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HARTING Generic Cabling

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HARTING Generic Cabling

Introduction

The chapter **"Generic Cabling"** shows HARTING's complete cabling portfolio, which simply and efficiently networks machinery, equipment and controllers.

"Generic" here stands for profile independent, which means that the cabling infrastructure is laid out with **IEEE 802.3** as the fundamental transfer protocol and consequently all cables and connectors are 8-wire. With this every Ethernet based protocol and / or profile can be carried over the cabling infrastructure.

In order to guarantee that the cabling system is future-proof, the portfolio is oriented towards the current European and International cabling standards, for example **ISO/IEC 24 702** and the draft European standard **prEN 50 173-1: 2006**.

The use of connector types specified in the above standards in all components, for example the **HARTING PushPull RJ45**, offers the user a high degree of compatibility, reduces equipment maintenance and handling, decreases stock of replacement parts and thereby substantially reduces costs.

HARTING's generic cabling system also allows the seamless integration of machinery, equipment and controller networks into the customer's existing **IT network**. A large variety of process control functions can now be initiated or monitored from supervisory computers without modification or other efforts. System resources such as databases can be made available to or fed by all network connected devices. Operator workflows and processes can be made continuously simpler, faster and more efficient.

This generic cabling system is part of HARTING's comprehensive **Automation IT** network solution, which brings together active network technology, cabling and solutions for device and equipment power supply.

The generic cabling system's product portfolio covers:

- **Distributors and Connector boxes:** Termination and distribution of cables in harsh IP 65 / IP 67 environments, but also within control or distribution cabinets.
- **Panel feed-throughs:** To ensure cable introduction from IP 65 / IP 67 environments into control or distribution cabinets.
- **System cables:** Made-up system cables for quick connection of terminal boxes, distributors or active devices with machines, equipment and controllers.
- **Connectors:** Connector sets to make up specific system cables onsite.
- **Cables:** A comprehensive cable portfolio for the laying out / manufacture of system cables onsite.

The advantages of the HARTING generic cabling system at-a-glance:

- **Profile independent cabling structure**, usable for all Ethernet applications
- Supports all **safety features** and **real-time requirements** of the diverse applications
- Can be expanded and integrated into existing **IT infrastructures** without problems
- Conformance to **ISO/IEC 24 702** makes roll-outs easier in international firms
- Use of **standardised connectors** reduces the variety of parts and makes purchasing and stocking of components easier
- **Future-proof** cabling and connectors allow the problem-free deployment of new technology such as **Gigabit Ethernet** or **PoE**
- The high **quality** of the cabling system guarantees a long **useful life** and **reliable operations**
- Simple planning, installation and reliable operation **saves costs** and delivers a high ROI
- The generic cabling system is part of **HARTING's one-stop Automation IT** network solution

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Distribution modules and Outlets



HARTING Cabinet Outlet RJ45

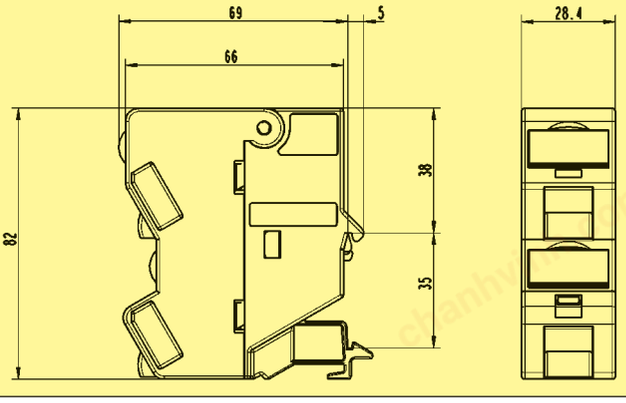
RJ45 distribution module for IP 20 environments (top-hat rail mounting)

IP 20	IP 65 / IP 67	IP 65 / IP 67 to IP 20	Cat. 5	Cat. 6
[X]	[ ]	[ ]	[ ]	[X]

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, prEN 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 mm - 0.65 mm) solid and stranded
Strand isolation	0.7 mm - 1.6 mm
Cable diameter	6 mm - 9 mm
Shielding	fully shielded, 360° shielding contact
Mounting	mounting onto 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 to + 70 °C
Housing material	Polycarbonate, V0
Colour	light grey RAL 7035

Advantages

- Simple mounting
- Cable entering ether from bottom or from top
- Dust protection covers
- Port identification
- Angled outputs

Identification	Part number	Drawing	Dimensions in mm
HARTING Cabinet Outlet RJ45 consisting of: 2 port-housing including dust protection cover and labels 2x RJ45 female modules, Category 6 Assembly instructions	20 76 102 8000		

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Distribution modules and Outlets



HARTING PushPull Outlet RJ45

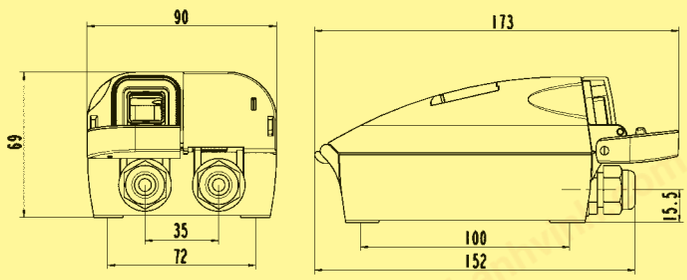
RJ45 Industrial Outlet for IP 65 / IP 67 environments

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

Number of ports, Copper / Termination	2 / RJ45 PushPull (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, prEN 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 mm - 0.65 mm) solid and stranded
Strand isolation	0.7 mm - 1.6 mm
Cable diameter	6 mm - 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 to + 70 °C
Housing material	Polycarbonate, V0, UL 94-0
Colour	Black (similar RAL 9011) or White (similar RAL 9010)

Advantages

- Simple mounting
- Cable entering ether from bottom or from top
- Self-close protection covers in IP 65 / IP 67
- IP 65 / IP 67 label

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

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Notes

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HARTING Generic Cabling

Panel feed-throughs



HARTING PushPull
Panel feed-through RJ45
RJ45 panel feed-through for control or distributor cabinets

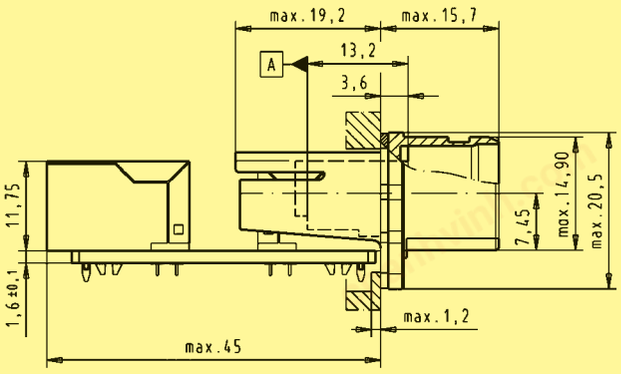
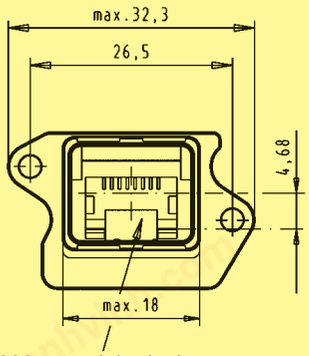
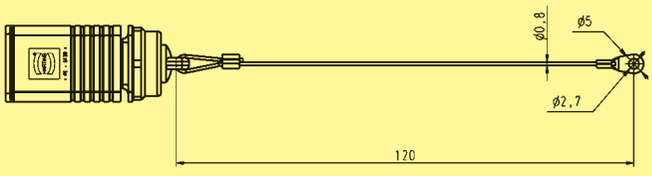
IP 20 ☐	IP 65 / IP 67 ☐	IP 65 / IP 67 to IP 20 ☒	Cat. 5 ☒	Cat. 6 ☐

Number of ports, Copper / Termination	2 / 1x RJ45 (Twisted Pair) (IP 20) 1x RJ45 PushPull (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screw-on type on steel plate walls
Dimensions	see drawing
Panel cut-out	21 mm x 27 mm
Mounting hole	M2.5
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polyamide, UL 94-V0
Colour	Black

Advantages

Small, space-saving PushPull interface with IP 65 / IP 67
Easy handling of RJ45 system cables in the control cabinet

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Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull Panel feed-through RJ45 consisting of: Housing bulkhead mounting including flat gasket RJ45 female module mounted on PCB Assembly instructions	09 45 245 1102	  IEC 60603.7 modular jack	
Protection cover for panel feed-through	09 45 845 0004		

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HARTING Generic Cabling

System cables



HARTING Industrial Ethernet Patch cable RJ45, 8-wire

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
[X]	[ ]	[ ]	[X]	[ ]

Connector types	RJ45, overmoulded
Cable types	4 x 2, Twisted Pair, shielded
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, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 20 °C to + 60 °C
Standard lengths	0.5 m / 1 m / 2 m / 3 m / 5 m / 7.5 m other lengths on request
Colour	Black or Green
Advantages	Robust design Easy handling for all applications

Identification	Part number	
HARTING Industrial Ethernet Patch cable RJ45, 8-wire	Black	Green
Length 0.5 m	09 45 971 1121	09 45 971 1101
Length 1.0 m	09 45 971 1122	09 45 971 1102
Length 2.0 m	09 45 971 1123	09 45 971 1103
Length 3.0 m	09 45 971 1124	09 45 971 1104
Length 5.0 m	09 45 971 1126	09 45 971 1106
Length 7.0 m	09 45 971 1129	09 45 971 1109

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System cables



HARTING RJ Industrial® System cable RJ45, 8-wire

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
[X]	[ ]	[ ]	[ ]	[X]

Connector types	RJ45
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, prEN 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 on request
Colour	Green
Advantages	Robust industrial design High operation reliability in case of vibrations too

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial System cable RJ45, 8-wire	Green		
Length 1.5 m	09 45 751 1523		
Length 3.0 m	09 45 751 1525		
Length 5.0 m	09 45 751 1527		
Length 10.0 m	09 45 751 1551		
Length 20.0 m	09 45 751 1553		

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HARTING Generic Cabling

System cables



HARTING PushPull System cable RJ45, 8-wire

RJ45 connection cable 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	RJ45 PushPull
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, prEN 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 on request
Colour	Green

Advantages

Standardised PushPull interface for IP 65 / IP 67
Easy and safe operation
Especially space-saving

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull System cable RJ45, 8-wire	Green		
Length 1.5 m	09 45 745 1523		
Length 3.0 m	09 45 745 1525		
Length 5.0 m	09 45 745 1527		
Length 10.0 m	09 45 745 1551		
Length 20.0 m	09 45 745 1553		

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System cables



Han® 3 A System cable RJ45, 8-wire

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

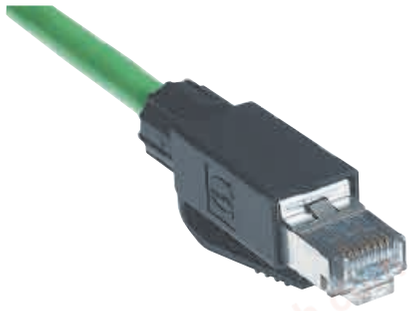
IP 20 ☐	IP 65 / IP 67 ☒	IP 65 / IP 67 to IP 20 ☐	Cat. 5 ☐	Cat. 6 ☒

Connector types	Han® 3 A RJ45
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, prEN 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 on request
Colour	Green
Advantages	Very robust metal housing Han® 3 A for IP 65 / IP 67 Additional locking

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A System cable RJ45, 8-wire	Green		
Length 1.5 m	09 45 715 1523		
Length 3.0 m	09 45 715 1525		
Length 5.0 m	09 45 715 1527		
Length 10.0 m	09 45 715 1551		
Length 20.0 m	09 45 715 1553		

