)	1.5 mm ² (stranded)
– Strand diameter (data)	max. 1.6 mm
– Strand diameter (power)	max. 2.6 mm
– Cable sheath diameter	10 ... 11 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide and polycarbonate, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast
Colour	Black
Advantages	Tool-less fast termination technique via IDC contacts Field-assembly connector PROFINET compliant

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 Hybrid Connector set, 8-pole Plastic version Metal version Standard Set consists of: Han® 3 A housing including RJ45 Hybrid connector and shielding Cable gland Assembly instructions	09 45 125 1760 09 45 115 1760	① ... mating face according to IEC 60 603-7	
Han® 3 A RJ45 Hybrid Connector set, 8-pole for Han® 3 A hoods and housings	09 45 100 1760		
Protection cover for Han® 3 A connector Plastic version Metal version Standard	09 20 003 5442 09 20 003 5422	Dimensions valid for Plastic version	

System cables



Han® 3 A RJ45 Hybrid

System cable, 8-wire, Outdoor, plastic

RJ45 Hybrid connector cable Han® 3 A plastic for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	Han® 3 A RJ45 Hybrid, plastic
Cable types	4 x 2, Twisted Pair, shielded + 4 power cores
Sheath material	PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C ... +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Black
Advantages	Robust plastic housing Han® 3 A for IP 65 / IP 67 Easy handling for applications with additional power supply

Identification	Part number PUR	Drawing	Dimensions in mm
Han® 3 A RJ45 Hybrid System cable, 8-wire Outdoor	Black		
Length 1.5 m	09 45 725 1503		
Length 3.0 m	09 45 725 1505		
Length 5.0 m	09 45 725 1507		
Length 10.0 m	09 45 725 1512		
Length 20.0 m	09 45 725 1514		

System cables



Han® 3 A RJ45 Hybrid
 System cable, 8-wire, Outdoor, metal
 RJ45 Hybrid connector cable Han® 3 A metal for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	Han® 3 A RJ45 Hybrid, metal
Cable types	4 x 2, Twisted Pair, shielded + 4 power cores
Sheath material	PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–10 °C to +70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Colour	Black
Advantages	Robust metal housing Han® 3 A for IP 65 / IP 67 Easy handling for applications with additional power supply

Identification	Part number PUR	Drawing	Dimensions in mm
Han® 3 A RJ45 Hybrid System cable, 8-wire Outdoor	Black		
Length 1.5 m	09 45 725 1533		
Length 3.0 m	09 45 725 1535		
Length 5.0 m	09 45 725 1537		
Length 10.0 m	09 45 725 1542		
Length 20.0 m	09 45 725 1544		

Panel feed-throughs

Han® 3 A RJ45 Hybrid Panel feed-through, 8-poles

RJ45 Hybrid Panel feed-through for control or distributor cabinets



IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (Twisted Pair) (IP 20)
Termination power supply	4 contacts in the Han® 3 A RJ45 Hybrid connector 4 contacts for power supply via cage-clamp terminal up to 48 V, 16 A
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Mounting	Screwable to steel plate covers
Dimensions	See drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast
Colour	Black
Advantages	Simple mounting RJ45 plug-compatible Additional power supply via hybrid cable Coding possible

Han® 3 A RJ45 Hybrid

Cables



Industrial Cat. 6 Hybrid
Installation cable, 8-wire

IP 20	☒	IP 65 / IP 67	☒	FRNC	Cat. 5	☐	Cat. 6	☒
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Cable structure	4 x 2, Twisted Pair, shielded, PIMF 4 power cores
Core structure	4 x 2 x AWG 28/7, stranded 4x 84 * 0.15 mm (cord 1.5 mm²), stranded
Sheath material	PUR
Cable sheath diameter	10 ... 10.6 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Paired shielded with additional cable shield
Operating temperature range	-20 °C ... +80 °C

Supply lengths	20 m / 50 m / 100 m other lengths on request
Colour	Black

Advantages

Robust design suitable for industry
Additional power supply
Halogen free
RoHS compliant
UV proof
Outdoor capable

Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 6 Hybrid
installation cable, 8-wire
PUR

20 m ring
50 m ring
100 m drum

09 45 600 0332
09 45 600 0342
09 45 600 0302



IP 20**RJ45**

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Tools

[on page B·2 100]

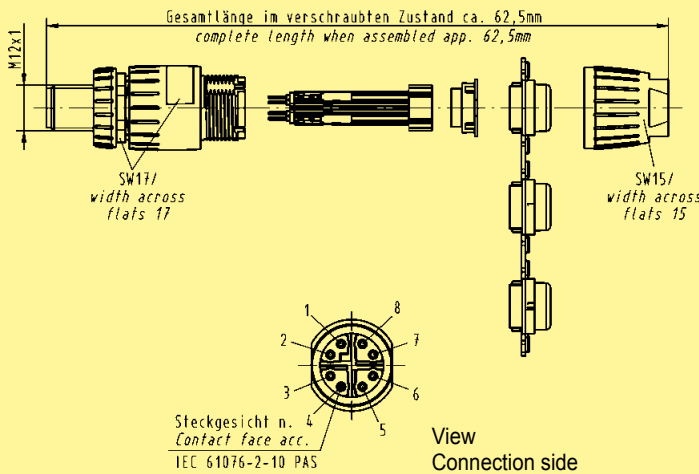
Connector sets

har-speed M12
Connector, 8-pole
to make up *har-speed* M12 system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	<i>har-speed</i> M12 connector X coding acc. to IEC 61076-2-109
Number of contacts	8
Transmission performance	Category 6 _A / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Wire termination	Via crimp contacts
Cable options	
– Strand gauge	AWG 28 ... AWG 24 (stranded)
– Strand diameter	max. 1.05 mm (including insulation)
– Cable sheath diameter	4.5 ... 8.8 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +85 °C
Housing material	Metal
Advantages	Very robust metal housing M12 with degree of protection IP 65 / IP 67 Vibration proof crimp connection Maximum data rates through the configuration of the contacts in conformance with Ethernet technology Minimal interaction and perfect shielding through paired shielding of the contacts Fault proof connection through coding of the connector face. A connection error with other 8-pole M12's is impossible PROFINET compliant Type X mating face

