



Pushing Performance

HARTING Ethernet Network Solutions Automation IT



Transforming customer wishes into concrete solutions

Intro-
duction



Headquartered in Espelkamp in East Westphalia, Germany, the HARTING Technology Group develops tailored solutions and products revolving around electrical and electronic connector technologies. These offerings focus on power and data transmission applications, as well as on network solutions. Founded in 1945 in Minden, HARTING is currently employing a workforce of more than 2700 members of staff worldwide.

In today's increasingly knowledge and information shaped societies, the capability to network and integrate with customers and suppliers, as well as technology and business partners is playing the decisive role.

And this applies to national as well as international levels. With 40 Subsidiary companies and Representatives in 27 countries, HARTING is committed to maintaining close proximity to markets and customers. Always at hand on location, HARTING is able to rapidly record market impulses and respond flexibly.



HARTING Subsidiary company



HARTING Representatives



WE ASPIRE TO TOP PERFORMANCE.

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

ALWAYS AT HAND, WHEREVER OUR CUSTOMERS MAY BE.

Increasing industrialization is creating growing markets characterized by widely diverging demands and requirements. The search for perfection, increasingly efficient processes and reliable technologies is a common factor in all sectors across the globe. HARTING is providing these technologies – in Europe, America and Asia. The HARTING professionals at our international subsidiaries engage in close, partnership based interaction with our customers, right from the very early product development phases, in order to realize customer demands and requirements in the best possible manner.

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

OUR CLAIM: PUSHING PERFORMANCE.

HARTING provides more than optimally attuned components. In order to serve our customers with the best possible solutions, HARTING is able to contribute a great deal more and play a closely integrative role in the value creation process.

From ready assembled cables through to control racks or ready-to-go control desks: Our aim is to generate the maximum benefits for our customers – without compromise!

QUALITY CREATES RELIABILITY – AND WARRANTS TRUST.

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

EN ISO 9001, the EU Eco-Audit and ISO 14001:2004 are key elements here. We take a proactive stance to new requirements, which is why HARTING ranks among the first companies worldwide to have obtained the new IRIS quality certificate for rail vehicles.

HARTING TECHNOLOGY CREATES ADDED VALUE FOR CUSTOMERS.

Technologies by HARTING are at work worldwide. HARTING's presence stands for smoothly functioning systems, powered by intelligent connectors, smart infrastructure solutions and mature network systems. In the course of many years of close, trust-based cooperation with its customers, the HARTING Technology Group has advanced to one of the worldwide leading specialists for connector technology. Extending beyond the basic functionalities demanded, we offer individual customers specific and innovative solutions. These tailored solutions deliver sustained effects, provide investment security and enable customers to achieve strong added value.

OPTING FOR HARTING OPENS UP AN INNOVATIVE, COMPLEX WORLD OF CONCEPTS AND IDEAS.

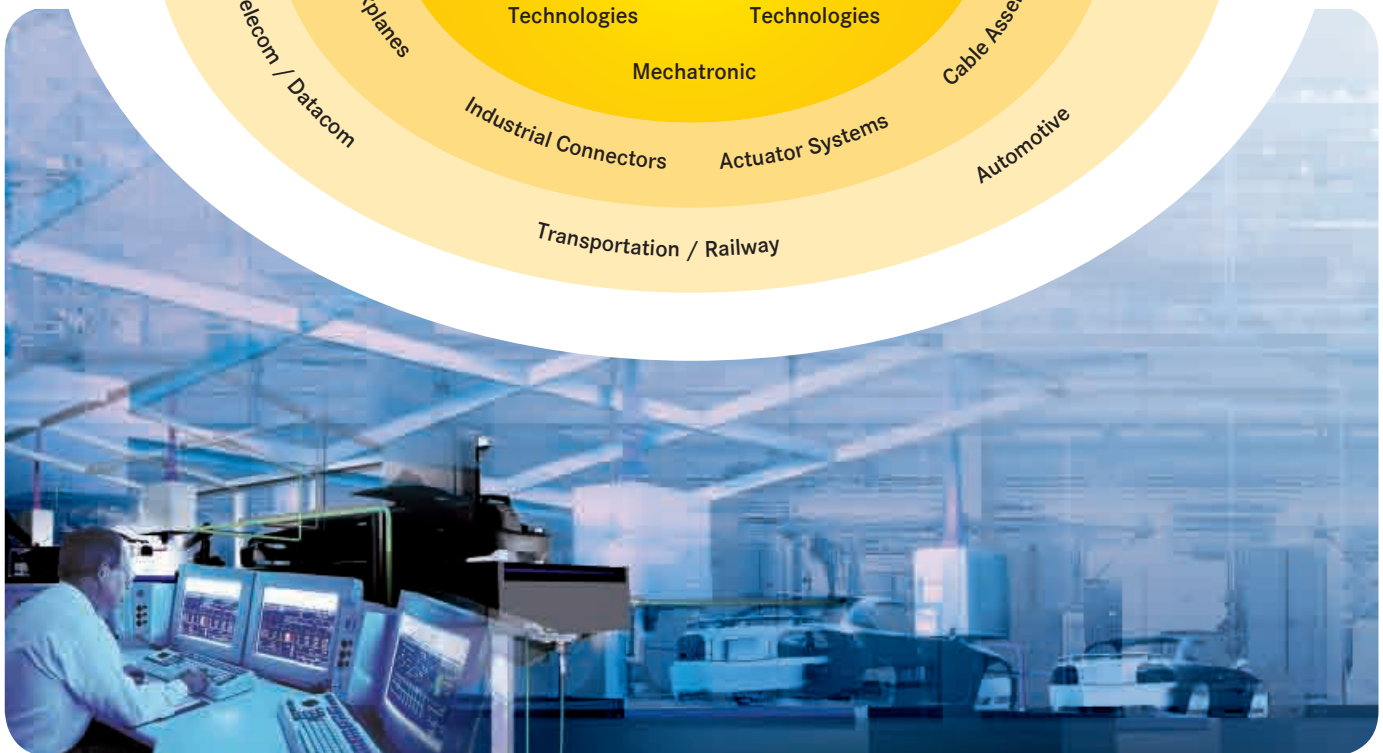
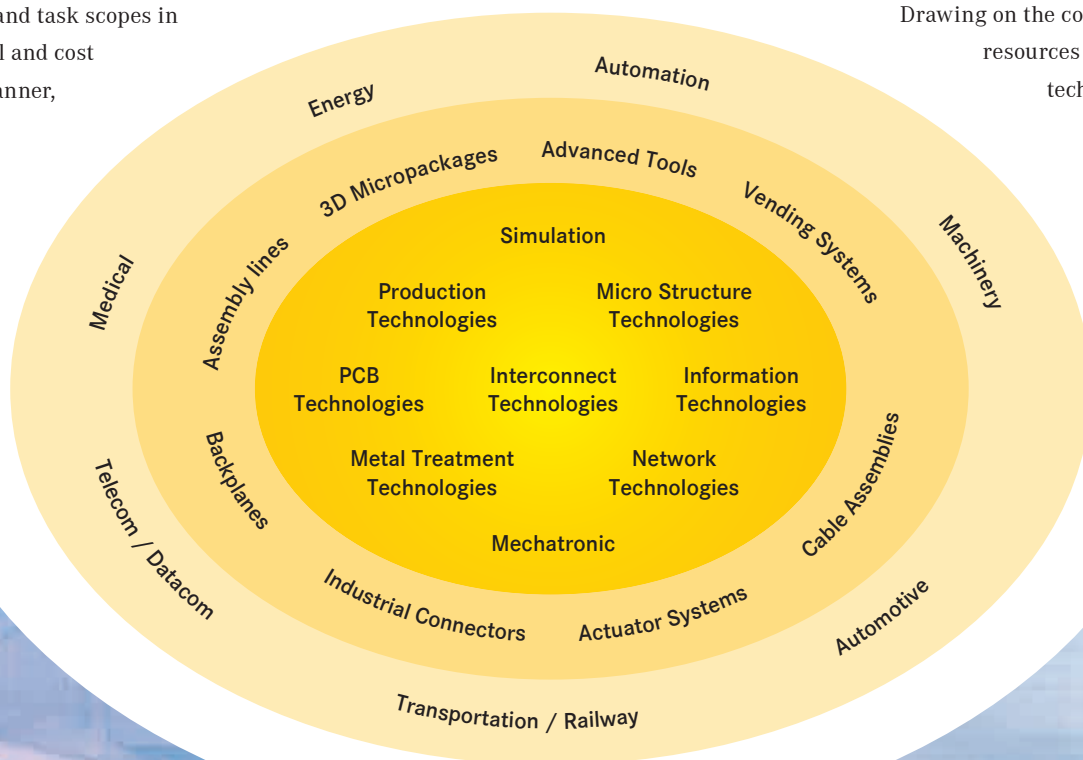
In order to develop connectivity and network solutions serving an exceptionally wide range of connector applications and task scopes in a professional and cost optimized manner, HARTING not only

commands the full array of conventional tools and basic technologies. Over and beyond these capabilities, HARTING is constantly harnessing and refining its broad base of knowledge and experience to create new solutions that ensure continuity at the same time. In securing this know-how lead, HARTING draws on a wealth of sources from both in-house research and the world of applications alike.

Salient examples of these sources of innovative knowledge include microstructure technologies, 3D design and construction technology, as well as high temperature or ultrahigh frequency applications that are finding use in telecommunications or automation networks, in the automotive industry, or in industrial sensor and actuator applications, RFID and wireless technologies, in addition to packaging and housing made of plastics, aluminum or stainless steel.

HARTING SOLUTIONS EXTEND ACROSS TECHNOLOGY BOUNDARIES.

Drawing on the comprehensive resources of the group's technology pool, HARTING devises



practical solutions for its customers. Whether this involves industrial networks for manufacturing automation, or hybrid interface solutions for wireless telecommunication infrastructures, 3D circuit carriers with microstructures, or cable assemblies for high-temperature applications in the automotive industry - HARTING technologies offer far more than components, and represent mature, comprehensive solutions attuned to individual customer requirements and wishes. The range covers ready-to-use cable configurations, completely assembled backplanes and board system carriers, as well as fully wired and tested control panels.

In order to ensure the future proof design of RF- and EMC-compatible interface solutions, the central HARTING laboratory (certified to EN 45001) provides simulation tools, as well as experimental, testing and diagnostics facilities all the way through to scanning electron microscopes. In the selection of materials and processes, lifecycle and environmental aspects play a key role, in addition to product and process capability considerations.

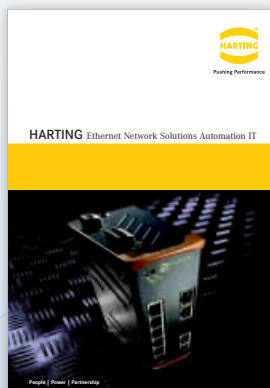
HARTING KNOWLEDGE IS PRACTICAL KNOW-HOW GENERATING SYNERGY EFFECTS.

HARTING commands decades of experience with regard to the applications conditions of connectors in telecommunications, computer and network technologies and medical technologies, as well as industrial automation technologies, such as the mechanical engineering and plant engineering areas, in addition to the power generation industry or the transportation sector. HARTING is highly conversant with the specific application areas in all of these technology fields.

The key focus is on applications in every solution approach. In this context, uncompromising, superior quality is our hallmark. Every new solution found will invariably flow back into the HARTING technology pool, thereby enriching our resources. And every new solution we go on to create will draw on this wealth of resources in order to optimize each and every individual solution. In this way, HARTING is synergy in action.



Automation IT

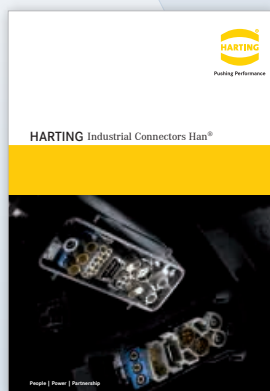


ETHERNET NETWORK SOLUTIONS

The Automation IT catalogue offers a consistent range of Ethernet network components and cabling products, which form the communication platform of convergent Automation IT

networks. The performance of network components opens up access to a wide range of applications for industrial buildings, manufacturing plants and machines in industrial environments.

Installation Connectivity

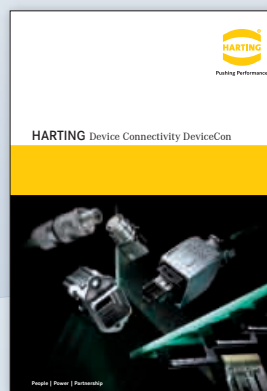


INDUSTRIAL CONNECTORS Han®

This catalogue documents the worldwide standard for industrial connectors. Han® connectors represent the preferential solution in the cable-to-cable interconnection of data, signal and power applications operating under the most

demanding conditions and meeting stringent requirements with regard to safe and detachable electrical connections with high degree of protection IP 65 / IP 67. Installations making use of Han® connectors impress with their rugged design, convenient handling and modularity of data, signal and power connections. Han® connectors represent the worldwide standard in industry, railway technology, as well as in power generation and distribution.

Device Connectivity



DEVICE CONNECTIVITY DeviceCon

The DeviceCon catalogue provides a universal, innovative product portfolio of PCB connections and of termination technology. The product range comprises board-to-board and cable-to-board connectors for industrial

electronic devices with degree of protection IP 20 to IP 65 / IP 67. These HARTING solutions offer appropriate device connectivity for a wide range of devices, ranging from sensors to industrial computers and their respective data, signal and power interfaces.

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AUTOMATION IT

Automation IT is the universal communication platform that delivers extraordinary efficiency increase within the overall process of industrial companies.

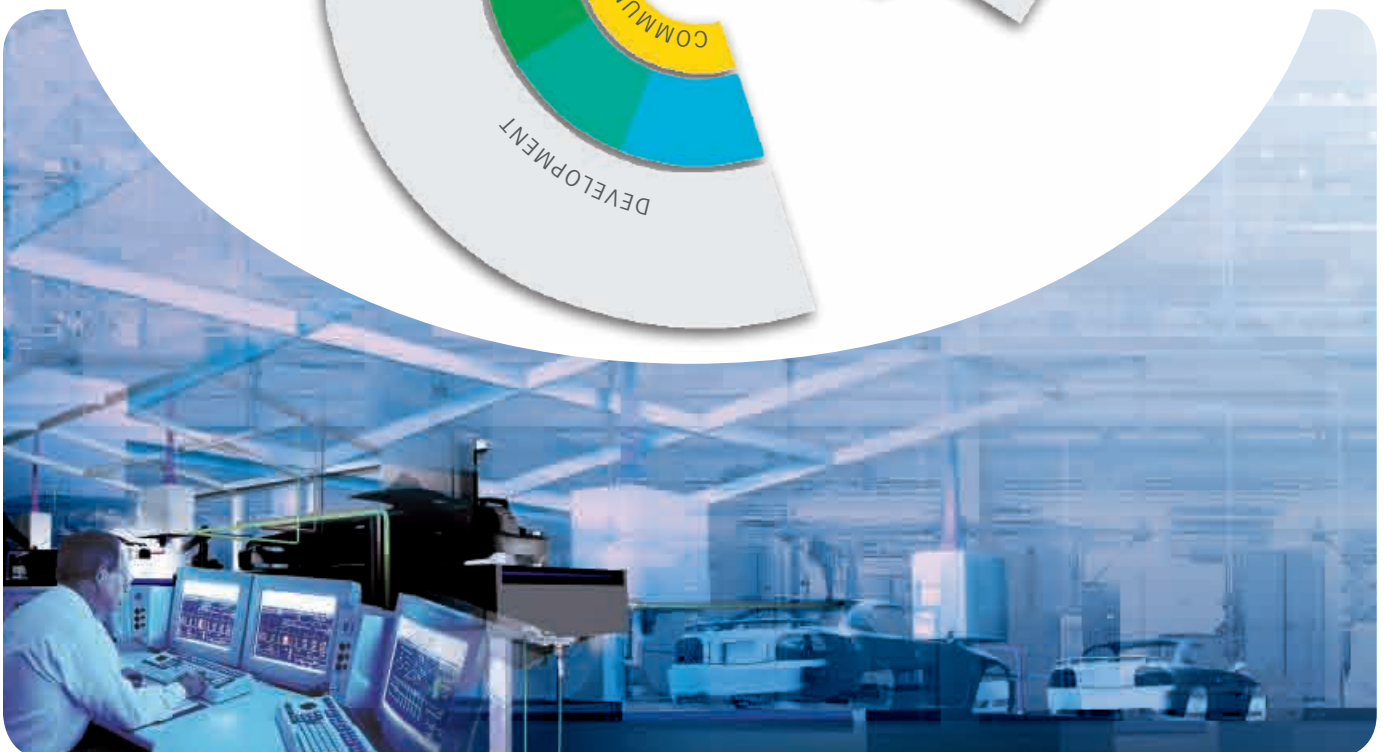
Standardized Ethernet technology is replacing universality in communication. In addition to communication, Automation IT also requires an adapted installation concept in all areas of a given company. In addressing the Automation IT challenges, the HARTING Technology Group is creating and providing the appropriate solutions. Meeting all the essential aims and objectives, HARTING has established a comprehensive, consistent solution comprising Ethernet network components and cabling for industrial buildings and industrial facilities, systems and machines.

Meeting all of the end customers' needs in an optimal manner is decisive for long-term success of today's companies. This extends from order placement to manufacturing, and from product delivery all the way through to after sales and support.

Quality, costs and especially speed are the determining success factors that secure a company's growth. In order to build up process optimized manufacturing, development and marketing, companies need solutions by application specialists that can be integrated to an open network.

According to the Automation IT concept, a network is defined to act as a platform for all applications of an industrial company. This universal communication platform for all applications will overcome the previous perception of delimited communication worlds and tear down existing communication barriers between applications.

In this way, the entire process of development, manufacturing and marketing can be shaped and designed in a more efficient manner, as the competitive strength of companies can only be secured by optimized processes.



THE AUTOMATION IT COMMUNICATION PLATFORM

Ethernet is the link between strategic necessities and actual networks, as today's Ethernet can be used for all Office IT applications as well as applications from the automation environment.

Seamless communication takes center stage in these concepts. And only Ethernet compatible systems are able to offer this seamless consistency. Originally, standard Ethernet was only developed for processes from the Office IT environment. Automation IT, however, factors in the justified automation demands for deterministic and real-time functionalities. Profiles such as PROFINET and Ethernet/IP have been created for the automation environment that extend the reach of Ethernet directly to intelligent sensor and actuator devices and technologies. These IEEE 802.3 compatible and internationally standardized profiles can be deployed on the Automation IT platform.

The utilization of standard IEEE 802.3 Ethernet technology is important, as this technology is under permanent advancement. Consequently, this technology is providing performance for today's as well as future's applications, assuring optimal investment security.

The HARTING Technology Group connects networks and integrates applications in demanding industrial environments. Therefore, the Selection Guide was developed as a simple tool facilitating the selection of the right components.

Ethernet/IP is an ethernet profile of the ODVA and is part of the IEC 61158 standard

PROFINET is an ethernet profile of the PNO and is part of the IEC 61158 standard

Ethernet

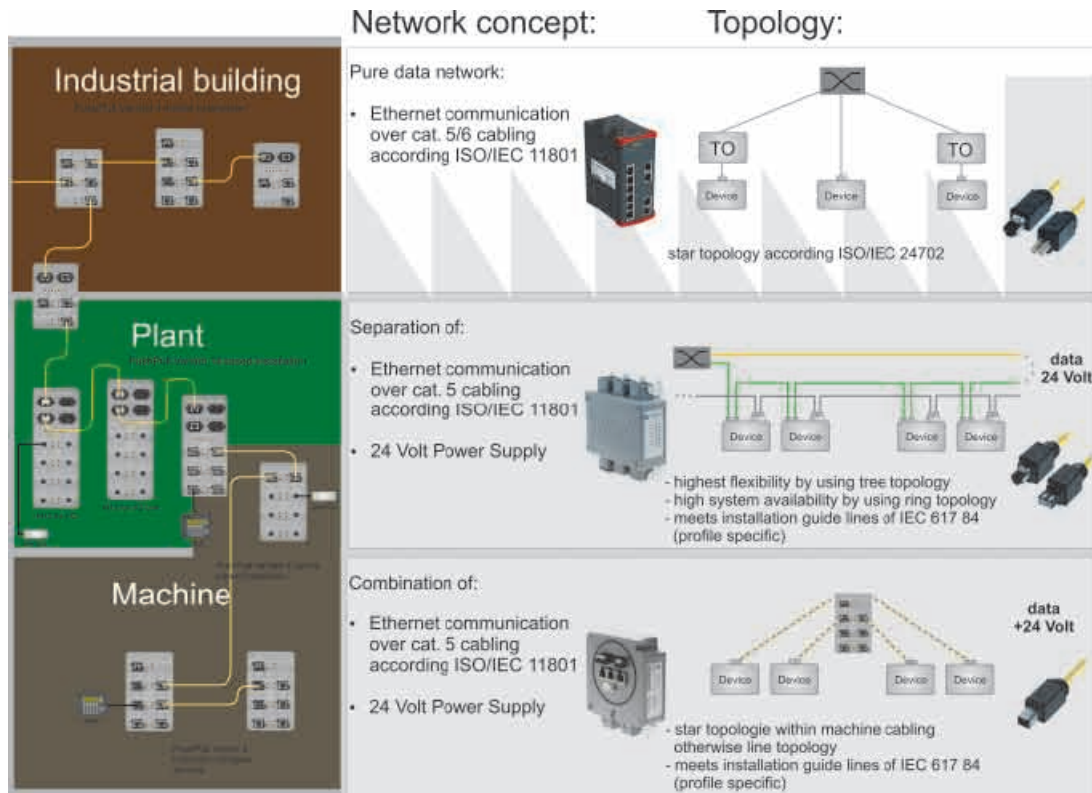
TRANSPORTATION / POWER ENGINEERING

HARTING also holds in-depth expertise in meeting special demands and requirements in the railway and power engineering areas. The respective applications call for market specific certifications and functionalities. HARTING is serving these areas with strong solution competence and a range of tailored network components.

CONCEPTS OF AUTOMATION IT

In the machine and plant environment, the Ethernet network components and cabling merge to a functional unit. The network is adapted to the building environment, the plant facilities and machines without losing its platform character in terms of communication functionalities. This is reflected, for example, by the utilization of IP 67 components or the support of special topologies such as line or ring topologies.

Intro-
duction



Ethernet network components:

INDUSTRIAL BUILDINGS

In industrial buildings the functionalities demanded of network components are virtually identical with the office environment. SNMP based management simplifies the administration of a consistent communication platform. HARTING network components will withstand an extended ambient temperature range and can be installed on mounting rails, thereby adjusting to the demands of harsh industrial environments. Moreover, the mCon range features appropriate performance in connection with complete SNMP and web-based management.

PLANT FACILITIES / MACHINES

The installation of plant facilities and machines is usually profile specific, and calls for the profile specific execution of Ethernet network components. In this area, HARTING offers network components with the right device interfaces and functionalities attuned to automation requirements.

Ethernet cabling:

INDUSTRIAL BUILDINGS

Generic IEC 11 801 cabling is widely established as an office standard. This cabling represents a tailored technology for Ethernet applications.

The IEC 11 801 component categories are referenced in all industrial standards. The extensive approximation and adaptation to the industrial environment was created by the development of IEC 24 702, which was published at the end of 2006. This standard has been issued as DIN EN 50 173-3.

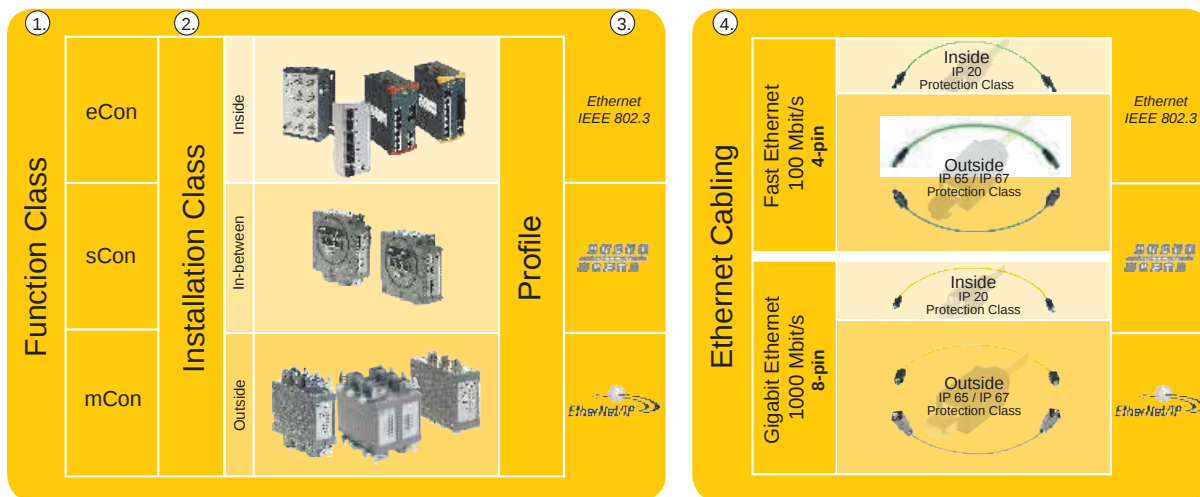
These elements represent the central organise system of Ethernet data technology in industrial buildings. HARTING is fielding an extensive portfolio of IP 30 and IP 67 connectors, outlets and system cables.

PLANT FACILITIES / MACHINES

Regarding the adaptation and attunement to plant facilities and machinery, a relevant standard exists that will be passed in the near future, namely IEC 61 918. HARTING is already factoring in the Ethernet/IP and PROFINET automation profiles that entail particular specifications for cabling. Here, connectors, wall ducts, outlets and system cables have been realized that feature with connector technologies that can be assembled, terminated and installed easily on location.

THE SELECTION GUIDE

Selection Guide is a consistent, uniform tool enabling the comprehensive planning of entire networks for industrial buildings, plant facilities and machines. Simple selection rules for the entire infrastructure provide support in building up a seamless Automation IT network. In view of the fact that the optimal attunement of network components and cabling is essential, the Selection Guide addresses both sides.



①

The **Functional Class** of the active network components is derived from their application. Whatever your need, with the eCon, sCon and mCon, HARTING covers the complete spectrum of industrial applications.

Function Classes	eCon Basic Functions	- EMC, temperature range and mechanical stability for the toughest demands - Ethernet Switch according to IEEE 802.3 - Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s), Gigabit Ethernet (1000 Mbit/s) - Store and Forward Switching Mode - Auto-negotiation / Auto-crossing / Auto-polarity - Up to 10 Ports (10 TX, 8 TX and 2 FX, 6 TX and 2 FX)
	sCon Configurable Functions	- Individually configurable via USB port - Parallel-redundancy, Ring-redundancy - Power-off configuration + Basic functions
	mCon Management Functions	- Management Services (IGMP Snooping, QoS, VLAN, RSTP, 802.1x...) - Web Management - SNMP Management + Basic functions

Network components can operate as simple star-couplers as in the eCon range, or take over the more complex tasks of active segment administration embodied by the mCon range.

②

In the second step, the **Installation Class** appropriate to the Installation Concept is selected. If, for example, your network components are located in a switch cabinet, then the *Inside* installation class is the right one for you. All HARTING network components are true industrial products, with such well thought-out default properties that they master the toughest environments.

Installation Class	Inside	2000 3000 4000 9000	The creation of a star-topology network within a cabinet, whose clients are also in the same cabinet.
	In-between	6000	Integration of cabinets into an Ethernet network, as well as arrangement in a star-topology within the cabinet. Decentralised cabinets can be easily linked together into a line-topology.
	Outside	7000	On-site creation of a star-topology network, most of whose devices are designed to a high protection class. The low number of ports also allow the implementation of simple line-topologies.

③

With the **Profile** you select whether special automation-specific functions, such as those required by PROFINET, are integrated into the network components. HARTING products can be put into Standard Ethernet, PROFINET and EtherNet/IP environments.

Structured cabling follows the particular application, since the determination of network components and other active devices decide the constraints on the cabling – for example, the selection of connectors.

④

The **Network Cabling** results from the simple connection of network clients. There are complete cable sets available as well as cables and connectors that can be made up on site.

Products are also available for transitional areas like cabinet walls or between two different installation lines.

With the help of the selection guide, you can follow an easy path to a seamless and secure network solution.