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Connector sets



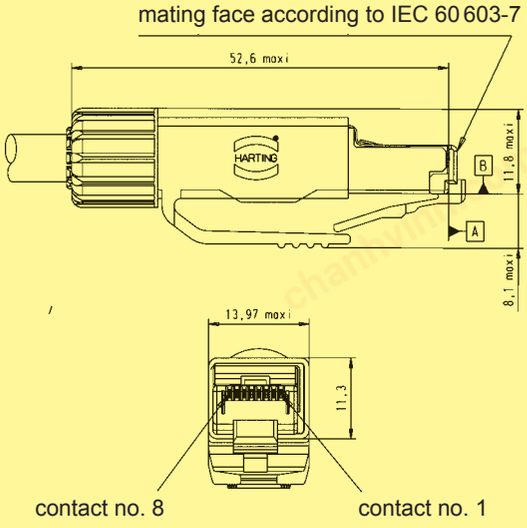
HARTING RJ Industrial® Connector set RJ45, 8-pole
to make up RJ45 system cables

IP 20	IP 65 / IP 67	IP 65 / IP 67 to IP 20	Cat. 5	Cat. 6
X	☐	☐	☐	X

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, prEN 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 diameter – Cable sheath diameter	 AWG 42/7 - AWG 27/7 6.5 mm - 6.9 mm
Degree of protection	IP 20
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polycarbonate, UL 94-V0
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 (delivers optimal transmission behavior)

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HARTING Generic Cabling

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® Connector set RJ45, 8-pole with cable manager White cable manager Blue Set consists of: Housing including shielding Cable gland Assembly instructions	 09 45 151 1500 09 45 151 1510		
Mounting tools for RJ45 connector set	09 45 800 0500		

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HARTING Generic Cabling

Connector sets



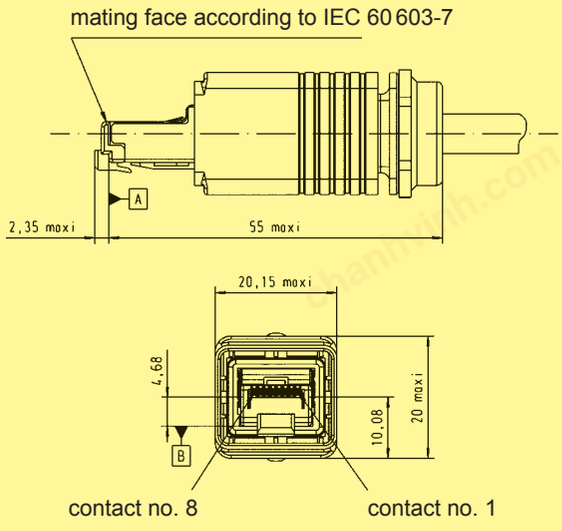
HARTING PushPull Connector set RJ45, 8-pole
to make up PushPull system cables RJ45

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

Connector type	PushPull connector RJ45 acc. to IEC 24 702
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, prEN 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 diameter – Cable sheath diameter	 AWG 42/7 - AWG 27/7 6.5 mm - 8.6 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polyamide, UL 94-V0
Colour	Black
Advantages	Space-saving connector assembly via PushPull interface Field-assembly connector, Cat. 6, in 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 (delivers optimal transmission behavior)

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HARTING Generic Cabling

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull Connector set RJ45, 8-pole with cable manager White cable manager Blue Set consists of: PushPull housing including RJ45 connector and shielding Cable gland Assembly instructions	 09 45 145 1500 09 45 145 1510		
Protection cover for PushPull connectors	09 45 845 0001		
Mounting tools for RJ45 connector set	09 45 800 0500		

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Connector sets



Han® 3 A Connector set RJ45, 8-pole

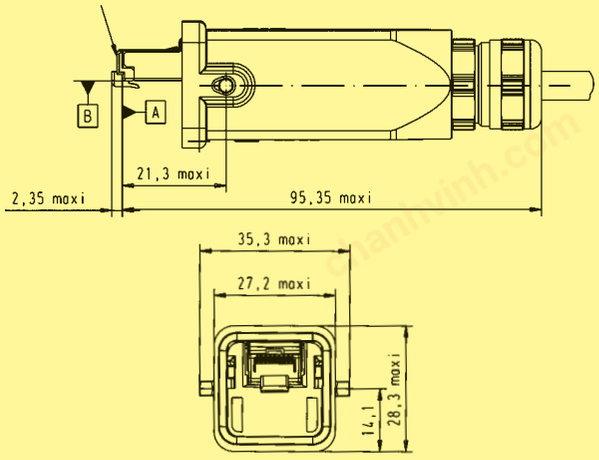
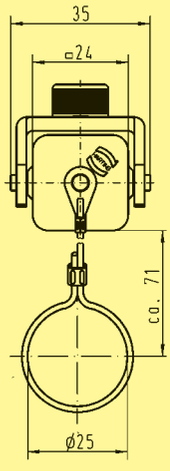
to make up Han® 3 A system cables RJ45

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

Connector type	Han® 3 A connector RJ45
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, prEN 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 diameter	AWG 42/7 - AWG 27/7
– Cable sheath diameter	6.5 mm - 6.9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Plastic version	
Housing material	Polyamide, UL 94-V0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
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 (delivers optimal transmission behavior)

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HARTING Generic Cabling

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

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HARTING Generic Cabling

Cables



Industrial Cat. 6 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
[X]	[X]		[ ]	[X]

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 27/7
Sheath material	PVC
Cable sheath diameter	6.8 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 10 °C to + 70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Advantages	Robust industrial-compatible design Optimal power reserves

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 6 cable, stranded, 8-wire PVC			
20 m ring	09 45 600 0530		
50 m ring	09 45 600 0540		
100 m ring	09 45 600 0500		
500 m drum	09 45 600 0520		



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Cables



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

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

IP 20	IP 65 / IP 67	PUR, halogen-free	Cat. 5	Cat. 6
[X]	[X]		[ ]	[X]

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 27/7
Sheath material	PUR, halogen-free
Cable sheath diameter	6.8 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 40 °C to + 70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Advantages	Robust industrial-compatible design Halogen-free

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 6 cable, stranded, 8-wire PUR			
20 m ring	09 45 600 0630		
50 m ring	09 45 600 0640		
100 m ring	09 45 600 0600		
500 m drum	09 45 600 0620		



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HARTING Generic Cabling

Cables



Industrial Cat. 5 outdoor cable, 8-wire

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

IP 20	IP 65 / IP 67	PVC	Cat. 5	Cat. 6
[X]	[X]		[X]	[ ]

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 26/7
Sheath material	PVC
Cable sheath diameter	6.7 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 45 °C to + 60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black
Advantages	Robust industrial-compatible design Applicable also for outside applications

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 5 outdoor cable, 8-wire			
20 m ring	09 45 600 0230		
50 m ring	09 45 600 0240		
100 m ring	09 45 600 0200		
500 m drum	09 45 600 0220		



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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
X	X		X	

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 26/7
Sheath material	PUR
Cable sheath diameter	6.7 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 45 °C to + 60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Advantages	Robust industrial-compatible design Halogen-free

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

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HARTING Profile-specific Cabling – PROFINET

Introduction

"**Profile-specific Cabling – PROFINET**" shows HARTING's complete cabling portfolio, which simply and efficiently networks PROFINET-conformant machines, equipment and controllers.

PROFINET is the continuation of PROFIBUS technology, based on **Ethernet TCP/IP**. There are in principle two different functional classes:

- **PROFINET CBA** (Component-based Automation) for communications between intelligent automation devices
- **PROFINET IO** for communications between a controller and decentralised field devices

Three performance classes are implemented:

- **TCP/IP** – ethernet communications without real-time requirements
- **RT** – real-time communication for I/O data traffic, in particular in automation technology
- **IRT** – isosynchronous real-time communication, especially for all motion control applications

Essentially, all PROFINET applications can transmit over a future-proof generic cabling system. However the PNO (PROFINET User Organisation) has developed special guidelines for cabling components and installation practices and so all PROFINET cables and connectors are implemented with **4 wires**.

In contrast to generic cabling, PROFINET defines interfaces for power supply and/or the general transmission of data and power (so-called **hybrid** solutions). The HARTING PROFINET cabling portfolio includes these connector types, for example the **Han® 3 A Hybrid**.

The use of connector types defined in the PROFINET guidelines, for example the **Han® PushPull RJ45**, that are also recommended by **AIDA** (**A**utomation **I**nitiative German **D**omestic **A**utomobile Manufacturers), offers customers a high level of compatibility within PROFINET conformant cabling.

HARTING's PROFINET cabling system consequently allows an easy machine-, equipment- and controller-network enhancement within a customer's existing PROFINET structure.

This PROFINET cabling system is part of HARTING's comprehensive **Automation IT** network solution, which brings together active network technology, cabling and solutions for device and equipment power supply.

The PROFINET cabling system's product portfolio covers:

- **Distributors and Connector boxes:** Termination and distribution of cables in harsh IP 65 / IP 67 environments, but also within control or distribution cabinets.
- **Panel feed-throughs:** To ensure reliable cable introduction from IP 65 / IP 67 environments into control or distribution cabinets.
- **System cables:** Made-up system cables for quick connection of terminal boxes, distributors or active devices with machines, equipment and controllers.
- **Connectors:** Connector sets to make up specific system cables onsite.
- **Cables:** A comprehensive cable portfolio for the laying out / manufacture of system cables onsite.

The advantages of the HARTING PROFINET cabling system at-a-glance

- **PROFINET conformant cabling infrastructure**, usable for all PROFINET functional and performance classes
- Supports all PROFINET **safety features** and **real-time requirements**
- Can be expanded and integrated into existing **PROFINET infrastructures** without problems
- Conformance with AIDA guidelines makes roll-outs in the auto industry easier
- Use of PROFINET conformant **connectors** reduces the variety of parts and makes purchasing and stocking of components easier
- Special solutions for simultaneous (Hybrid) and/or separate power transmission enhances network functionality
- The high **quality** of the cabling system guarantees a long **useful life** and **reliable operations**
- Simple planning, installation and reliable operation **saves costs** and delivers a high ROI
- The PROFINET cabling system is part of **HARTING's one-stop Automation IT** network solution

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Distribution modules and Outlets



HARTING Cabinet Outlet RJ45

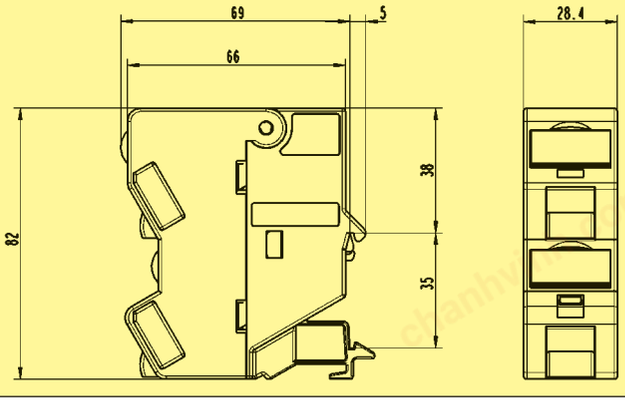
RJ45 distribution module for IP 20 environments (top-hat rail mounting)

IP 20	IP 65 / IP 67	IP 65 / IP 67 to IP 20	Cat. 5	Cat. 6
X	☐	☐	☐	X

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, prEN 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 mm - 0.65 mm) solid and stranded
Strand isolation	0.7 mm - 1.6 mm
Cable diameter	6 mm - 9 mm
Shielding	fully shielded, 360° shielding contact
Mounting	mounting onto 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 to + 70 °C
Housing material	Polycarbonate, V0
Colour	Grey

Advantages

- Simple mounting
- Cable entering ether from bottom or from top
- Dust protection covers
- Port identification
- Angled outputs

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

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Distribution modules and Outlets