Identification	Part number	Drawing	Dimensions in mm
har-speed M12 connector, 8-pole, male straight style	21 03 881 5805		
Crimp contacts, male	21 01 100 9014		
Crimping tool	09 99 000 0501		
Locator	09 99 000 0525		

System cables

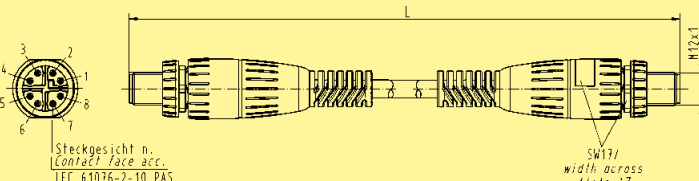
*har-speed* M12

System cable, 8-wire

har-speed M12 connector cable for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	<i>har-speed</i> M12 connector X coding acc. to IEC 61076-2-109
Cable types	4 x 2, Twisted Pair, shielded
Sheath material	PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 _A / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Operating temperature range	–40 °C ... +70 °C
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 2.5 m other lengths available on request
Colour	Yellow
Advantages	Very robust metal housing M12 with degree of protection IP 65 / IP 67 Vibration proof crimp connection Maximum data rates through the configuration of the contacts in conformance with Ethernet technology Minimal interaction and perfect shielding through paired shielding of the contacts Fault proof connection through coding of the connector face. A connection error with other 8-pole M12's is impossible PROFINET compliant Type X mating face

Identification	Part number PUR	Drawing	Dimensions in mm
<i>har-speed</i> M12 system cable, 8-wire Length 0.5 m Length 1.0 m Length 1.5 m Length 2.0 m Length 2.5 m	Yellow 21 03 483 5850 21 03 483 5801 21 03 483 5851 21 03 483 5802 21 03 483 5852		

IP 20**RJ45**

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Tools

[on page B·2 100]

Connector sets

Han-Max® RJ45
Connector set, 8-pole
 to make up Han-Max® RJ45 system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	Bayonet connector RJ45 acc. to IEC 24 702
Number of contacts	8
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Fully shielded, 360° shielding contact or unshielded
Mounting	Field-assembly
Wire termination	Via piercing contacts
Cable options	
– Strand gauge	AWG 26 ... AWG 24 (stranded)
– Strand diameter	max. 1.0 mm (including isolation)
– Cable sheath diameter	4 ... 8 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–25 °C ... +80 °C
Housing material	Zinc, die-cast, nickel-plated
Colour	Metal

Advantages	Very robust IP 65 / IP 67 connector with bayonet nut Field-assembly connector, Cat. 5, IP 65 / IP 67 Shielded or unshielded
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Identification	Part number	Drawing	Dimensions in mm
Han-Max® RJ45 connector set , 8-pole STP UTP Set consists of: Bayonet housing including RJ45 connector Cable gland Assembly instructions	09 15 300 0402 09 15 300 0401		
Protection cover for Han-Max® connector	09 15 300 5401		

Connector sets

Han-Max® RJ45 10G
Connector set, 8-pole
to make up Han-Max® RJ45 system cables



IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	Bayonet connector RJ45 acc. to IEC 24 702
Number of contacts	8
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s / 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Field-assembly
Wire termination	Via IDC contacts, tool-less
Cable options	
– Strand gauge	AWG 27 ... AWG 22 (solid / stranded)
– Strand diameter	max. 1.6 mm (including isolation)
– Cable sheath diameter	4 ... 8 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	–40 °C ... +70 °C
Housing material	Zinc, die-cast, nickel-plated
Colour	Metal
Advantages	Very robust IP 65 / IP 67 connector with bayonet nut Field-assembly connector, IP 65 / IP 67

Identification	Part number	Drawing	Dimensions in mm
Han-Max® RJ45 10G connector set, 8-pole Set consists of: Bayonet housing including RJ45 connector Cable gland Assembly instructions	09 15 300 0431	Im verschraubten Zustand montiert mit RJ-CAT 6 8polig ca. 68mm <i>complete length when assembled with RJ-CAT 6 8pole app. 68mm</i>	
Protection cover for Han-Max® connector	09 15 300 5401		

Panel feed-throughs

Han-Max® RJ45 Panel feed-through

RJ45 Panel feed-through for control or distributor cabinets



IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination 1x RJ45 (IP 65 / IP 67) on LSA-PLUS IDC terminal (IP 20)
1x RJ45 Bayonet (IP 65 / IP 67)

Transmission performance Category 5 / Class D up to 100 MHz
according to ISO/IEC 11 801:2002, EN 50 173-1

Transmission rate 10/100/1000 Mbit/s

Shielding Fully shielded, 360° shielding contact
or unshielded

Mounting Screwable to steel plate covers

Wire termination Via IDC contacts, tool-less

Cable options
– Strand gauge AWG 24 ... AWG 22 (solid / stranded)

Dimensions See drawing

Panel cut-out See drawing

Mounting hole Diameter 27 mm

Degree of protection IP 65 / IP 67

Operating temperature range –25 °C ... +85 °C

Housing material Zinc, die-cast, nickel-plated

Colour Metal

Advantages Solid metal interface IP 65 / IP 67
with bayonet nut
Shielded or unshielded

Han- Max[®]

IP 20

RJ45

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Tools

[on page B·2 100]

Cables



Industrial Cat. 6_A cable, stranded, 8-wire, PVC
to make up flexible connections
(one- or two-sided assembled system cables)

IP 20	☒	IP 65 / IP 67	☒	PVC	Cat. 5	☐	Cat. 6 _A	☒
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Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	4 x 2 x AWG 26/7, tinned copper wire
Wire insulation	PE, Ø 1.05 mm
Sheath material	PVC
Cable sheath diameter	6.3 mm ... 6.9 mm
Transmission performance	Category 6 _A / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s, 10 Gbit/s
Shielding	Paired shielded with additional cable shield
Operating temperature range	–20 °C ... +80 °C

Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Yellow

Advantages

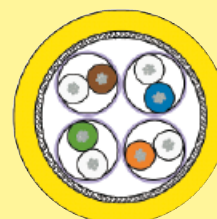
Robust design suitable for industry
Optimal performance reserves
 UL, AWM style 20 276
Flame retardant
RoHS compliant
Best usable for all 8-wire HARTING RJ45 connectors

Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 6_A cable, stranded,
8-wire
PVC