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Ethernet components overview

Function Class		Installation Class	Switching	
HARTING eCon	unmanaged	Inside (IP 30 Protection Class)	eCon 2000 - 3 / 4 / 5 Copper ports (RJ45) - Robust metal housing - Top-Hat rail mount - Optimum installation depth	 eCon 2030 -A 3 RJ45  eCon 2040 -A 4 RJ45
		Inside (IP 30 Protection Class)	eCon 3000 - 1 / 6 / 8 Copper ports with optional 1 / 2 FO ports - Robust metal housing - Top-Hat Rail mount - Narrow form factor	Without FO  eCon 3080 -A/-A2/-A4 8 RJ45 also available with: - with narrowest housing (-A2) - Extended temperature range (-A4)  eCon 3080 -A1 8 RJ45 FO 
		Inside (IP 30 / IP 40 Protection Class)	eCon 4000 - 8 Copper ports (M12 D-Coding) - Robust metal housing - EMC, temperature range and mechanical stability meet the highest requirements	 eCon 4080 -B1 8 M12 D-Coding
		In-between (IP 67 / IP 20 Protection Class)	eCon 6000 - 5 Copper ports (3 RJ45 and 2 Han® 3 A RJ45 / M12 D-Coding) - Robust die-cast aluminium housing - Active Panel feed-through - EMC, temperature range and mechanical stability meet the highest requirements - Potential-free alarm contact	5 Port  eCon 6050 -A 3 RJ45, 2 Han® 3 A RJ45  eCon 6050 -BA 3 RJ45, 2 M12 D-Coding
		Outside (IP 65 / IP 67 Protection Class)	eCon 7000 - 5 / 10 Copper ports (Han® 3 A RJ45 or M12 D-Coding) - Robust die-cast zinc housing - EMC, temperature range and mechanical stability meet the highest requirements	5 Port  eCon 7050 -A/-A1 - 5 Han® 3 A RJ45 - wide power input range (-A)  eCon 7050 -B/-B1 - 5 M12 D-Coding - wide power input range (-B)
		Inside (IP 30 Protection Class)	sCon 3000 - 6 / 8 / 10 Copper ports (RJ45) and optional 1 / 2 / 3 FO ports (SC/ST) - Robust metal housing - Parallel- / ring-redundancy - Top-Hat rail mounting - Potential-free alarm contact	Without FO  sCon 3100 -A/AA 10 RJ45, - Optionally with: - 2 RJ45 Gigabit FO  SC 
HARTING mCon	managed	Inside (IP 30 Protection Class)	mCon 3000 - 6 / 8 / 10 Copper ports (RJ45) and with optionally 1 / 2 / 3 FO-ports - Robust metal housing - Top-Hat rail mounting - Web management - Potential-free alarm contact	Without FO  mCon 3100 -A 10 RJ45 FO  SC 
		Inside (IP 30 / IP 40 Protection Class)	mCon 4000 - 8 Copper ports (M12 D-Coding) - Robust metal housing - EMC, temperature range and mechanical stability meet the highest requirements - Web management	 mCon 4080 -B1 8 M12 D-Coding
		In-between (IP 67 / IP 20 Protection Class)	mCon 6000 - 5 Copper ports (3 RJ45 and 2 Han® 3 A RJ45 / M12 D-Coding) - Robust die-cast aluminium housing - Active Panel feed-through - Potential-free alarm contact - Web-Management	5 Port  mCon 6050 -A 3 RJ45, 2 Han® 3 A RJ45  mCon 6050 -BA 3 RJ45, 2 M12 D-Coding
		Outside (IP 65 / IP 67 Protection Class)	mCon 7000 - 5 / 10 Copper ports (Han® 3 A RJ45 or M12 D-Coding) - Robust die-cast zinc housing - EMC, temperature range and mechanical stability meet the highest requirements - Web management	5 Port  mCon 7050 -A/-A1 - 5 Han® 3 A RJ45 - Wide power input range (-A1)  mCon 7050 -B/-B1 - 5 M12 D-Coding - Wide power input range (-B1)
HARTING pCon		Inside (IP 20 Protection Class)	pCon 2000 - World-wide application through wide input voltage range: 110 - 240 V AC - Operating temperature: 25°C to +70°C without derating - Fast installation without tools due to cage clamps - Active PFC	 pCon 2060 -24 Outlet socket: - 24 V / 2,5 A (60 W)  pCon 2060 -48 Outlet socket: - 48 V / 1,25 A (60 W) Outside 

Types

Application

 eCon 2050 -A 5 RJ45		 eCon 2050 -AA 5 RJ45 Gigabit		Ethernet IEEE 802.3 					
 eCon 3061 -AD 6 RJ45, 1 SC  eCon 3061 -AE 6 RJ45, 1 ST		eCon 3062 -AD/-AD2/-AF 6 RJ45, 2 SC also available with: - Extended temperature range (-AD2) - Single mode (-AF)  eCon 3062 -AE 6 RJ45, 2 ST		 eCon 3082 -AD 8 RJ45, 2 SC  eCon 3082 -AE 8 RJ45, 2 ST		Converter  eCon 3011 -AD 1 RJ45, 1SC - 10/100 MB - PoE		Ethernet IEEE 802.3 	
eCon 9000 - 7 -10 Copper ports (RJ45 or M12 D-Coding) - Robust metal housing - 19" rack mount - Small form-factor		 eCon 9080 -B 7 Han® M12 D-Coding +1		 eCon 9070 -B - 7 Han® M12 D-Coding - Power input on the front		 eCon 9100 -AA 8 RJ45, 2 RJ45 Gigabit		Ethernet IEEE 802.3 	
Hybrid  eCon 6080 -HA - 6 RJ45, 2 HARTING RJ Industrial® Hybrid - Redundant power inputs 18V - 30V DC								Ethernet IEEE 802.3 	
10 Port   eCon 7100 -A 10 Han® 3 A RJ45 eCon 7100 -B 10 M12 D-Coding				 eCon 7100 -AA 8 Han® 3 A RJ45, 2 Han® 3 A RJ45 Gigabit				Ethernet IEEE 802.3 	
   sCon 3061 -AD/-AF 6 RJ45, 1 SC sCon 3082 -AD/-AF 8 RJ45, 2 SC sCon 3063 -AD 6 RJ45, 3 SC		ST		   sCon 3061 -AE 6 RJ45, 1 ST sCon 3082 -AE 8 RJ45, 2 ST sCon 3063 -AE 6 RJ45, 3 ST				Ethernet IEEE 802.3 	
   mCon 3061 -AD 6 RJ45, 1 SC mCon 3082 -AD 8 RJ45, 2 SC mCon 3063 -AD 6 RJ45, 3 SC		ST		   mCon 3061 -AE 6 RJ45, 1 ST mCon 3082 -AE 8 RJ45, 2 ST mCon 3063 -AE 6 RJ45, 3 ST				Ethernet IEEE 802.3 	
mCon 9000 - 7 -10 Copper ports - Robust Metal housing - 19" rack mount - Small form-factor		 mCon 9080 -B 7 Han® M12 D-Coding +1		 mCon 9070 -B - 7 Han® M12 D-Coding - Power input on the front		 mCon 9100 -AA 8 RJ45, 2 RJ45 Gigabit		Ethernet IEEE 802.3 	
								Ethernet IEEE 802.3 	
10 Port   mCon 7100 -A1/-AA - 10 Han® 3 A RJ45 - optionally with 2 Gigabit (-AA) mCon 7100 -B1 10 M12 D-Coding				  mCon 7100 -A2 - 10 Han® 3 A RJ45 - With configuration memory interface mCon 7100 -B2 - 10 M12 D-Coding - With configuration memory interface				Ethernet IEEE 802.3 	
pCon 7000 - Robust die-cast zinc housing - Worldwide application through wide range of input voltage: 110 - 240 V AC - Operating Temperature: -25 °C - +75 °C - Power input socket: Han® 4 A - Active PFC				  pCon 7095 -24A Outlet socket: 2 Han® 4 A with 24 V / 4 A (95 W) pCon 7095 -24B Outlet socket: 2 M12 A-Coding with 24 V / 4 A (95 W)					

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Ethernet Switch HARTING eCon 2000

Ethernet Switches, unmanaged,
for flat mounting onto top-hat mounting rail
in control cabinets



General Description

The Ethernet Switches of the product family HARTING eCon 2000 are suitable for industrial applications and support Ethernet (10 Mbit/s), Fast Ethernet (100 Mbit/s) and Gigabit Ethernet (1000 Mbit/s). The product family enables the connection of up to 16 network devices (according to type) over shielded Twisted Pair cables.

Through its flat mounting and the clearly laid out integrated LEDs on each port, the eCon2000 Ethernet Switch family supports fast and easy network diagnosis. The eCon Ethernet Switch operates as an Unmanaged Switch in Store and Forward Switching Mode and supports Auto-crossing, Auto-negotiation and Auto-polarity.

Due to their mechanical attachment, the eCon2000 Ethernet Switches can be mounted on or dismantled from standard 35 mm top-hat rails without tools.

Features

- Auto-crossing
- Auto-negotiation
- Auto-polarity
- Store and Forward Switching Mode

For Ethernet Switch eCon 2050-AA only:

- complete designed for Gigabit Ethernet
- Jumbo Frames up to 9728 Bytes
- 4 K MAC addresses

Advantages

- Flat housing design
- Robust metal housing
- Adapted for mounting onto top-hat mounting rail 35 mm according to EN 60 715
- RoHS compliant

Application fields

- Industrial automation
- Automotive industry
- Wind power
- Power distribution systems

Technical characteristics eCon 2030-A, 2040-A, 2050-A / eCon 2160-A

Ethernet interface RJ45

Number of ports	3x / 4x / 5x / 16x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	RJ45 (Twisted Pair)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow 10 Mbit/s: OFF
Topology	Line, Star or mixed

	eCon 2030-A, 2040-A, 2050-A	eCon 2160-A
Power supply		
Input voltage	24 V DC (12 to 30 V DC)	24 V DC (12 to 48 V DC)
Termination	3-pole pluggable screw contact (24 V; 0; GND)	5-pole pluggable screw contact (PRW1 + / PWR1 - / PWR2 + / PWR2 - / PE)
Diagnostics (via LED)	Power supply - Green	
Design features		
Housing material	Aluminium, anodised	
Dimensions (W x H x D)	46.5 x 105 x 25.5 mm (without connectors)	120 x 105 x 25.5 mm (without connectors)
Degree of protection acc. to DIN 60529	IP 30	
Mounting	35 mm top-hat rail acc. to EN 60715	
Weight	approx. 0.2 kg	approx. 0.4 kg

Environmental conditions

Operating temperature	-10 °C to +70 °C
Storage temperature	-40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics eCon 2050-AA

Ethernet interface RJ45

Number of ports	5x 10/100/1000Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10, 100 or 1000 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	RJ45 (Twisted Pair)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 1000 Mbit/s: Green 100 Mbit/s: Yellow 10 Mbit/s: OFF
Topology	Line, Star or mixed

Power supply

Input voltage	24 V DC (12 to 48 V DC) - redundant
Termination	5-pole pluggable screw contact (PRW1 + / PWR1 - / PWR2 + / PWR2 - / PE)
Diagnostics (via LED)	Power supply (PWR1; PWR2) - Green

Design features

Housing material	Aluminium, anodised
Dimensions (W x H x D)	70 x 105 x 25.5 mm (without connectors)
Degree of protection acc. to DIN 60529	IP 30
Mounting	35 mm top-hat rail acc. to EN 60715
Weight	approx. 0.4 kg

Environmental conditions

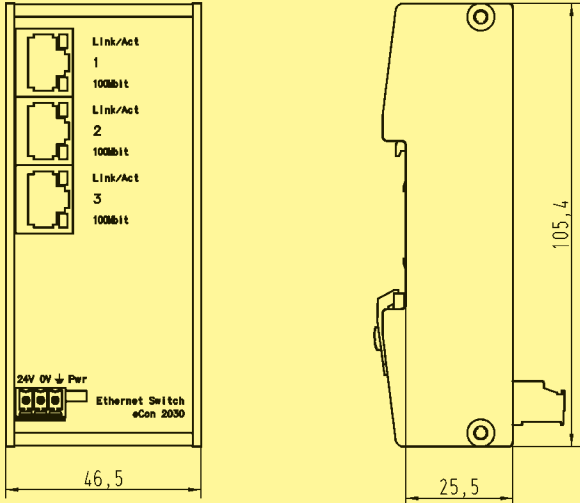
Operating temperature	-10 °C to +70 °C
Storage temperature	-40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)



Ethernet Switch
HARTING eCon 2030-A
3-port Ethernet Switch for flat mounting onto top-hat mounting rail in control cabinets

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	3x 10/100Base-T(X) / RJ45 (Twisted Pair)
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 30 V DC
Input current	approx. 125 mA (at 24 V DC)
Housing material	Aluminium, anodised
Dimensions (W x H x D)	46.5 x 105 x 25.5 mm (without connectors)
Weight	approx. 0.2 kg
Operating temperature	−10 °C to +70 °C
Approvals	UL 508
MTBF	1 020 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 2030-A Ethernet Switch with 3 RJ45 ports	20 76 103 3000		



Ethernet Switch HARTING eCon 2040-A

4-port Ethernet Switch for flat mounting onto top-hat mounting rail in control cabinets

Unmanaged

IP 30

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination 4x 10/100Base-T(X) / RJ45 (Twisted Pair)

Input voltage / Termination 24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)

Permissible range (min/max) 12 V to 30 V DC

Input current approx. 125 mA (at 24 V DC)

Housing material Aluminium, anodised

Dimensions (W x H x D) 46.5 x 105 x 25.5 mm (without connectors)

Weight approx. 0.2 kg

Operating temperature -10 °C to +70 °C

Approvals UL 508

MTBF 1 020 000 h

Identification

Part number

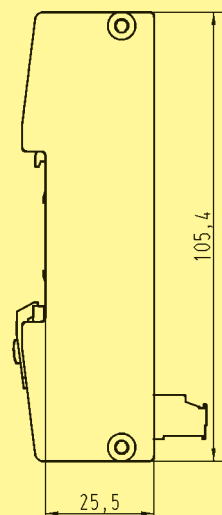
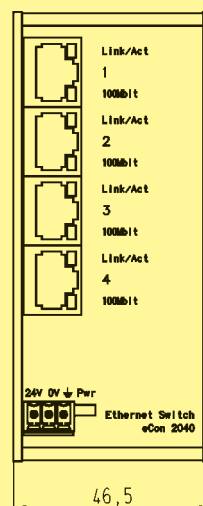
Drawing

Dimensions in mm

HARTING eCon 2040-A

Ethernet Switch
with 4 RJ45 ports

20 76 104 3000

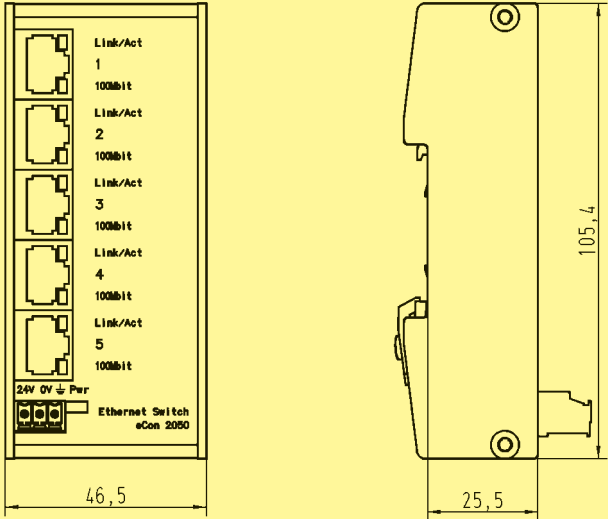




Ethernet Switch
HARTING eCon 2050-A
5-port Ethernet Switch for flat mounting onto top-hat mounting rail in control cabinets

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	5x 10/100Base-T(X) / RJ45 (Twisted Pair)
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 30 V DC
Input current	approx. 125 mA (at 24 V DC)
Housing material	Aluminium, anodised
Dimensions (W x H x D)	46.5 x 105 x 25.5 mm (without connectors)
Weight	approx. 0.2 kg
Operating temperature	−10 °C to +70 °C
Approvals	cUL (in preparation)
MTBF	1 020 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 2050-A Ethernet Switch with 5 RJ45 ports	20 76 105 3000		

Ethernet Switch HARTING eCon 2160-A

16-port Ethernet Switch for flat mounting onto top-hat mounting rail
in control cabinets



Unmanaged

IP 30

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 16x 10/100Base-T(X) / RJ45 (Twisted Pair)

Input voltage / Termination 24 V DC / 5-pole pluggable screw contact
(PRW1 + / PWR1 - / PWR2 + / PWR2 - / PE)

Permissible range (min/max) 12 V to 48 V DC

Input current approx. 220 mA (at 24 V DC)

Housing material Aluminium, anodised

Dimensions (W x H x D) 120 x 105 x 25.5 mm (without connectors)

Weight approx. 0.4 kg

Operating temperature -10 °C to +70 °C

Approvals cUL (in preparation)

Identification

Part number

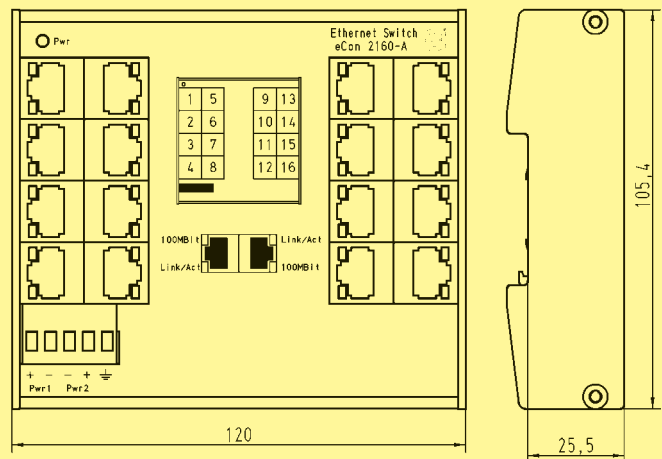
Drawing

Dimensions in mm

HARTING eCon 2160-A

Ethernet Switch
with 16 RJ45 ports

20 76 116 3000



Ethernet Switch
HARTING eCon 2050-AA
5-port Gigabit Ethernet Switch for flat mounting onto top-hat mounting rail
in control cabinets

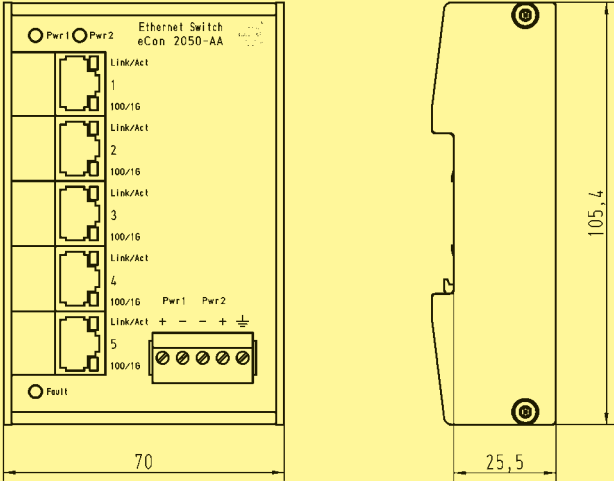


Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination 5x 10/100/1000Base-T(X) / RJ45 (Twisted Pair)

Input voltage / Termination 24 V DC / 5-pole pluggable screw contact
(PRW1 + / PWR1 - / PWR2 + / PWR2 - / PE)
Permissible range (min/max) 12 V to 48 V DC
Input current approx. 250 mA (at 24 V DC)

Housing material Aluminium, anodised
Dimensions (W x H x D) 70 x 105 x 25.5 mm (without connectors)
Weight approx. 0.4 kg
Operating temperature -10 °C to +70 °C
Approvals cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 2050-AA Gigabit Ethernet Switch with 5 RJ45 ports	20 76 105 3001		



Ethernet Switch HARTING eCon 3000

Ethernet Switches, unmanaged,
for installation in control cabinets

eCon 3000

General Description

The Fast Ethernet Switches of the product family HARTING eCon 3000 are suitable for industrial applications and support Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s). The product family enables the connection of up to 10 network devices (according to type) over shielded Twisted Pair cables and fibre-optic cables (Multi- and Singlemode).

The eCon 3000 Ethernet Switch product family, with its integrated LEDs on each port, supports fast and easy network diagnosis.

The eCon Ethernet Switch operates as an Unmanaged Switch in Store and Forward Switching Mode and supports Auto-crossing, Auto-negotiation and Auto-polarity.

Features

- Auto-crossing
- Auto-negotiation
- Auto-polarity
- Store and Forward Switching Mode

Advantages

- Small housing
- Robust metal housing
- Adapted for mounting onto top-hat mounting rail 35 mm according to EN 60 715
- RoHS compliant

Application fields

- Industrial automation
- Automotive industry
- Wind power
- Power distribution systems

Technical characteristics

Ethernet interface RJ45

Number of ports	6x / 8x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	RJ45 (Twisted Pair)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow / 10 Mbit/s: OFF
Topology	Line, Star or mixed

Power supply

Input voltage	24 V DC (12 to 30 V DC)
Termination	3-pole pluggable screw contact (24 V; 0; GND)
Diagnostics (via LED)	Power supply - Green

Design features

Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Degree of protection acc. to DIN 60529	IP 30 / IP 20 (only eCon 3000-AE)
Mounting	35 mm top-hat rail acc. to EN 60715
Weight	approx. 0.6 kg

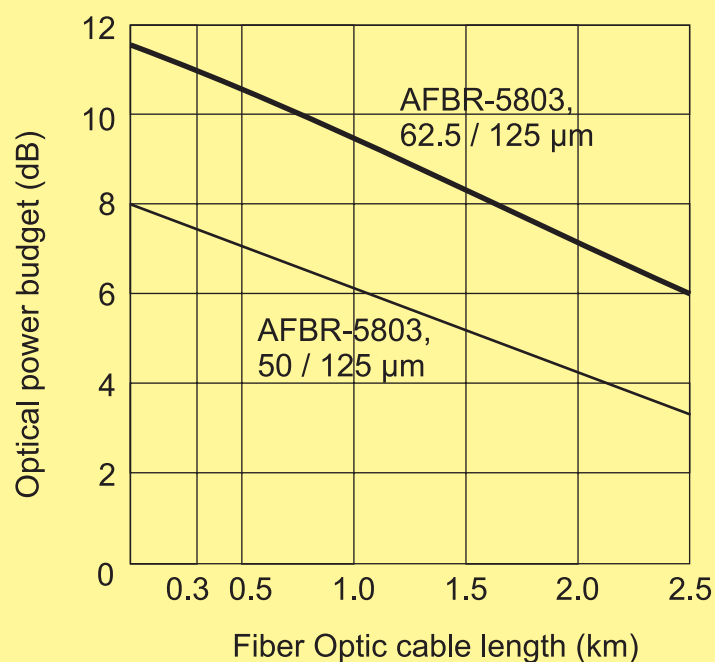
Environmental conditions

Operating temperature	–10 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics - F.O. termination

Ethernet interface – F.O.

Number of ports	1x / 2x 100Base-FX
Cable types according to IEEE 802.3	• Multimode fibre, 1300 nm; 50 / 125 μm or 62.5 / 125 μm • Singlemode fibre, 1300 nm; 9 μm (for AF versions only)
Data rate	100 Mbit/s
Maximum cable length	• 2000 m (Multimode) • 15 km (Singlemode)
Termination	SC-D female / ST female
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing
Wavelength	1300 nm
Transceiver power T(X) max. (dynamic)	• -14 dBm (50 / 125 μm) • -14 dBm (62.5 / 125 μm)
Transmission power T(X) min.	• -23.5 dBm (50 / 125 μm) • -20 dBm (62.5 / 125 μm)
Receive power RX typical (dynamic)	• -33.9 dBm (window) • -35.2 dBm (centre)
Receive power RX max. (dynamic)	-14 dBm
Signal detection (dynamic)	-33 dBm
Topology	Line, Star or mixed



Technical characteristics Media converter

Ethernet interface RJ45

Number of ports	1x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s (RJ45)
Repeater class	Class II (latency 860 ns in converter mode)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50 173-1)
Termination	RJ45 (Twisted Pair)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow / 10 Mbit/s: OFF • Duplex – Full duplex: Yellow / Half duplex: OFF • PoE (Power Source Equipment) (PSE) – Green
Topology	Line

Power supply

Input voltage	24 V DC (12 to 30 V DC)
Input voltage, mode PoE	48 V DC (46 to 57 V DC)
Termination	5-pole pluggable screw contact (PRW1 + / PWR1 - / PWR2 + / PWR2 - / PE)
Diagnostics (via LED)	Power supply - Green

Configuration

via DIP switches:
Mode, Auto-negotiation, Data rate, Duplex TP, Duplex FX,
Link monitoring, PoE (PSE)

Design features

Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Degree of protection acc. to DIN 60529	IP 30
Mounting	35 mm top-hat rail acc. to EN 60 715
Weight	approx. 0.6 kg

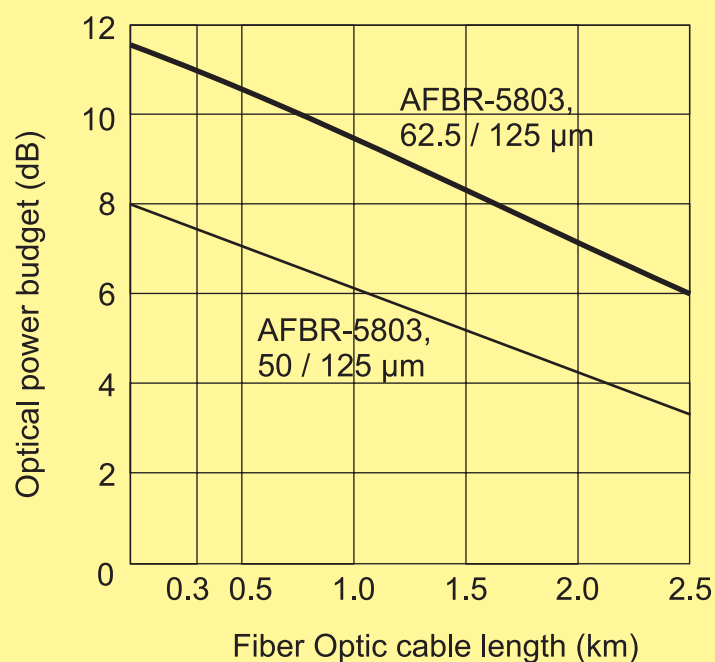
Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics Media converter - F.O. termination

Ethernet interface – F.O.