Han® 3 A Metal Outlet RJ45, Cat. 6

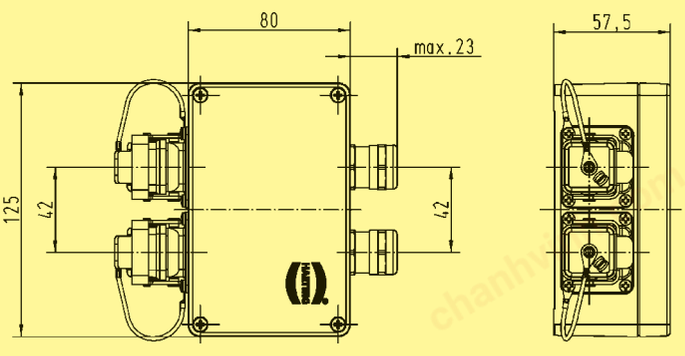
RJ45 Industrial Outlet for IP 65 / IP 67 environments

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

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, prEN 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 mm - 0.65 mm) solid and stranded
Strand isolation	0.7 mm - 1.6 mm
Cable diameter	6 mm - 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 to + 70 °C
Housing material	Aluminium, die-cast
Colour	Grey RAL 7037

Advantages

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

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

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Distribution modules and Outlets



Han® 3 A Metal Outlet RJ45, Cat. 5

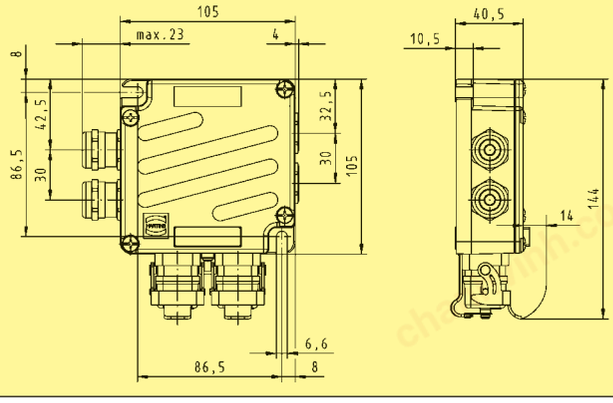
RJ45 Industrial Outlet for IP 65 / IP 67 environments

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

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, prEN 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 mm - 0.65 mm) solid and stranded
Strand isolation	0.7 mm - 1.6 mm
Cable diameter	5 mm - 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 to + 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 ether from the left or from the right side
- Lockable connector ports Han® 3 A

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Metal Outlet RJ45, Cat. 5 consisting of: 2 port-metal housing with protection covers, cable glands and blanking piece PCB module with LSA-PLUS strips Label Assembly instructions	09 45 815 1100		

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Panel feed-throughs



Han® 3 A Panel feed-through RJ45

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 ☐

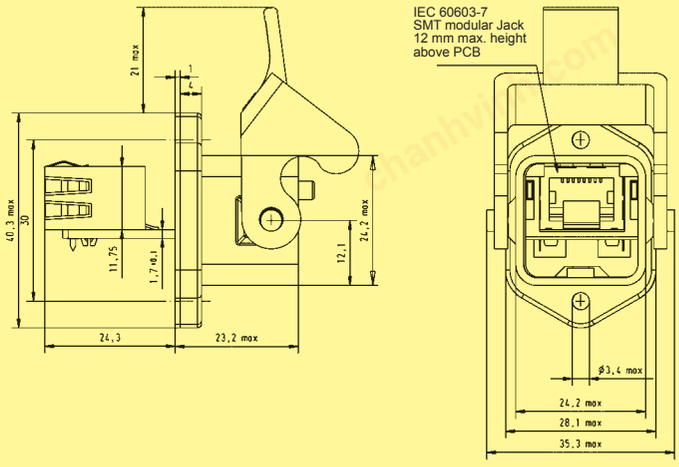
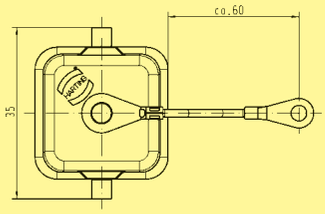
Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (Twisted Pair) (IP 20)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screw-on type on steel plate walls
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 to + 70 °C
Plastic version	
Housing material	Polyamide, UL 94-V0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black

Advantages

- Simple mounting
- RJ45 plug-compatible
- Different versions cover all operational cases
- Coding possible

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Panel feed-through RJ45 Plastic version straight style angled style **Accessories** Protection cover IP 65 / IP 67 for panel feed-through	 09 45 225 1100 09 45 225 1108 09 20 003 5445		
Han® 3 A Panel feed-through RJ45 Metal version Standard straight style straight style including self-closing protection cover angled style **Accessories** Protection cover IP 65 / IP 67 for panel feed-through	 09 45 215 1100 09 45 215 1103 09 45 215 1108 09 20 003 5425	Dimensions valid for straight Plastic version	
Han® 3 A Panel feed-through RJ45 Metal version M straight style angled style **Accessories** Protection cover IP 65 / IP 67 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		

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Panel feed-throughs



Han® 3 A double-coupling RJ45

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 ☐

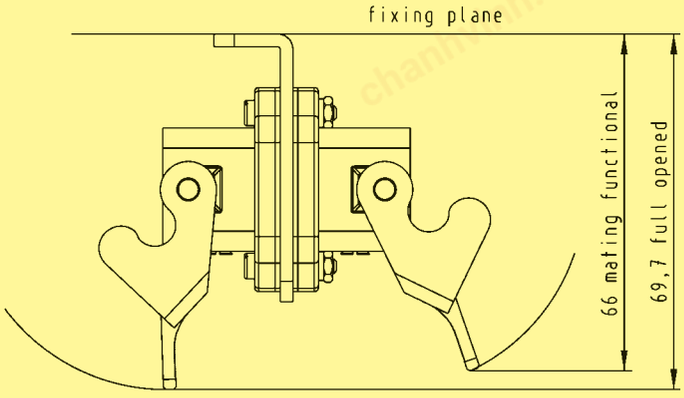
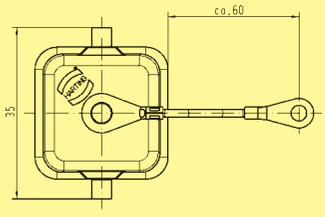
Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screw-on type on steel plate walls
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 to + 70 °C
Plastic version	
Housing material	Polyamide, UL 94-V0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black

Advantages

- Simple mounting
- RJ45 plug-compatible
- Different versions cover all operational cases
- Coding possible

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HARTING Profile-specific Cabling – PROFINET

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

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Panel feed-throughs



Han® 3 A Hybrid panel feed-through 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 ☐

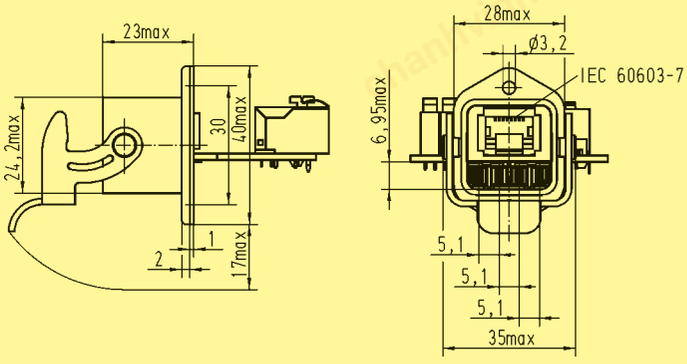
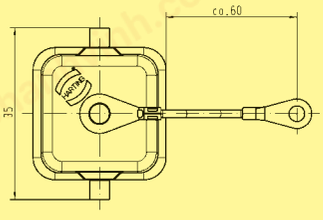
Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (Twisted Pair) (IP 20)
Termination Hybrid supply	4 contacts in the Han® 3 A connector (IP 65 / IP 67) 4 contacts for power supply via cage-clamp terminal to 48 V, 16 A (IP 20)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screw-on type on steel plate walls
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 to + 70 °C
Plastic version	
Housing material	Polyamide, UL 94-V0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey

Advantages

- Simple mounting
- RJ45 plug-compatible
- Additional power supply via Hybrid cable
- Coding possible

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Hybrid Panel feed-through RJ45 Plastic version	09 45 225 1300		
Accessories Protection cover IP 65 / IP 67 for panel feed-through	09 20 003 5445		
Han® 3 A Hybrid Panel feed-through RJ45 Metal version Standard	10 12 005 1002		
Accessories Protection cover IP 65 / IP 67 for panel feed-through	09 20 003 5425		
Accessories Set of coding pins	09 45 820 0000		

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Panel feed-throughs



Han® 3 A Hybrid double-coupling RJ45

Hybrid double-coupling for control or distributor cabinets

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

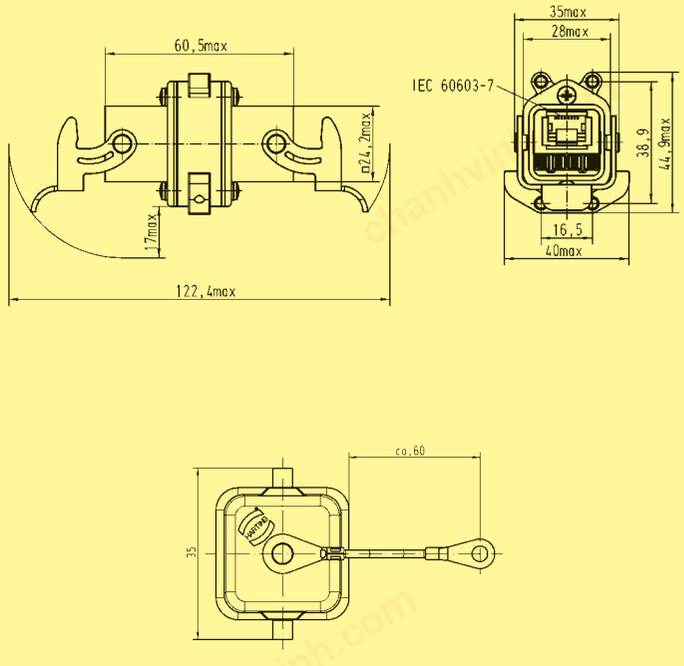
Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Termination Hybrid supply	4 contacts in the Han® 3 A connector (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screw-on type on steel plate walls
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 to + 70 °C
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey

Advantages

- Simple mounting
- RJ45 plug-compatible
- Additional power supply via Hybrid cable
- Coding possible

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Hybrid Hybrid double-coupling RJ45 Metal version Standard	10 12 005 1003		
Accessories Protection cover IP 65 / IP 67 for panel feed-through	09 20 003 5425		
Accessories Set of coding pins	09 45 820 0000		

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Panel feed-throughs



Han® M12 Panel feed-through D-coding

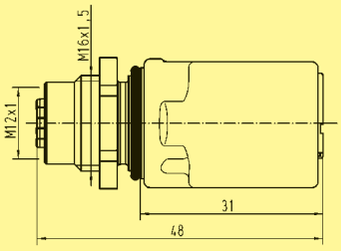
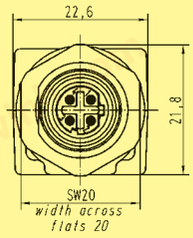
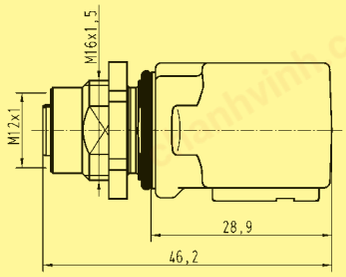
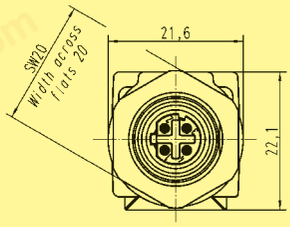
M12 panel feed-through for control or distributor cabinets

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

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

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HARTING Profile-specific Cabling – PROFINET

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		

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Notes

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System cables



HARTING Industrial Ethernet Patch cable RJ45, 8-wire

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
[X]	[ ]	[ ]	[X]	[ ]

Connector types	RJ45, overmoulded
Cable types	4 x 2, Twisted Pair, shielded
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, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 20 °C to + 60 °C
Standard lengths	0.5 m / 1 m / 2 m / 3 m / 5 m / 7.5 m other lengths on request
Colour	Black or Green
Advantages	Robust design Easy handling for all applications