20 m ring
50 m ring
100 m ring
500 m drum

09 45 600 0532
09 45 600 0542
09 45 600 0502
09 45 600 0522



Cables



Industrial Cat. 6_A cable, stranded, 8-wire, PUR

to make up flexible connections
(one- or two-sided assembled system cables)

IP 20	☒	IP 65 / IP 67	☒	PUR	Cat. 5	☐	Cat. 6 _A	☒
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Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	4 x 2 x AWG 26/7, tinned copper wire
Wire insulation	PE, Ø 1.05 mm
Sheath material	PUR
Cable sheath diameter	6.3 mm ... 6.9 mm
Transmission performance	Category 6 _A / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s, 10 Gbit/s
Shielding	Paired shielded with additional cable shield
Operating temperature range	–40 °C ... +80 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Yellow

Advantages

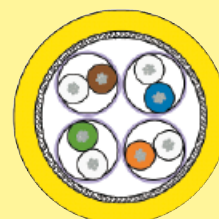
Robust design suitable for industry
Optimal performance reserves
Halogen free
RoHS compliant
Flame retardant sheath material

Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 6_A cable, stranded,
8-wire
PUR

20 m ring
50 m ring
100 m ring
500 m drum

09 45 600 0630
09 45 600 0640
09 45 600 0600
09 45 600 0620



Cables



Industrial Cat. 6_A cable, stranded, 8-wire, PVC, Outdoor
to make up flexible connections
(one- or two-sided assembled system cables)

IP 20	☒	IP 65 / IP 67	☒	PVC	Cat. 5	☐	Cat. 6 _A	☒
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Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	4 x 2 x AWG 26/7, tinned copper wire
Wire insulation	PE, Ø 1.05 mm
Sheath material	PVC
Cable sheath diameter	6.3 mm ... 6.9 mm
Transmission performance	Category 6 _A / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s, 10 Gbit/s
Shielding	Paired shielded with additional cable shield
Operating temperature range	–20 °C ... +80 °C

Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black

Advantages

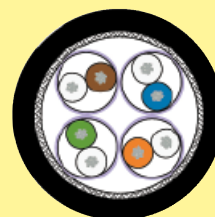
Robust design suitable for industry
Optimal performance reserves
Usable for outdoor applications
UV proof
RoHS compliant
UL, AWM style 20 276

Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 6_A stranded cable,
8-wire, Outdoor
PVC

20 m ring
50 m ring
100 m ring
500 m drum

09 45 600 0531
09 45 600 0541
09 45 600 0501
09 45 600 0521



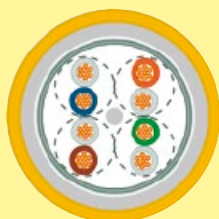
Cables



Industrial Cat. 5 cable, stranded, 8-wire, PUR
to make up flexible connections
(one- or two-sided assembled system cables)

IP 20	☒	IP 65 / IP 67	☒	PUR	Cat. 5	☒	Cat. 6	☐
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Cable structure	4 x 2, Twisted Pair, shielded
Core structure	4 x 2 x AWG 26/7, tinned copper wire
Wire insulation	PE, Ø 1.0 mm
Sheath material	PUR
Cable sheath diameter	6.5 ... 6.9 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Foil screen and additional plaited cable
Operating temperature range	–10 °C ... +60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Yellow
Advantages	Robust design suitable for industry Halogen free UL, AWM style 21 586 Flame retardant Oil proof RoHS compliant With Fast Connect inside sheath

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 5 stranded cable, 8-wire PUR 20 m ring 50 m ring 100 m ring 500 m drum	09 45 600 0430 09 45 600 0440 09 45 600 0400 09 45 600 0420		

Cables



Industrial Cat. 5 high flexible cable, 8-wire, PUR trailing

IP 20	☒	IP 65 / IP 67	☒	FRNC	Cat. 5	☒	Cat. 6	☐
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Cable structure	4 x 2, Twisted Pair, shielded
Core structure	4 x 2 x AWG 26/19, tinned copper wire
Wire insulation	PE, Ø 1.0 mm
Sheath material	PUR
Cable sheath diameter	6.8 mm
Transmission performance	Category 5 / 5e / Class D up to 100 MHz according to EN 50288-2-2:2004, IEC 61 156-6:2002
Transmission rate	10/100/1000 Mbit/s
Shielding	Paired shielded with additional cable shield
Operating temperature range	
- fix operation	-40 °C ... +85 °C
- flexible operation	0 °C ... +50 °C
Bending cycles	5 million
Supply lengths	20 m / 50 m / 100 m / 500 m
Colour	Yellow

Advantages

Robust design suitable for industry
 Usable as trailing cables in drag chains and fit for torsion strength
 Usable for transfer rate up to 1 Gigabit Ethernet
 Halogen free
 Flame retardant
 Free silicone oil
 RoHS compliant

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

Industrial Cat. 5 / 5e
 installation cable, 8-wire
 PUR

20 m ring
 50 m ring
 100 m ring
 500 m drum

09 45 600 0136
 09 45 600 0146
 09 45 600 0106
 09 45 600 0156



Cables



Industrial Cat. 5 stranded cable, 8-wire, PVC, Outdoor
to make up flexible connections
(one- or two-sided assembled system cables)

IP 20	☒	IP 65 / IP 67	☒	PVC	Cat. 5	☒	Cat. 6	☐
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Cable structure	4 x 2, Twisted Pair, shielded
Core structure	4 x 2 x AWG 26/7, tinned copper wire
Wire insulation	PE, Ø 1.0 mm
Sheath material	PVC
Cable sheath diameter	6.5 ... 6.9 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Foil screen and additional plaited cable
Operating temperature range	–10 °C ... +60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black

Advantages

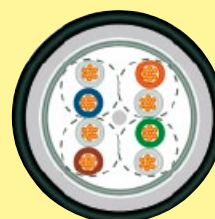
Robust design suitable for industry
Applicable also for outside applications
UL, AWM style 2969
Flame retardant
Weather proof
UV resistant
RoHS compliant
With Fast Connect inside sheath