Number of ports	1x 100Base-FX
Cable types according to IEEE 802.3	Multimode fibre, 1300 nm; 50 / 125 μm or 62.5 / 125 μm
Data rate	100 Mbit/s
Link monitoring	Link Fault Path-Through (LFP)
Maximum cable length	2000 m (Multimode)
Termination	SC-D female
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Duplex – Full duplex: Yellow / Half duplex: OFF
Wavelength	1300 nm
Transceive power T(X) max. (dynamic)	• -14 dBm (50 / 125 μm) • -14 dBm (62.5 / 125 μm)
Transmission power T(X) min.	• -23.5 dBm (50 / 125 μm) • -20 dBm (62.5 / 125 μm)
Receive power RX typical (dynamic)	• -33.9 dBm (window) • -35.2 dBm (centre)
Receive power RX max. (dynamic)	-14 dBm
Signal detection (dynamic)	-33 dBm
Topology	Line

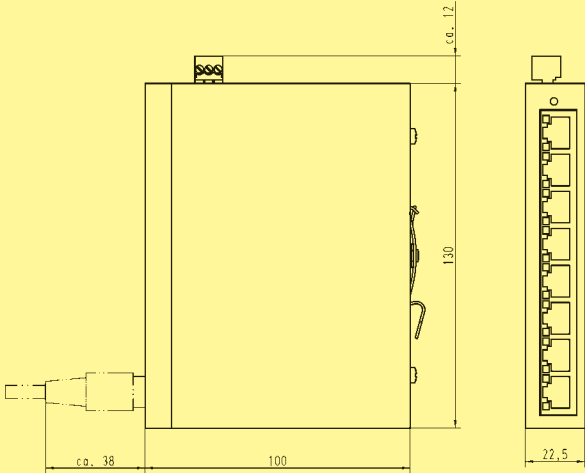




Ethernet Switch
HARTING eCon 3080-A
8-port Ethernet Switch for vertical installation in control cabinets

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 (Twisted Pair)
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 30 V DC
Input current	approx. 125 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	−10 °C to +70 °C
Approvals	 , UL 508
MTBF	548 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3080-A Ethernet Switch with 8 RJ45 ports	20 76 108 3000		

Ethernet Switch HARTING eCon 3080-A1

8-port Ethernet Switch for flat installation in control cabinets



eCon 3000

Unmanaged

IP 30

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination 8x 10/100Base-T(X) / RJ45 (Twisted Pair)

Input voltage / Termination 24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)

Permissible range (min/max) 12 V to 30 V DC

Input current approx. 125 mA (at 24 V DC)

Housing material Metal (powder coated)

Dimensions (W x H x D) 130 x 23 x 100 mm (without connectors)

Weight approx. 0.6 kg

Operating temperature -10 °C to +70 °C

Approvals , UL 508

MTBF 548 000 h

Identification

Part number

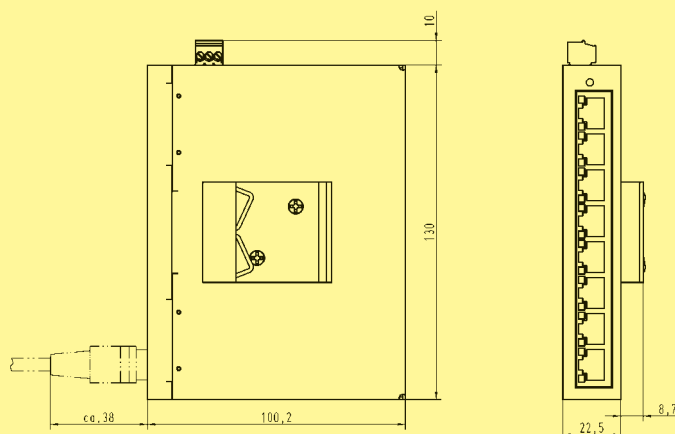
Drawing

Dimensions in mm

HARTING eCon 3080-A1

Ethernet Switch
with 8 RJ45 ports

20 76 108 3001



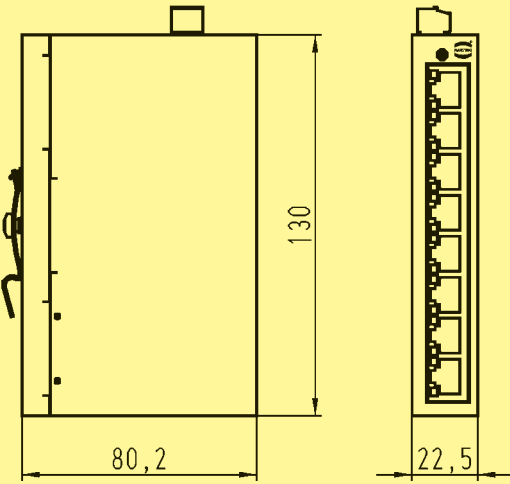


Ethernet Switch
HARTING eCon 3080-A2
8-port Ethernet Switch for vertical installation
in control cabinets; low installation depth



Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 (Twisted Pair)
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 30 V DC
Input current	approx. 125 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 80 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	-10 °C to +70 °C
Approvals	cUL (in preparation)
MTBF	548 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3080-A2 Ethernet Switch with 8 RJ45 ports	20 76 108 3002		



Ethernet Switch HARTING eCon 3080-A4

8-port Ethernet Switch for vertical installation
in control cabinets, with extended temperature range

Unmanaged

IP 30

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination 8x 10/100Base-T(X) / RJ45 (Twisted Pair)

Input voltage / Termination 24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)

Permissible range (min/max) 12 V to 30 V DC

Input current approx. 125 mA (at 24 V DC)

Housing material Metal (powder coated)

Dimensions (W x H x D) 23 x 130 x 100 mm (without connectors)

Weight approx. 0.6 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

MTBF 540 000 h

Identification

Part number

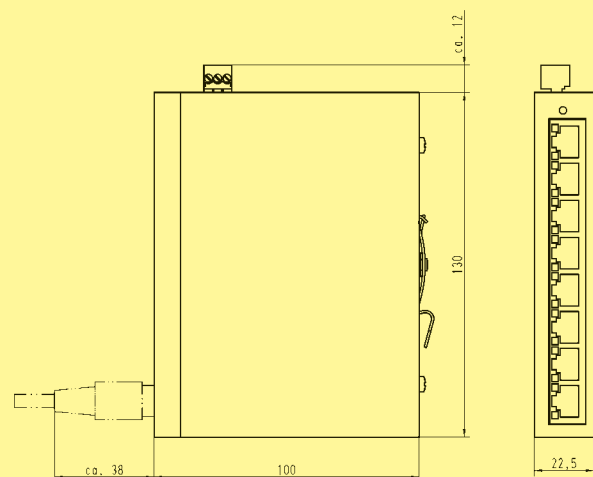
Drawing

Dimensions in mm

HARTING eCon 3080-A4

Ethernet Switch
with 8 RJ45 ports

20 76 108 3004





Ethernet Switch
HARTING eCon 3061-AD
7-port Ethernet Switch for vertical installation
in control cabinets including 1 F.O. port (SC, MM)



Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	1x 100Base-FX / SC-D female
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 48 V DC
Input current	approx. 200 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	−10 °C to +70 °C
Approvals	cUL (in preparation)
MTBF	825 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3061-AD Ethernet Switch with 6 RJ45 ports 1 F.O. port	20 76 107 3100		

8-port Ethernet Switch for vertical installation
in control cabinets including 2 F.O. ports (SC, MM)



eCon 3000

Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	2x 100Base-FX / SC-D female
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 48 V DC
Input current	max. 240 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	−10 °C to +70 °C
Approvals	UL 508
MTBF	825 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3062-AD Ethernet Switch with 6 RJ45 ports 2 F.O. ports	20 76 108 3100	Technical drawing of the HARTING eCon 3062-AD Ethernet switch. The drawing includes a front view and a side view. The front view shows a rectangular unit with a width of 100,2 mm and a height of 130 mm. It features a top-mounted connector, a side-mounted connector, and four bottom-mounted connectors. The side view shows a depth of 22,5 mm. Dimensions are indicated with arrows and numerical values.	

HARTING eCon 3000



Ethernet Switch
HARTING eCon 3062-AD2
8-port Ethernet Switch including 2 F.O. ports (SC, SM); extended temperature range

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	2x 100Base-FX / SC-D female
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 48 V DC
Input current	approx. 240 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3062-AD2 Ethernet Switch with 6 RJ45 ports 2 F.O. ports	20 76 108 3102		

8-port Ethernet Switch for vertical installation
in control cabinets including 2 F.O. ports (SC, SM)



eCon 3000

Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	2x 100Base-FX / SC-D female (Singlemode)
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 48 V DC
Input current	approx. 240 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	−10 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3062-AF Ethernet Switch with 6 RJ45 ports 2 F.O. ports	20 76 108 3103	Technical drawing of the HARTING eCon 3062-AF Ethernet switch. The drawing includes a front view and a side view. The front view shows a rectangular unit with a width of 100.2 mm and a height of 130 mm. It features a top-mounted connector, a side-mounted connector, and four bottom-mounted connectors. The side view shows a depth of 22.5 mm and a height of 130 mm. The top-mounted connector has a width of 38 mm. The bottom-mounted connectors have a width of 22.5 mm. The side-mounted connector has a width of 22.5 mm. The top-mounted connector has a height of 10 mm. The side-mounted connector has a height of 10 mm. The bottom-mounted connectors have a height of 22.5 mm. The top-mounted connector has a height of 10 mm. The side-mounted connector has a height of 10 mm. The bottom-mounted connectors have a height of 22.5 mm.	



A.1

24

Ethernet Switch HARTING eCon 3061-AE

7-port Ethernet Switch for vertical installation
in control cabinets including 1 F.O. port (ST, MM)



eCon 3000

Unmanaged

IP 20

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 6x 10/100Base-T(X) / RJ45 (Twisted Pair)

Number of ports, F.O. / Termination 1x 100Base-FX / ST female

Input voltage / Termination 24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)

Permissible range (min/max) 12 V to 48 V DC

Input current approx. 200 mA (at 24 V DC)

Housing material Metal (powder coated)

Dimensions (W x H x D) 23 x 130 x 100 mm (without connectors)

Weight approx. 0.6 kg

Operating temperature -10 °C to +70 °C

Approvals cUL (in preparation)

MTBF 825 000 h

Identification

Part number

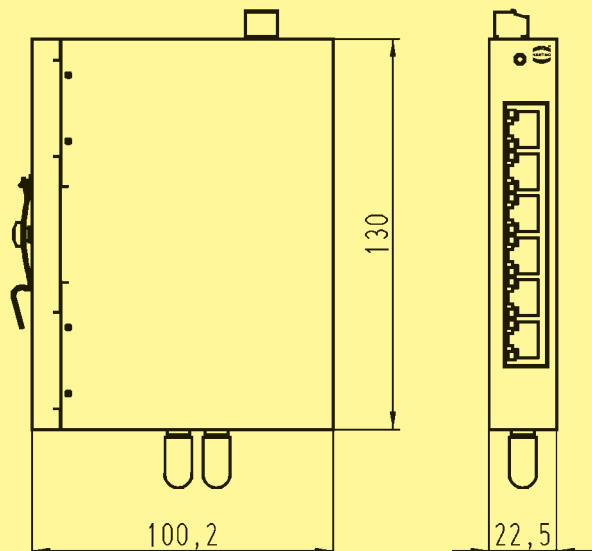
Drawing

Dimensions in mm

HARTING eCon 3061-AE

Ethernet Switch with
6 RJ45 ports
1 F.O. port

20 76 107 3200

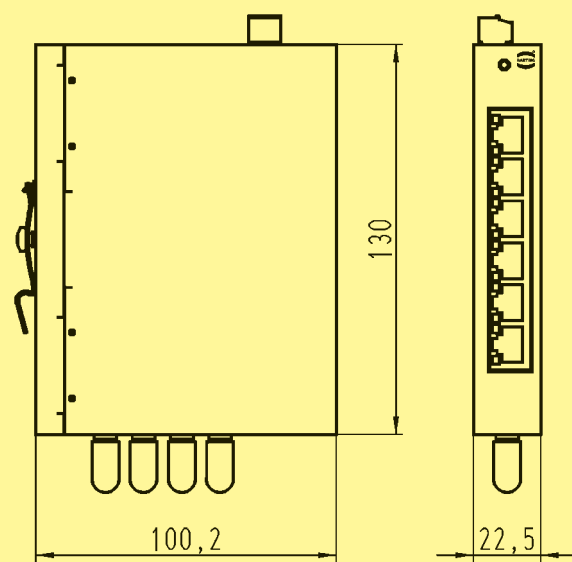




Ethernet Switch
HARTING eCon 3062-AE
8-port Ethernet Switch for vertical installation
in control cabinets including 2 F.O. ports (ST, MM)

Unmanaged	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	2x 100Base-FX / ST female
Input voltage / Termination	24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)
Permissible range (min/max)	12 V to 48 V DC
Input current	approx. 240 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	−10 °C to +70 °C
Approvals	cUL (in preparation)
MTBF	825 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3062-AE Ethernet Switch with 6 RJ45 ports 2 F.O. ports	20 76 108 3200		



Ethernet Switch HARTING eCon 3082-AE

10-port Ethernet Switch for vertical installation
in control cabinets including 2 F.O. ports (ST, MM)

eCon 3000

Unmanaged

IP 20

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 8x 10/100Base-T(X) / RJ45 (Twisted Pair)

Number of ports, F.O. / Termination 2x 100Base-FX / ST female

Input voltage / Termination 24 V DC / 3-pole pluggable screw contact (24 V; 0; GND)

Permissible range (min/max) 12 V to 48 V DC

Input current approx. 280 mA (at 24 V DC)

Housing material Metal (powder coated)

Dimensions (W x H x D) 23 x 130 x 100 mm (without connectors)

Weight approx. 0.6 kg

Operating temperature -10 °C to +70 °C

Approvals cUL (in preparation)

MTBF 510 000 h

Identification

Part number

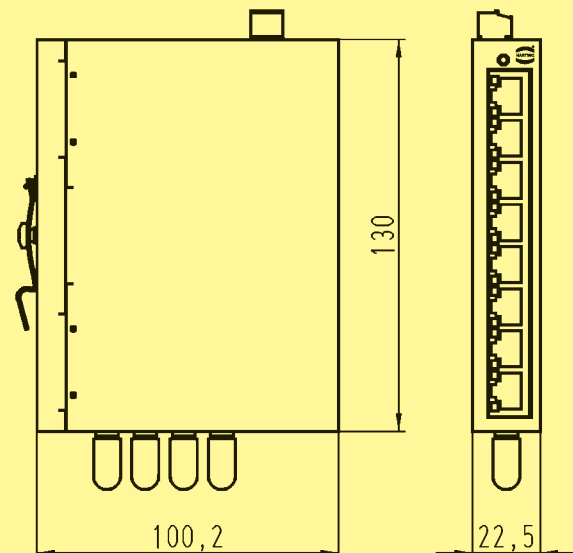
Drawing

Dimensions in mm

HARTING eCon 3082-AE

Ethernet Switch with
8 RJ45 ports
2 F.O. ports

20 76 110 3200



Ethernet Media converter HARTING eCon 3011-AD

2-port Ethernet Media converter for vertical installation
in control cabinets including 1 F.O. port (SC, MM)



Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	1x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	1x 100Base-FX / SC-D female
Input voltage / Termination	24 V DC / 5-pole pluggable screw contact, redundancy (PRW1 + / PWR1 - / PWR2 + / PWR2 - / PE)
Permissible range (min/max)	12 V to 48 V DC
Input voltage mode PoE	48 V DC when using as PSE
Permissible range (min/max)	46 V to 57 V DC
Input current	approx. 100 mA (at 24 V DC) approx. 100 to 400 mA (at 48 V DC with PoE)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	23 x 130 x 100 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	-40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 3011-AD Ethernet Media converter with 1 RJ45 port 1 F.O. port	20 76 102 3100		



Ethernet Media converter HARTING eCon 3011-ASFP

2-port Ethernet Media converter for vertical installation
in control cabinets including 1 F.O. port (SFP)

eCon 3000

Unmanaged

IP 30

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 1x 10/100Base-T(X) / RJ45 (Twisted Pair)

Number of ports, F.O. / Termination 1x 100 Mbit/s SFP module slot

Input voltage / Termination 24 V DC / 5-pole pluggable screw contact, redundant
(PRW1 + / PWR1 - / PWR2 + / PWR2 - / PE)

Permissible range (min/max) 12 V to 48 V DC

Input voltage mode PoE 48 V DC when using as PSE

Permissible range (min/max) 46 V to 57 V DC

Input current approx. 100 mA (at 24 V DC)
approx. 100 to 400 mA (at 48 V DC with PoE)

Housing material Metal (powder coated)

Dimensions (W x H x D) 23 x 130 x 100 mm (without connectors)

Weight approx. 0.6 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Identification

Part number

Drawing

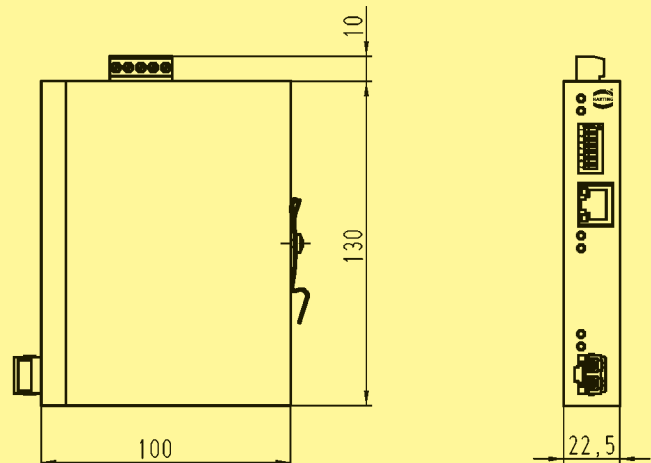
Dimensions in mm

HARTING eCon 3011-ASFP

Ethernet Media converter with
1 RJ45 port
1 port SFP module slot

20 76 102 3101

SFP modules on request



Ethernet Switch
HARTING eCon 4000
Ethernet Switches, unmanaged,
for flat wall mounting



eCon 4000

General Description

The Fast Ethernet Switches of the product family HARTING eCon 4000 are recommended for use in the widest range of industrial applications and support both Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s). The product family enables the connection of up to 8 network devices over shielded Twisted Pair cables.

The eCon 4000 Ethernet Switch product family, with its integrated LEDs, supports fast and easy network diagnosis. The eCon Ethernet Switch operates as an Unmanaged Switch in Store and Forward Switching Mode and supports Auto-crossing, Auto-negotiation and Auto-polarity.

Features

- Ethernet Switch according to IEEE 802.3
- Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s)
- Auto-crossing
- Auto-negotiation
- Auto-polarity
- Store and Forward Switching Mode, non blocking
- Diagnostic LEDs (Link status, Data, Power)
- Mounting onto wall, optionally onto top-hat mounting rail

Advantages

- Robust metal housing and flat housing style
- EMC, temperature range and mechanical stability meet the highest demands
- Wide range for power supply input
- Wide range for type test according to EN 50 155 and EN 50 121-3-2

Application fields

- Railway applications
- Industrial automation
- Automotive industry
- Wind power

Technical characteristics

Ethernet interface

Number of ports	8x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	M12, D-coding
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow / 10 Mbit/s: OFF
Topology	Line, Star or mixed

Power supply

Input voltage	24 / 48 V DC (12 to 60 V DC)
Termination	M12, A-coding, male, for redundant power supply
Diagnostics (via LED)	Power supply

Design features

Housing material	Metal (powder coated)
Dimensions (W x H x D)	130 x 166 x 50 mm
Degree of protection acc. to DIN 60529	IP 40
Mounting	Wall mounting, flat
Weight	approx. 0.85 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)



Ethernet Switch
HARTING eCon 4080-B1
8-port Ethernet Switch for flat installation

eCon 4000

Unmanaged	IP 40	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	8x 10/100Base-T(X) / M12, D-coding
Input voltage / Termination	24 / 48 V DC / M12, A-coding, male, for redundant power supply
Permissible range (min/max)	12 V to 601 V DC
Input current	approx. 150 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	130 x 166 x 50 mm
Weight	approx. 0.85 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 4080-B1 Ethernet Switch with 8 ports M12, D-coding for wall mounting	20 77 208 3001	Side view dimensions: 50 mm (height), 63,7 mm (width). Front view dimensions: 94 mm (port spacing), 110 mm (port width), 130 mm (total width), 120 mm (port height), 166 mm (total height).	



Ethernet Switch HARTING eCon 9000

19" Ethernet Switch, unmanaged, for installation in a 19" rack

General Description

The Ethernet Switches of the product family HARTING eCon 9000 are recommended for use in the widest range of industrial applications and support Ethernet (10 Mbit/s), Fast Ethernet (100 Mbit/s) and Gigabit Ethernet (1000 Mbit/s). The product family enables the connection of up to 10 network devices over shielded Twisted Pair cables or F.O. cables. Optionally for some eCon 9000 Ethernet Switches additional end-devices can be connected via the DIN male connector.

The eCon 9000 Ethernet Switch family, with its integrated LEDs on each port, supports fast and easy network diagnosis. The eCon Ethernet Switch operates as an Unmanaged Switch in Store and Forward Switching mode and supports Auto-crossing, Auto-negotiation and Auto-polarity.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode, non-blocking
- Auto-crossing, Auto-negotiation, Auto-polarity
- Ethernet (10 Mbit/s), Fast Ethernet (100 Mbit/s) and Gigabit Ethernet (1000 Mbit/s)
- Diagnostic LEDs (Link status, Data, Power)
- Pluggable in 19" racks
- eCon 9070-B:
Power input on the front
no backplane necessary

Advantages

- Robust metal housing
- EMC, temperature range and mechanical stability meet the highest demands
- PROFINET compatible

Application fields

- Industrial automation
- Railway applications
- Automotive industry
- Wind power
- Power distribution systems

Technical characteristics RJ45

Ethernet interface

Number of ports	8x 10/100Base-T(X) 2x 10/100/1000Base-T(X) (depending on type)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s, 100 Mbit/s or 1000 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination, front	RJ45
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 1000 Mbit/s: Green 100 Mbit/s: Yellow 10 Mbit/s: OFF
Topology	Line, Star or mixed

Power supply

Input voltage	24 V DC/ 48 V DC
Termination	DIN frame connector, Type F
Diagnostics (via LED)	Power supply

Alarm signalling contact

Change-over contact, potential-free, 24 V DC / 0.5 A

Design features

Housing material	Aluminium, anodised
Degree of protection acc. to DIN 60529	IP 20 (front side IP 40, when mounted)
Mounting	19" rack, 3 U
Weight	approx. 0.6 kg

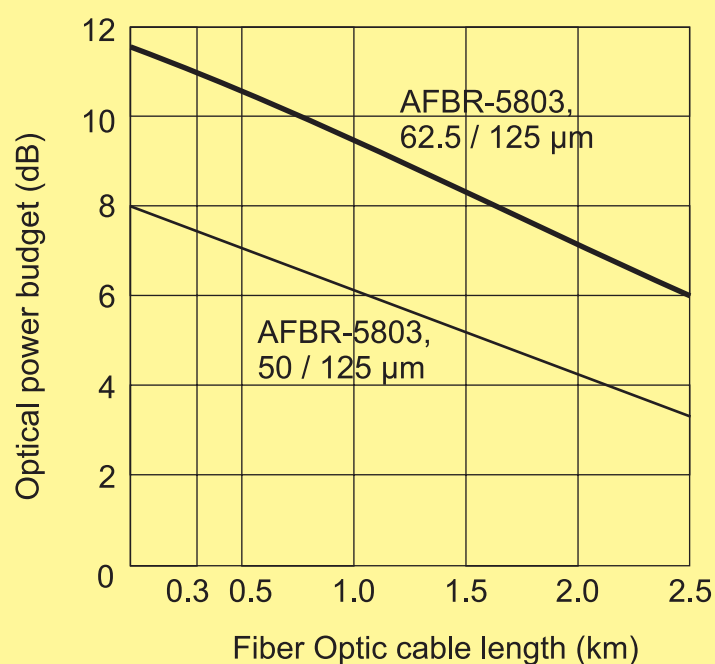
Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics F.O. terminations

Ethernet interface – F.O.

Number of ports	2x 100Base-FX
Cable types according to IEEE 802.3	• Multimode fibre, 1300 nm; 50 / 125 μm or 62.5 / 125 μm
Data rate	100 Mbit/s
Maximum cable length	• 2000 m (Multimode)
Termination	SC-D female / ST female
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing
Wavelength	1300 nm
Transceive power T(X) max. (dynamic)	• -14 dBm (50 / 125 μm) • -14 dBm (62.5 / 125 μm)
Transmission power T(X) min.	• -23.5 dBm (50 / 125 μm) • -20 dBm (62.5 / 125 μm)
Receive power RX typical (dynamic)	• -33.9 dBm (window) • -35.2 dBm (centre)
Receive power RX max. (dynamic)	-14 dBm
Signal detection (dynamic)	-33 dBm
Topology	Line, Star or mixed



Technical characteristics M12, D-coding

Ethernet interface

Number of ports	7x / 8x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination, front	M12, D-coding
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow / 10 Mbit/s: OFF
Topology	Line, Star or mixed

Power supply

Input voltage	24 / 48 V DC (8 to 60 V DC)
eCon 9080-B	24 V DC (12 to 48 V DC)
Diagnostics (via LED)	Power supply

Alarm signalling contact
(eCon 9080-B only)

Change-over contact, potential-free, 24 V DC / 0.5 A

Design features

Housing material	Aluminium, anodised
Degree of protection acc. to DIN 60529	IP 20 (front side IP 40, when mounted)
Mounting	19" rack, 3 U
Weight	approx. 0.6 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)



Ethernet Switch HARTING eCon 9100-AA

10-port Ethernet Switch for installation in a 19" rack

Unmanaged

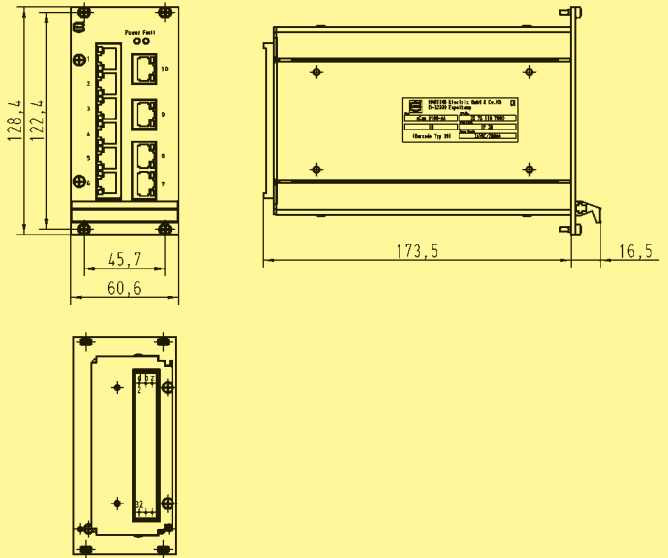
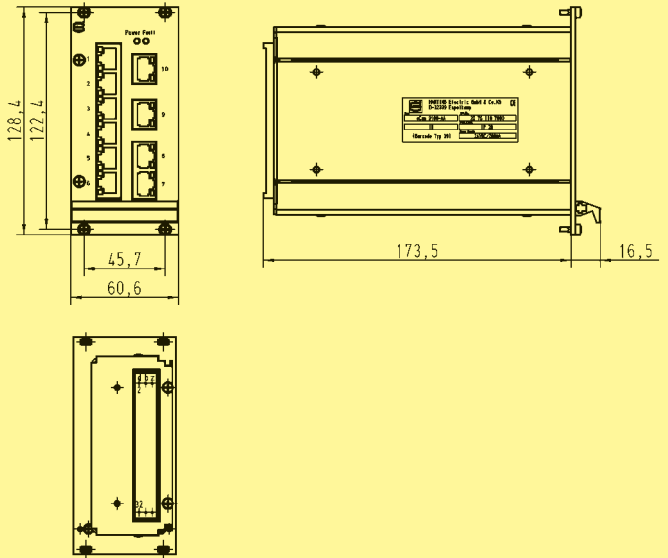
IP 20

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 2x 10/100/1000 Base-T(X) / RJ45
Input voltage / Termination	24 / 48 V DC / DIN frame connector, Type F
Permissible range (min/max)	8 V to 60 V DC
Input current	approx. 220 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A
Housing material	Aluminium, anodised
Dimensions (W x H x D)	60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm
Weight	approx. 0.6 kg
Operating temperature	−40 °C to +70 °C
MTBF	760 000 h

eCon 9000

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 9100-AA Ethernet Switch 10 ports RJ45	20 76 110 7000		



Ethernet Switch
HARTING eCon 9082-AD
10-port Ethernet Switch for installation in a 19" rack

eCon 9000

Unmanaged	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45
Number of ports, F.O. / Termination	2x 100Base-FX / SC-D female
Input voltage / Termination	24 / 48 V DC / DIN frame connector, Type F
Permissible range (min/max)	8 V to 60 V DC
Input current	approx. 260 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A
Housing material	Aluminium, anodised
Dimensions (W x H x D)	60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm
Weight	approx. 0.6 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)
MTBF	800 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 9082-AD Ethernet Switch 8 ports RJ45 2 ports F.O.	20 76 110 7100	Technical drawing showing front, side, and top views of the HARTING eCon 9082-AD switch. Dimensions include: Front view (128.4 mm height, 60.6 mm width, 45.7 mm width), Side view (173.5 mm depth, 16.5 mm flange), and Top view (60.6 mm width, 128.4 mm height).	



Ethernet Switch HARTING eCon 9082-AE

10-port Ethernet Switch for installation in a 19" rack

Unmanaged

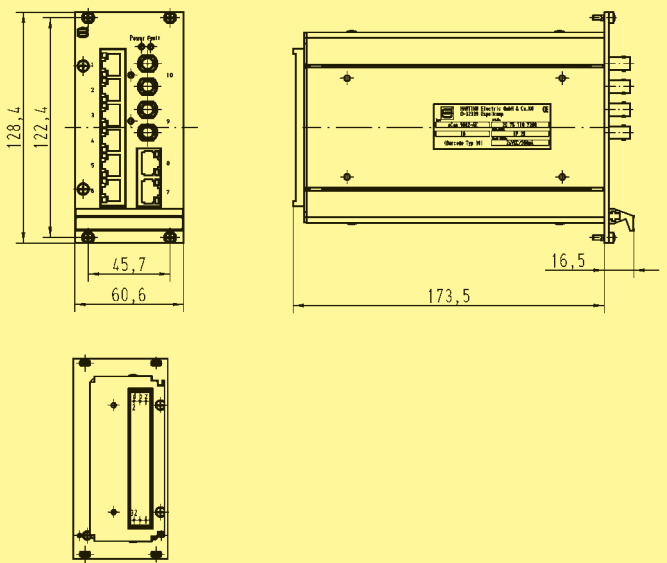
IP 20

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45
Number of ports, F.O. / Termination	2x 100Base-FX / ST female
Input voltage / Termination	24 / 48 V DC / DIN frame connector, Type F
Permissible range (min/max)	8 V to 60 V DC
Input current	approx. 260 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A
Housing material	Aluminium, anodised
Dimensions (W x H x D)	60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm
Weight	approx. 0.6 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)
MTBF	760 000 h

eCon 9000

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 9082-AE Ethernet Switch 8 ports RJ45 2 ports F.O.	20 76 110 7200		



Ethernet Switch
HARTING eCon 9070-B
7-port Ethernet Switch for installation in a 19" rack

eCon 9000

Unmanaged	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	7x 10/100Base-T(X) / M12 D-coding
Input voltage / Termination	24 / 48 V DC / M12 A-coding
Permissible range (min/max)	8 V to 60 V DC
Input current	approx. 110 mA (at 24 V DC)
Housing material	Aluminium, anodised
Dimensions (W x H x D)	60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm
Weight	approx. 0.6 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 9070-B Ethernet Switch 7 ports, M12, D-coding	20 76 207 7000		



Ethernet Switch HARTING eCon 9080-B

8-port Ethernet Switch for installation in a 19" rack

Unmanaged

IP 20

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination 8x 10/100Base-T(X) / 7x front sided M12, D-coding
1x on the back plane

Input voltage / Termination

24 V DC / DIN frame connector, Type F

Permissible range (min/max)

12 V to 48 V DC

Input current

approx. 125 mA (at 24 V DC)

Alarm signalling contact

Change-over contact, potential-free, 24 V DC / 0.5 A

Housing material

Aluminium, anodised

Dimensions (W x H x D)

50.5 mm (10 HP) x 128.4 mm (3 U) x 173.5 mm

Weight

approx. 0.6 kg

Operating temperature

−40 °C to +70 °C

Approvals

cUL (in preparation)

eCon 9000

Identification

Part number

Drawing

Dimensions in mm

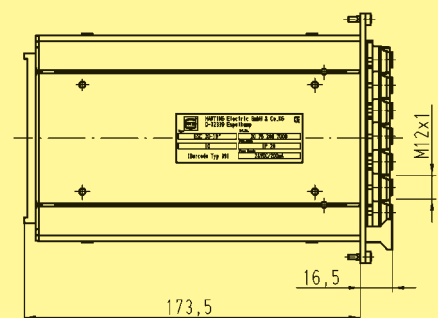
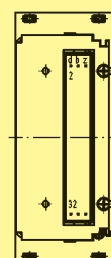
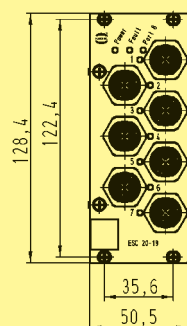
HARTING eCon 9080-B

Ethernet Switch

7 ports, M12, D-coding

1 port on the back plane

20 76 208 7000





Ethernet Switch HARTING eCon 6000

In-between Ethernet Switches, unmanaged,
for use in harsh industrial environments

General Description

The In-Between Fast Ethernet Switches of the product family HARTING eCon 6000 are an integrated solution, which unites Ethernet Switch and Panel feed-through into one device. The compact housing is mounted directly onto the outside panel of a control cabinet or terminal box. Up to six IP 20 ports are available within the cabinet, according to Switch type, for the connection of Ethernet clients. For connections outside the control cabinet, the eCon 6000 offers two IP 65 / IP 67 Ethernet ports.