Identification	Part number	
HARTING Industrial Ethernet Patch cable RJ45, 8-wire	Black	Green
Length 0.5 m	09 45 971 1121	09 45 971 1101
Length 1.0 m	09 45 971 1122	09 45 971 1102
Length 2.0 m	09 45 971 1123	09 45 971 1103
Length 3.0 m	09 45 971 1124	09 45 971 1104
Length 5.0 m	09 45 971 1126	09 45 971 1106
Length 7.5 m	09 45 971 1129	09 45 971 1109

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System cables



HARTING RJ Industrial® System cable RJ45, 4-wire

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
☒	☐	☐	☒	☐

Connector types: RJ45, overmoulded

Cable types

PROFINET Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C
Colour	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, prEN 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 on request

Advantages

Robust industrial design

Available also as Multiport version for especially space-critical port configurations on switches or devices

Additional technical information about overmoulded system cables find on page C·P 43

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number Standard	Multiport
HARTING RJ Industrial® System cable RJ45, 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 RJ45, 4-wire		
Type B		
Length 1.5 m	09 45 771 1123	09 47 343 4034
Length 3.0 m	09 45 771 1125	09 47 343 4037
Length 5.0 m	09 45 771 1127	09 47 343 4040
Length 10.0 m	09 45 771 1151	09 47 343 4046
Length 20.0 m	09 45 771 1153	09 47 343 4048
HARTING RJ Industrial® System cable RJ45, 4-wire		
Type C		
Length 1.5 m	09 45 771 1164	09 47 343 4090
Length 3.0 m	09 45 771 1166	09 47 343 4093
Length 5.0 m	09 45 771 1168	09 47 343 4096
Length 10.0 m	09 45 771 1173	09 47 343 4102
Length 20.0 m	09 45 771 1175	09 47 343 4104

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System cables



HARTING RJ Industrial®
System cable
RJ45, angled, 4-wire

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
X	☐	☐	X	☐

Connector types	RJ45, overmoulded

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable	Copper, stranded, shielded
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 45 °C to + 60 °C
Colour	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, prEN 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 on request
Advantages	Robust industrial design For especially space-saving cabling

Additional technical information about overmoulded system cables find on page C·P 43

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number
HARTING RJ Industrial® System cable RJ45, 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 RJ45, 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 RJ45, 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 RJ45, 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

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System cables



HARTING RJ Industrial®
System cable
RJ45, angled, 4-wire

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
☒	☐	☐	☒	☐

Connector types: RJ45, overmoulded

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable	Copper, stranded, shielded
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 45 °C to + 60 °C
Colour	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, prEN 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 on request
Advantages	Robust industrial design For especially space-saving cabling

Additional technical information about overmoulded system cables find on page C·P 43

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number
HARTING RJ Industrial® System cable RJ45, 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 RJ45, 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 RJ45, 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 RJ45, 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

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HARTING Profile-specific Cabling – PROFINET

System cables



Exit left



Exit right



Exit top



Exit bottom

HARTING RJ Industrial® System cable RJ45 angled, 4-wire

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
☒	☐	☐	☒	☐

Connector types: RJ45, overmoulded, one side pre-assembled

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable	Copper, stranded, shielded
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 45 °C to + 60 °C
Colour	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, prEN 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 on request

Advantages

- Robust industrial design
- For especially space-saving cabling
- Exact length can be adjusted
- Use HARTING RJ45 connector (09 45 151 1100)

Additional technical information about overmoulded system cables find on page C·P 43

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number angled left	angled right	angled top	angled bottom
HARTING RJ Industrial® System cable RJ45 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 RJ45 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 RJ45 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 RJ45 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

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System cables



Han® 3 A System cable RJ45, 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 ☐

Connector types: Han® 3 A Metal RJ45

Cable types

PROFINET Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C
Colour	Green	Green	Green

Wiring	4-pole (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 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 on request
Advantages	Robust design Use on-site made possible by IP 65 / IP 67 protection Easy handling for all applications

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number
Han® 3 A System cable RJ45, 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 System cable RJ45, 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 System cable RJ45, 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

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System cables



Han® 3 A System cable RJ45, 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 ☐

Connector types: Han® 3 A Metal RJ45 (IP 65 / IP 67) / RJ45 (IP 20)

Cable types

PROFINET Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C
Colour	Green	Green	Green

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

Transmission performance: Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 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 on request

Advantages

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

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number
Han® 3 A System cable RJ45, 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 System cable RJ45, 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 System cable RJ45, 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

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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 ☐

Connector types	Han® 3 A Hybrid, plastic
Cable types	2 x 2 x AWG 22/7, Twisted Pair, shielded + 4 power cores
Sheath material	FRNC
Wiring	4-pole (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s + Power supply
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 20 °C to + 70 °C
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths 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

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Hybrid System cable RJ45, 4-wire			
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		

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HARTING Profile-specific Cabling – PROFINET

System cables



HARTING PushPull System cable RJ45, 4-wire

RJ45 connection cable, 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: RJ45 PushPull

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable	Copper, stranded, shielded
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 45 °C to + 60 °C
Colour	Green	Green	Green	Black

Wiring	4-pole (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 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 on request
Advantages	Space-saving IP 65 / IP 67 interface Easy handling

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HARTING Profile-specific Cabling – PROFINET

Identification		Part number
HARTING PushPull System cable RJ45, 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 System cable RJ45, 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 System cable RJ45, 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 System cable RJ45, 4-wire Outdoor		
	Length 1.5 m	09 45 701 0064
	Length 3.0 m	09 45 701 0066
	Length 5.0 m	09 45 701 0068
	Length 10.0 m	09 45 701 0073
	Length 20.0 m	09 45 701 0075

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HARTING Profile-specific Cabling – PROFINET

System cables



HARTING PushPull System cable RJ45, 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 ☐

Connector types: RJ45 PushPull, overmoulded

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable	Copper, stranded, shielded
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 45 °C to + 60 °C
Colour	Green	Green	Green	Black

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

Transmission performance: Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 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 on request

Advantages

- Space-saving IP 65 / IP 67 interface
- Protected cable duct via overmoulding
- Easy handling

Additional technical information about overmoulded system cables find on page C·P 43

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HARTING Profile-specific Cabling – PROFINET

Identification		Part number
HARTING PushPull System cable RJ45, 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 System cable RJ45, 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 System cable RJ45, 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 System cable RJ45, 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

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System cables



Exit left


Exit right


Exit top


Exit bottom

HARTING PushPull
System cable RJ45,
4-wire, angled

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

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

Connector types: RJ45 PushPull, overmoulded, angled, one side pre-assembled

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable	Copper, stranded, shielded
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 45 °C to + 60 °C

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

Transmission performance: Category 5 / Class D up to 100 MHz
according to ISO/IEC 11 801:2002, prEN 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 on request

Advantages

- robust cable duct via overmoulding
- For especially space-saving cabling
- Exact length can be adjusted
- Use HARTING PushPull RJ45 connector (09 45 145 1100)

Additional technical information about overmoulded system cables find on page C·P 43

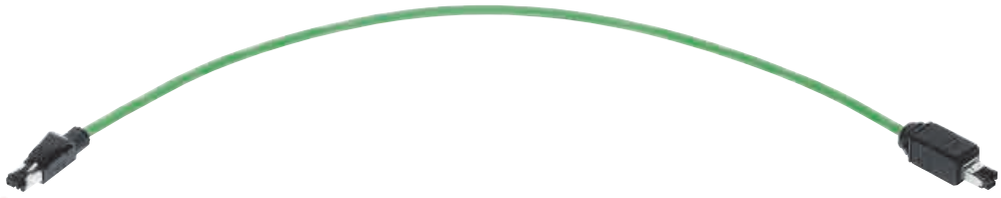
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HARTING Profile-specific Cabling – PROFINET

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

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System cables



HARTING PushPull System cable RJ45, 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 ☐

Connector types: RJ45 PushPull and RJ45 IP 20

Cable types

PROFINET Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, trailing cables useable
Wire gauge	2 x 2 x AWG 22/1	2 x 2 x AWG 22/7	2 x 2 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C to + 70 °C	– 40 °C to + 70 °C	– 40 °C to + 70 °C
Colour	Green	Green	Green

Wiring	4-pole (RJ45 contacts 1/2 and 3/6)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 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 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

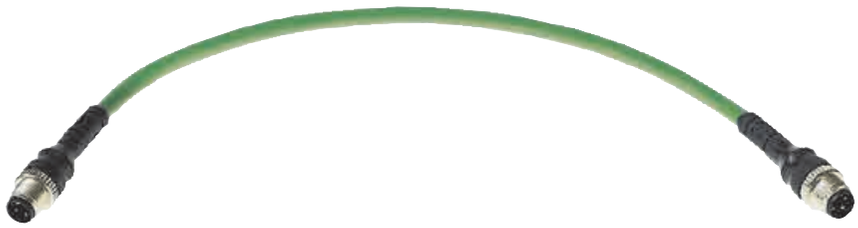
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HARTING Profile-specific Cabling – PROFINET

Identification	Part number
HARTING PushPull System cable RJ45, 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 System cable RJ45, 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 System cable RJ45, 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

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System cables



Han® M12 System cable, 4-wire

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

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

Connector types	Han® M12, D-coding, overmoulded
Cable types	2 x 2 x AWG 22/7, Twisted Pair, shielded
Sheath material	PUR
Wiring	4-pole (RJ45 contacts 1/2 and 3/6)
Transmission performance	Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 25 °C to + 70 °C
Standard lengths	1 m / 3 m / 5 m other lengths on request
Colour	Green
Advantages	Robust design Use on-site made possible by IP 65 / IP 67 protection

Identification	Part number	Drawing	Dimensions in mm
Han® M12 System cable, 4-wire			
Length 1.0 m	21 03 485 1401		
Length 3.0 m	21 03 485 1403		
Length 5.0 m	21 03 485 1405		

Additional technical information about overmoulded system cables find on page C·P 43

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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
[X]	[X]	[ ]	[X]	[ ]

Electrical characteristics at 20 °C

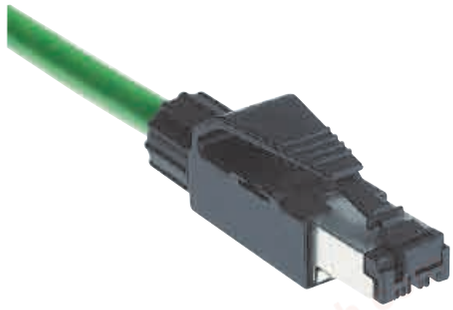
Contact resistance:	≤ 20 mΩ
Insulation resistance:	≥ 500 MΩ
Dielectric withstand voltage:	
contact - contact	1 kV
contact - ground	1.5 kV

Electrical characteristics after damp heat cycles

Contact resistance:	≤ 20 mΩ
Insulation resistance:	≥ 100 MΩ
Dielectric withstand voltage:	
contact - contact	1 kV
contact - ground	1.5 kV

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Connector sets



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

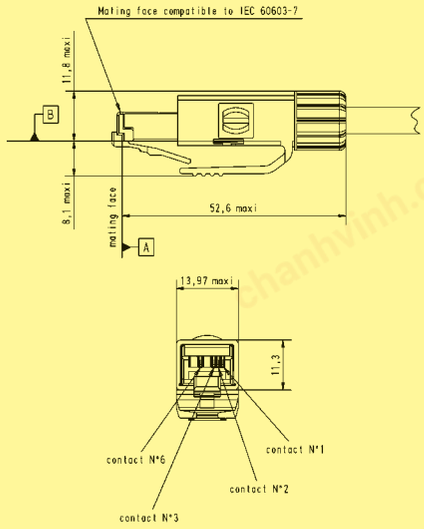
IP 20	IP 65 / IP 67	IP 65 / IP 67 to IP 20	Cat. 5	Cat. 6
[X]	[ ]	[ ]	[X]	[ ]