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

Industrial Cat. 5 stranded cable,
8-wire, outdoor
PVC

20 m ring
50 m ring
100 m ring
500 m drum

09 45 600 0230
09 45 600 0240
09 45 600 0200
09 45 600 0220

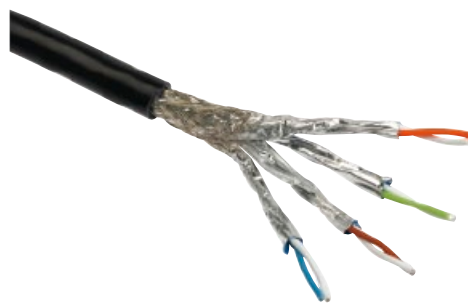


Cables

Ha-VIS EtherRail®

flexible data cable, Cat. 7, 8-wire

for installation within and outside rail vehicles and buses



IP 20	☒	IP 65 / IP 67	☒	Elastomer	Cat. 5	☒	Cat. 7	☐
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Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	4 x 2 x AWG 24/7, tinned copper wire
Wire insulation	PE, Ø 1.55 mm
Sheath material	Elastomer, electron beam, cross-linked
Cable sheath diameter	(8.8 +/- 0.2) mm
Transmission performance	Category 7 / Class D, E, E _A , F up to 600 MHz according to ISO/IEC 11 801 and EN 50 173-1
Transmission rate	1/10 Gbit/s
Shielding	Paired shielded with additional cable shield
Operating temperature range	-40 °C ... +90 °C

Supply lengths	100 m / 500 m / 1000 m
Colour	Black

Advantages

Transmission of Gigabit and 10 Gigabit Ethernet acc. IEEE 802.3 and multimedia services

For installation within and outside rail vehicles and buses

Fire protection acc. EN 45 545-1, -2 and -5, flame retardant and heat resistant acc. DIN 5510 (1-4) and EN 50 264-1

UV resistant, RoHS conform, halogen free LSZH

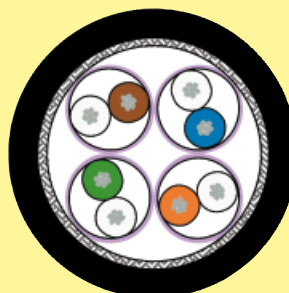
Designed to be compatible with products from HARTING like *har-speed* M12 Crimp and Han® GigaBit module.

Identification	Part number	Drawing	Dimensions in mm
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Ha-VIS EtherRail®
flexible data cable, PIMF
4x2xAWG24/7, Cat. 7

10 m ring
100 m ring
500 m reel
1000 m reel

09 45 600 0964
09 45 600 0692
09 45 600 0691
09 45 600 0690



Cables



Industrial Cat. 7 cable, 8-wire, PUR

IP 20	☒	IP 65 / IP 67	☒	PUR	Cat. 5	☒	Cat. 7	☐
-------	-------------------------------------	---------------	-------------------------------------	-----	--------	-------------------------------------	--------	--------------------------

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	4 x 2 x AWG 23/1, solid copper wire
Wire insulation	PE, Ø 1.4 mm
Sheath material	PUR Elastomer
Cable sheath diameter	8.3 mm
Transmission performance	Category 7 / Class F up to 600 MHz according to ISO/IEC 11 801 and EN 50 173-1
Transmission rate	1/10 Gbit/s
Shielding	Paired shielded with additional cable shield
Operating temperature range	
- fix operation	-40 °C ... +70 °C
- flexible operation	-10 °C ... +50 °C
Supply lengths	100 m / 500 m / 1000 m
Colour	Yellow
Advantages	Robust design suitable for industry Transmission of Gigabit and 10 Gigabit Ethernet acc. IEEE 802.3 and multimedia services Flame retardant Oil retardant RoHS conform Halogen free

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

Industrial Cat. 5 / 5e installation cable, 8-wire PUR			
100 m ring 500 m reel 1000 m reel	09 45 600 0651 09 45 600 0650 09 45 600 0660		

IP 20**RJ45**

- Connectors [on page B·2 8]
- System cables [on page B·2 12]
- Distribution modules and Outlets [on page B·2 19]

IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·2 22]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 32]

Han® PushPull

- Connectors [on page B·2 34]
- System cables [on page B·2 42]
- Panel feed-throughs / Gender Changer [on page B·2 44]

Han® 3 A

- Connectors [on page B·2 54]
- System cables [on page B·2 58]
- Panel feed-throughs [on page B·2 60]
- Distribution modules and Outlets [on page B·2 66]

Han® 3 A RJ45 Hybrid

- Connectors [on page B·2 70]
- System cables [on page B·2 72]
- Panel feed-throughs [on page B·2 74]
- Cables [on page B·2 76]

har-speed M12

- Connectors [on page B·2 78]
- System cables [on page B·2 80]

Han-Max®

- Connectors [on page B·2 82]
- Panel feed-throughs [on page B·2 86]

Cables

- Industrial Cat. 6_A [on page B·2 90]
- Industrial Cat. 5 [on page B·2 93]
- Industrial Cat. 7 [on page B·2 96]

Tools

[on page B·2 100]

Identification	Part number	
HARTING RJ Industrial® Stripping Tool Stripping tool for Ethernet cables including blade cassette Spare blade cassette	09 45 800 0000 09 45 800 0001	 The RJ Industrial Stripping Tool is ready to remove insulation from cables for fast mounting with diameters from 2.5 ... 8 mm quick and easy. It allows to remove cable sheath and shielding braid in one.
Stripping tool	09 45 800 0002	
HARTING RJ Industrial® LSA-Punch Down Tool	09 45 800 0020	 The LSA-Punch Down Tool is used to wire RJ45 Industrial Metal Outlets (part no. 09 45 815 1100). The various conductors are cut to length and inserted into the insulation displacement contacts in a single pass.
HARTING RJ Industrial® Gigalink Mounting tools for HARTING RJ Industrial® Gigalink connectors	09 45 800 0500	 With the RJ Industrial Gigalink Assembly Tool Ethernet connectors can be quickly, easily and reliably connected to flexible cables.
Wire cutter	09 45 800 0005	
Cable shear	09 45 800 0004	

IP 20**Ha-VIS preLink®**

- Connectors [on page B·3 6]
- System cables [on page B·3 10]
- Distribution modules and Outlets [on page B·3 14]

Ha-VIS preLink®
IP 20**IP 65 / IP 67****Ha-VIS preLink®**

- Outlets [on page B·3 20]
- Hoods/Housings components [on page B·3 21]

Tools and Accessories

[on page B·3 24]