The Ethernet Switch supports line- and star-topology networks, as well as mixed forms, which beginning at a Switch cabinet, link further Ethernet clients directly into a machine or plant. The LEDs integrated into the Switch support network diagnostics even with the Switch cabinet closed. Additionally, fault signals can be sent via the alarm contact directly to higher level controllers or to a control room.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode, non-blocking
- 5 / 8 ports Unmanaged
- Auto-crossing, Auto-negotiation, Auto-polarity
- Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s)
- Diagnostic LEDs (Link status, Data, Power, Error)
- Up to 4 levels of priority
- Alarm signalling contact
- Standard or hybrid cabling

Advantages

- High degree of protection IP 65 / IP 67
- Robust metal housing
- Can be used directly in industrial environments
- Active Panel feed-through
- EMC, temperature range and mechanical stability meet the highest demands
- PROFINET compatible

Application fields

- Industrial automation
- Automotive industry
- Wind power
- Power distribution systems

Technical characteristics

Ethernet interface

Number of ports	5 (2 x IP 65 / IP 67 – 3 x IP 20) 8 (2 x IP 65 / IP 67 – 6 x IP 20)
Cable types	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s Auto-crossing, Auto-negotiation, Auto-polarity
Maximum cable length	100 m (with Category 5 cable acc. to EN 50173)
Termination, device-side	On the outside of control cabinet (female): 2 x M12, D-coding 2 x Han® 3 A RJ45 2 x Han® 3 A Hybrid On the inside of control cabinet: 3x / 6x RJ45
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Yellow flashing
Topology	Line, Star or mixed

Power supply

Input voltage	24 V DC (18 to 30 V DC)
Termination, device-side	On the inside of control cabinet: 5-pole screw terminal, pluggable for redundant power supply additional 6-pole screw terminal, plug-in, for Hybrid supply (eCon 6080-HA only)
Diagnostics (via LED)	Power supply

Alarm signalling contact

	Change-over contact, potential-free, 24 V DC / 0.5 A (on the inside of control cabinet) 3-pole pluggable screw contact
Diagnostics (via LED)	Error – Red

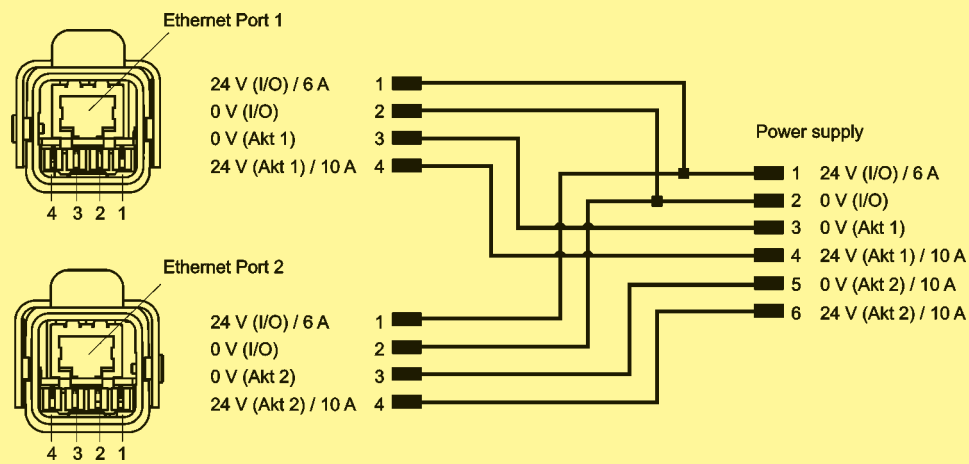
Design features

Housing material	Aluminium die-cast
Dimensions (W x H x D)	105 x 40 x 105 mm (without connectors)
Degree of protection acc. to DIN 60529	IP 65 / IP 67 On the outside of control cabinet connector IP 20 On the inside of control cabinet
Mounting	Directly onto control cabinets or terminal boxes
Weight	approx. 0.8 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C 0 °C to +55 °C (Hybrid)
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

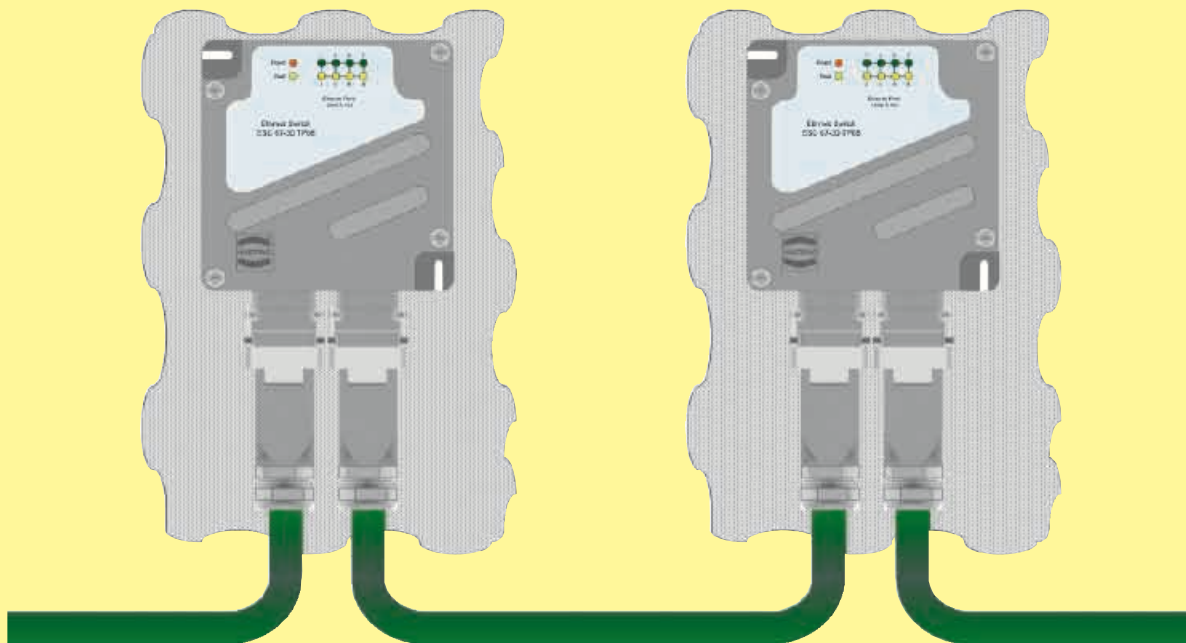
HARTING eCon 6080-HA – Hybrid connector – Contact assignment 24 V DC



HARTING eCon 6080-HA – Power supply, alternative 1

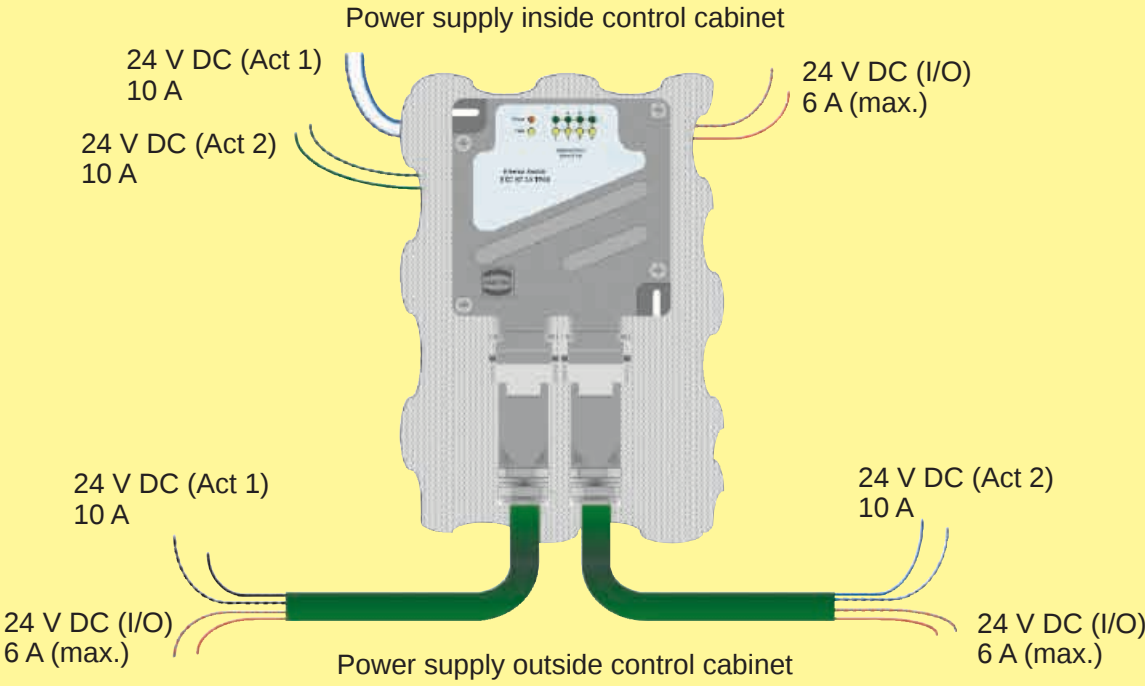
Voltage supply and distribution are made by both hybrid ports.

A feed over the post plug connector in the inside of the control cabinet is not implemented.



HARTING eCon 6080-HA – Power supply, alternative 2

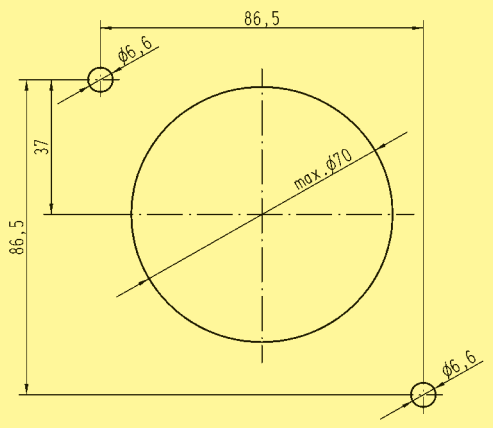
The feed is made by the post plug connector on the control cabinet inside of the Ethernet Switch, the distribution by means of the hybrid plug connectors.



Accessories HARTING eCon 6000

Identification	Part number	
Mounting plate on the inside of control cabinet	20 80 000 0004	

Mounting information



eCon 6000

Ethernet Switch
HARTING eCon 6050-A
5-port In-between Ethernet Switch for networking
of control cabinets in line topology



Unmanaged	IP 67 / IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination 5x 10/100Base-T(X) / 2x Han® 3 A RJ45 (IP 65 / IP 67)*
3x RJ45 (IP 20)

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 12 V to 30 V DC

Input current approx. 100 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
(on the inside of control cabinet)
3-pole pluggable screw contact

Housing material Aluminium die-cast

Dimensions (W x H x D) 105 x 40 x 105 mm (without connectors)

Weight approx. 0.8 kg

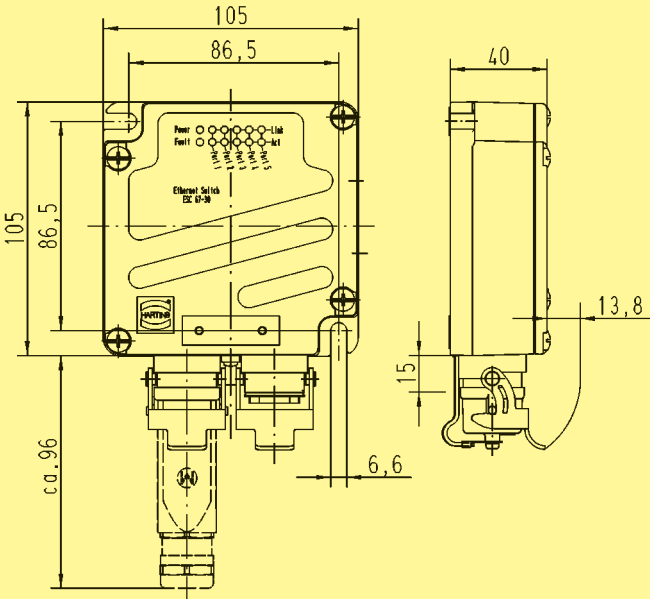
Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
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HARTING eCon 6050-A
Fast Ethernet Switch
5 ports

20 73 305 3921



* Order insert fixing screw 09 20 000 9918 separately



Ethernet Switch
HARTING eCon 6050-BA
5-port In-between Ethernet Switch
for industrial line topologies (M12 system cabling)

Unmanaged

IP 67 / IP 20

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 5x 10/100Base-T(X) / 2x M12, D-coding (IP 65 / IP 67)
3x RJ45 (IP 20)

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 12 V to 30 V DC

Input current approx. 100 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
(on the inside of control cabinet)
3-pole pluggable screw contact

Housing material Aluminium die-cast

Dimensions (W x H x D) 105 x 40 x 105 mm (without connectors)

Weight approx. 0.8 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

eCon 6000

Identification

Part number

Drawing

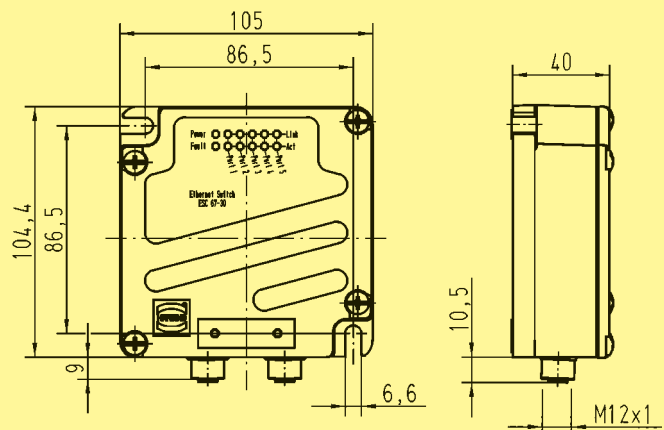
Dimensions in mm

HARTING eCon 6050-BA

Fast Ethernet Switch

5 ports

20 73 305 3941





Ethernet Switch
HARTING eCon 6080-HA
8-port In-between Ethernet Switch for hybrid line topologies

Unmanaged	IP 65 / IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	8x 10/100Base-T(X) / 2x Han® 3 A RJ45 (IP 65 / IP 67)* 6x RJ45 (IP 20)
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply 6-pole screw terminal, pluggable, for hybrid supply
Permissible range (min/max)	12 V to 30 V DC
Input current	approx. 150 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A (on the inside of control cabinet) 3-pole pluggable screw contact
Housing material	Aluminium die-cast
Dimensions (W x H x D)	105 x 40 x 105 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +55 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 6080-HA Ethernet Switch Hybrid 8 ports	20 73 308 3972		

* Order insert fixing screw 09 20 000 9918 separately



Ethernet Switch HARTING eCon 7000

Ethernet Switches, unmanaged, for use in harsh industrial environments

General Description

The Fast Ethernet Switches of the product family HARTING eCon 7000 allow, according to type, the connection of up to 10 end units in industrial networks.

Protection class, temperature range and mechanical stability meet the highest demands. These Fast Ethernet Switches can therefore be used directly in industrial environments.

Through their use, a reduction of cabling costs in the construction of industrial networks will be achieved. The Ethernet Switches facilitate any kind of network configuration. All connections are plugged, which ensures that assembly and disassembly is fast and reliable.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode, non-blocking
- 5 / 10 ports Unmanaged
- Auto-crossing, Auto-negotiation, Auto-polarity
- Ethernet (10 Mbit/s), Fast Ethernet (100 Mbit/s) and Gigabit Ethernet (1000 Mbit/s)
- Diagnostic LEDs (Link status, Data, Power, Error)

Advantages

- High degree of protection IP 65 / IP 67
- Robust metal housing
- Can be used directly in industrial environments
- EMC, temperature range and mechanical stability meet the highest demands
- PROFINET compatible

Application fields

- Industrial automation
- Railway applications
- Automotive industry
- Wind power

Technical characteristics eCon 7050-A, 7050-B, 7100-A, 7100-B

Ethernet interface

Number of ports	5x, 10x 10/100Base-T(X)
Cable types	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s
Maximum cable length	100 m (with Category 5 cable acc. to EN 50173)
Termination, device-side	Han® 3 A RJ45 (female) M12, D-coding (female)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Yellow flashing
Topology	Line, Star or mixed

Power supply

Input voltage	24 V DC (16.8 to 30 V DC)
Termination, device-side	Han® 4 A (male), redundant power supply (including fixing screw 09 20 000 9918, to maintain IP 67), M12, A-coding (male)
Diagnostic (via LED)	Power supply – Green

**Alarm signalling contact
(eCon 7100 only)**

Termination, device-side	Han® 3 A (male) M12, D-coding (male)
Diagnostic (via LED)	Error – Red

Design features

	eCon 7050	eCon 7100
Housing material	Zinc die-cast	Zinc die-cast
Dimensions (W x H x D)	45 x 120 x 87 mm	90 x 120 x 87 mm
Degree of protection acc. to DIN 60529	IP 65 / IP 67	IP 65 / IP 67
Mounting	35 mm top-hat rail acc. to EN 60715, Panel mounting, vertical assembly, Panel mounting, flat assembly	Panel mounting, vertical assembly
Weight	approx. 0.8 kg	approx. 1.4 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics eCon 7050-A1, 7050-B1, 7100-AA

Ethernet interface

Number of ports	5x, 10x 10/100Base-T(X)
eCon 7100-AA:	2x 10/100/1000Base-T(X)
Cable types	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s or 1000 Mbit/s (eCon 7100-AA only)
Maximum cable length	100 m (with Category 5 cable acc. to EN 50 173)
Termination, device-side	Han® 3 A RJ45 (female) / M12, D-coding (female)
Diagnostics (via LED)	• Status Link (Link/Act) - Green terminal device is connected - Green flashing data transmission in process • Transfer rate (Speed) - OFF 10 Mbit/s - Yellow 100 Mbit/s - Green 1000 Mbit/s (eCon 7100-AA only)
Topology	Line, Star or mixed

Power supply

Input voltage	24 / 48 V DC (12 to 60 V DC)
Termination, device-side	Han® 4 A (male), redundant power supply (including fixing screw 09 20 000 9918, to maintain IP 67), M12, A-coding (male)
Diagnostic (via LED)	Power supply – Green

Alarm signalling contact (eCon 7100 only)

	Change-over contact, potential-free, 24 V DC / 0.5 A
Termination, device-side	Han® 3 A (male) M12, D-coding (male)
Diagnostic (via LED)	Error – Red

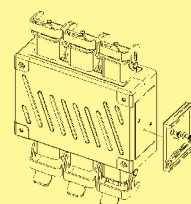
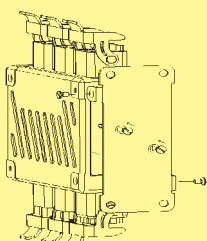
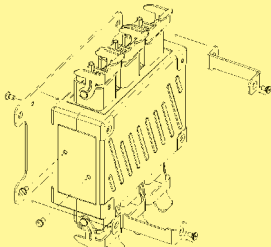
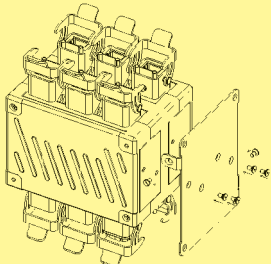
Design features

	eCon 7050	eCon 7100
Housing material	Zinc die-cast	Zinc die-cast
Dimensions (W x H x D)	45 x 120 x 87 mm	90 x 120 x 87 mm
Degree of protection acc. to DIN 60529	IP 65 / IP 67	IP 65 / IP 67
Mounting	35 mm top-hat rail acc. to EN 60 715, Panel mounting, vertical assembly, Panel mounting, flat assembly	Panel mounting, vertical assembly
Weight	approx. 0.8 kg	approx. 1.4 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Identification	Part number	
	Power supply	Alarm signalling contact (eCon 7100 only)
Hood metal, straight, metric	19 20 003 1440 ¹⁾	19 20 003 1440
Protection cover Han® 3 A	09 20 003 5426	09 20 003 5426
Han® 4 A female insert	09 20 004 2711	
Han® 3 A female insert		09 20 003 2711
Cable gland metal IP 65, metric M20, cable diameter: 5 - 9 mm	19 00 000 5080	
HARAX® M12-L circular connector A-coding	21 03 212 2305	

Identification	Part number	Drawing	Dimensions in mm
Set for assembly on standard rail according to DIN EN 60 715	20 80 000 0003		
Set for panel mounting vertical assembly	20 80 010 0001		
Set for panel mounting flat assembly	20 80 024 0002		
Set for panel mounting eCon 7100 vertical assembly	20 80 010 0002		

¹⁾ Order insert fixing screw 09 20 000 9918 separately



Ethernet Switch HARTING eCon 7050-A

5-port Ethernet Switch for use in harsh industrial environments

Unmanaged

IP 67

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination 5x 10/100Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 V DC / Han® 4 A (male)*, redundant power supply

Permissible range (min/max) 16.8 V to 30 V DC

Input current approx. 110 mA (at 24 V DC)

Housing material Zinc die-cast

Dimensions (W x H x D) 45 x 120 x 87 mm (without connectors)

Weight approx. 0.8 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

eCon 7000

Identification

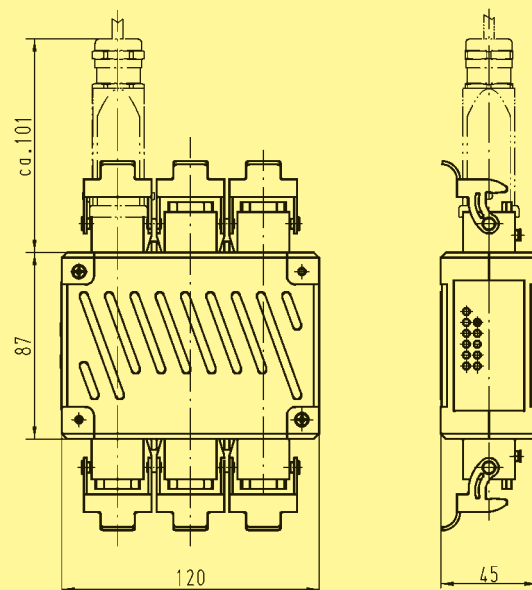
Part number

Drawing

Dimensions in mm

HARTING eCon 7050-A
Ethernet Switch, unmanaged
5 Han® 3 A RJ45 ports

20 70 305 3921



* Order insert fixing screw 09 20 000 9918 separately



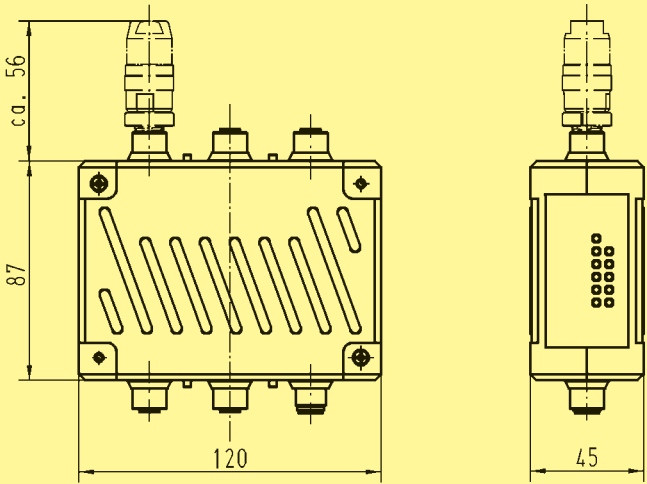
Ethernet Switch
HARTING eCon 7050-B

5-port Ethernet Switch for industrial Ethernet networks
with M12 system cabling



Unmanaged	IP 67	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	5x 10/100Base-T(X) / M12, D-coding (female)
Input voltage / Termination	24 V DC / M12, A-coding (male), redundant power supply
Permissible range (min/max)	16.8 V to 30 V DC
Input current	approx. 110 mA (at 24 V DC)
Housing material	Zinc die-cast
Dimensions (W x H x D)	45 x 120 x 87 mm (without connectors)
Weight	approx. 0.8 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 7050-B Ethernet Switch, unmanaged 5 ports, M12, D-coding	20 70 305 3941		

Ethernet Switch HARTING eCon 7050-A1

5-port Ethernet Switch with extended input voltage range
for use in harsh industrial environments



Unmanaged

IP 67

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination 5x 10/100Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 / 48 V DC / Han® 4 A (male)*, redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 110 mA (at 24 V DC)

Housing material Zinc die-cast

Dimensions (W x H x D) 45 x 120 x 87 mm (without connectors)

Weight approx. 0.8 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

eCon 7000

Identification

Part number

Drawing

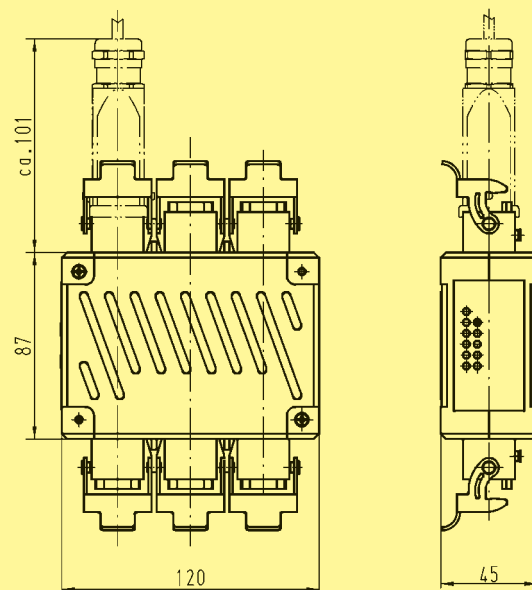
Dimensions in mm

HARTING eCon 7050-A1

Ethernet Switch, unmanaged

5 Han® 3 A RJ45 ports

20 70 305 3923



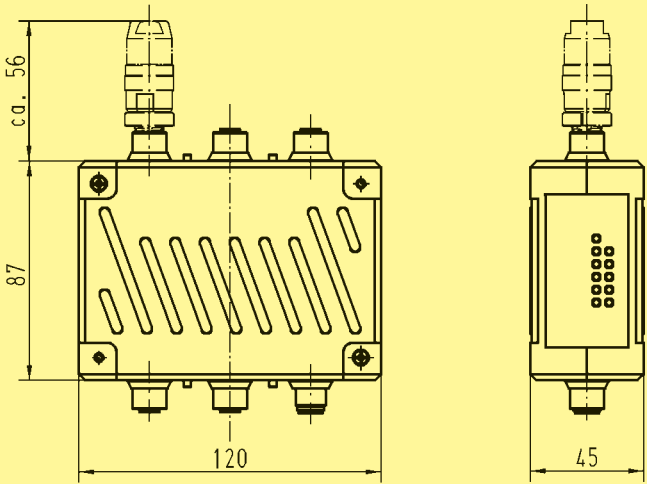
* Order insert fixing screw 09 20 000 9918 separately

Ethernet Switch
HARTING eCon 7050-B
5-port Ethernet Switch for industrial Ethernet networks
with extended input voltage range with M12 system cabling



Unmanaged	IP 67	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	5x 10/100Base-T(X) / M12, D-coding (female)
Input voltage / Termination	24 / 48 V DC / M12, A-coding (male), redundant power supply
Permissible range (min/max)	12 V to 60 V DC
Input current	approx. 110 mA (at 24 V DC)
Housing material	Zinc die-cast
Dimensions (W x H x D)	45 x 120 x 87 mm (without connectors)
Weight	approx. 0.8 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 7050-B1 Ethernet Switch, unmanaged 5 ports, M12, D-coding	20 70 305 3943		

eCon 7000

Ethernet Switch
HARTING eCon 7100-A
10-port Ethernet Switch for use
in harsh industrial environments



Unmanaged

IP 67

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 10x 10/100Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 V DC / Han® 4 A (male)*, redundant power supply