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, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via IDC contacts, tool-less
Cable options	suitable for solid and stranded cores
– Strand diameter	AWG 24/7 - AWG 22/7 (stranded) AWG 23/1 - AWG 22/1 (solid)
– Cable sheath diameter	6.5 mm - 6.9 mm
Degree of protection	IP 20
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polycarbonate, UL 94-V0
Colour	Black

Advantages Field-assembly connector, Cat. 5

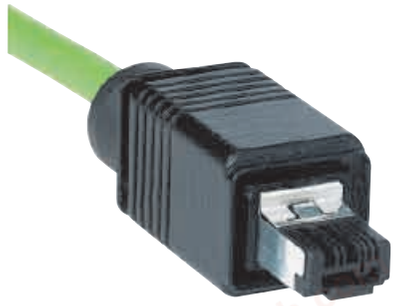
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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® Connector set RJ45, 4-pole Set consists of: Housing including shielding splice element Cable gland Assembly instructions	09 45 151 1100		

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Connector sets

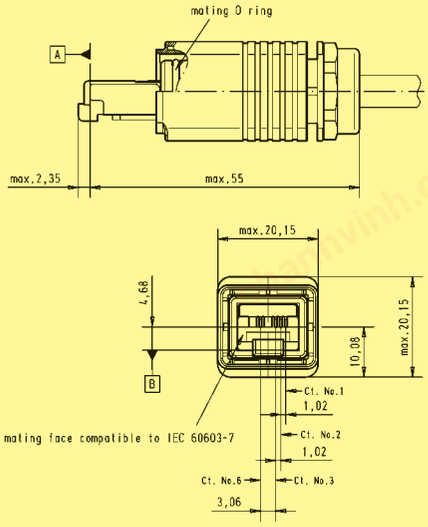


HARTING PushPull Connector set RJ45, 4-pole
to make up HARTING PushPull system cables RJ45

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

Connector type	HARTING PushPull connector RJ45 acc. to IEC 24 702
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via IDC contacts
Cable options	
– Strand diameter	AWG 24/7 - AWG 22/7 (stranded) AWG 23/1 - AWG 22/1 (solid)
– Cable sheath diameter	6.5 mm - 8.6 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polyamide, UL 94-V0
Colour	Black
Advantages	Field-assembly connector, IP 65 / IP 67 Cat. 5
Mounting information	Tool-less assembly

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Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull Connector set RJ45, 4-pole Set consists of: PushPull housing with RJ45 connector and shielding Cable gland Assembly instructions	09 45 145 1100		
Protection cover for PushPull connectors	09 45 845 0001		

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Connector sets



Han® PushPull Connector set RJ45, 4-pole

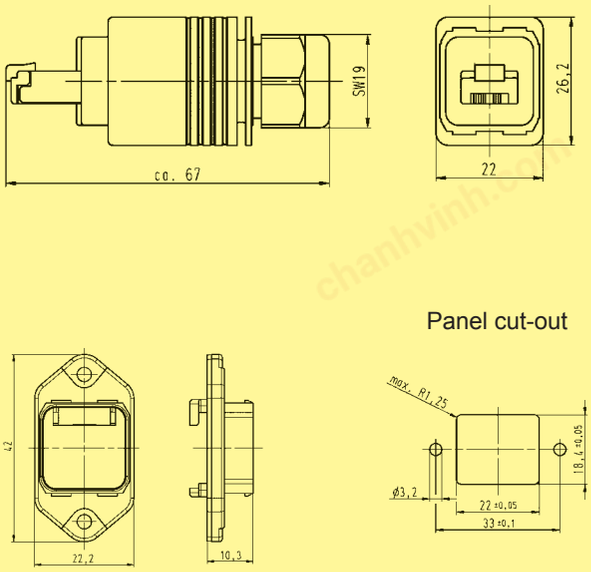
to make up Han® PushPull system cables RJ45

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

Connector type	Han PushPull connector RJ45 acc. to IEC 61 918 (AIDA compliant)
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via IDC contacts
Cable options	
– Strand diameter	AWG 24/7 - AWG 22/7 (stranded) AWG 23/1 - AWG 22/1 (solid)
– Cable sheath diameter	to 9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polyamide, UL 94-V0
Colour	Black
Advantages	Field-assembly connector, IP 65 / IP 67 Cat. 5
Mounting information	Tool-less IDC technology

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull Connector set RJ45, 4-pole Set consists of: PushPull housing with RJ45 connectors and shielding Cable gland Assembly instructions	09 35 221 0421		

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Connector sets



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

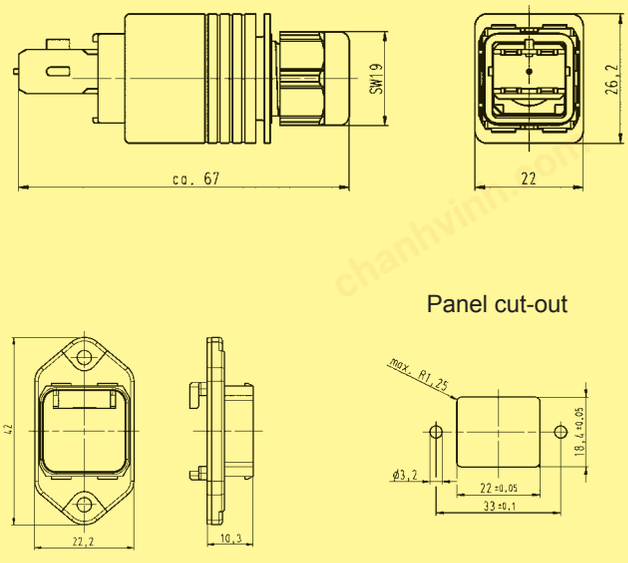
IP 20 ☐	IP 65 / IP 67 ☒	IP 65 / IP 67 to IP 20 ☐	Cat. 5 ☐	Cat. 6 ☐

Connector type	Han PushPull connector SCRJ according to IEC 61 918 (AIDA compliant)
Number of fibres	2
Transmission performance	depends on the used fibre type
Fibre types	Glass fibre MM 50 / 125 µm and 62.5 / 125 µm Glass fibre SM 9 / 125 µm and 10 / 125 µm HCS® 200/230 POF 1 mm
Mounting	Field-assembly via IDC contacts
Cable options	Sheath diameter up to 9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polyamide, UL 94-V0
Colour	Black

Advantages Field-assembly glass fibre connector, IP 65 / IP 67

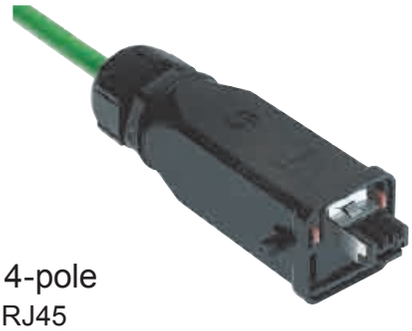
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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull Connector set SCRJ Set consists of: PushPull housing with SCRJ feeding Cable gland Assembly instructions Note: Order SC ferrules separately	09 35 221 0422		

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Connector sets



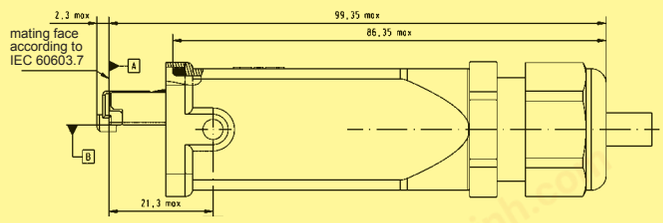
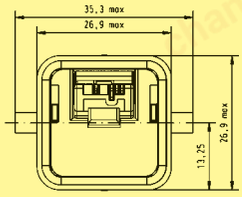
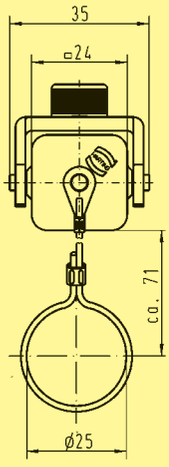


Han® 3 A Connector set RJ45, 4-pole
to make up Han® 3 A system cables RJ45

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

Connector type	Han® 3 A connector RJ45 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, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via IDC contacts
Cable options	
– Strand diameter	AWG 24/7 - AWG 22/7 (stranded) AWG 23/1 - AWG 22/1 (solid)
– Cable sheath diameter	6.5 mm - 6.9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Plastic version	
Housing material	Polyamide, UL 94-V0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black
Advantages	Field-assembly connector, Cat. 5, IP 65 / IP 67 Tool-less assembly

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

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Connector sets



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

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

Connector type	HARTING Han® 3 A Hybrid connector RJ45 according to IEC 61 918
Number of contacts	4 + 4x power contacts (up to max. 48 V, 16 A)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via IDC contacts
Cable options	Hybrid cable (2x 2 data + 4x power)
– Wire diameter (data)	AWG 24/7 - AWG 22/7 (stranded) AWG 23/1 - AWG 22/1 (solid)
– Wire diameter (power)	1.5 mm², stranded
– Cable sheath diameter	10 mm - 11 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Plastic version	
Housing material	Polyamide, UL 94-V0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey

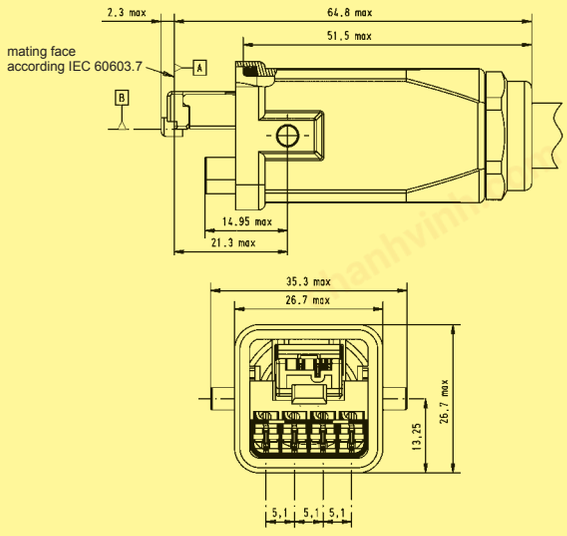
Advantages

Field-assembly connector, IP 65 / IP 67
Cat. 5

Tool-less assembly

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HARTING Profile-specific Cabling – PROFINET

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Hybrid Connector set RJ45, 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		

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Connector sets

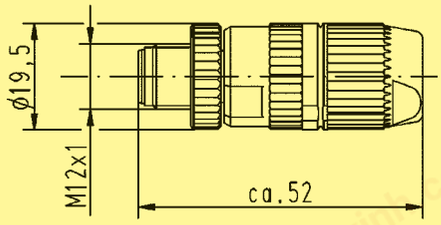


HARAX® M12 Connector D-coding, 4-pole
to make up HARTING system cables M12

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

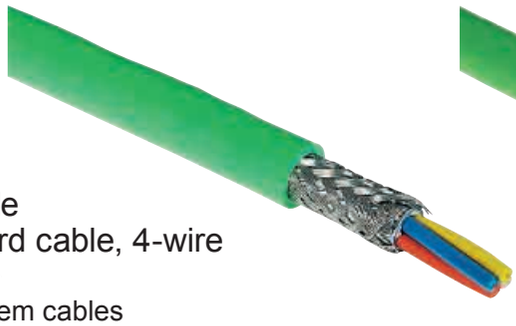
Connector type	*HARAX*® connector M12-L, D-coding
Number of contacts	4
Transmission performance	Class D according to ISO/IEC 11 801:2002
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via IDC contacts
Cable options – Strand diameter – Cable sheath diameter	 AWG 24 - AWG 22 (Cord) 5.5 mm - 7.2 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 25 °C to + 85 °C
Housing material	Metal
Advantages	Field-assembly M12 connector Tool-less assembly

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Identification	Part number	Drawing	Dimensions in mm
HARAX® M12 Connector D-coding, 4-pole straight style	21 03 281 1405	  View Connection side	