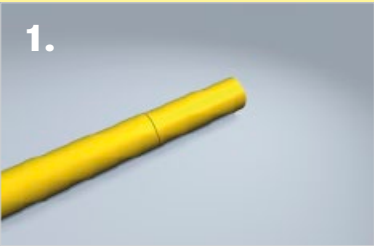
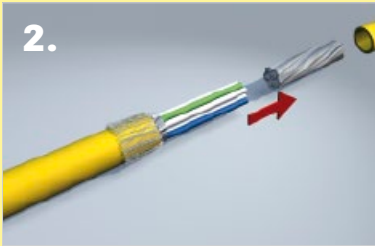
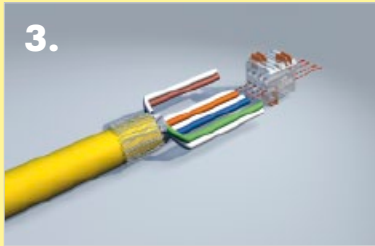
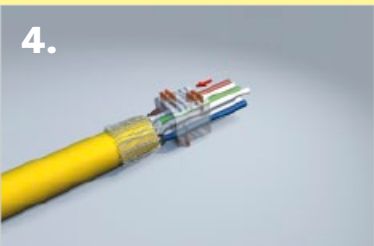
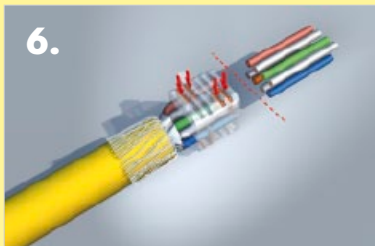
Ha-VIS preLink®
IP 65 / IP 67
Tools
Accessories

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Connector sets	
Ha-VIS preLink® RJ45 HIFF	B-3 6
Ha-VIS preLink® RJ45 Keystone	B-3 8
System cables	
Ha-VIS preLink® Patch cable, 8-wire, termination block, second side open	B-3 10
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Ha-VIS preLink® Patch cable, 8-wire, termination block, to RJ45 (IP 20)	B-3 12
Distribution modules and Outlets	
Ha-VIS preLink® 19" Patch panel	B-3 14
Ha-VIS preLink® HIFF RJ45 AP Box	B-3 16
Cabling IP 65 / IP 67	
Outlets	
Ha-VIS preLink® Outlet RJ45	B-3 20
Hoods/Housings components	
Han® 3 A RJ45 HIFF Adapter	B-3 21
Han® PushPull variant 14	B-3 21
HARTING PushPull variant 4	B-3 21
Tools and Accessories	
Ha-VIS preLink® tools	B-3 24

Introduction and Features

HARTING's preLink® cabling system presents you with a completely new concept for data network cabling. The central point is the structural separation of the cable connection from the plug-in connector. The data cable is initially only provided with a cable termination as a part of this innovative assembly technology. The cable termination is similar in principle to a wire-end ferrule, and passes the HF performance of the cable to the connector module.

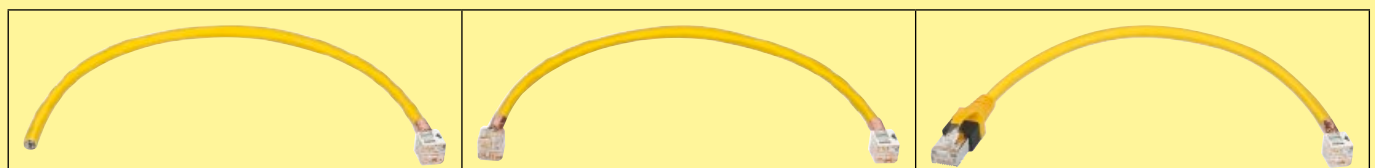
The connection between the termination block and the individual wires of the cable is done using insulation displacement connection and is therefore stable in the long-term and vibration-proof. The block's compact design only minimally increases the diameter of the cable, so that the assembled cable can be pulled through the narrowest cable duct. This means that a defined and checkable data transmission route is created, the link before the link – the Ha-VIS preLink®.

 1. Strip cable back about 5 cm.	 2. Shorten braided shielding and fold back over the cable. Remove foil shielding.	 3. Untwist the pairs and arrange the wires by colour code.
 4. Observing the colour coding, insert the wires into the Ha-VIS preLink® cable terminal and push the terminal back to the cable sheath.	 5. Position the Ha-VIS preLink® installation tool and press until fully closed.	 6. The installation tool securely presses all eight IDC contacts into the final position and also cuts the wire ends to the correct length. Assembly of the Ha-VIS preLink® cable termination is complete.

Assembling the termination block

The pre-assembled cable link can be combined with a suitable module in this application in a plug or socket design to form a single unit. This creates either a Permanent Link (in accordance with ISO/IEC 11 801 (EN 50 173)) or an end-to-end link (PROFINET).

As it is possible to exchange the data modules, there is the greatest possible flexibility for the user and the link is future-proof. Other advantages such as safety and economy result from the use of pre-assembled system cabling and cable links as well as the use of coordinated installation materials like patch panels, junction boxes and housing components.



Assembled system cables

Introduction and Features

Features:

Mating profile	RJ45 according to IEC 60 603-7
No. of contacts	8
Transmission characteristics	Category 6, suitable for Class E _A
Cable diameter	5 mm ... 9 mm
Wire cross-section	AWG 22 ... AWG 27, depending on termination block, solid or stranded
Single wire diameter	1.0 mm ... 1.6 mm, depending on termination block
Degree of protection	IP 20 IP 65 / IP 67 with suitable housing (Han® 3 A, Han® PushPull, HARTING PushPull)
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Material	Zinc die-cast, nickel-plated

IP 20**Ha-VIS preLink®**

- Connectors [on page B·3 6]
- System cables [on page B·3 10]
- Distribution modules and Outlets [on page B·3 14]

IP 65 / IP 67**Ha-VIS preLink®**

- Outlets [on page B·3 20]
- Hoods/Housings components [on page B·3 21]

Tools and Accessories

[on page B·3 24]

Connector sets



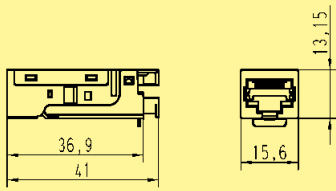
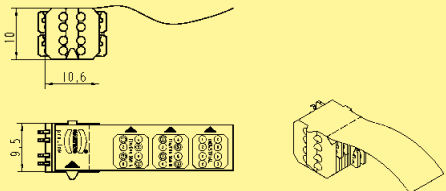
Ha-VIS preLink®
RJ45 HIFF