Permissible range (min/max) 16.8 V to 30 V DC

Input current approx. 180 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
Han® 3 A (male)*

Housing material Zinc die-cast

Dimensions (W x H x D) 90 x 120 x 87 mm (without connectors)

Weight approx. 1.4 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

eCon 7000

Identification

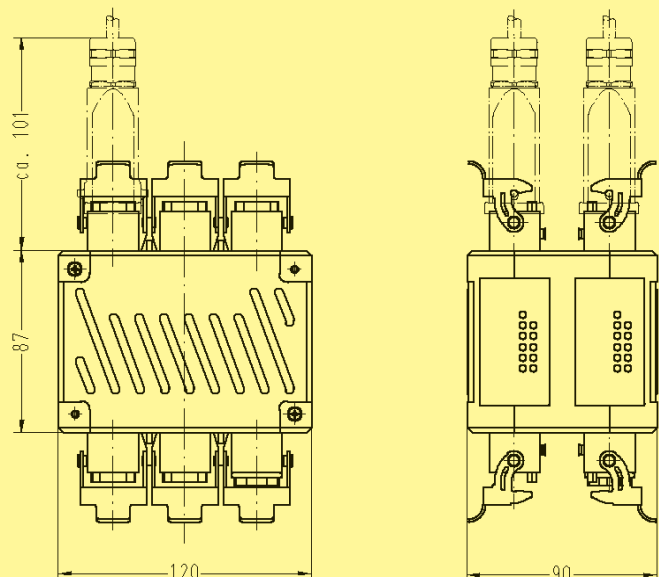
Part number

Drawing

Dimensions in mm

HARTING eCon 7100-A
Ethernet Switch, unmanaged
10 Han® 3 A RJ45 ports

20 70 310 3921



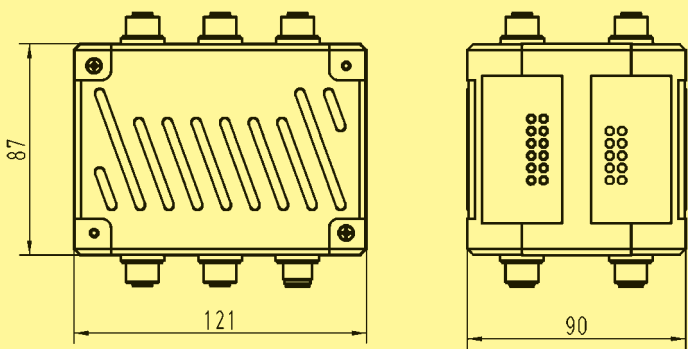
* Order insert fixing screw 09 20 000 9918 separately



Ethernet Switch
HARTING eCon 7100-B
10-port Ethernet Switch for industrial Ethernet networks
with M12 system cabling

Unmanaged	IP 67	PROFINET compatible ☒	EtherNet/IP compatible ☐
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Number of ports, Copper / Termination	10x 10/100Base-T(X) / M12, D-coding (female)
Input voltage / Termination	24 V DC / M12, A-coding (male), redundant power supply
Permissible range (min/max)	16.8 V to 30 V DC
Input current	approx. 180 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A M12, D-coding (male)
Housing material	Zinc die-cast
Dimensions (W x H x D)	90 x 120 x 87 mm (without connectors)
Weight	approx. 1.4 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING eCon 7100-B Ethernet Switch, unmanaged 10 ports, M12, D-coding	20 70 310 3941		

Ethernet Switch
HARTING eCon 7100-AA
 10-port Ethernet Switch for use
 in harsh industrial environments with 2 Gigabit ports



Unmanaged

IP 67

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 8x 10/100Base-T(X) / Han® 3 A RJ45 (female)*
 2x 10/100/1000Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 / 48 V DC / Han® 4 A (male)*, redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 230 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
 Han® 3 A (male)*

Housing material Zinc die-cast

Dimensions (W x H x D) 90 x 120 x 87 mm (without connectors)

Weight approx. 1.4 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

eCon 7000

Identification

Part number

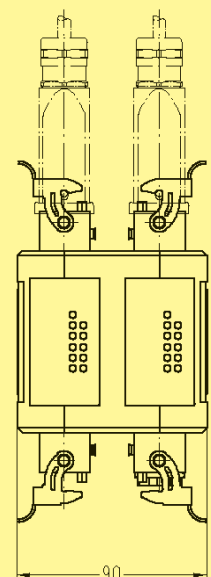
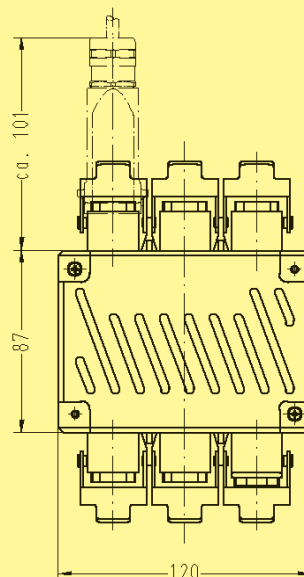
Drawing

Dimensions in mm

HARTING eCon 7100-AA

Ethernet Switch, unmanaged
 10 Han® 3 A RJ45 ports

20 70 310 3924



* Order insert fixing screw 09 20 000 9918 separately

eCon 7000

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Introduction

For the user, HARTING’s novel and innovative solutions open up new, more convenient and extensive options for configuring Unmanaged Ethernet Switches. The solutions available to date offered only very limited or basic options for making alterations to different settings on an Ethernet Switch.

The user made changes to the settings or the configuration via the DIP switches on the Ethernet Switch. The extensive possibilities for applications were physically restricted by the enormous space requirements of the mechanical solution.

Now for the first time, HARTING’s sCon solution makes it possible for the user to realise more configurations than have been possible to date.

Ease of handling and simple operation have been designed in to meet real-life application requirements. Simple and fast configuration is what this solution aims to achieve.

All sCon Ethernet Switches can be configured via a USB connection cable.

At first sight, sCon Ethernet Switches do not differ from the Ethernet Switches available to date. However, the possibilities that sCon has to offer become more than apparent to the user when he connects the Ethernet Switch via the front-side USB socket to a PC, laptop or hand-held PC.

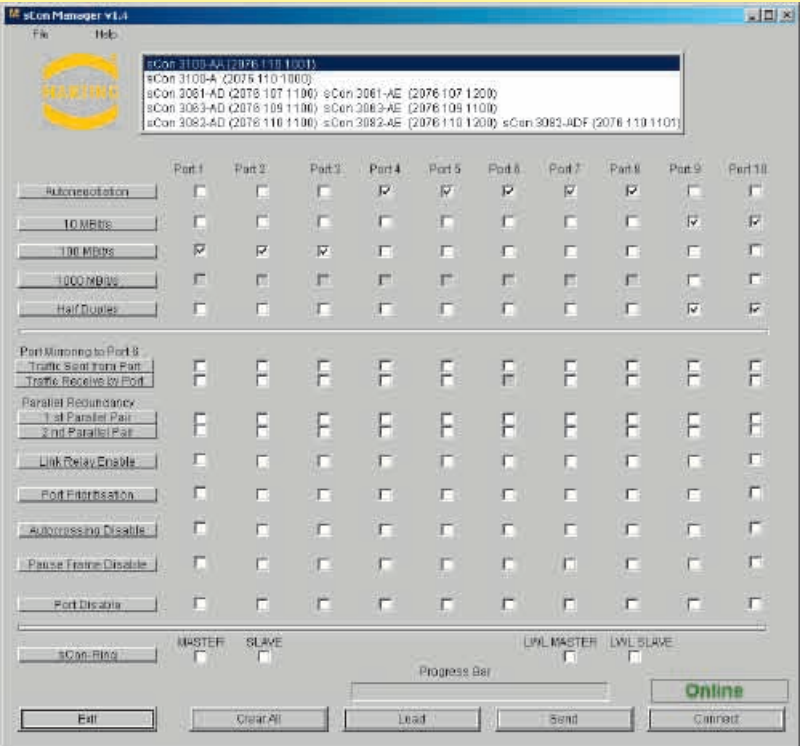


Figure 1 The Start-up menu

Once the sCon Ethernet Switch has been connected to a PC, it can be accessed on-screen in much the same manner as a commercially available USB stick (Figure 1: The Start-up menu).

The user only has to copy the sCon software in advance onto the PC. No administrator rights are required. The Ethernet Switch does not have to be connected to a power supply for configuration purposes. That means that the configuration procedure can take place at the user's location of choice:

in the office, workshop or production facility. The sCon Ethernet Switch automatically detects which power supply is connected: mains supply or power supply via the USB port. Please note that it is not possible to operate the Ethernet Switch purely via the USB port. For normal industrial operations, the power must be supplied via one of the redundant inputs.

sCon 3000
sCon 9000

Introduction

Making configuration settings by means of DIP switches may appear to be uncomplicated. However, accidentally making an alteration to the configuration can happen more quickly than one would think possible, and in so doing make considerable changes to the previously set procedures. The sCon family prevents these inadvertent alterations to the configuration. No alteration can be made to the configuration without an USB connection and the software.

Each configuration can be archived and the backups retrieved for future projects. By making backups of the configuration, all settings can be conveniently stored in case servicing is necessary.

Archived configurations can be imported and printed out when convenient. These extensive options in sCon ensure that data security enjoys the significance it deserves.

The switch configuration is transmitted only when a new configuration is uploaded via the corresponding 'Send' button. This means that until the data has actually been uploaded, it is still possible to read-in the 'old' data from the sCon Ethernet Switch via the Refresh option. This means it is easily possible to reverse any inadvertent activation in the corresponding menu.

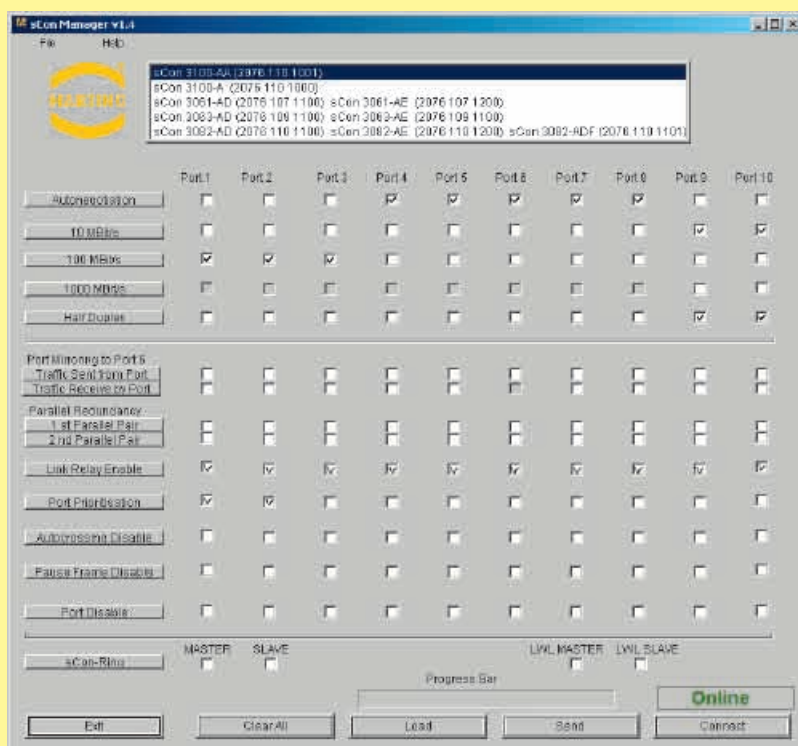


Figure 2 Example of a configuration

Once configured, the Ethernet Switch can be utilised immediately. The configuration remains stored in the Ethernet Switch after the USB cable is removed.

Meeting international standards, the USB port described is recognised as state-of-the-art technology. The standardised possibility for worldwide utilisation with all notebooks, PCs and Palmtops (revisions 1.0, 1.1 and 2.0) mean that this technology is suitable for universal usage.

The intuitive, but extensive options setting via the relevant buttons and the various options offered by sCon extend the range of applications for Unmanaged Ethernet Switches. With sCon, the gap between Unmanaged and manageable switches is getting smaller.

It is true that sCon is a solution for Unmanaged Ethernet Switches; however, it comes very close to Managed Ethernet Switch functionality.

Ethernet Switch HARTING sCon 3000

Ethernet Switch family, unmanaged,
for mounting onto top-hat mounting rail
in control cabinets including sCon functions



General Description

The Fast Ethernet Switches of the product family HARTING sCon 3000 can be configured via a USB port for special or more performance-oriented industrial usages. There are almost no limits to the different possibilities.

Activation of parallel and / or ring redundancy or port prioritisation will clearly increase the availability and reliability of data communications through the sCon 3000.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode, non-blocking, unmanaged
- Auto-crossing, Auto-negotiation, Auto-polarity
- Diagnostic LEDs (Link status, Act, Power, Data transmission rate, Error)
- Following settings are available via USB port:
 - Alarm signalling contact
 - Auto-negotiation
 - 10/100/1000 Mbit/s
 - Full/Half Duplex
 - Ring and/or parallel redundancy
 - Port enable / disable
 - Port priority
 - Port mirroring

Advantages

- Individually configurable via USB port
- Metal housing
- EMC, temperature range and mechanical stability meet the toughest demands
- Ring and/or parallel redundancy

Application fields

- Industrial automation
- Railway applications
- Power distribution systems
- Automotive industry
- Mechanical engineering

Technical characteristics

Ethernet interface RJ45

Number of ports	6x / 8x / 10x 10/100Base-T(X), 2x 10/100/1000Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s, 100 Mbit/s or 1000 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	RJ45 (Twisted Pair)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 1000 Mbit/s: Green 100 Mbit/s: Yellow 10 Mbit/s: OFF
Topology	Line, Ring, Star or mixed

Power supply

Input voltage	24 V DC
Termination	5-pole screw terminal, pluggable for redundant power supply
Diagnostics (via LED)	Power supply

Alarm signalling contact

Change-over contact, potential-free, 24 V DC / 0.5 A
3-pole pluggable screw contact

Design features

Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Degree of protection acc. to DIN 60529	IP 30 IP 20
sCon xxxx-AE	
Mounting	• 35 mm top-hat rail acc. to EN 60715 • Panel mounting, vertical assembly
Weight	approx. 0.6 kg

Environmental conditions

Operating temperature	0 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics - F.O. termination

Ethernet interface – F.O.

Number of ports	1x / 2x / 3x 100Base-FX
Cable types according to IEEE 802.3	• Multimode fibre, 1300 nm; 50 / 125 µm or 62.5 / 125 µm • Singlemode fibre, 1300 nm; 9 µm (AF versions only)
Data rate	100 Mbit/s
Maximum cable length	• 2000 m (Multimode) • 15 km (Singlemode)
Termination	SC-D female / ST female
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing
Wavelength	1300 nm
Transceive power T(X) max. (dynamic)	• -14 dBm (50 / 125 µm) • -14 dBm (62.5 / 125 µm)
Transmission power T(X) min.	• -23.5 dBm (50 / 125 µm) • -20 dBm (62.5 / 125 µm)
Receive power RX typical (dynamic)	• -33.9 dBm (window) • -35.2 dBm (centre)
Receive power RX max. (dynamic)	-14 dBm
Signal detection (dynamic)	-33 dBm
Topology	Line, Ring, Star or mixed



Ethernet Switch
HARTING sCon 3100-A

10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including sCon functions

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
-----------	-------	---	---

Number of ports, Copper / Termination 10x 10/100Base-T(X) / RJ45 (Twisted Pair)

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 9.6 V to 36 V DC

Input current approx. 170 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
3-pole pluggable screw contact

Housing material Metal (powder coated)

Dimensions (W x H x D) 60 x 132 x 104 mm (incl. cap, without connectors)

Weight approx. 0.6 kg

Operating temperature 0 °C to +70 °C

Approvals UL 508

MTBF 745 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING sCon 3100-A Ethernet Switch with 10 RJ45 ports including Set for assembly on standard rail	20 76 110 1000		



Ethernet Switch
HARTING sCon 3100-AA

10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 2 Gigabit ports and sCon functions

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
-----------	-------	---	---

Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 (Twisted Pair) 2x 10/100/1000Base-T(X) / RJ45 (Twisted Pair)
Input voltage / Termination	24 / 48 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 60 V DC
Input current	approx. 240 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	670 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING sCon 3100-AA Ethernet Switch with 10 RJ45 ports including Set for assembly on standard rail	20 76 110 1001		



Ethernet Switch HARTING sCon 3061-AD

7-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 1 F.O. port (SC, MM) and sCon functions

Unmanaged

IP 30

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 6x 10/100Base-T(X) / RJ45 (Twisted Pair)

Number of ports, F.O. / Termination 1x 100Base-FX / SC-D female

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 9.6 V to 36 V DC

Input current approx. 240 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
3-pole pluggable screw contact

Housing material Metal (powder coated)

Dimensions (W x H x D) 60 x 132 x 104 mm (incl. cap, without connectors)

Weight approx. 0.6 kg

Operating temperature 0 °C to +70 °C

Approvals UL 508

MTBF 660 000 h

sCon 3000

Identification

Part number

Drawing

Dimensions in mm

HARTING sCon 3061-AD

Ethernet Switch

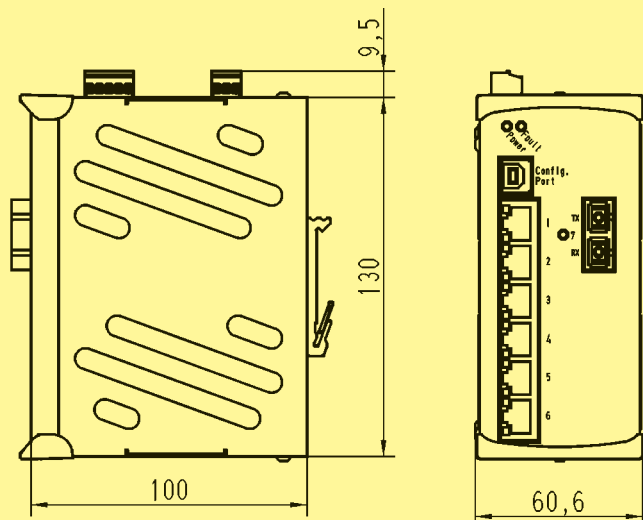
6 RJ45 ports

1 SC port

including

Set for assembly on standard rail

20 76 107 1100



A·2

9



Ethernet Switch
HARTING sCon 3063-AD

9-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 3 F.O. ports (SC, MM) and sCon functions

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
-----------	-------	---	---

Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	3x 100Base-FX / SC-D female
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 290 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	660 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING sCon 3063-AD Ethernet Switch 6 RJ45 ports 3 SC ports including Set for assembly on standard rail	20 76 109 1100		

sCon 3000



Ethernet Switch HARTING sCon 3082-AD

10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 2 F.O. ports (SC, MM) and sCon functions

Unmanaged

IP 30

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 8x 10/100Base-T(X) / RJ45 (Twisted Pair)

Number of ports, F.O. / Termination 2x 100Base-FX / SC-D female

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 9.6 V to 36 V DC

Input current approx. 260 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
3-pole pluggable screw contact

Housing material Metal (powder coated)

Dimensions (W x H x D) 60 x 132 x 104 mm (incl. cap, without connectors)

Weight approx. 0.6 kg

Operating temperature 0 °C to +70 °C

Approvals UL 508

MTBF 585 000 h

sCon 3000

Identification

Part number

Drawing

Dimensions in mm

HARTING sCon 3082-AD

Ethernet Switch

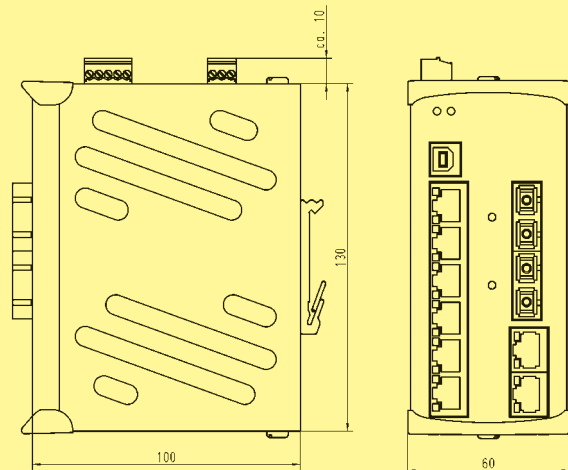
8 RJ45 ports

2 SC ports

including

Set for assembly on standard rail

20 76 110 1100



A-2

11



Ethernet Switch
HARTING sCon 3061-AE

7-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 1 F.O. port (ST, MM) and sCon functions

Unmanaged	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
-----------	-------	---	---

Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	1x 100Base-FX / ST female
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 240 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	660 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING sCon 3061-AE Ethernet Switch 6 RJ45 ports 1 ST port including Set for assembly on standard rail	20 76 107 1200		

sCon 3000

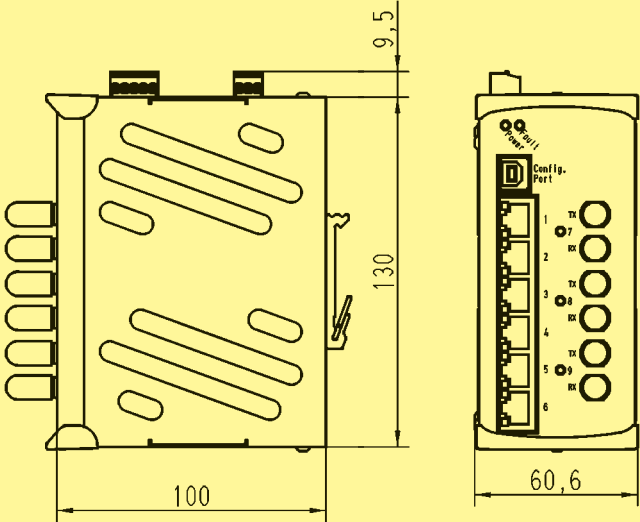
Ethernet Switch
HARTING sCon 3063-AE

9-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 3 F.O. ports (ST, MM) and sCon functions



Unmanaged	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
-----------	-------	---	---

Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	3x 100Base-FX / ST female
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 290 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	660 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING sCon 3063-AE Ethernet Switch 6 RJ45 ports 3 ST ports including Set for assembly on standard rail	20 76 109 1200		

sCon 3000



Ethernet Switch
HARTING sCon 3082-AE
10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 2 F.O. ports (ST, MM) and sCon functions

Unmanaged	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☐
-----------	-------	---	---

Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	2x 100Base-FX / ST female
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 260 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	585 000 h

Identification	Part number	Drawing	Dimensions in mm
HARTING sCon 3082-AE Ethernet Switch 8 RJ45 ports 2 ST ports including Set for assembly on standard rail	20 76 110 1200		

sCon 3000



Ethernet Switch HARTING sCon 3061-AF

7-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 1 F.O. port (SC, SM) and sCon functions

Unmanaged

IP 30

PROFINET compatible ☒EtherNet/IP compatible ☐

Number of ports, Copper / Termination 6x 10/100Base-T(X) / RJ45 (Twisted Pair)

Number of ports, F.O. / Termination 1x 100Base-FX / SC-D female (Singlemode)

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 9.6 V to 36 V DC

Input current approx. 240 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
3-pole pluggable screw contact

Housing material Metal (powder coated)

Dimensions (W x H x D) 60 x 132 x 104 mm (incl. cap, without connectors)

Weight approx. 0.6 kg

Operating temperature 0 °C to +70 °C

Approvals cUL (in preparation)

sCon 3000

Identification

Part number

Drawing

Dimensions in mm

HARTING sCon 3061-AF

Ethernet Switch

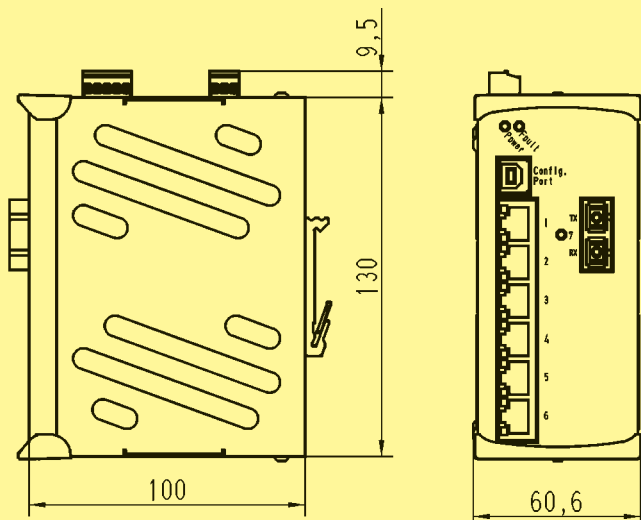
6 RJ45 ports

1 SC port

including

Set for assembly on standard rail

20 76 107 1102





Ethernet Switch
HARTING sCon 3082-AF
10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 2 F.O. ports (SC, SM) and sCon functions

Unmanaged	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☐
-----------	-------	---	---

Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	2x 100Base-FX / SC-D female (Singlemode)
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 260 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
HARTING sCon 3082-AF Ethernet Switch 8 RJ45 ports 2 SC ports including Set for assembly on standard rail	20 76 110 1102		

sCon 3000



Ethernet Switch HARTING sCon 9000

6-port Ethernet Switch, unmanaged, for installation in a 19" rack including sCon functions

General Description

The Fast Ethernet Switches of the product family HARTING sCon 9000 enable the connection of up to 6 network devices over shielded Twisted Pair cables. Temperature range and mechanical stability provide high operational safety and meet the highest industrial demands.

The Fast Ethernet Switches of the type sCon 9000 can be used directly in industrial environments as a powerful and industrial solution. Maximum flexibility is guaranteed by the use of sCon.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode, non-blocking
- Auto-crossing, Auto-negotiation, Auto-polarity
- Pluggable in 19" racks
- Diagnostics LEDs (Link status, Act, Data transmission rate, Power, Error)
- Following settings are available via USB port:
 - Alarm signalling contact
 - Auto-negotiation
 - 10/100 Mbit/s
 - Full/Half Duplex
 - Parallel redundancy
 - Port enable / disable
 - Port priority
 - Port mirroring

Advantages

- Individual configurable via USB port
- EMC, temperature range and mechanical stability meet the toughest demands

Application fields

- Industrial automation
- Automotive industry
- Power distribution systems
- Mechanical engineering

Technical characteristics

Ethernet interface RJ45

Number of ports	6x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	RJ45 (Twisted Pair)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow / 10 Mbit/s: OFF
Topology	Line, Star or mixed

Power supply

Input voltage	24 V DC (12 V to 30 V DC)
Termination	DIN frame connector, Type H
Diagnostics (via LED)	Power supply

Alarm signalling contact

Change-over contact, potential-free, 24 V DC / 0.5 A

Design features

Housing material	Metal (slot)
Dimensions (W x H x D)	60.7 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm
Degree of protection acc. to DIN 60529	IP 20
Mounting	19" rack, 3 U
Weight	approx. 0.5 kg

Environmental conditions

Operating temperature	–20 °C to +75 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)



Ethernet Switch HARTING sCon 9060-A

6-port Ethernet Switch for installation in a 19" rack including sCon functions

Unmanaged

IP 20

PROFINET compatible ☒

EtherNet/IP compatible ☐

Number of ports, Copper / Termination 6x 10/100Base-T(X) / RJ45

Input voltage / Termination 24 V DC / DIN frame connector, Type H

Permissible range (min/max) 12 V to 30 V DC

Input current approx. 125 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A

Housing material Metal (slot)

Dimensions (W x H x D) 60.7 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm

Weight approx. 0.5 kg

Operating temperature -20 °C to +75 °C

Approvals cUL (in preparation)

sCon 9000

Identification

Part number

Drawing

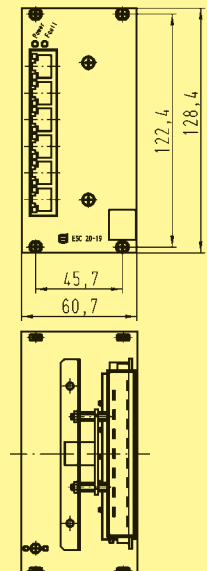
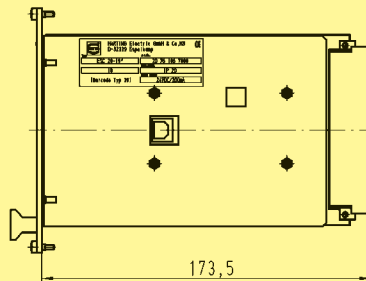
Dimensions in mm

HARTING sCon 9060-A

Ethernet Switch

6 RJ45 ports

20 76 106 7000



sCon 9000

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mCon 3000

mCon 4000
mCon 9000

mCon 6000
mCon 7000

Management functions

Basic functions

- Store and Forward Switching Mode (IEEE 802.3)
- Multicast filtering and bandwidth limiting
- IGMP Snooping and Querier (IEEE 802.1)
- VLAN (IEEE 802.1Q)
- Spanning Tree Protocol (STP) (IEEE 802.1D)
- Rapid Spanning Tree (RSTP) (IEEE 802.1W)
- QoS (IEEE 802.1P)
- DHCP Client

SNMP

- SNMP V1 and SNMP V3
- Enterprise (HARTING MIB)
- MIB II
 - RMON (statistics, history, alarm, events)
 - Dot1Bridge
 - SnmpDot3mauMIB
 - PtopoMIB
 - EntityMIB
 - RstpMIB
 - System
 - ifMIB
 - ICMP
 - IP
 - TCP
 - at
 - UDP
 - SNMP
 - transmission

**Web-based access
(password protection)**

- Status overview
- Port settings
- Network configuration
- Password settings
- Alarm settings
- Diagnostics
- Parameter Import / Export
- Firmware Import / Export

Additional services

- SMTP
- Parameter and firmware import and export via TFTP
- System time via SNTP
- Service Mode via port 1

Diagnostics

- LEDs for Power, Link, Status, Data transmission and Fault
- Port diagnostic
- Port Mirroring
- History
- Alarms via E-mail and SNMP Traps
- Signalling contact for low voltage detection (not for mCon 7050) and Link break

Additional information about Management functions and Firmware updates can be found on our Web server.

mCon 3000

mCon 4000
mCon 9000mCon 6000
mCon 7000A·3
3

Ethernet Switch
HARTING mCon 3000
Ethernet Switches, managed,
for mounting onto top-hat mounting rail
in control cabinets



General Description

The fully Managed Ethernet Switches of the product family HARTING mCon 3000 enable the connection of up to 10 network devices (according to type) over shielded Twisted Pair cables and fibre-optic cables (Multi- and Singlemode). The mCon 3000 Ethernet Switch family, with its integrated LEDs on each port, supports fast and easy network diagnosis.