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Cables





PROFINET Type A cable
Industrial Cat. 5 Standard cable, 4-wire
for permanent installation or
to make up PROFINET system cables

IP 20	IP 65 / IP 67	PVC	Cat. 5	Cat. 6
[X]	[X]		[X]	[ ]

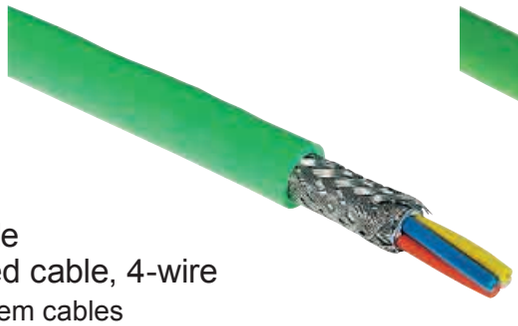
Cable structure	Star quad, double shielding
Core structure	2 x 2 x AWG 22/1, solid
Sheath material	PVC
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	– 40 °C to + 70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Printing	HARTING specific printing
Advantages	Robust industrial-compatible design PROFINET compliant

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



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Cables





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

IP 20	IP 65 / IP 67	PVC	Cat. 5	Cat. 6
X	X		X	

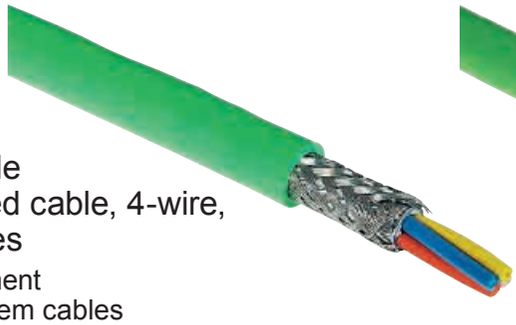
Cable structure	Star quad, double shielding
Core structure	2 x 2 x AWG 22/7 (Cord)
Sheath material	PVC
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	– 40 °C to + 70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Printing	HARTING specific printing
Advantages	Robust industrial-compatible design PROFINET compliant

Identification	Part number	Drawing	Dimensions in mm
PROFINET Type B cable Industrial Cat. 5 stranded cable, 4-wire PVC			
20 m ring	09 45 600 0132		
50 m ring	09 45 600 0142		
100 m ring	09 45 600 0102		
500 m drum	09 45 600 0112		



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Cables





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

IP 20 ☐	IP 65 / IP 67 ☒	PUR	Cat. 5 ☒	Cat. 6 ☐

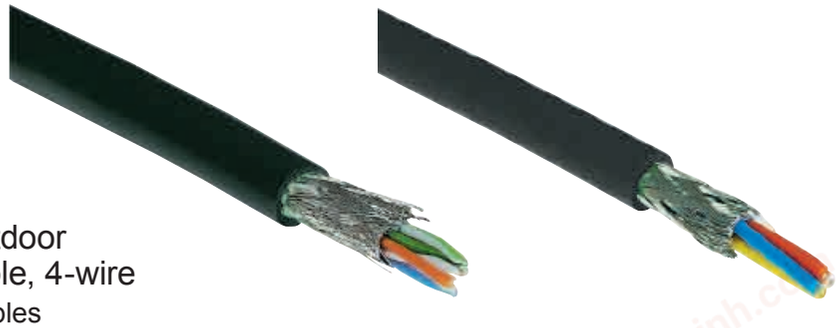
Cable structure	Star quad, double shielding
Core structure	2 x 2 x AWG 22/7 (Cord)
Sheath material	PUR
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	– 40 °C to + 70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Printing	HARTING specific printing
Advantages	Robust industrial-compatible design PROFINET compliant Useable as trailing cables

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



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Cables



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

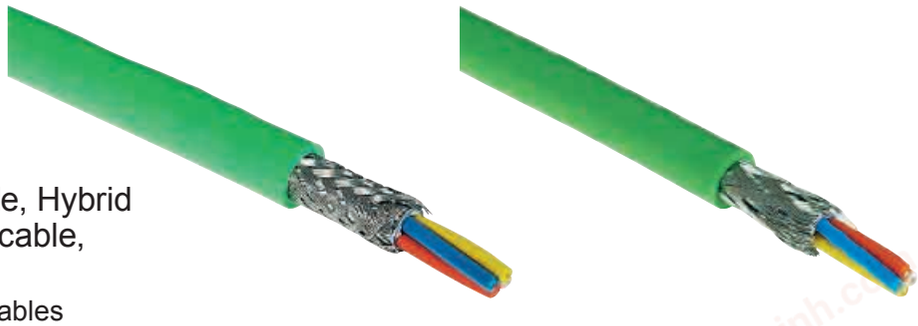
IP 20 ☐	IP 65 / IP 67 ☒	PVC	Cat. 5 ☒	Cat. 6 ☐

Cable structure	Star quad, double shielding
Core structure	2 x 2 x AWG 22/7 (Cord)
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, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	– 45 °C to + 60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black
Printing	HARTING specific printing
Advantages	Robust industrial-compatible design PROFINET compliant UV protected

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

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Cables



PROFINET Type B cable, Hybrid Industrial Cat. 5 Hybrid cable, 4-wire + 4 x Power

to make up Hybrid system cables

IP 20 ☐	IP 65 / IP 67 ☒	FRNC	Cat. 5 ☒	Cat. 6 ☐

Cable structure	Twisted Pair + 4 power cores, double shielding
Core structure	2 x 2 x AWG 22/7 + 4x 84 x 0.15 (Cord)
Sheath material	FRNC
Cable sheath diameter	10.3 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	– 20 °C to + 70 °C
Standard lengths	10 m / 20 m / 50 m / 100 m
Colour	Green
Printing	HARTING specific printing
Advantages	Robust industrial-compatible design PROFINET compliant Additional power supply

Identification	Part number	Drawing	Dimensions in mm
PROFINET Type B cable, Hybrid Industrial Cat. 5 Hybrid cable, 4-wire + 4 x Power FRNC			
10 m ring	09 45 600 0310		
20 m ring	09 45 600 0330		
50 m ring	09 45 600 0340		
100 m ring	09 45 600 0300		

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HARTING Profile-specific Cabling – EtherNet/IP

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HARTING Profile-specific Cabling – EtherNet/IP

Introduction

The chapter **"Profile Specific Cabling – EtherNet/IP"** shows the complete HARTING cabling portfolio, that links machinery, equipment and controllers in accordance with the **ODVA guidelines**.

EtherNet/IP together with **DeviceNet™** and **ControlNet™** uses a general application layer – the **"Common Industrial Protocol"** (CIP™). CIP™ makes possible the use of general software and hardware interfaces and consequently the integrated connection of Automation components from the field level over the control level up to the management level. EtherNet/IP demonstrates the implementation of CIP™ over TCP/IP and **Ethernet over IEEE 802.3**.

Fundamentally all EtherNet/IP applications can be carried over a future-proof generic cabling system. ODVA approves of several variants of cabling infrastructure and includes **shielded cabling** (STP) as well as **unshielded** (UTP). Unshielded systems contain a high risk of **EMC** interference and consequently to service reliability. The exact use of UTP systems must be checked – in case of doubt a shielded system is to be preferred.

Together with the possibility of linking 8-wire cables and connectors, EtherNet/IP already leans relatively strongly on the principles of generic cabling.

However in contrast to generic cabling, EtherNet/IP IP 65 / IP 67 infrastructure solutions go back to a special bayonet-interface for connectors and these are also included in the HARTING range of EtherNet/IP cabling, e.g. Han-Max®.

HARTING's EtherNet/IP cabling portfolio consequently allows a simple expansion of the networks for machines, equipment and controllers within customer's existing EtherNet/IP structures.

The portfolio is part of HARTING's comprehensive **Automation IT** network solution, which brings together active network technology, cabling and solutions for device and equipment power supply.

The EtherNet/IP cabling product portfolio covers:

- **Distributors and Connector boxes:** Termination and distribution of cables in harsh IP 65 / IP 67 environments, but also within control or distribution cabinets.
- **Panel feed-throughs:** To ensure cable introduction from IP 65 / IP 67 environments into control or distribution cabinets.
- **System cables:** Made-up system cables for quick connection of terminal boxes, distributors or active devices with machines, equipment and controllers.
- **Connectors:** Connector sets to make up specific system cables onsite.
- **Cables:** A comprehensive cable portfolio for the laying out / manufacture of system cables onsite.

The advantages of the HARTING EtherNet/IP cabling system at-a-glance:

- EtherNet/IP conformant cabling infrastructure, usable for EtherNet/IP, DeviceNet™ and ControlNet™ applications
- Supports all safety features and real-time requirements of EtherNet/IP
- Can be expanded and integrated into existing EtherNet/IP infrastructures without problems
- Conformance to ODVA guidelines makes roll-outs easier in firms which have set up EtherNet/IP as the communications platform
- Use of ODVA-recommended connectors reduces the variety of parts and makes purchasing and stocking of components easier
- Closeness to generic cabling allows the use of Gigabit Ethernet or PoE in the network
- The high quality of the cabling system guarantees a long useful life and reliable operations
- Simple planning, installation and reliable operation saves costs and delivers a high ROI
- The EtherNet/IP cabling system is part of HARTING's one-stop Automation IT network solution

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Distribution modules and Outlets



HARTING Cabinet Outlet RJ45

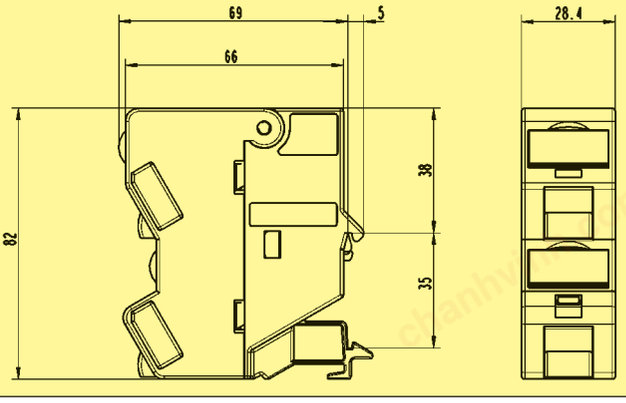
RJ45 distribution module for IP 20 environments (top-hat rail mounting)

IP 20	IP 65 / IP 67	IP 65 / IP 67 to IP 20	Cat. 5	Cat. 6
X	☐	☐	☐	X

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, prEN 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 mm - 0.65 mm) solid and stranded
Strand isolation	0.7 mm - 1.6 mm
Cable diameter	6 mm - 9 mm
Shielding	fully shielded, 360° shielding contact
Mounting	mounting onto 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 to + 70 °C
Housing material	Polycarbonate, V0
Colour	light grey RAL 7035

Advantages

- Simple mounting
- Cable entering ether from bottom or from top
- Dust protection covers
- Port identification
- Angled outputs

Identification	Part number	Drawing	Dimensions in mm
HARTING Cabinet Outlet RJ45 consisting of: 2 port-housing including dust protection cover and labels 2x RJ45 female modules, Category 6 Assembly instructions	20 76 102 8000		

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Panel feed-throughs



Han-Max® Panel feed-through RJ45

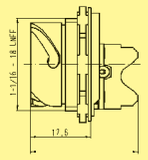
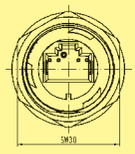
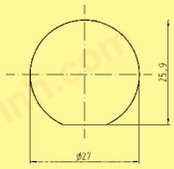
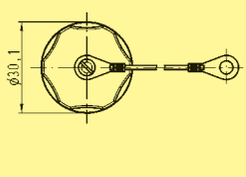
RJ45 panel feed-through for control or distributor cabinets

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

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 5e up to 100 MHz according to TIA/EIA 568-B
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact and unshielded
Mounting	screw-on type on steel plate walls
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 to + 85 °C
Housing material	Zinc, die-cast, nickel-plated
Colour	metal
Advantages	Solid metal interface IP 65 / IP 67 with bayonet nut
	Shielded and unshielded