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Shielding	Fully shielded, 360° shielding contact

Mounting	Field-assembly possible
Wire termination	Via Ha-VIS preLink® terminal module
Cable options	
– Strand gauge	0.25 mm² ... 0.34 mm²
– Strand diameter	AWG 22 ... AWG 24 (stranded and solid)
– Cable sheath diameter	1.3 mm ... 1.6 mm (including isolation)
Degree of protection	IP 20
Operating temperature range	–40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Advantages	Small size, suitable for hoods and housings of series Han® 3 A, Han® PushPull variant 14 and HARTING PushPull RJ45 connectors variant 4 Consistent connection technology in the cabling system Quick and easy assembling of data cables
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Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® set RJ45 jack AWG 22/23 Set consists of: • 1x RJ45 module • 1x terminal module • 1x cable tie	20 82 001 0001		
Ha-VIS preLink® module RJ45 jack	20 82 000 0002		
Ha-VIS preLink® terminal module AWG 22/23 Contact block with IDC termination	20 82 000 0001		

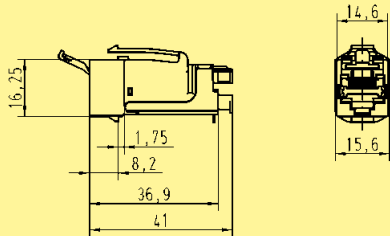
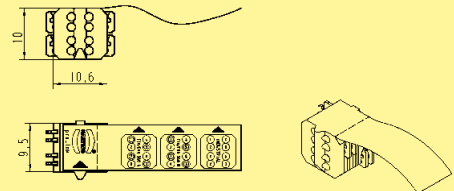
Connector sets



Ha-VIS preLink®
RJ45 Keystone

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	RJ45 connector acc. to IEC 60 603-7								
Number of contacts	8								
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1								
Transmission rate	up to 10 Gbit/s								
Shielding	Fully shielded, 360° shielding contact								
Mounting	Field-assembly possible								
Wire termination	Via Ha-VIS preLink® terminal module								
Cable options									
– Strand gauge	0.25 mm ² ... 0.34 mm ²								
– Strand diameter	AWG 22 ... AWG 24 (stranded and solid)								
– Cable sheath diameter	1.3 mm ... 1.6 mm (including isolation)								
Degree of protection	IP 20								
Operating temperature range	–40 °C ... +70 °C								
Housing material	Zinc die-cast, nickel-plated								
Advantages	Simple, fast and reliable connection of data cables Integrated dust protection cover, removable Structured cabling for industrial premises For panel cut-outs according to EN 60 603-7 (Keystone holding fixture)								

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® set RJ45 jack AWG 22/23 Keystone Set consists of: • 1x RJ45 module, Keystone jack • 1x terminal module • 1x cable tie	20 82 501 0001		
Ha-VIS preLink® module RJ45 jack, Keystone	20 82 500 0001		
Ha-VIS preLink® terminal module AWG 22/23 Contact block with IDC termination	20 82 000 0001		

System cables



Ha-VIS preLink® Patch cables

terminal module to one side, secured by protection cap

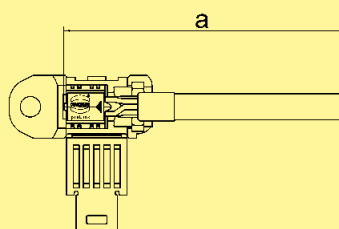
IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector types	1x terminal module, secured by protection cap second side open
Cable types	4 x 2 AWG 27/7, shielded, S/FTP Cat. 7
Sheath material	PUR
Wiring	TIA/EIA 568B, 1:1
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Shielding	Copper braid, tinned
Operating temperature range	
fixed operation	-35 °C ... +70 °C
flexible operation	-5 °C ... +50 °C
Standard lengths	0.2 m / 0.4 m / 0.6 m / 0.8 m / 1 m / 2 m / 3 m / 4 m / 5 m / 10 m other lengths available on request
Colour	Yellow
Advantages	Pre-assembled system cable, fast, flexible and reliable in the application Simple in handling Robust in design Installation of Ha-VIS preLink® cables for industrial environment Connection cable for control or distributor cabinets or within controllers

Identification	Part number	Drawing	Dimensions in mm
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Ha-VIS preLink® Patch cable

		Yellow
Length	0.2 m	20 82 600 1002
Length	0.4 m	20 82 600 1004
Length	0.6 m	20 82 600 1006
Length	0.8 m	20 82 600 1008
Length	1.0 m	20 82 600 1010
Length	2.0 m	20 82 600 1020
Length	3.0 m	20 82 600 1030
Length	4.0 m	20 82 600 1040
Length	5.0 m	20 82 600 1050
Length	10.0 m	20 82 600 1100



System cables



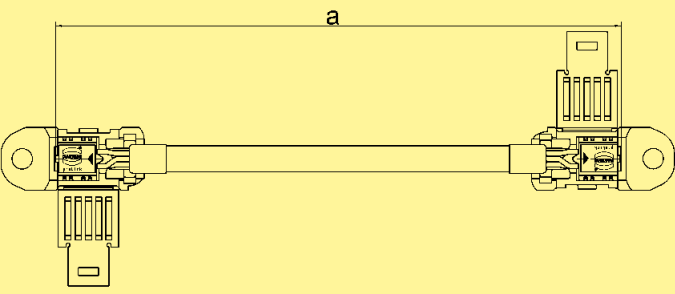
Ha-VIS preLink® Patch cables

terminal module to both sides, secured by protection cap

Ha-VIS preLink®
IP 20

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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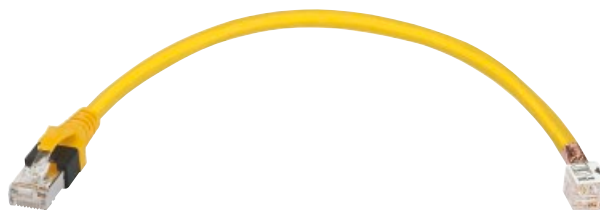
Connector types	terminal module, secured by protection cap	
Cable types	4 x 2 AWG 27/7, shielded, S/FTP Cat. 7	
Sheath material	PUR	
Wiring	TIA/EIA 568B, 1:1	
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1	
Transmission rate	up to 10 Gbit/s	
Shielding	Copper braid, tinned	
Operating temperature range		
fixed operation	-35 °C ... +70 °C	
flexible operation	-5 °C ... +50 °C	
Standard lengths	0.2 m / 0.4 m / 0.6 m / 0.8 m / 1 m / 2 m / 3 m / 4 m / 5 m / 10 m other lengths available on request	
Colour	Yellow	
Advantages	Pre-assembled system cable, fast, flexible and reliable in the application Simple in handling Robust in design Installation of Ha-VIS preLink® cables for industrial environment Connection cable for control or distributor cabinets or within controllers	