The mCon 3000 Ethernet Switches are designed for an effective, industrial and individual use. They support both SNMP and an easy Web interface for management functions.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode
- up to 10 ports, managed, non-blocking
- Auto-crossing, Auto-negotiation, Auto-polarity

Advantages

- Metal housing
- EMC, temperature range and mechanical stability meet the highest demands
- Integrated management functions

Application fields

- Industrial automation
- Automotive industry
- Wind power
- Power distribution systems

Technical characteristics

Ethernet interface RJ45

Number of ports	6x / 8x / 10x 10/100Base-T(X), 2x 10/100/1000Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s, 100 Mbit/s or 1000 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	RJ45 (Twisted Pair)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 1000 Mbit/s: Green 100 Mbit/s: Yellow 10 Mbit/s: OFF
Topology	Ring, Line, Star or mixed

Power supply

Input voltage	24 V DC
Termination	5-pole screw terminal, pluggable for redundant power supply
Diagnostics (via LED)	Power supply

Alarm signalling contact

Change-over contact, potential-free, 24 V DC / 0.5 A
3-pole pluggable screw contact

Design features

Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Degree of protection acc. to DIN 60529 mCon xxxx-AE	IP 30 IP 20
Mounting	• 35 mm top-hat rail acc. to EN 60715 • Panel mounting, vertical assembly
Weight	approx. 0.6 kg

Environmental conditions

Operating temperature	0 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics - F.O. termination

Ethernet interface – F.O.

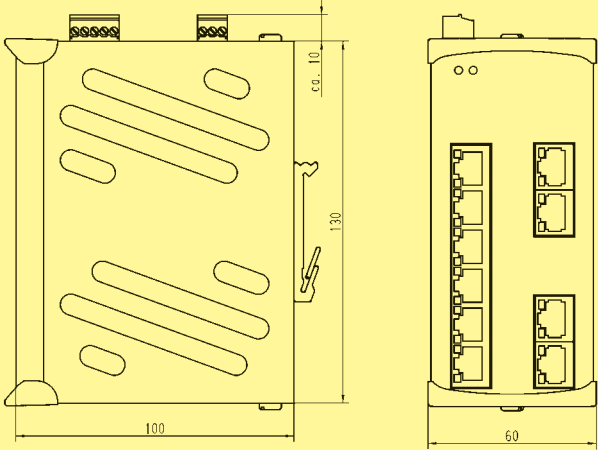
Number of ports	1x / 2x / 3x 100Base-FX
Cable types according to IEEE 802.3	Multimode fibre, 1300 nm; 50 / 125 µm or 62.5 / 125 µm
Data rate	100 Mbit/s
Maximum cable length	2000 m (Multimode)
Termination	SC-D female / ST female
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing
Wavelength	1300 nm
Transceive power T(X) max. (dynamic)	• -14 dBm (50 / 125 µm) • -14 dBm (62.5 / 125 µm)
Transmission power T(X) min.	• -23.5 dBm (50 / 125 µm) • -20 dBm (62.5 / 125 µm)
Receive power RX typical (dynamic)	• -33.9 dBm (window) • -35.2 dBm (centre)
Receive power RX max. (dynamic)	-14 dBm
Signal detection (dynamic)	-33 dBm
Topology	Ring, Line, Star or mixed

Ethernet Switch
HARTING mCon 3100-A
10-port Ethernet Switch for mounting onto top-hat mounting rail in control cabinets



Managed	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination	10x 10/100Base-T(X) / RJ45 (Twisted Pair)
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 190 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	625 000 h
Management	fully Managed via Web interface and SNMP Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 3100-A Ethernet Switch, managed 10 RJ45 ports including Set for assembly on standard rail	20 76 110 4000		

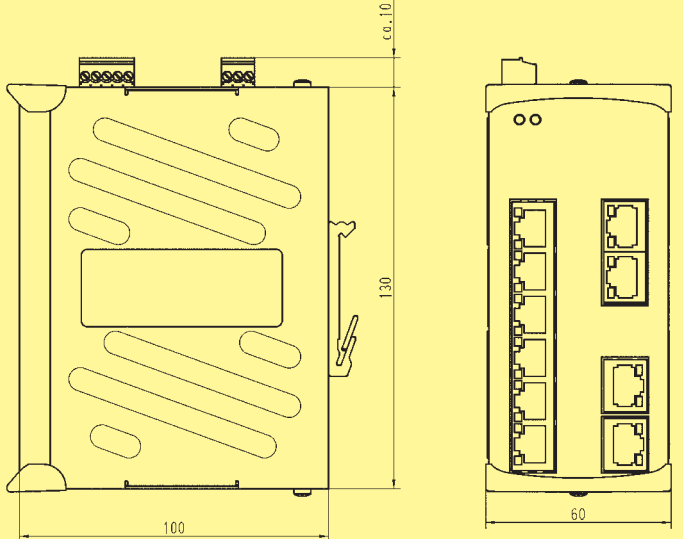
mCon 3000



Ethernet Switch HARTING mCon 3100-AA

10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 2 Gigabit ports

Managed	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 (Twisted Pair) 2x 10/100/1000Base-T(X) / RJ45 (Twisted Pair)		
Input voltage / Termination	24 / 48 V DC / 5-pole screw terminal, pluggable redundant power supply		
Permissible range (min/max)	9.6 V to 60 V DC		
Input current	approx. 260 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact		
Housing material	Metal (powder coated)		
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)		
Weight	approx. 0.6 kg		
Operating temperature	0 °C to +70 °C		
Approvals	cUL (in preparation)		
MTBF	720 000 h		
Management	fully Managed via Web interface and SNMP Functions see page A-3 2		

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 3100-AA Ethernet Switch, managed 10 RJ45 ports including Set for assembly on standard rail	20 76 110 4001		



Ethernet Switch
HARTING mCon 3061-AD

7-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 1 F.O. port (SC, MM)

Managed	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)		
Number of ports, F.O. / Termination	1x 100Base-FX / SC-D female		
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply		
Permissible range (min/max)	9.6 V to 36 V DC		
Input current	approx. 270 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact		
Housing material	Metal (powder coated)		
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)		
Weight	approx. 0.6 kg		
Operating temperature	0 °C to +70 °C		
Approvals	UL 508		
MTBF	710 000 h		
Management	fully Managed via Web interface and SNMP Functions see page A-3 2		

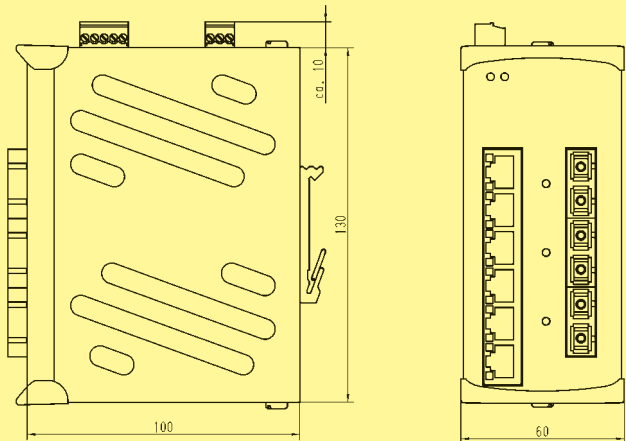
Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 3061-AD Ethernet Switch, managed 6 RJ45 ports 1 SC port including Set for assembly on standard rail	20 76 107 4100		

mCon 3000



Ethernet Switch HARTING mCon 3063-AD

9-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 3 F.O. ports (SC, MM)

Managed	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)		
Number of ports, F.O. / Termination	3x 100Base-FX / SC-D female		
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply		
Permissible range (min/max)	9.6 V to 36 V DC		
Input current	approx. 320 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact		
Housing material	Metal (powder coated)		
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)		
Weight	approx. 0.6 kg		
Operating temperature	0 °C to +70 °C		
Approvals	UL 508		
MTBF	710 000 h		
Management	fully Managed via Web interface and SNMP Functions see page A-3 2		
Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 3063-AD Ethernet Switch, managed 6 RJ45 ports 3 SC ports including Set for assembly on standard rail	20 76 109 4100		

Ethernet Switch

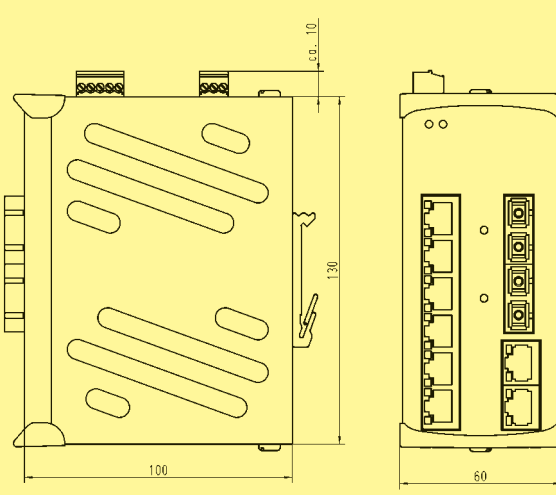
HARTING mCon 3082-AD

10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 2 F.O. ports (SC, MM)



Managed	IP 30	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	2x 100Base-FX / SC-D female
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 290 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	560 000 h
Management	fully Managed via Web interface and SNMP Functions see page A-3 2

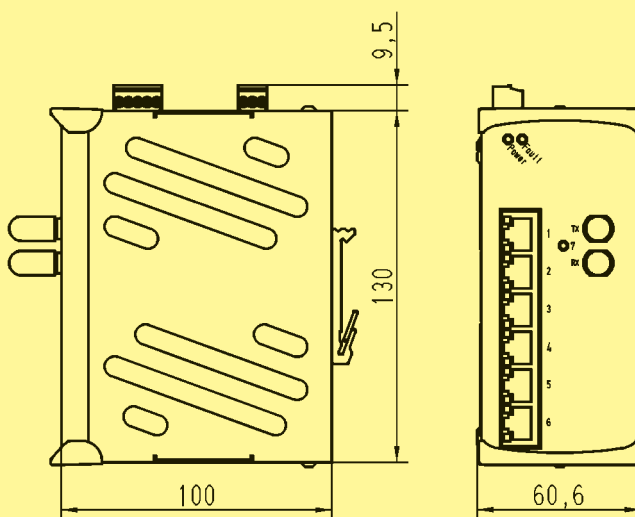
Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 3082-AD Ethernet Switch, managed 8 RJ45 ports 2 SC ports including Set for assembly on standard rail	20 76 110 4100		

mCon 3000



Ethernet Switch HARTING mCon 3061-AE

7-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 1 F.O. port (ST, MM)

Managed	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)		
Number of ports, F.O. / Termination	1x 100Base-FX / ST female		
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply		
Permissible range (min/max)	9.6 V to 36 V DC		
Input current	approx. 270 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact		
Housing material	Metal (powder coated)		
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)		
Weight	approx. 0.6 kg		
Operating temperature	0 °C to +70 °C		
Approvals	UL 508		
MTBF	710 000 h		
Management	fully Managed via Web interface and SNMP Functions see page A-3 2		
Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 3061-AE Ethernet Switch, managed 6 RJ45 ports 1 ST port including Set for assembly on standard rail	20 76 107 4200		

Ethernet Switch

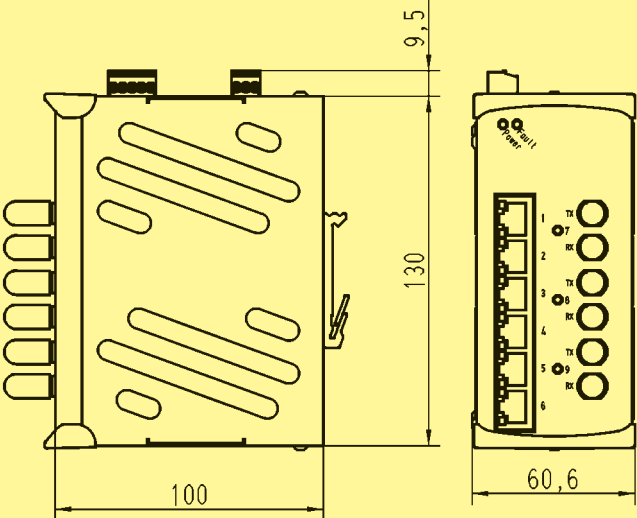
HARTING mCon 3063-AE

9-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 3 F.O. ports (ST, MM)



Managed	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination	6x 10/100Base-T(X) / RJ45 (Twisted Pair)
Number of ports, F.O. / Termination	3x 100Base-FX / ST female
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	9.6 V to 36 V DC
Input current	approx. 320 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A 3-pole pluggable screw contact
Housing material	Metal (powder coated)
Dimensions (W x H x D)	60 x 132 x 104 mm (incl. cap, without connectors)
Weight	approx. 0.6 kg
Operating temperature	0 °C to +70 °C
Approvals	UL 508
MTBF	710 000 h
Management	fully Managed via Web interface and SNMP Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 3063-AE Ethernet Switch, managed 6 RJ45 ports 3 ST ports including Set for assembly on standard rail	20 76 109 4200		

mCon 3000



Ethernet Switch

HARTING mCon 3082-AE

10-port Ethernet Switch for mounting onto top-hat mounting rail
in control cabinets including 2 F.O. ports (ST, MM)

Managed

IP 20

PROFINET compatible ☒EtherNet/IP compatible ☒

Number of ports, Copper / Termination 8x 10/100Base-T(X) / RJ45 (Twisted Pair)

Number of ports, F.O. / Termination 2x 100Base-FX / ST female

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 9.6 V to 36 V DC

Input current approx. 290 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
3-pole pluggable screw contact

Housing material Metal (powder coated)

Dimensions (W x H x D) 60 x 132 x 104 mm (incl. cap, without connectors)

Weight approx. 0.6 kg

Operating temperature 0 °C to +70 °C

Approvals UL 508

MTBF 560 000 h

Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification

Part number

Drawing

Dimensions in mm

HARTING mCon 3082-AE

Ethernet Switch, managed

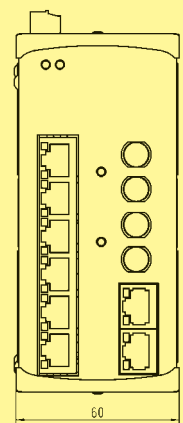
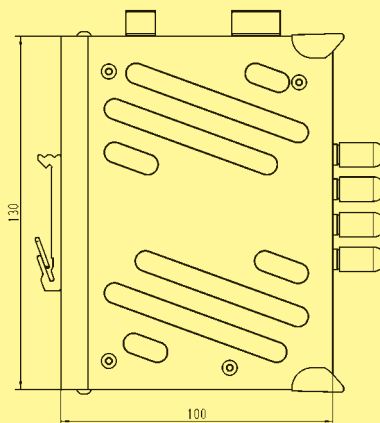
8 RJ45 ports

2 ST ports

including

Set for assembly on standard rail

20 76 110 4200



Ethernet Switch
HARTING mCon 4000
Ethernet Switches, managed,
for flat wall mounting



General Description

The Fast Ethernet Switches of the product family HARTING mCon 4000 are recommended for use in the widest range of industrial applications and support Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s). The product family enables the connection of up to 8 network devices over shielded Twisted Pair cables.

Mechanical stability and temperature range meet the highest demands. The robust M12 interface shows its advantages especially in applications at risk of vibrations.

The Ethernet Switches support both SNMP and an easy Web interface for management functions.

Features

- Ethernet Switch according to IEEE 802.3
- Ethernet (10 Mbit/s) and Fast Ethernet (100 Mbit/s)
- Auto-crossing
- Auto-negotiation
- Auto-polarity
- Store and Forward Switching Mode, non blocking
- Diagnostic LEDs (Link status, Data, Power)
- Mounting onto wall, optionally onto top-hat mounting rail

Advantages

- Robust metal housing and flat housing style
- EMC, temperature range and mechanical stability meet the highest demands
- Wide range for power supply input
- Wide range for type test according to EN 50 155 and EN 50 121-3-2

Application fields

- Railway applications
- Industrial automation
- Automotive industry
- Wind power

Technical characteristics

Ethernet interface

Number of ports	8x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination	M12, D-coding
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow / 10 Mbit/s: OFF
Topology	Line, Ring, Star or mixed

Power supply

Input voltage	24 / 48 V DC
Termination	M12, A-coding, male, for redundant power supply
Diagnostics (via LED)	Power supply

Design features

Housing material	Metal (powder coated)
Dimensions (W x H x D)	130 x 166 x 50 mm
Degree of protection acc. to DIN 60529	IP 40
Mounting	• Wall mounting, flat • 35 mm top-hat rail acc. to EN 60715
Weight	approx. 0.85 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Ethernet Switch
HARTING mCon 4080-B1
8-port Ethernet Switch for flat installation



Managed	IP 40	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination	8x 10/100Base-T(X) / M12, D-coding
Input voltage / Termination	24 / 48 V DC / M12, A-coding, male, for redundant power supply
Permissible range (min/max)	12 V to 60 V DC
Input current	approx. 165 mA (at 24 V DC)
Housing material	Metal (powder coated)
Dimensions (W x H x D)	130 x 166 x 50 mm
Weight	approx. 0.85 kg
Operating temperature	−40 °C to +70 °C
Approvals	cUL (in preparation)

Identification	Part number	Drawing	Dimensions in mm
mCon 4000 A-3 18 HARTING mCon 4080-B1 Ethernet Switch, managed, with 8 ports M12, D-coding for wall mounting	20 77 208 4001	Technical drawing of the HARTING mCon 4080-B1 Ethernet switch. The drawing includes a side view showing a width of 50 mm and a depth of 63.7 mm. The front view shows a width of 130 mm and a height of 166 mm. The front view also shows the 8 ports arranged in a 2x4 grid, with dimensions 94 mm between ports, 110 mm between columns, and 120 mm between rows. The ports are labeled X1 through X8, and the power supply is labeled X9 and X10.	



Ethernet Switch HARTING mCon 9000

Ethernet Switch, managed, for installation in a 19" rack

General Description

The Ethernet Switches of the product family HARTING mCon 9000 are recommended for use in the widest range of industrial applications and support Ethernet (10 Mbit/s), Fast Ethernet (100 Mbit/s) and Gigabit Ethernet (1000 Mbit/s). The product family enables the connection of up to 10 network devices over shielded Twisted Pair cables or F.O. cables. Optionally for some mCon 9000 Ethernet Switches additional end-devices can be connected via the DIN male connector.

The mCon 9000 Ethernet Switch family, with its integrated LEDs on each port, supports fast and easy network diagnosis. The mCon Ethernet Switch operates in Store and Forward Switching mode and supports Auto-crossing, Auto-negotiation and Auto-polarity.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode, non-blocking
- Auto-crossing, Auto-negotiation, Auto-polarity
- Ethernet (10 Mbit/s), Fast Ethernet (100 Mbit/s) and Gigabit Ethernet (1000 Mbit/s)
- Diagnostic LEDs (Link status, Data, Power)
- Pluggable in 19" racks
- mCon 9070-B:
Power input on the front
no backplane necessary

Advantages

- Robust metal housing
- Management function integrated
- EMC, temperature range and mechanical stability meet the highest demands
- PROFINET compatible

Application fields

- Industrial automation
- Railway applications
- Automotive industry
- Wind power
- Power distribution systems

Technical characteristics RJ45

Ethernet interface

Number of ports	8x 10/100Base-T(X) 2x 10/100/1000Base-T(X) (depending on type)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s, 100 Mbit/s or 1000 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination, front	RJ45
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 1000 Mbit/s: Green 100 Mbit/s: Yellow 10 Mbit/s: OFF
Topology	Line, Ring, Star or mixed

Power supply

Input voltage	24 / 48 V DC (8 to 60 V DC)
Termination	DIN frame connector, Type F
Diagnostics (via LED)	Power supply

Alarm signalling contact

Change-over contact, potential-free, 24 V DC / 0.5 A

Design features

Housing material	Aluminium, anodised
Degree of protection acc. to DIN 60529	IP 20 (front side IP 40, when mounted)
Mounting	19" rack, 3 U
Weight	approx. 0.6 kg

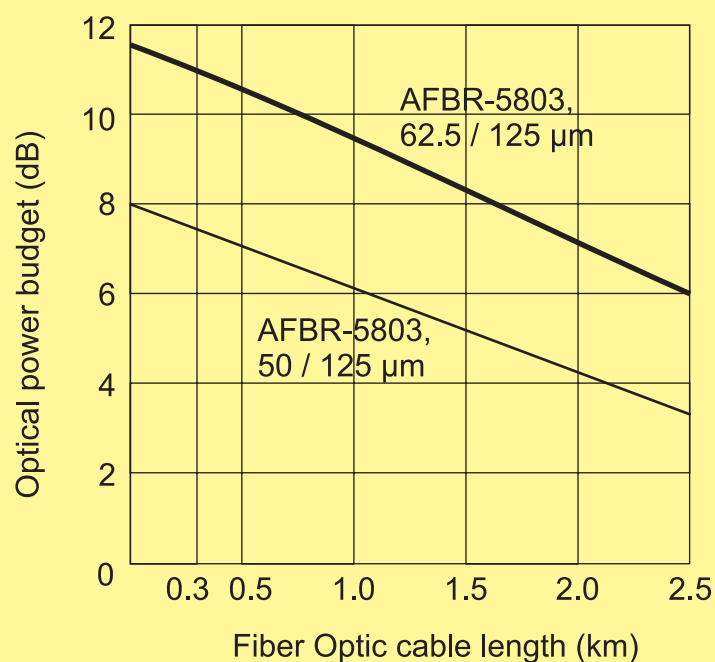
Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics F.O. terminations

Ethernet interface – F.O.

Number of ports	2x 100Base-FX
Cable types according to IEEE 802.3	• Multimode fibre, 1300 nm; 50 / 125 μm or 62.5 / 125 μm
Data rate	100 Mbit/s
Maximum cable length	• 2000 m (Multimode)
Termination	SC-D female / ST female
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing
Wavelength	1300 nm
Transceive power T(X) max. (dynamic)	• -14 dBm (50 / 125 μm) • -14 dBm (62.5 / 125 μm)
Transmission power T(X) min.	• -23.5 dBm (50 / 125 μm) • -20 dBm (62.5 / 125 μm)
Receive power RX typical (dynamic)	• -33.9 dBm (window) • -35.2 dBm (centre)
Receive power RX max. (dynamic)	-14 dBm
Signal detection (dynamic)	-33 dBm
Topology	Line, Ring, Star or mixed



Technical characteristics M12, D-coding

Ethernet interface

Number of ports	7x / 8x 10/100Base-T(X)
Cable types according to IEEE 802.3	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s (RJ45)
Maximum cable length	100 m (Twisted Pair; with Category 5 cable acc. to DIN EN 50173-1)
Termination, front	M12, D-coding
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Green flashing • Data transfer rate (Speed) – 100 Mbit/s: Yellow / 10 Mbit/s: OFF
Topology	Line, Ring, Star or mixed

Power supply

Input voltage	24 / 48 V DC (8 to 60 V DC)
mCon 9080-B	24 V DC (12 to 48 V DC)
Diagnostics (via LED)	Power supply

Alarm signalling contact (mCon 9080-B only)

Change-over contact, potential-free, 24 V DC / 0.5 A

Design features

Housing material	Aluminium, anodised
Degree of protection acc. to DIN 60529	IP 20 (front side IP 40, when mounted)
Mounting	19" rack, 3 U
Weight	approx. 0.6 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)



Ethernet Switch
HARTING mCon 9100-AA
10-port Ethernet Switch for installation in a 19" rack

Managed	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45 2x 10/100/1000 Base-T(X) / RJ45		
Input voltage / Termination	24 / 48 V DC / DIN frame connector, Type F		
Permissible range (min/max)	8 V to 60 V DC		
Input current	approx. 240 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A		
Housing material	Aluminium, anodised		
Dimensions (W x H x D)	60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm		
Weight	approx. 0.6 kg		
Operating temperature	-40 °C to +70 °C		
MTBF	720 000 h		
Management	fully Managed via SNMP Functions see page A-3 2		

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 9100-AA Ethernet Switch, managed 10 ports RJ45	20 76 110 7001		



Ethernet Switch
HARTING mCon 9082-AD
10-port Ethernet Switch for installation in a 19" rack

Managed	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45		
Number of ports, F.O. / Termination	2x 100Base-FX / SC-D female		
Input voltage / Termination	24 / 48 V DC / DIN frame connector, Type F		
Permissible range (min/max)	8 V to 60 V DC		
Input current	approx. 290 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A		
Housing material	Aluminium, anodised		
Dimensions (W x H x D)	60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm		
Weight	approx. 0.6 kg		
Operating temperature	-40 °C to +70 °C		
Approvals	cUL (in preparation)		
MTBF	750 000 h		
Management	fully Managed via SNMP Functions see page A-3 2		

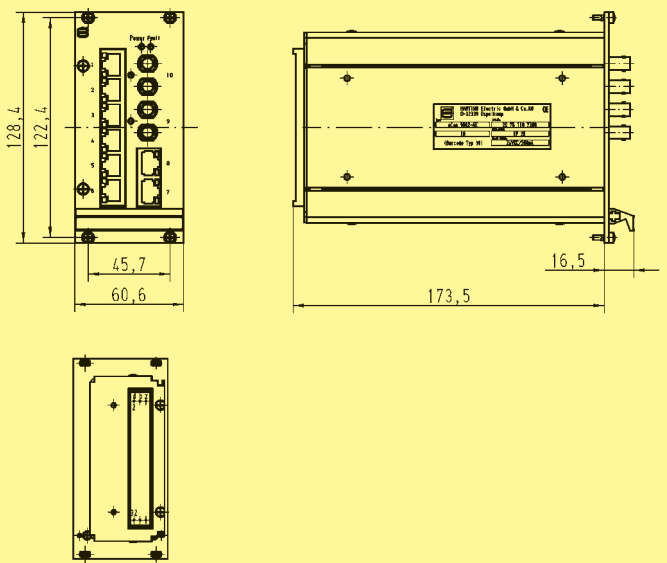
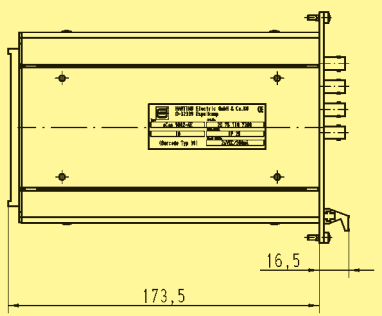
Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 9082-AD Ethernet Switch, managed 8 ports RJ45 2 ports F.O.	20 76 110 7101	Technical drawings of the HARTING mCon 9082-AD switch. The drawings include a front view showing the 10 ports (8 RJ45 and 2 SC-D), a side view showing the 12 HP height, and a top view showing the 60.6 mm width. Dimensions are provided in millimeters.	Technical drawing of the HARTING mCon 9082-AD switch showing dimensions. The drawing includes a side view showing the 12 HP height, a top view showing the 60.6 mm width, and a front view showing the 173.5 mm depth. Dimensions are provided in millimeters.

mCon 9000



Ethernet Switch HARTING mCon 9082-AE

10-port Ethernet Switch for installation in a 19" rack

Managed	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	8x 10/100Base-T(X) / RJ45		
Number of ports, F.O. / Termination	2x 100Base-FX / ST female		
Input voltage / Termination	24 / 48 V DC / DIN frame connector, Type F		
Permissible range (min/max)	8 V to 60 V DC		
Input current	approx. 290 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A		
Housing material	Aluminium, anodised		
Dimensions (W x H x D)	60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm		
Weight	approx. 0.6 kg		
Operating temperature	-40 °C to +70 °C		
Approvals	cUL (in preparation)		
MTBF	715 000 h		
Management	fully Managed via SNMP Functions see page A-3 2		
Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 9082-AE Ethernet Switch, managed 8 ports RJ45 2 ports F.O.	20 76 110 7201		



Ethernet Switch
HARTING mCon 9070-B

7-port Ethernet Switch for installation in a 19" rack

Managed	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination 7x 10/100Base-T(X) / M12 D-coding

Input voltage / Termination 24 / 48 V DC / M12 A-coding (on front side)

Permissible range (min/max) 8 V to 60 V DC

Input current approx. 130 mA (at 24 V DC)

Housing material Aluminium, anodised

Dimensions (W x H x D) 60.6 mm (12 HP) x 128.4 mm (3 U) x 173.5 mm

Weight approx. 0.6 kg

Operating temperature -40 °C to +70 °C

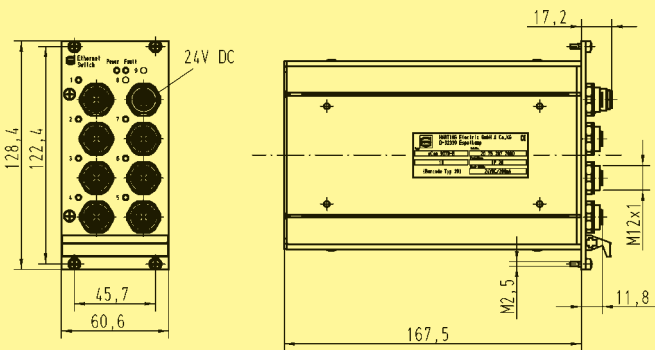
Approvals cUL (in preparation)

Management fully Managed via SNMP
Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
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HARTING mCon 9070-B
Ethernet Switch, managed
7 ports, M12, D-coding

20 76 207 7001





Ethernet Switch
HARTING mCon 9080-B
 8-port Ethernet Switch for installation in a 19" rack

Managed	IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
Number of ports, Copper / Termination	8x 10/100Base-T(X) / 7x front sided M12, D-coding 1x on the back plane		
Input voltage / Termination	24 V DC / DIN frame connector, Type F		
Permissible range (min/max)	12 V to 48 V DC		
Input current	125 mA (at 24 V DC)		
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A		
Housing material	Aluminium, anodised		
Dimensions (W x H x D)	50.5 mm (10 HP) x 128.4 mm (3 U) x 173.5 mm		
Weight	approx. 0.6 kg		
Operating temperature	-40 °C to +70 °C		
Approvals	cUL (in preparation)		
Management	fully Managed via SNMP Functions see page A-3 2		

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 9080-B Ethernet Switch, managed 7 ports M12, D-coding 1 port on the back plane	20 76 208 7001		mCon 9000 A-3 27

Ethernet Switch HARTING mCon 6000

In-between Ethernet Switch, managed,
for use in harsh industrial environments



General Description

Based on the In-Between concept – Ethernet Switch and Panel feed-through in one unit – the Managed Fast Ethernet Switches of the product family HARTING mCon 6000 support network services to optimise the configuration and use of industrial networks.