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HARTING Profile-specific Cabling – EtherNet/IP

Identification	Part number	Drawing	Dimensions in mm
Han-Max® Panel feed-through RJ45 fully shielded (STP) unshielded (UTP) consisting of: Bulkhead mounted including seal RJ45 female module, mounted on PCB LSA-PLUS termination blocks on the rear side	09 15 300 0302 09 15 300 0301	  Length l (mm) 09 15 300 0301: 31.5 09 15 300 0302: 42.0	Panel cut-out for max. wall thickness 2.3 mm 
Protection cover for panel feed-through 	09 15 300 5411		

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Panel feed-throughs



Han® M12 Panel feed-through D-coding

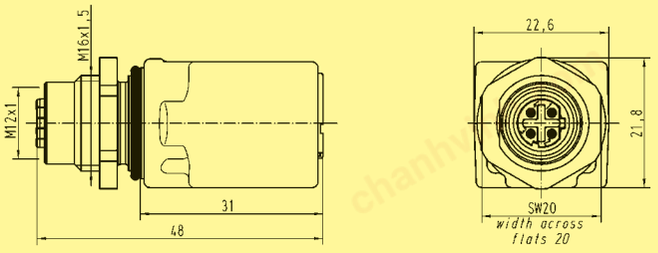
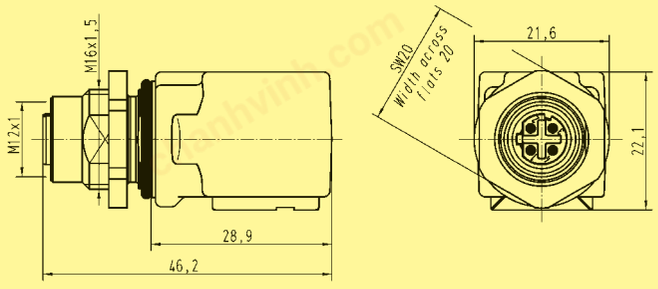
M12 panel feed-through for control or distributor cabinets

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

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

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HARTING Profile-specific Cabling – EtherNet/IP

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		

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HARTING Profile-specific Cabling – EtherNet/IP

System cables



HARTING Industrial Ethernet Patch cable RJ45, 8-wire

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
X	☐	☐	X	☐

Connector types	RJ45, overmoulded
Cable types	4 x 2, Twisted Pair, shielded
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, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 20 °C to + 60 °C
Standard lengths	0.5 m / 1 m / 2 m / 3 m / 5 m / 7.5 m other lengths on request
Colour	Black or Green
Advantages	Robust design Easy handling for all applications

Identification	Part number	
HARTING Industrial Ethernet Patch cable RJ45, 8-wire	Black	Green
Length 0.5 m	09 45 971 1121	09 45 971 1101
Length 1.0 m	09 45 971 1122	09 45 971 1102
Length 2.0 m	09 45 971 1123	09 45 971 1103
Length 3.0 m	09 45 971 1124	09 45 971 1104
Length 5.0 m	09 45 971 1126	09 45 971 1106
Length 7.5 m	09 45 971 1129	09 45 971 1109

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System cables



HARTING RJ Industrial® System cable RJ45, 8-wire

RJ45 connection cable for control or distributor cabinets or within controllers

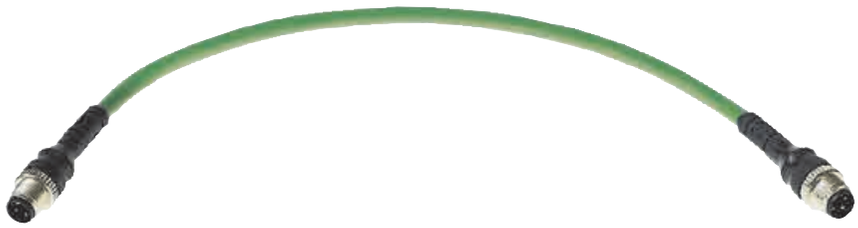
IP 20	IP 65 / IP 67	IP 65 / IP 67 to IP 20	Cat. 5	Cat. 6
[X]	[ ]	[ ]	[ ]	[X]

Connector types	RJ45
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, prEN 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 on request
Colour	Green
Advantages	Robust industrial design High operational reliability in vibration-prone locations

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial System cable RJ45, 8-wire	Green		
Length 1.5 m	09 45 751 1523		
Length 3.0 m	09 45 751 1525		
Length 5.0 m	09 45 751 1527		
Length 10.0 m	09 45 751 1551		
Length 20.0 m	09 45 751 1553		

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System cables



Han® M12 System cable, 4-wire

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

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

Connector types	Han® M12, D-coding, overmoulded
Cable types	2 x 2 x AWG 22/7, Twisted Pair, shielded
Sheath material	PUR
Wiring	4-pole (RJ45 contacts 1/2 and 3/6)
Transmission performance	Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 25 °C to + 70 °C
Standard lengths	1 m / 3 m / 5 m other lengths on request
Colour	Green
Advantages	Robust design Use on-site made possible by IP 65 / IP 67 protection

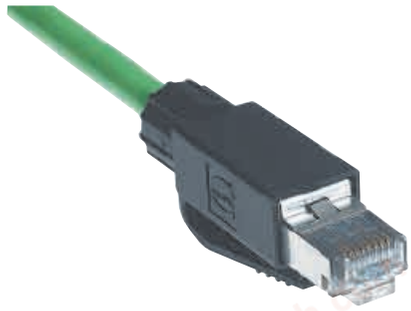
Identification	Part number	Drawing	Dimensions in mm
Han® M12 System cable, 4-wire			
Length 1.0 m	21 03 485 1401		
Length 3.0 m	21 03 485 1403		
Length 5.0 m	21 03 485 1405		

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Notes

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Connector sets



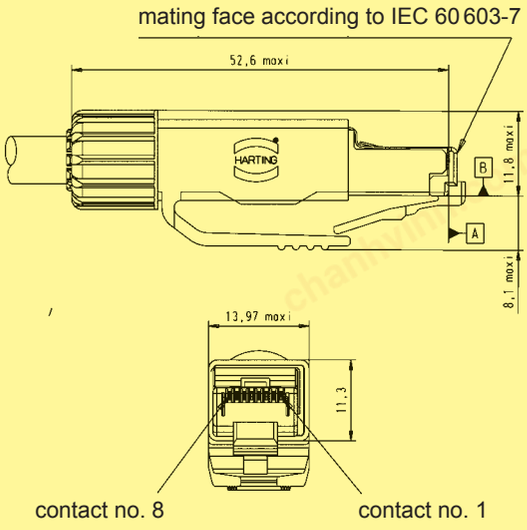
HARTING RJ Industrial® Connector set RJ45, 8-pole
to make up RJ45 system cables

IP 20	IP 65 / IP 67	IP 65 / IP 67 to IP 20	Cat. 5	Cat. 6
X	☐	☐	☐	X

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, prEN 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 diameter – Cable sheath diameter	 AWG 42/7 - AWG 27/7 6.5 mm - 6.9 mm
Degree of protection	IP 20
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polycarbonate, UL 94-V0
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 (delivers optimal transmission behavior)

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HARTING Profile-specific Cabling – EtherNet/IP

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® Connector set RJ45, 8-pole with cable manager White cable manager Blue Set consists of: Housing including shielding Cable gland Assembly instructions	 09 45 151 1500 09 45 151 1510		
Mounting tools for RJ45 connector set	09 45 800 0500		

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Connector sets



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

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

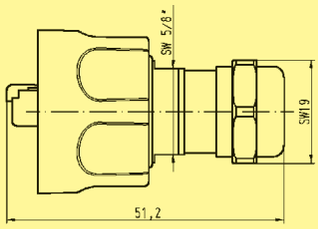
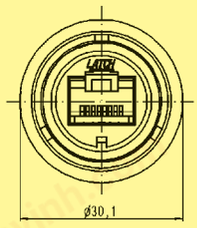
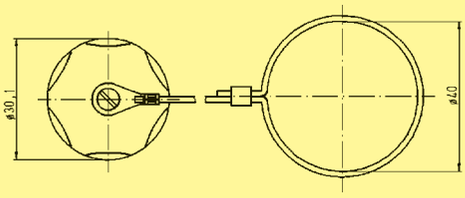
Connector type	Bayonet connector RJ45 acc. to IEC 24 702
Number of contacts	8
Transmission performance	Category 5e up to 100 MHz according to TIA/EIA 568-B
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact and unshielded
Mounting	Field-assembly possible
Wire termination	via crimp contacts
Cable options – Strand diameter – Cable sheath diameter	 AWG 24 - AWG 26 (Cord) 4 mm - 8 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 25 °C to + 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. 5e, IP 65 / IP 67

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HARTING Profile-specific Cabling – EtherNet/IP

Identification	Part number	Drawing	Dimensions in mm
Han-Max® Connector set RJ45, 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		

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Connector sets



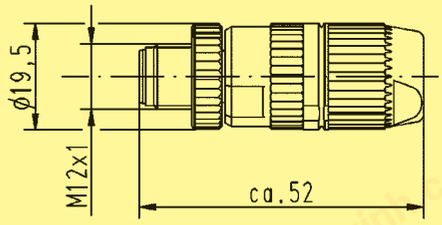
HARAX® M12 Connector D-coding, 4-pole
to make up HARTING system cables M12

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

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 possible
Wire termination	via IDC contacts
Cable options – Strand diameter – Cable sheath diameter	 AWG 24 - AWG 22 (Cord) 5.5 mm - 7.2 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 25 °C to + 85 °C
Housing material	Metal
Advantages	Field-assembly M12 connector Tool-less assembly

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HARTING Profile-specific Cabling – EtherNet/IP

Identification	Part number	Drawing	Dimensions in mm
HARAX® M12 Connector D-coding, 4-pole straight style	21 03 281 1405	  View Connection side	

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Cables



Industrial Cat. 6 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
X	X		☐	X

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 27/7
Sheath material	PVC
Cable sheath diameter	6.8 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 10 °C to + 70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Advantages	Robust industrial-compatible design Optimal power reserves

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 6 cable, stranded, 8-wire PVC			
20 m ring	09 45 600 0530		
50 m ring	09 45 600 0540		
100 m ring	09 45 600 0500		
500 m drum	09 45 600 0520		



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Cables



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

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

IP 20	IP 65 / IP 67	PUR, halogen-free	Cat. 5	Cat. 6
X	X			X

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 27/7
Sheath material	PUR, halogen-free
Cable sheath diameter	6.8 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 40 °C to + 70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Advantages	Robust industrial-compatible design Halogen-free

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 6 cable, stranded, 8-wire PUR			
20 m ring	09 45 600 0630		
50 m ring	09 45 600 0640		
100 m ring	09 45 600 0600		
500 m drum	09 45 600 0620		



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HARTING Profile-specific Cabling – EtherNet/IP

Cables



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

IP 20	IP 65 / IP 67	PVC	Cat. 5	Cat. 6
X	X		X	☐

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 26/7
Sheath material	PVC
Cable sheath diameter	6.7 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 45 °C to + 60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black
Advantages	Robust industrial-compatible design Applicable also for outside applications

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 5 outdoor cable, 8-wire			
20 m ring	09 45 600 0230		
50 m ring	09 45 600 0240		
100 m ring	09 45 600 0200		
500 m drum	09 45 600 0220		

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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
X	X		X	

Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 26/7
Sheath material	PUR
Cable sheath diameter	6.7 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, prEN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	each pair shielded and additional shield for the whole cable
Operating temperature range	– 45 °C to + 60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Advantages	Robust industrial-compatible design Halogen-free

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

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Notes

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HARTING Tools

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HARTING Tools

Identification	Part number	
HARTING RJ Industrial® Gigalink-Mounting tools for 4-pair HARTING RJ Industrial® Gigalink connectors	**09 45 800 0500**	 With the RJ Industrial Gigalink Assembly Tool 4-pair connectors can be quickly, easily and reliably connected to flexible cables.
HARTING RJ Industrial® Stripping Tool Stripping tool for 2-pair PROFINET cables including blade cassette	**09 45 800 0000**	 The RJ Industrial Stripping Tool allows the insulation to be quickly and easily removed from 2-pair Industrial Ethernet cables with diameters between 2.5 - 8 mm. The tool is pre-set for a cable diameter of 6.5 mm. It allows the cable sheath and screening braid to be stripped consistently and simultaneously.
Blade cassette	**09 45 800 0001**	
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, see page C·P 6). The various conductors are cut to length and inserted into the insulation displacement contacts in a single pass.