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® Patch cable			
	Yellow		
Length 0.2 m	20 82 600 2002		
Length 0.4 m	20 82 600 2004		
Length 0.6 m	20 82 600 2006		
Length 0.8 m	20 82 600 2008		
Length 1.0 m	20 82 600 2010		
Length 2.0 m	20 82 600 2020		
Length 3.0 m	20 82 600 2030		
Length 4.0 m	20 82 600 2040		
Length 5.0 m	20 82 600 2050		
Length 10.0 m	20 82 600 2100		

System cables

Ha-VIS preLink® Patch cables

Side 1 with terminal module, secured by protection cap
Side 2 RJ45 overmoulded, with locking lever protection



IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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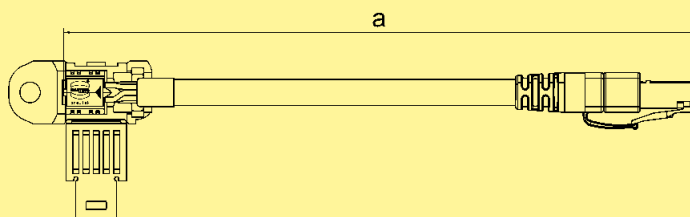
Connector types	1x terminal module, secured by protection cap 1x RJ45, overmoulded, with locking lever protection
Cable types	4 x 2 AWG 27/7, shielded, S/FTP Cat. 7
Sheath material	PUR
Wiring	TIA/EIA 568B, 1:1
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Shielding	Copper braid, tinned
Operating temperature range	
fixed operation	-35 °C ... +70 °C
flexible operation	-5 °C ... +50 °C
Standard lengths	0.2 m / 0.4 m / 0.6 m / 0.8 m / 1 m / 2 m / 3 m / 4 m / 5 m / 10 m other lengths available on request
Colour	Yellow
Advantages	Pre-assembled system cable, fast, flexible and reliable in the application Simple in handling Robust in design Installation of Ha-VIS preLink® cables for industrial environment Connection cable for control or distributor cabinets or within controllers

Identification	Part number	Drawing	Dimensions in mm
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Ha-VIS preLink® Patch cable

Yellow

Length	0.2 m	20 82 601 1002
Length	0.4 m	20 82 601 1004
Length	0.6 m	20 82 601 1006
Length	0.8 m	20 82 601 1008
Length	1.0 m	20 82 601 1010
Length	2.0 m	20 82 601 1020
Length	3.0 m	20 82 601 1030
Length	4.0 m	20 82 601 1040
Length	5.0 m	20 82 601 1050
Length	10.0 m	20 82 601 1100



Patch panel

Ha-VIS preLink®
19" Patch panel

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of modules	24
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Assembly	in 19" racks acc. to IEC/DIN EN 60 297-3-100 (DIN 41 494-1)
Dimensions (W x H x D)	482.6 mm (19") x 44.5 mm (1 U) x 181 mm
Degree of protection	IP 20
Operating temperature range	-40 °C ... +70 °C

Material	
module carrier, 2-parts	steel sheet
front cover	stainless steel

Advantages

Flexible, suitable for Ha-VIS preLink® modules RJ45 jack and HARTING RJ Industrial® modules in HIFF size

Economical, time-saving installation due to the slidable module carrier, frontward and backward removal

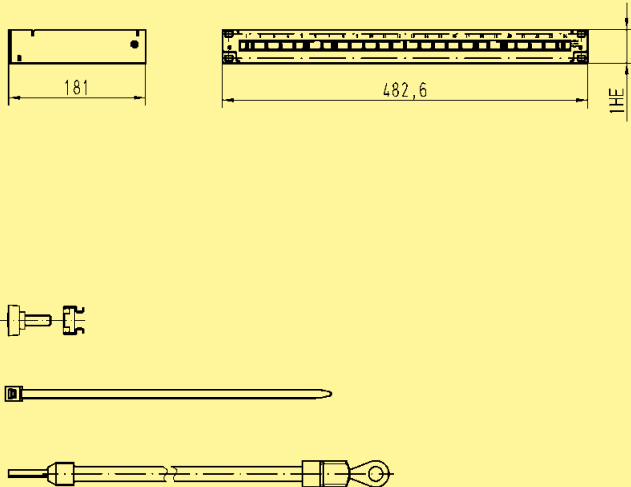
Safety, additional strain-relief

Fully shielded modules connected by module carrier

Earth bolt

Structured cabling for industrial premises

IP 20 installation for distributors and switch cabinets

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® 19" patch panel, unloaded Suitable modules: • Ha-VIS preLink® RJ45 jack, HIFF • HARTING RJ Industrial® 10G bulkhead • mixed loading possible Range of delivery:: • Screw set M5 • 24 cable ties • 1x earth conductor 6 mm²	20 82 400 0001		

Wall-mounted box

Ha-VIS preLink®
HIFF RJ45 AP Box

IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / RJ45 jack HIFF
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Cable diameter	max. Ø 9 mm
Mounting	on-wall or DIN Rail
Dimensions (WxHxD)	60 x 81 x 70 mm
Degree of protection	IP 20
Operating temperature	-40 °C ... +70 °C
Housing material	steel plate
Colour	Anthracite grey (RAL 7016)
Advantages	Flexible, suitable for on-wall mounting or for top-hat mounting rail (35mm) Economical, time-saving installation due to the use of pre-assembled data cables with Ha-VIS preLink® termination Robust design, powder-coated steel plate housing Structured cabling for industrial premises