The compact housing is mounted directly onto the outside panel of a switch cabinet or terminal box. Up to three IP 20 ports are available within the cabinet, according to switch type, for the connection of Ethernet clients. Outside the control cabinet, the mCon 6000 offers two IP 65 / IP 67 Ethernet ports for network connections over IEC 802.3 Shielded Twisted-Pair cabling.

They support both SNMP and an easy Web interface for management functions.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode
- 3 ports, managed, non-blocking, IP 20
2 ports, managed, non-blocking, IP 65 / IP 67
- Auto-crossing, Auto-negotiation, Auto-polarity

Advantages

- High degree of protection IP 65 / IP 67
- Robust metal housing
- Can be used directly in industrial environments
- EMC, temperature range and mechanical stability meet the highest demands
- Integrated management functions

Application fields

- Industrial automation
- Automotive industry
- Wind power
- Power distribution systems

Technical characteristics

Ethernet interface

Number of ports	5 (2x IP 65 / IP 67 – 3x IP 20)
Cable types	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s
Maximum cable length	100 m (with Category 5 cable acc. to EN 50173)
Termination, device-side	On the outside of control cabinet: 2x Han® 3 A (female) 2x M12, D-coding (female) On the inside of control cabinet: 3x RJ45
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Yellow flashing
Topology	Ring, Line, Star or mixed

Power supply

Input voltage	24 V DC (18 to 30 V DC)
Termination, device-side	5-pole screw terminal, pluggable for redundant power supply (inside of control cabinet)
Diagnostics (via LED)	Power supply – Green

Alarm signalling contact

	Change-over contact, potential-free, 24 V DC / 0.5 A (on the inside of control cabinet) 3-pole pluggable screw contact
Diagnostics (via LED)	Error – Red

Design features

Housing material	Aluminium die-cast
Dimensions (W x H x D)	105 x 40 x 105 mm (without connectors)
Degree of protection acc. to DIN 60529	IP 65 / IP 67 On the outside of control cabinet connector IP 20 On the inside of control cabinet
Mounting	Directly on control cabinets or terminal boxes
Weight	approx. 0.6 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	30 % to 95 % (non-condensing)



Accessories HARTING mCon 6000

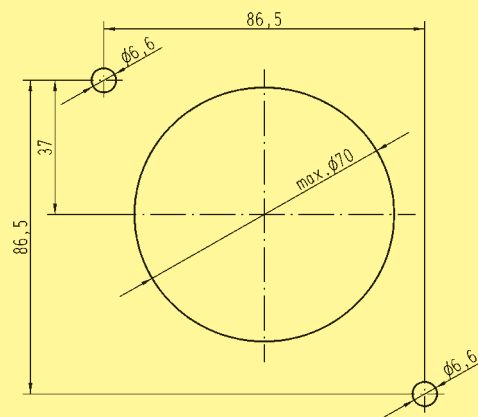
Identification

Part number

Mounting plate
on the inside of control cabinet

20 80 000 0004

Mounting information



Ethernet Switch
HARTING mCon 6050-A
5-port Ethernet Switch
for mounting on the outside of control cabinets



Managed

IP 67 / IP 20

PROFINET compatible ☒EtherNet/IP compatible ☒

Number of ports, Copper / Termination 5x 10/100Base-T(X) / 2x Han® 3 A RJ45 (IP 65 / IP 67)*
3x RJ45 (IP 20)

Input voltage / Termination 24 V DC / 5-pole screw terminal, pluggable
redundant power supply

Permissible range (min/max) 18 V to 30 V DC

Input current approx. 160 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
(on the inside of control cabinet)
3-pole pluggable screw contact

Housing material Aluminium die-cast

Dimensions (W x H x D) 105 x 40 x 105 mm (without connectors)

Weight approx. 0.6 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification

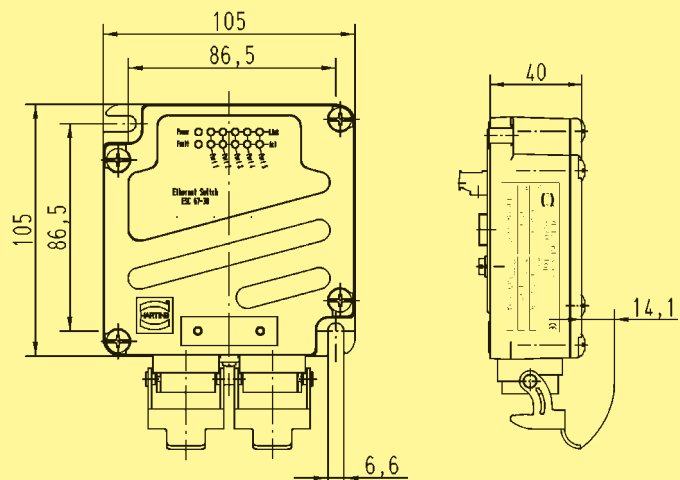
Part number

Drawing

Dimensions in mm

HARTING mCon 6050-A
Ethernet Switch, managed
Han® 3 A RJ45

20 73 305 4921



mCon 6000

A-3
31

* Order insert fixing screw 09 20 000 9918 separately

Ethernet Switch
HARTING mCon 6050-BA

5-port Ethernet Switch
for mounting on the outside of control cabinets (M12 system cabling)



Managed	IP 67 / IP 20	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination	5x 10/100Base-T(X) / 2x M12, D-coding (IP 65 / IP 67) 3x RJ45 (IP 20)
Input voltage / Termination	24 V DC / 5-pole screw terminal, pluggable redundant power supply
Permissible range (min/max)	18 V to 30 V DC
Input current	approx. 160 mA (at 24 V DC)
Alarm signalling contact	Change-over contact, potential-free, 24 V DC / 0.5 A (on the inside of control cabinet) 3-pole pluggable screw contact
Housing material	Aluminium die-cast
Dimensions (W x H x D)	105 x 40 x 105 mm (without connectors)
Weight	approx. 0.6 kg
Operating temperature	–40 °C to +70 °C
Approvals	cUL (in preparation)
Management	fully Managed via Web interface and SNMP Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 6050-BA Ethernet Switch, managed M12, D-coding	20 73 305 4941		



**Ethernet Switch
HARTING mCon 7000**

Ethernet Switch, managed, for harsh industrial environments

General Description

If additional services for networks in harsh industrial environments (filtering, prioritisation, topology), or individual network configurations are required, then the Fast Ethernet Switches of the product family HARTING mCon 7000 come into play.

These Managed switches allow the connection of up to 10 end-units, according to switch type, over IEC 802.3 Shielded Twisted-Pair cabling. Protection class, temperature range and mechanical stability satisfy the highest requirements. These Fast Ethernet Switches can therefore be directly used in industrial environments.

They support both SNMP and an easy Web interface for management functions.

Features

- Ethernet Switch acc. to IEEE 802.3
- Store and Forward Switching Mode
- 5 or 10 ports, managed, non-blocking
- Auto-crossing, Auto-negotiation, Auto-polarity
- Ethernet (10 Mbit/s), Fast Ethernet (100 Mbit/s) and Gigabit Ethernet (1000 Mbit/s)
- Diagnostic LEDs (Link status, Data, Power, Error)

Advantages

- High degree of protection IP 65 / IP 67
- Robust metal housing, zinc die-cast
- Can be used directly in industrial environments
- EMC, temperature range and mechanical stability meet the highest demands
- Integrated management functions

Application fields

- Industrial automation
- Railway applications
- Automotive industry
- Wind power



Technical characteristics mCon 7050-A, 7050-B

Ethernet interface

Number of ports	5x 10/100Base-T(X)
Cable types	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s
Maximum cable length	100 m (with Category 5 cable acc. to EN 50173)
Termination, device-side	Han® 3 A RJ45 (female) M12, D-coding (female)
Diagnostics (via LED)	• Status Link – Green • Data transfer (Act) – Yellow flashing
Topology	Ring, Line, Star or mixed

Power supply

Input voltage	24 V DC (16.8 to 30 V DC)
Termination, device-side	Han® 4 A (male), redundant power supply (including fixing screw 09 20 000 9918, to maintain IP 67) M12, A-coding (male), redundant power supply
Diagnostics (via LED)	Power supply – Green

Design features

	mCon 7050
Housing material	Zinc die-cast
Dimensions (W x H x D)	45 x 120 x 87 mm
Degree of protection acc. to DIN 60529	IP 65 / IP 67
Mounting	35 mm top-hat rail acc. to EN 60715, Panel mounting, vertical assembly, Panel mounting, flat assembly
Weight	approx. 0.8 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Technical characteristics mCon 7050-A1, 7050-B1, 7100-A1, -A2, 7100-B1, -B2, 7100-AA

Ethernet interface

Number of ports	5x, 8x, 10x 10/100Base-T(X)
mCon 7100-AA:	2x 10/100/1000-T(X)
Cable types	Shielded Twisted Pair (STP) or Unshielded Twisted Pair (UTP), Category 5
Data rate	10 Mbit/s or 100 Mbit/s or 1000 Mbit/s (mCon 7100-AA only)
Maximum cable length	100 m (with Category 5 cable acc. to EN 50 173)
Termination, device-side	Han® 3 A RJ45 (female) / M12, D-coding (female)
Diagnostics (via LED)	• Status Link (Link/Act) - Green terminal device is connected - Green flashing data transmission in process • Transfer rate (Speed) - OFF 10 Mbit/s - Yellow 100 Mbit/s - Green 1000 Mbit/s (mCon 7100-AA only)
Topology	Line, Ring, Star or mixed

Power supply

Input voltage	24 / 48 V DC (12 to 60 V DC)
Termination, device-side	Han® 4 A (male), redundant power supply (including fixing screw 09 20 000 9918, to maintain IP 67), M12, A-coding (male), redundant power supply
Diagnostic (via LED)	Power supply – Green

Alarm signalling contact (mCon 7100 only)

	Change-over contact, potential-free, 24 V DC / 0.5 A
Termination, device-side	Han® 3 A (male) M12, D-coding (male)
Diagnostic (via LED)	Error – Red

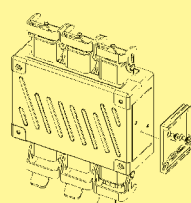
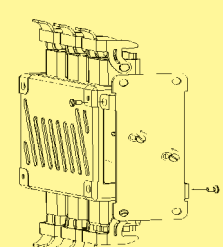
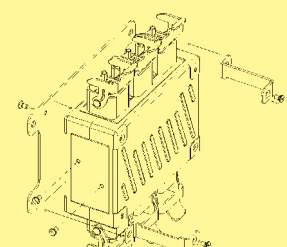
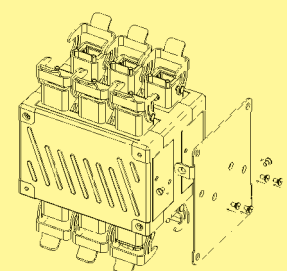
Design features

	mCon 7050	mCon 7100
Housing material	Zinc die-cast	Zinc die-cast
Dimensions (W x H x D)	45 x 120 x 87 mm	90 x 120 x 87 mm
Degree of protection acc. to DIN 60529	IP 65 / IP 67	IP 65 / IP 67
Mounting	35 mm top-hat rail acc. to EN 60 715, Panel mounting, vertical assembly, Panel mounting, flat assembly	Panel mounting, vertical assembly
Weight	approx. 0.8 kg	approx. 1.4 kg

Environmental conditions

Operating temperature	–40 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Relative humidity	10 % to 95 % (non-condensing)

Identification	Part number Power supply	Alarm signalling contact (mCon 7100 only)
Hood metal, straight, metric	19 20 003 1440 ¹⁾	19 20 003 1440
Protection cover Han® 3 A	09 20 003 5426	09 20 003 5426
Han® 4 A female insert	09 20 004 2711	
Han® 3 A female insert		09 20 003 2711
Cable gland metal IP 65, metric M20, cable diameter: 5 - 9 mm	19 00 000 5080	
HARAX® M12-L circular connector A-coding	21 03 212 2305	

Identification	Part number	Drawing	Dimensions in mm
Set for assembly on standard rail according to DIN EN 60 715	20 80 000 0003		
Set for panel mounting vertical assembly	20 80 010 0001		
Set for panel mounting flat assembly	20 80 024 0002		
Set for panel mounting mCon 7100 vertical assembly	20 80 010 0002		

¹⁾ Order insert fixing screw 09 20 000 9918 separately

Ethernet Switch
HARTING mCon 7050-A
5-port Ethernet Switch for use
in harsh industrial environments



Managed

IP 67

PROFINET compatible ☒EtherNet/IP compatible ☒

Number of ports, Copper / Termination 5x 10/100Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 V DC Han® 4 A (male)*
redundant power supply

Permissible range (min/max) 16.8 V to 30 V DC

Input current 160 mA (at 24 V DC)

Housing material Zinc die-cast

Dimensions (W x H x D) 45 x 120 x 87 mm (without connectors)

Weight approx. 0.8 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A:3 2

Identification

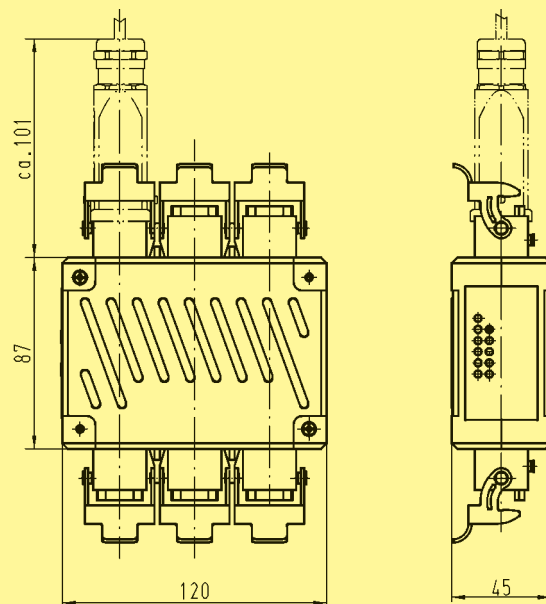
Part number

Drawing

Dimensions in mm

HARTING mCon 7050-A
Ethernet Switch, managed
Han® 3 A RJ45

20 70 305 4921



mCon 7000

A-3
37

* Order insert fixing screw 09 20 000 9918 separately

Ethernet Switch
HARTING mCon 7050-B
5-port Ethernet Switch for industrial Ethernet networks
with M12 system cabling



Managed	IP 67	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination 5x 10/100Base-T(X) / M12, D-coding (female)

Input voltage / Termination 24 V DC M12, A-coding (male),
redundant power supply

Permissible range (min/max) 16.8 V to 30 V DC

Input current 160 mA (at 24 V DC)

Housing material Zinc die-cast

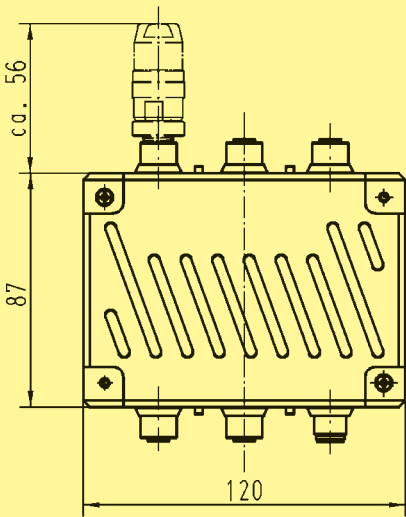
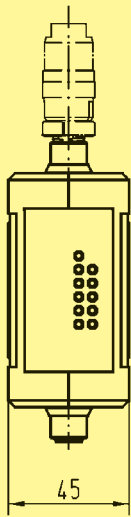
Dimensions (W x H x D) 45 x 120 x 87 mm (without connectors)

Weight approx. 0.8 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 7050-B Ethernet Switch, managed M12, D-coding	20 70 305 4941		

Ethernet Switch HARTING mCon 7050-A1

5-port Ethernet Switch with extended input voltage range
for use in harsh industrial environments



Managed

IP 67

PROFINET compatible ☒EtherNet/IP compatible ☒

Number of ports, Copper / Termination 5x 10/100Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 / 48 V DC Han® 4 A (male)*
redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 160 mA (at 24 V DC)

Housing material Zinc die-cast

Dimensions (W x H x D) 45 x 120 x 87 mm (without connectors)

Weight approx. 0.8 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A:3 2

Identification

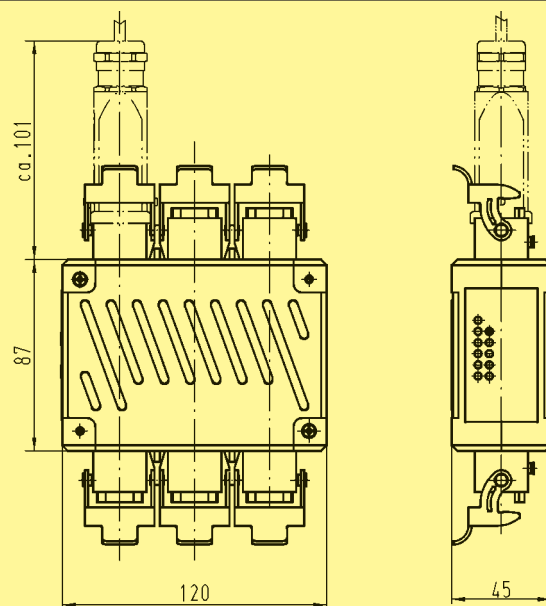
Part number

Drawing

Dimensions in mm

HARTING mCon 7050-A1
Ethernet Switch, managed
Han® 3 A RJ45

20 70 305 4922



mCon 7000

A-3
39

* Order insert fixing screw 09 20 000 9918 separately



Ethernet Switch
HARTING mCon 7050-B1

5-port Ethernet Switch with extended input voltage range
for industrial Ethernet networks with M12 system cabling

Managed	IP 67	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination 5x 10/100Base-T(X) / M12, D-coding (female)

Input voltage / Termination 24 / 48 V DC M12, A-coding (male),
redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 160 mA (at 24 V DC)

Housing material Zinc die-cast

Dimensions (W x H x D) 45 x 120 x 87 mm (without connectors)

Weight approx. 0.8 kg

Operating temperature -40 °C to +70 °C

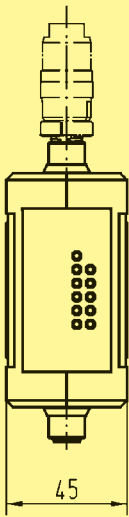
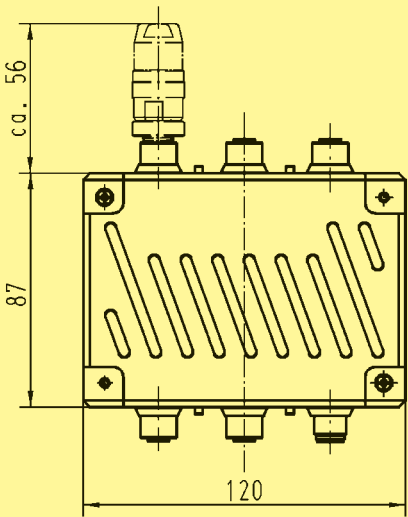
Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
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HARTING mCon 7050-B1
Ethernet Switch, managed
M12, D-coding

20 70 305 4942



Ethernet Switch
HARTING mCon 7100-A1
10-port Ethernet Switch for use in harsh industrial environments



Managed

IP 67

PROFINET compatible ☒EtherNet/IP compatible ☒

Number of ports, Copper / Termination 10x 10/100Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 / 48 V DC Han® 4 A (male)*
redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 180 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
Han® 3 A (male)*

Housing material Zinc die-cast

Dimensions (W x H x D) 90 x 120 x 87 mm (without connectors)

Weight approx. 1.4 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification

Part number

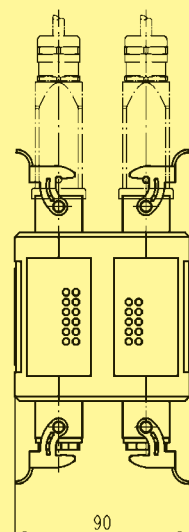
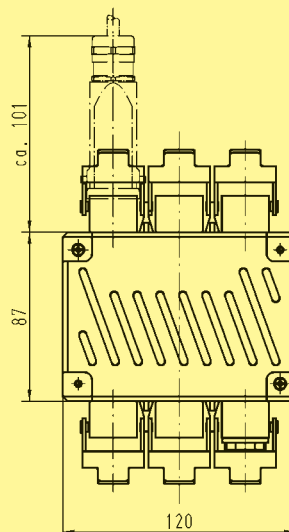
Drawing

Dimensions in mm

HARTING mCon 7100-A1

Ethernet Switch, managed
Han® 3 A RJ45

20 70 310 4922



* Order insert fixing screw 09 20 000 9918 separately



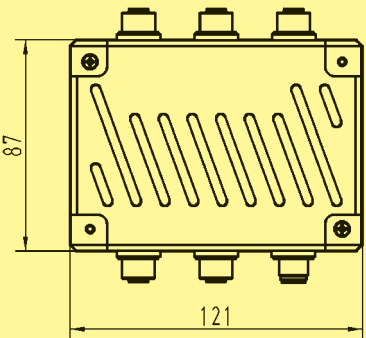
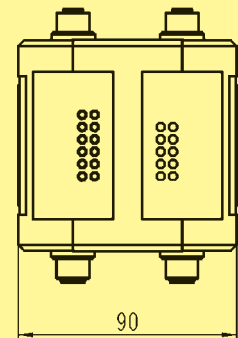
Ethernet Switch
HARTING mCon 7100-B1
10-port Ethernet Switch for industrial Ethernet networks
with M12 system cabling

Managed	IP 67	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination 10x 10/100Base-T(X) / M12, D-coding (female)

Input voltage / Termination 24 / 48 V DC M12, A-coding (male),
redundant power supply
Permissible range (min/max) 12 V to 60 V DC
Input current approx. 180 mA (at 24 V DC)
Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
M12, D-coding (male)

Housing material Zinc die-cast
Dimensions (W x H x D) 90 x 120 x 87 mm (without connectors)
Weight approx. 1.4 kg
Operating temperature -40 °C to +70 °C
Approvals cUL (in preparation)
Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 7100-B1 Ethernet Switch, managed M12, D-coding	20 70 310 4942		

Ethernet Switch
HARTING mCon 7100-AA
 10-port Ethernet Switch for use
 in harsh industrial environments with 2 Gigabit ports



Unmanaged

IP 67

PROFINET compatible ☒EtherNet/IP compatible ☒

Number of ports, Copper / Termination 8x 10/100Base-T(X) / Han® 3 A RJ45 (female)*
 2x 10/100/1000Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 / 48 V DC / Han® 4 A (male)*, redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 260 mA (at 24 V DC)

Alarm signalling contact Change-over contact, potential-free, 24 V DC / 0.5 A
 Han® 3 A (male)*

Housing material Zinc die-cast

Dimensions (W x H x D) 90 x 120 x 87 mm (without connectors)

Weight approx. 1.4 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
 Functions see page A-3 2

Identification

Part number

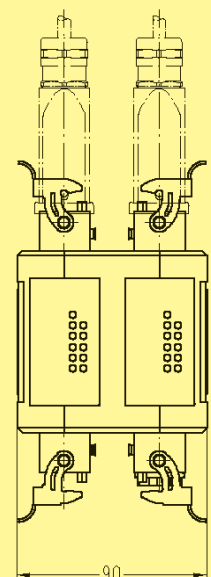
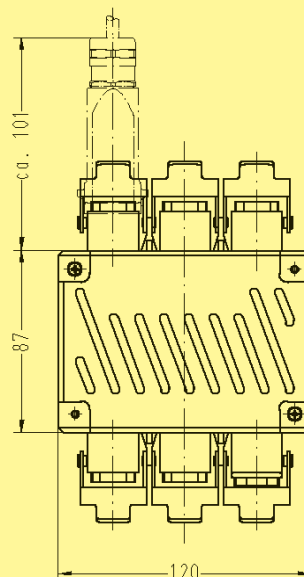
Drawing

Dimensions in mm

HARTING mCon 7100-AA

Ethernet Switch, managed
 10 Han® 3 A RJ45 ports

20 70 310 4924



* Order insert fixing screw 09 20 000 9918 separately

Ethernet Switch
HARTING mCon 7100-A2
10-port Ethernet Switch for use in harsh industrial environments
including interface to external configuration memory



Managed	IP 67	PROFINET compatible ☒	EtherNet/IP compatible ☒
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Number of ports, Copper / Termination 10x 10/100Base-T(X) / Han® 3 A RJ45 (female)*

Input voltage / Termination 24 / 48 V DC Han® 4 A (male)*
redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 180 mA (at 24 V DC)

Interface to external configuration memory Han-Brid® Cu (female)

Housing material Zinc die-cast

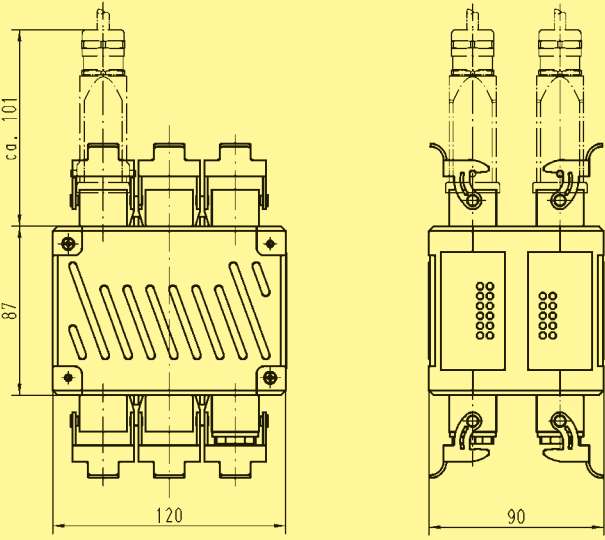
Dimensions (W x H x D) 90 x 120 x 87 mm (without connectors)

Weight approx. 1.4 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification	Part number	Drawing	Dimensions in mm
HARTING mCon 7100-A2 Ethernet Switch, managed Han® 3 A RJ45	20 70 310 4923		
CM 7100 External configuration memory for Ethernet Switch mCon 7100-A2 / mCon 7100-B2	20 70 310 4001		

* Order insert fixing screw 09 20 000 9918 separately

Ethernet Switch

HARTING mCon 7100-B2

10-port Ethernet Switch for industrial Ethernet networks
with M12 system cabling
including interface to external configuration memory



Managed

IP 67

PROFINET compatible ☒EtherNet/IP compatible ☒

Number of ports, Copper / Termination 10x 10/100Base-T(X) / M12, D-coding (female)

Input voltage / Termination 24 / 48 V DC M12, A-coding (male),
redundant power supply

Permissible range (min/max) 12 V to 60 V DC

Input current approx. 180 mA (at 24 V DC)

Interface to external configuration memory Han-Brid® Cu (female)

Housing material Zinc die-cast

Dimensions (W x H x D) 90 x 120 x 87 mm (without connectors)

Weight approx. 1.4 kg

Operating temperature -40 °C to +70 °C

Approvals cUL (in preparation)

Management fully Managed via Web interface and SNMP
Functions see page A-3 2

Identification

Part number

Drawing

Dimensions in mm

HARTING mCon 7100-B2

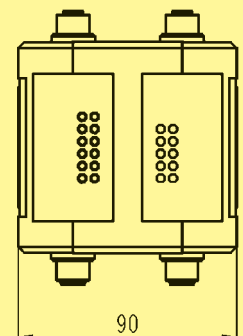
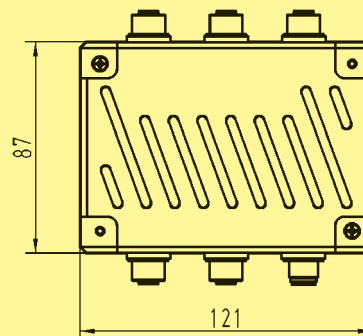
Ethernet Switch, managed
M12, D-coding

20 70 310 4943

CM 7100

External configuration memory for
Ethernet Switch mCon 7100-A2 /
mCon 7100-B2

20 70 310 4001



mCon 7000

A-3
46

1
A-4
pCon
7000
2000

Industrial Power supplies
Serial HARTING pCon 7000
for decentralised power supply
with degree of protection IP 65 / IP 67



General Description

The power supplies of the product family HARTING pCon 7000 are designed for the decentralised supply of power to control units, Ethernet and other automation components in industrial areas and harsh environments. With their wide range of input voltage, the units are suitable for world-wide use. As a result the devices can be installed without problems in any factory in the world; in production cells or machines or on walls, columns and mounting rails.