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Standard / Approvals

		eCon 2000	eCon 3000	eCon 6000	eCon 7000	eCon 9000	sCon 3000	sCon 9000	pCon 7000	pCon 2000
				mCon 6000	mCon 7000	mCon 9000	mCon 3000			
Mechanical stability										
Shock assay	IEC 60 068-2-27	X	X	X	X	X	X	X	X	X
Vibration	IEC 60 068-2-6	X	X	X	X	X	X	X	X	X
Rail standard	EN 50 155, Class 1		X	X	X	X	X	X	X	
EMC standards										
Interference immunity ESD	IEC 61 000-4-2	X	X	X	X	X	X	X	X	X
Interference immunity HF, radiated	IEC 61 000-4-3	X	X	X	X	X	X	X	X	X
Interference immunity Burst	IEC 61 000-4-4	X	X	X	X	X	X	X	X	X
Interference immunity Surge	IEC 61 000-4-5	X	X	X	X	X	X	X	X	X
Interference immunity	IEC 61 000-4-6	X	X	X	X	X	X	X	X	X
Emitted radiation	EN 55 011, Class A	X	X	X	X	X	X	X	X	X
Emitted radiation	EN 55 022, Class A	X	X	X	X	X	X	X	X	X
System perturbation	IEC 61 000-3-3								X	X
Rail standard	EN 50 121-3-2		X	X	X	X	X	X	X	

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Overview old – new product names

Part number	Identification	
	Old	New
20 76 108 3000	ESC TP08	eCon 3080-A
20 76 108 3001	ESC TP08-F	eCon 3080-A1
20 76 108 3002	ESC TP08-S	eCon 3080-A2
20 76 108 3003	ESC TP08-S-F	eCon 3080-A3
20 76 108 3004	ESC TP08 EXT	eCon 3080-A4
20 76 108 3005	ESC TP08-Plus	eCon 3080-A5
20 76 107 3100	ESC TP06/FX01-SC	eCon 3061-AD
20 76 108 3100	ESC TP06/FX02-SC	eCon 3062-AD
20 76 108 3101	ESC TP06/FX02-SC-F	eCon 3062-AD1
20 76 108 3103	ESC TP06/FX02-SC-SM	eCon 3062-AF
20 76 110 3100	ESC TP08/FX02-SC	eCon 3082-AD
20 76 110 3101	ESC TP08/FX02-SC-F	eCon 3082-AD1
20 76 107 3200	ESC TP06/FX01-ST	eCon 3061-AE
20 76 108 3200	ESC TP06/FX02-ST	eCon 3062-AE
20 76 108 3201	ESC TP06/FX02-ST-F	eCon 3062-AE1
20 76 110 3200	ESC TP08/FX02-ST	eCon 3082-AE
20 76 110 3201	ESC TP08/FX02-ST-F	eCon 3082-AE1
20 73 305 3921	ESC 67-30 TP05U RJI	eCon 6050-A
20 73 305 3941	ESC 67-30 TP05U M12	eCon 6050-BA
20 73 308 3972	ESC 67-30 TP08U RJI Hybrid	eCon 6080-HA
20 70 305 3921	ESC 67-10 TP05U RJI	eCon 7050-A
20 70 305 3941	ESC 67-10 TP05U M12	eCon 7050-B
20 70 310 3921	ESC 67-10 TP10U RJI	eCon 7100-A
20 70 310 3941	ESC 67-10 TP10U M12	eCon 7100-B
20 76 208 7000	ESC 20-19 TP07/01 U M12	eCon 9080-B

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Overview old – new product names

Part number	Identification	
	Old	New
20 76 110 1000	ESC TP10-SmartCon	sCon 3100-A
20 76 110 1001	ESC TP10-Giga-SmartCon	sCon 3100-AA
20 76 107 1100	ESC TP06/FX01-SC-SmartCon	sCon 3061-AD
20 76 109 1100	ESC TP06/FX03-SC-SmartCon	sCon 3063-AD
20 76 110 1100	ESC TP08/FX02-SC-SmartCon	sCon 3082-AD
20 76 107 1200	ESC TP06/FX01-ST-SmartCon	sCon 3061-AE
20 76 109 1200	ESC TP06/FX03-ST-SmartCon	sCon 3063-AE
20 76 110 1200	ESC TP08/FX02-ST-SmartCon	sCon 3082-AE
20 76 106 7000	ESC 20-19 TP06-S1-SmartCon	sCon 9080-A
20 76 110 4000	ESC TP10-M	mCon 3100-A
20 76 107 4100	ESC TP06/FX01-SC-M	mCon 3061-AD
20 76 109 4100	ESC TP06/FX03-SC-M	mCon 3063-AD
20 76 110 4100	ESC TP08/FX02-SC-M	mCon 3082-AD
20 76 107 4200	ESC TP06/FX01-ST-M	mCon 3061-AE
20 76 109 4200	ESC TP06/FX03-ST-M	mCon 3063-AE
20 76 110 4200	ESC TP08/FX02-ST-M	mCon 3082-AE
20 73 305 4921	ESC 67-30 TP05M RJI	mCon 6050-A
20 73 305 4941	ESC 67-30 TP05M M12	mCon 6050-BA
20 70 305 4921	ESC 67-10 TP05M RJI	mCon 7050-A
20 70 305 4941	ESC 67-10 TP05M M12	mCon 7050-B
20 70 310 4921	ESC 67-10 TP10M RJI	mCon 7100-A
20 70 310 4941	ESC 67-10 TP10M M12	mCon 7100-B
20 76 208 7001	ESC 20-19 TP07/01 M M12	mCon 9080-B
20 80 300 3011	IPS 67-10 1-2-95W Han 3 A	pCon 7095-24A
20 80 300 3012	IPS 67-10 1-2-95W M12	pCon 7095-24B

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Overview old – new product names

Part number	Identification	
	Old	New
09 45 845 1500	HARTING RJ Industrial Outlet PushPull	HARTING PushPull Outlet RJ45
09 45 845 1501	HARTING RJ Industrial Outlet PushPull	HARTING PushPull Outlet RJ45
09 45 245 1102	IP 67 PushPull Panel feed-through	HARTING PushPull Panel feed-through RJ45
09 45 971 112x	RJ Industrial Standard Patch cable IP 20	HARTING Industrial Ethernet Patch cable RJ45, 8-wire, Black
09 45 971 110x	RJ Industrial Standard Patch cable IP 20	HARTING Industrial Ethernet Patch cable RJ45, 8-wire, Green
09 45 751 15xx	RJ Industrial Fieldpatch IP 20	HARTING Industrial Ethernet System cable RJ45, 8-wire, Green
09 45 745 15xx	RJ Industrial Fieldpatch IP 67 PushPull	HARTING PushPull System cable RJ45, 8-wire, Green
09 45 715 15xx	RJ Industrial Fieldpatch IP 67 Data 3A	Han® 3 A System cable RJ45, 8-wire, Green
09 45 151 15x0	IP 20 Data-Connector, 4 pairs	HARTING RJ Industrial® Connectors RJ45, 8-pole
09 45 145 15x0	IP 67 PushPull Connector, 4 pairs	HARTING PushPull Connectors RJ45, 8-pole
09 45 125 15x0	IP 67 Data 3A Connector, 4 pairs	Han® 3 A Connectors RJ45, 8-pole
09 45 115 15xx	IP 67 Data 3A Connector, 4 pairs	Han® 3 A Connectors RJ45, 8-pole
09 45 600 05x0	Gigabit Ethernet wire, 4 pairs	Industrial Cat. 6 cable, stranded, 8-wire, PVC
09 45 600 06x0	Gigabit Ethernet wire, 4 pairs, halogen-free	Industrial Cat. 6 cable, stranded, 8-wire, PUR
09 45 600 02x0	Industrial Ethernet cable, 4 pairs	Industrial Cat. 5 outdoor cable, 8-wire
09 45 600 04x0	Industrial Ethernet cable, 4 pairs	Industrial Cat. 5 cable, stranded, 8-wire, PUR

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Overview old – new product names

Part number	Identification	
	Old	New
20 79 302 0922	HARTING RJ Industrial Metal Outlet Cat. 6	Han® 3 A Metal Outlet RJ45, Cat. 6
09 45 815 1100	HARTING RJ Industrial Metal Outlet	Han® 3 A Metal Outlet RJ45, Cat. 5
20 73 302 4941	Industrial outlet with Metal housing INO 67 M12	HARTING M12 Metal Outlet D-coding, Cat. 5
09 42 2x5 11xx	IP 67 Data 3A-Panel feed-through	Han® 3 A Panel feed-through RJ45
09 45 2x5 11xx	IP 67 Data 3A-Hybrid double-coupling	Han® 3 A Hybrid double-coupling RJ45
09 45 225 1300	IP 67 Hybrid-Panel feed-through	Han® 3 A Hybrid panel feed-through RJ45
10 12 005 1003	HARTING RJ Industrial Hybrid Hybrid double-coupling IP 67 (Metal)	Han® 3 A Hybrid double-coupling RJ45
21 03 381 x400	Adapter M12-RJ45	Han® M12 Panel feed-through D-coding
21 03 485 14xx	System cable with circular connector Han M12	Han® M12 System cable, 4-wire
09 45 971 11xx	RJ Industrial standard Patch cable IP 20	HARTING Industrial Ethernet Patch cable RJ45, 8-wire
09 45 771 xxxx	RJ Industrial overmoulded IP 20	HARTING RJ Industrial® System cable RJ45, 4-wire
09 47 050 60xx	RJ Industrial overmoulded IP 20	HARTING RJ Industrial® System cable RJ45, angled, 4-wire
09 45 715 xxxx	RJ Industrial Fieldpatch IP 67 Data 3A	Han® 3 A System cable RJ45, 4-wire
09 45 700 xxxx	RJ Industrial Fieldpatch IP 67 Data 3A	Han® 3 A System cable RJ45, 4-wire
09 45 715 13xx	RJ Industrial Fieldpatch IP 67 Hybrid	Han® 3 A Hybrid system cables RJ45, 4-wire
09 45 7xx xxxx	RJ Industrial Fieldpatch IP 67 PushPull	HARTING PushPull System cable RJ45, 4-wire
09 45 701 xxxx	RJ Industrial Fieldpatch IP 67 PushPull	HARTING PushPull System cable RJ45, 4-wire
21 03 485 140x	System cable with circular connector Han M12	Han® M12 System cable, 4-wire
21 03 281 1405	*HARAX* circular connector M12-L	*HARAX*® M12 Connector D-coding, 4-pole
09 15 300 030x	Han-Max® Panel feed-through	Han-Max® Panel feed-through RJ45
09 15 300 040x	Han-Max® cable side	Han-Max® Connector set RJ45, 8-pole

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09 20 003 5425	C·P 13
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09 20 003 5426	A·M 24
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09 35 221 0422	C·P 51
09 37 003 5402	C·G 17
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09 45 115 1502	C·G 17
09 45 115 1510	C·G 17
09 45 115 1512	C·G 17
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09 45 971 1104	C·E 8
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09 45 971 1106	C·E 8
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09 45 971 1122	C·P 19
09 45 971 1122	C·E 8
09 45 971 1123	C·G 8
09 45 971 1123	C·P 19
09 45 971 1123	C·E 8
09 45 971 1124	C·G 8
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09 45 971 1124	C·E 8
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