Identification

Part number

Drawing

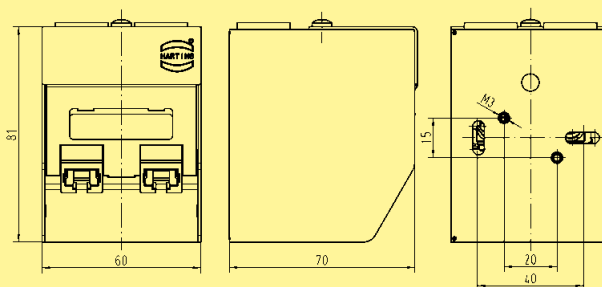
Dimensions in mm

Ha-VIS preLink® HIFB RJ45 AP Box

RJ45 wall-mounted box
consisting of:

- 1x steel-plate housing, 2-parts
- 2x Ha-VIS preLink® Set,
RJ45 jack HIFB, AWG 22/23
- 2x grommet with membrane
- 1x assembly instruction

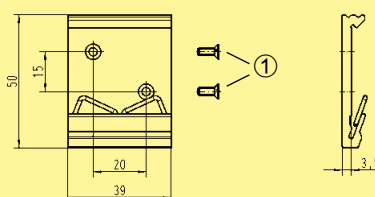
20 82 101 0220



Accessory

DIN Rail mounting bracket

20 80 000 0003



IP 20

Ha-VIS preLink®

- Connectors [on page B·3 6]
- System cables [on page B·3 10]
- Distribution modules and Outlets [on page B·3 14]

IP 65 / IP 67

Ha-VIS preLink®

- Outlets [on page B·3 20]
- Hoods/Housings components [on page B·3 21]

Tools and Accessories

[on page B·3 24]

Outlets



Ha-VIS preLink®
Han® 3 A Metal Outlet

IP 20 ☐	IP 65 / IP 67 ☒	IP 65 / IP 67 to IP 20 ☐	Cat. 5 ☐	Cat. 6 ☒
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 6 / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Termination	Ha-VIS preLink®
Wire gauge	AWG 24 ... 22 (0.25 ... 0.34 mm) solid and stranded
Strand diameter	Ø 1.3 ... 1.6 mm
Cable diameter	7.2 ... 8 mm
Shielding	fully shielded 360° flexible shielding termination
Mounting	Wall mounting
Dimensions (H x W x D)	105 x 105 x 40.5 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	-40 °C ... +70 °C
Housing material	Aluminium, die-cast
Colour	Grey RAL 7037
Advantages	Simple mounting, fixing and earth connection both outside Fast termination of data cables due to Ha-VIS preLink® technology Structured cabling for industrial premises PROFINET compatible

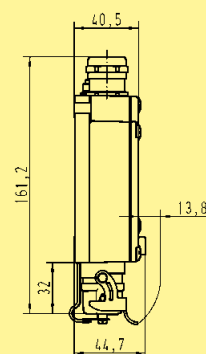
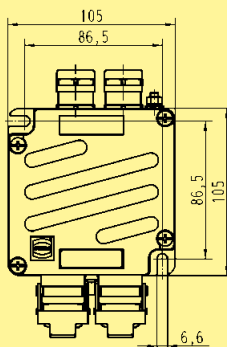
Identification	Part number	Drawing	Dimensions in mm
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Ha-VIS preLink®
Han® 3 A Metal Outlet

20 82 102 0101

consists of:

- 1x Housing including protection covers
- 2x Ha-VIS preLink® Set RJ45 jack AWG 22/23
- 2x Cable gland with slotted seal
- 1x Assembly instruction



Hoods/Housings components for applications in IP 65 / IP 67

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A RJ45 HIFF Adapter to mount HIFF inserts in Han® 3 A hoods/housings e.g. • housings, bulkhead mounting • housings, bulkhead mounting, with cap • housings, surface mounting • hoods, cable to cable Hoods/Housings see catalogue „Industrial Connectors Han®“	09 45 515 0024		
Han® PushPull acc. to IEC 61 076-3-117, variant 14 Panel feed-through for angular panel cut-out	09 35 012 0311		
for circular panel cut-out	09 35 012 0312		
HARTING PushPull Compact bulkhead housing acc. to IEC 61 076-3-106, variant 4 to mount HIFF inserts	09 45 545 0028		
HARTING PushPull EasyInstall bulkhead housing acc. to IEC 61 076-3-106, variant 4 to mount HIFF inserts	09 45 545 0032		

IP 20

Ha-VIS preLink®

- Connectors [on page B·3 6]
- System cables [on page B·3 10]
- Distribution modules and Outlets [on page B·3 14]

IP 65 / IP 67

Ha-VIS preLink®

- Outlets [on page B·3 20]
- Hoods/Housings components [on page B·3 21]

Tools and Accessories

[on page B·3 24]

Identification

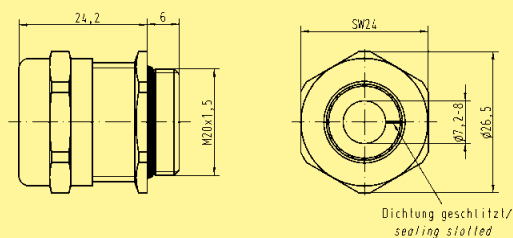
Part number

Cable gland M20x1.5
for pre-terminated
Ha-VIS preLink® cable
assemblies

with slotted seal
Cable-sheath: 7.2 – 8.0 mm



19 00 000 5020

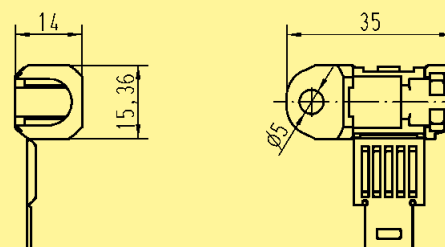


Protection cover
for pre-terminated
Ha-VIS preLink® cable
assemblies

Set of 10 pieces

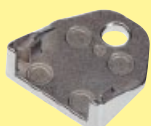


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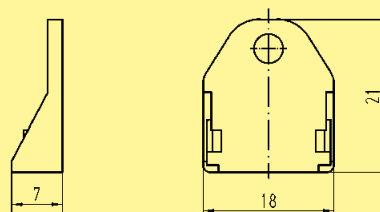


Unlocking tool
for Ha-VIS preLink® RJ45 module

Set of 5 pieces



20 82 000 9916



HARTING Assembly tool
for Ha-VIS preLink® terminal
module



20 82 000 9901