For easy installation, mounting sets for panels or standard DIN rails are available. The pluggable connections guarantee an easy and secure assembly. The pCon 7000 Industrial Power supply is available with either M12 or Han® 4 A output terminations.

Features

- Wide range input for world-wide use
- Active PFC
- High efficiency
- Easy installation and pluggable connections

Advantages

- High degree of protection IP 65 / 67
- Robust metal housing, powder coated
- Wide operating temperature range and mechanical stability for highest demands
- Can be used directly in industrial environments
- Compact design and high power density
- Shock and vibration resistant
- Proof against sustained short-circuits, overloads and no-load operation
- International approvals

Application fields

- Industrial automation
- Automotive industry
- Power generation and distribution
- Railway applications

Technical characteristics

Design features

Housing	Zinc die-cast, powder coated RAL 7037
Dimensions (W x H x D)	77.5 x 87 x 120 mm (without connectors)
Weight	approx. 1.2 kg
Degree of protection acc. to DIN 60 529	IP 65 / IP 67

Mechanical stability

Shock	acc. to IEC 60 068-2-27 (Half sinus shock 15 g / 11 ms and 5 g / 30 ms)
Vibration	according to DIN EN 60 068-2-6
Rail standard	according to DIN EN 50 155, Class 1

Environmental conditions

Operating / storage temperature	-25 °C to +75 °C / -40 °C to +85 °C
Relative humidity	30 % to 95 % (non-condensing)

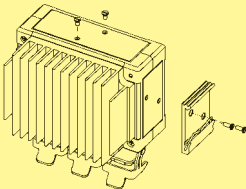
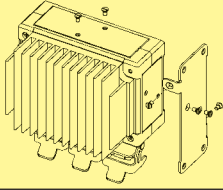
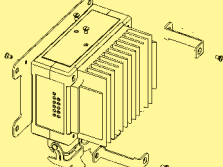
ApprovalsCE, GS, cCSA_{US} (UL 60950, UL 508)**Product standards**

EN 50 178 (VDE 0160), EN 60 950 (SELV), EN 60 204 (PELV)

EMC standards

Interference immunity ESD	IEC 61 000-4-2
Interference immunity HF, radiated	IEC 61 000-4-3
Interference immunity Burst	IEC 61 000-4-4
Interference immunity Surge	IEC 61 000-4-5
Interference immunity	IEC 61 000-4-6
Emitted radiation	EN 55 011, (EN 55 022) class B
System perturbation	IEC 61 000-3-3
Rail standard	EN 50 121-3-2

Accessories

Identification	Part number	Drawing	Dimensions in mm
Set for assembly on standard rail according to DIN EN 60715	20 80 000 0003		
Set for panel mounting vertical assembly	20 80 010 0001		
Set for panel mounting flat assembly	20 80 024 0002		



Industrial Power supply
HARTING pCon 7095-24A

for decentralised power supply with degree of protection IP 65 / IP 67
including 2x Han® 4 A output termination

Han® 3 A Male / Han® 4 A female	IP 65 / IP 67	24 V DC	95 W
Input		Output	
Rated voltage	110 to 240 V AC (Wide range input)	Output voltage	24 V DC (fixed ± 0.5 V tolerance)
Input voltage range	85 to 264 V AC (100 to 375 V DC)	Output current	4 A
Input rated current	< 2 A	Max. output power	95 W
Input current	< 30 A (active limiting)	Main buffering time	> 20 ms (at 230 V AC)
Input frequency	47 to 63 Hz	Remaining ripple	< 50 mVss (at rated values)
Input fuse	internal T 2 A	Sensibility	< 2%
Recommended backup fuse	B 10 A (EN 60 898)	Protection function	Proof against sustained short-circuits, overloads and no-load operation
Protection class	I (including PE termination)	Overload behavior	Limiting current > 1.4 x I _{nom} (U/I characteristic)
Power input termination	Han® 3 A male insert	Output termination	2x Han® 4 A female insert
Input voltage indication	LED Green	Output voltage indication	LED Yellow (OFF at V _{out} < 22.5 V DC)
General data			
Product standards	EN 60 950 (SELV)	Efficiency	> 85%
Approvals	GS, cCSA _{US} (UL 60950, UL 508)		

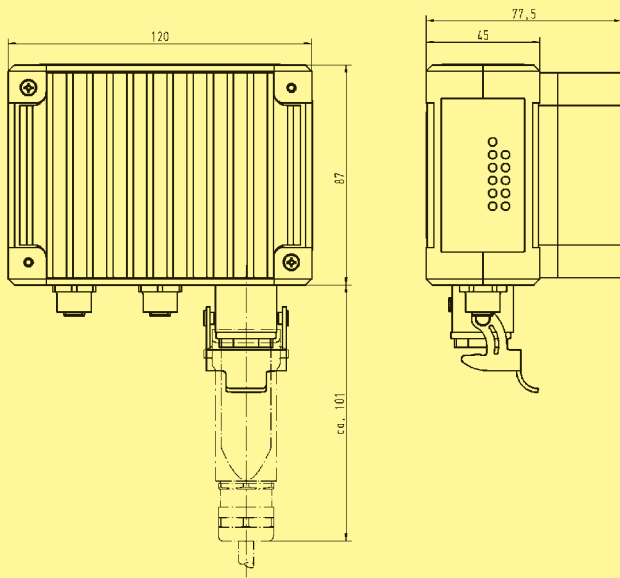
Identification	Part number	Drawing	Dimensions in mm
HARTING pCon 7095-24A Industrial Power supply with Han® 4 A termination	20 80 300 3011		

Industrial Power supply HARTING pCon 7095-24B

for decentralised power supply with degree of protection IP 65 / IP 67
including 2x M12, A-coding output termination



Han® 3 A Male / M12, A-coding female		IP 65 / IP 67		24 V DC		95 W	
Input				Output			
Rated voltage	110 to 240 V AC (Wide range input)			Output voltage	24 V DC (fixed ± 0.5 V tolerance)		
Input voltage range	85 to 264 V AC (100 to 375 V DC)			Output current	4 A		
Input rated current	< 2 A			Max. output power	95 W		
Input current	< 30 A (active limiting)			Main buffering time	> 20 ms (at 230 V AC)		
Input frequency	47 to 63 Hz			Remaining ripple	< 50 mVss (at rated values)		
Input fuse	internal T 2 A			Sensibility	< 2%		
Recommended backup fuse	B 10 A (EN 60 898)			Protection function	Proof against sustained short-circuits, overloads and no-load operation		
Protection class	I (including PE termination)			Overload behavior	Limiting current > 1.4 x I _{nom} (U/I characteristic)		
Power input termination	Han® 3 A male insert			Output termination	2x M12, A-coding, female		
Input voltage indication	LED Green			Output voltage indication	LED Yellow (OFF at V _{out} < 22.5 V DC)		
General data							
Product standards	EN 60 950 (SELV)			Efficiency	> 85%		
Approvals	GS, cCSA _{US} (UL 60 950, UL 508)						

Identification	Part number	Drawing	Dimensions in mm
HARTING pCon 7095-24B Industrial Power supply with M12, A-coding termination	20 80 300 3012		



Industrial Power supplies Serial HARTING pCon 2000

for centralised power supply
in control cabinets with degree of protection IP 20

General Description

The power supplies of the product family HARTING pCon 2000 are designed for power supply solutions for control units, Ethernet and other automation components. With their wide range of input voltage, the units are suitable for world-wide use.

The quick connection technique guarantees easy installation.

Features

- Wide range input for world-wide use
- Active PFC
- High efficiency of up to 92 %
- Easy installation and toolless connection
- Range of operating temperature of up to 70 °C without derating

Advantages

- Wide operating temperature range
- Compact design and high power density
- Proof against sustained short-circuits, overloads and no-load operation
- International approvals
- Protection class II (no earth connection necessary)
- Proof against dynamic overload (150% rated current for up to 2.5 seconds)

Application fields

- Industrial automation
- Automotive industry
- Power generation and distribution

Industrial Power supply HARTING pCon 2060-24

for centralised power supply in control cabinets
with degree of protection IP 20



2x spring-type terminals	IP 20	24 V DC	60 W
Input		Output	
Rated voltage	100 to 240 V AC (Wide range input)	Output voltage	24 V DC ± 1% (setting range 23 - 29 V)
Input voltage range	85 to 264 V AC (100 to 375 V DC)	Output current	2.5 A
Input rated current	< 0.7 A at 230 V < 1.3 A at 100 V	Max. output power	60 W
Input current	< 40 A (active limiting)	Main buffering time	> 100 ms (at 230 V AC) > 15 ms (at 115 V AC)
Input frequency	47 to 63 Hz	Remaining ripple	< 40 mVss (at rated values)
Input fuse	internal T 4 A	Sensibility	< 2%
Recommended backup fuse	B 16 A (EN 60 898)	Protection function	Proof against sustained short-circuits, overloads and no-load operation
Protection class	II (no earth connection necessary)	Overload behavior	Limiting current 2.7 A (static) / 5.0 A (dynamic)
		Output voltage indication	LED Green
General data			
Termination Power / Load	Spring-type terminal 0.3 - 2.5 mm² / AWG 28 - 12 (solid) / 0.3 - 4 mm² / AWG 28 - 12 (stranded)		
Product standards	EN 60 950 (SELV)	Efficiency	91.5% (230 V) / 90% (115 V)
Approvals	CE, GS, cCSA _{US} (UL 60 950, UL 508)	Weight	approx. 250 g

Identification	Part number	Drawing	Dimensions in mm
HARTING pCon 2060-24 Industrial Power supply for mounting onto 35 mm top-hat mounting rail according to DIN EN 60 715	20 80 000 3121		



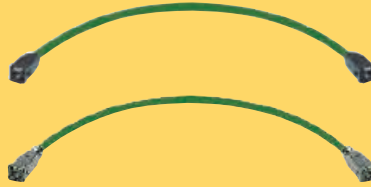
Industrial Power supply
HARTING pCon 2060-48
for centralised power supply in control cabinets
with degree of protection IP 20

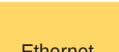
2x spring-type terminals		IP 20	48 V DC	60 W
Input		Output		
Rated voltage	100 to 240 V AC (Wide range input)	Output voltage	48 V DC ± 1% (setting range 48 - 52 V)	
Input voltage range	85 to 264 V AC (100 to 375 V DC)	Output current	1.25 A	
Input rated current	< 0.7 A at 230 V < 1.3 A at 100 V	Max. output power	60 W	
Input current	< 40 A (active limiting)	Main buffering time	> 100 ms (at 230 V AC) > 15 ms (at 115 V AC)	
Input frequency	47 to 63 Hz	Remaining ripple	< 40 mVss (at rated values)	
Input fuse	internal T 4 A	Sensibility	< 2%	
Recommended backup fuse	B 16 A (EN 60 898)	Protection function	Proof against sustained short-circuits, overloads and no-load operation	
Protection class	II (no earth connection necessary)	Overload behavior	Limiting current 1.5 A (static) / 2.5 A (dynamic)	
		Output voltage indication	LED Green	
General data				
Termination Power / Load	Spring-type terminal 0.3 - 2.5 mm² / AWG 28 - 12 (solid) / 0.3 - 4 mm² / AWG 28 - 12 (stranded)			
Product standards	EN 60 950 (SELV)	Efficiency	92% (230 V) / 90% (115 V)	
Approvals	CE, GS, cCSA _{US} (UL 60 950, UL 508)	Weight	approx. 250 g	

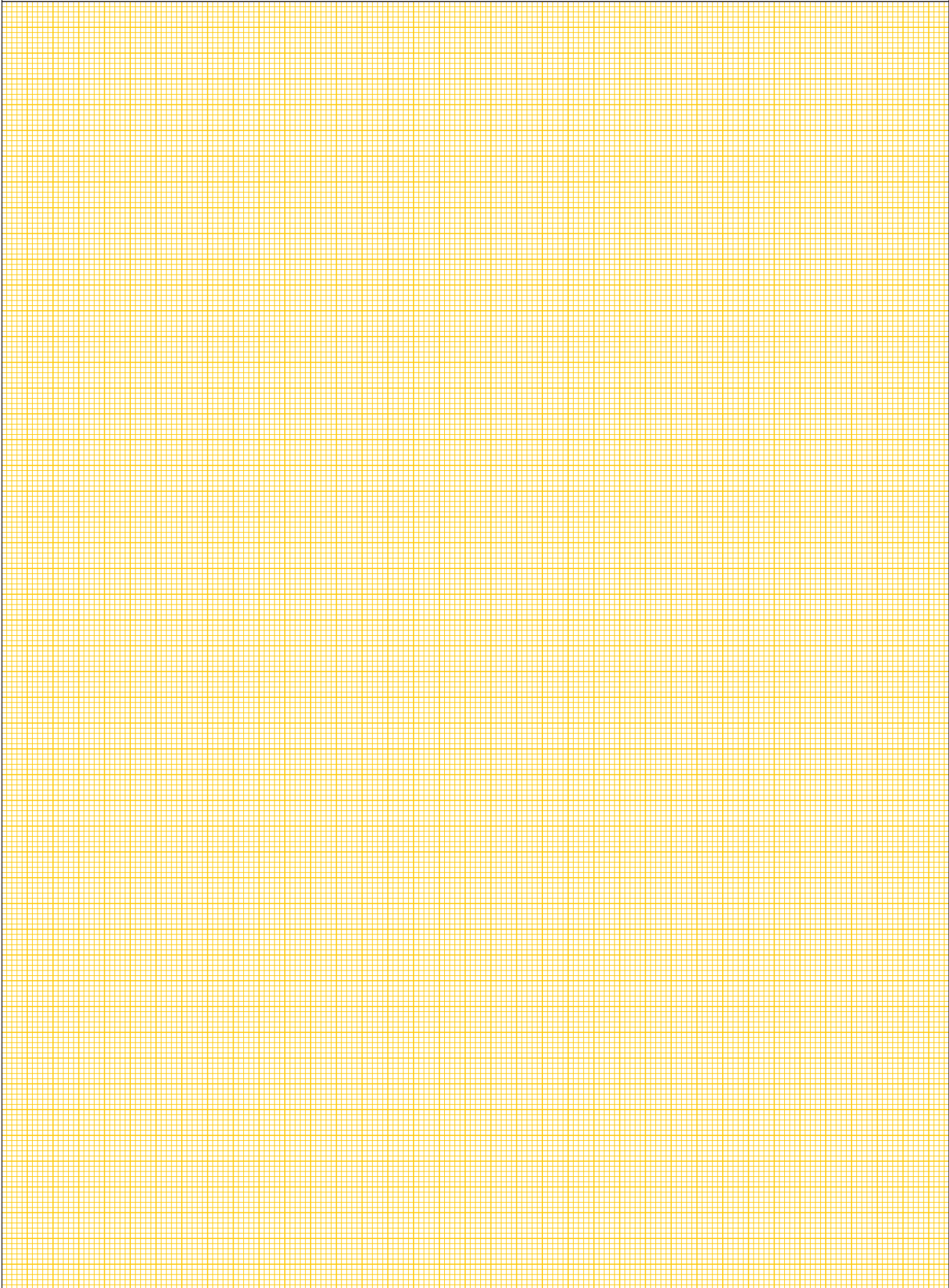
Identification	Part number	Drawing	Dimensions in mm
HARTING pCon 2060-48 Industrial Power supply for mounting onto 35 mm top-hat mounting rail according to DIN EN 60 715	20 80 000 3122		

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Cables	B·2 44
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Ethernet cabling overview

		Installation Class	Connectors	System Cable
Fast Ethernet 100 Mbit/s 4-pin	Inside (IP 20 Protection Class)		HARTING RJ Industrial® Connector RJ45, 4-pin IP 20, RJ45, Cat. 5	 HARTING RJ Industrial® System Cable RJ45, 4-wire assembled / overmoulded IP 20, Cat. 5, AWG 22
				HARTING PushPull System Cable RJ45, 4-wire assembled / overmoulded IP 65 / IP 67, Cat. 5, AWG 22
	Outside (IP 65 / IP 67 Protection Class)		Han® PushPull Connector RJ45, 4-pin, plastic or metal IP 65 / IP 67, Cat. 5	 Han® PushPull System Cable RJ45, 4-wire Plastic / Metal IP 65 / IP 67, Cat. 5, AWG 22
				 Han® M12 System Cable D-Coding, 4-wire IP 65 / IP 67, Cat. 5, AWG 22
				 Han® 3 A System Cable RJ45, 4-wire IP 65 / IP 67, Cat. 5, AWG 22
				 Han® 3 A Hybrid System Cable RJ45, 4-wire plastic / metal IP 65 / IP 67, Cat. 5, AWG 22, stranded with 4x power supply
Gigabit Ethernet 1000 Mbit/s 8-pin	Inside (IP 20 Protection Class)		HARTING RJ Industrial® Connector, RJ45, 8-pin IP 20, RJ45, Cat. 6	 HARTING RJ Industrial® System Cable RJ45, 8-wire IP 20, Cat. 6, flexible Industrial Ethernet Patch Cable RJ45, 8-wire IP 20, Cat. 5, AWG 26/7
				 HARTING PushPull System Cable RJ45, 8-wire IP 65 / IP 67, Cat. 6, flexible
	Outside (IP 65 / IP 67 Protection Class)		Han® 3 A Connector RJ45, 8-pin, plastic or metal IP 65 / IP 67, Cat. 6	 Han® 3 A System Cable RJ45 8-wire IP 65 / IP 67, Cat. 6, flexible
				 Han-Max® System Cable RJ45 8-wire IP 65 / IP 67, Cat. 5, flexible

	Outlets and Panel feed-through	Cables	Application
led	 HARTING Cabinet Outlet RJ45 IP 20, Cat. 6	Type A (for fixed layouts)  Industrial Cat. 5 Standard Cable, 4-wire AWG 22/1, solid, PVC	Ethernet IEEE 802.3 
led	 HARTING PushPull Panel feed-through RJ45 IP 65 / IP 67, Cat. 5  HARTING PushPull Outlet RJ45 IP 65 / IP 67, Cat. 6	Type B (for flexible layouts)  Industrial Cat. 5 Stranded Cable, 4-wire AWG 22/7, stranded, PVC	Ethernet IEEE 802.3 
		 Industrial Cat. 5 Outdoor Cable 4-wire AWG 22/7, stranded, PVC	Ethernet IEEE 802.3 
e	 Han® M12 Panel feed-through D-Coding IP 65 / IP 67, Cat. 5, straight or angled	Type C (for special applications)  Industrial Cat. 5 Trailing Cable, 4-wire AWG 22/7, stranded, PUR	Ethernet IEEE 802.3 
RJ45,	 Han® 3 A Panel feed-through RJ45 IP 65 / IP 67, Cat. 5  Han® 3 A Metal Outlet RJ45 IP 65 / IP 67, Cat. 5  Han® 3 A Metal Outlet RJ45 IP 65 / IP 67, Cat. 6	Industrial Cat. 5 Hybrid Cable, 4-wire AWG 22/7, stranded with 4x power supply, FRNC	Ethernet IEEE 802.3 
wire 7, ,	 Han® 3 A Hybrid Panel feed-through RJ45 plastic / metal IP 65 / IP 67, Cat. 5		
e	 HARTING Cabinet Outlet RJ45 IP 20, Cat. 6	 Industrial Cat. 5 Stranded Cable, 8-wire AWG 26/7, stranded, PUR	Ethernet IEEE 802.3 
	 HARTING PushPull Panel feed-through RJ45 IP 65 / IP 67, Cat. 5  HARTING PushPull Outlet RJ45 IP 65 / IP 67, Cat. 6	 Industrial Cat. 5 Outdoor Cable, 8-wire AWG 26/7, stranded, PVC	Ethernet IEEE 802.3 
	 Han® 3 A Panel feed-through RJ45 IP 65 / IP 67, Cat. 5  Han® 3 A Metal Outlet RJ45 IP 65 / IP 67, Cat. 5  Han® 3 A Metal Outlet RJ45 IP 65 / IP 67, Cat. 6	 Industrial Cat. 6, Stranded Cable 8-wire AWG 27/7, stranded, PVC	Ethernet IEEE 802.3 
	 Han-Max® Panel feed-through RJ45 IP 67, Cat. 5	 Industrial Cat. 6, Installation Cable, 8-wire, for fixed Installation AWG 23/1, solid, FRNC	Ethernet IEEE 802.3 



IP 20

RJ45

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- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

RJ45

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING
PushPull**HARTING PushPull Hybrid**

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HARTING PushPull
Hybrid**Han® PushPull**

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Han®
PushPull**Han® 3 A**

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
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Han® 3 A

Han® 3 A Hybrid

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- Panel feed-throughs [on page B.1 70]
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Han® 3 A
Hybrid**M12 D-coding**

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- System cables [on page B.1 76]
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M12
D-coding**Cables**

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Cables
Tools**Tools**

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Cables

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M12 D-coding**Connector sets**

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System cables

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Panel feed-throughs

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Cables

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Introduction

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

The product line includes:

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

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

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

This complies with the following specifications:

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

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

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

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

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

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

contain specific characteristics for connecting applications and networks.

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

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

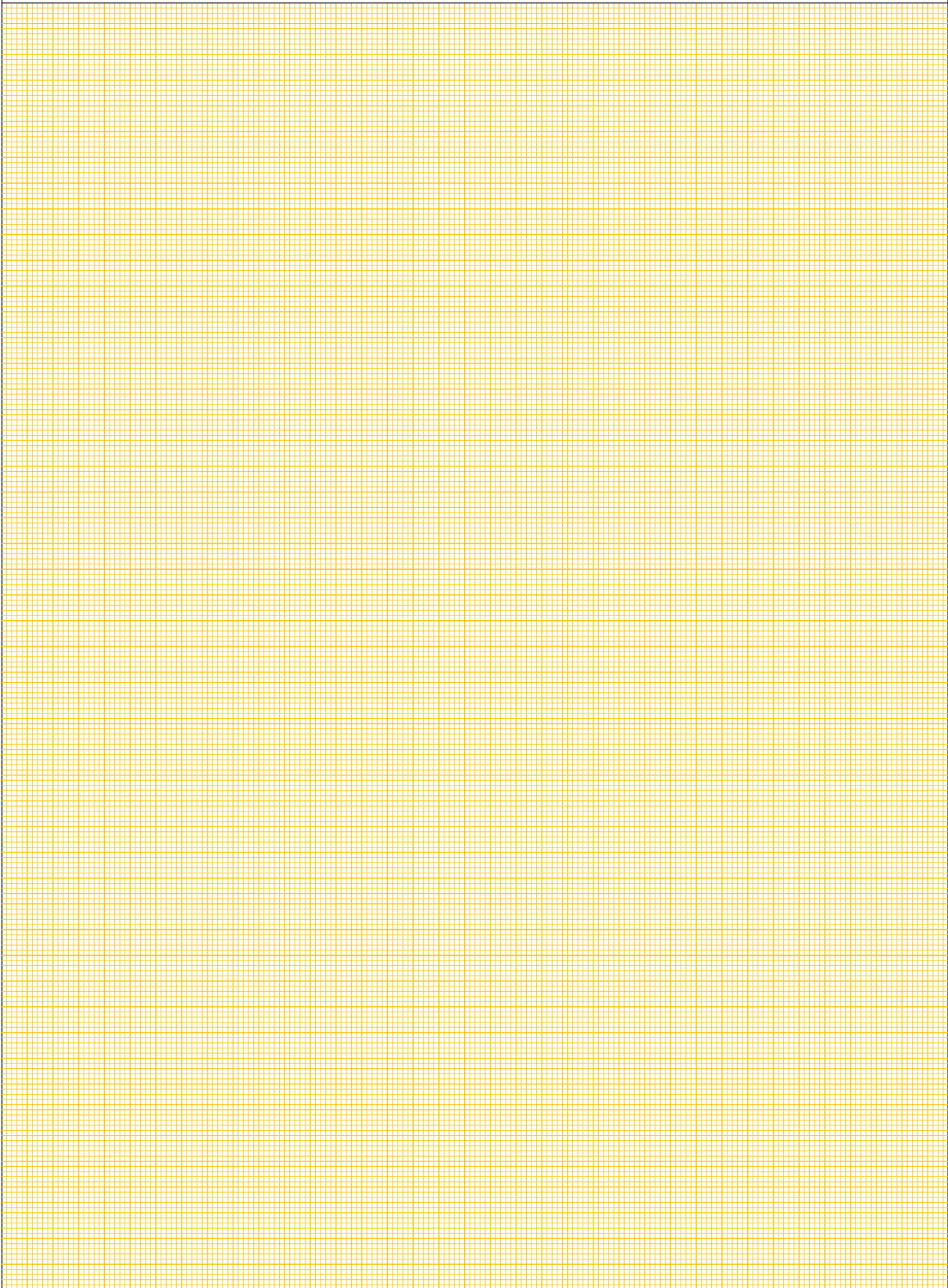
Essentially, all Ethernet-based Fieldbus systems are running on standard-compliant eight-wire cables, according to ISO/IEC 24702 Category 5 /Class D, or higher.

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

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

An overview of the advantages of four-wire cabling:

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



IP 20

RJ45

- Connectors [on page B.1 8]
- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

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Han® 3 A Hybrid

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M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
- Panel feed-throughs [on page B.1 80]

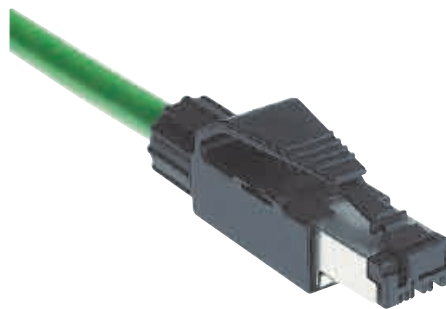
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- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]

Connector sets



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

IP 20



IP 65 / IP 67

IP 65 / IP 67
to IP 20

Cat. 5



Cat. 6



Connector type

RJ45 connector acc. to IEC 60 603-7

Number of contacts

4

Transmission performance

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

Transmission rate

10/100 Mbit/s

Shielding

fully shielded, 360° shielding contact

Mounting

Field-assembly 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 26/7 (special version)

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

– Cable sheath diameter

6.1 mm - 6.9 mm

Degree of protection

IP 20

Operating temperature range

– 40 °C to +70 °C

Housing material

Polycarbonate, UL94 V-0

Colour

Black

Advantages

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

Identification

HARTING RJ Industrial®
Connector set RJ45, 4-pole

for AWG 24 - AWG 22

for AWG 26

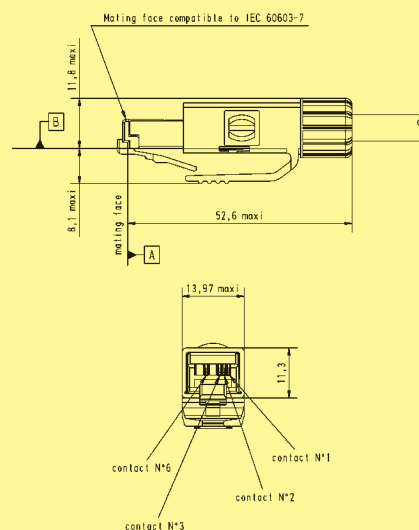
Set consists of:
Housing including shielding
splice element
Cable gland
Assembly instructions

Part number

09 45 151 1100

09 45 151 1109

Drawing



RJ45

System cables



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



IP 20	☒	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector typesRJ45, overmoulded

Cable types

PROFINET Cable type	Type A	Type B	Type C
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Advantages	Robust industrial design Available also as Multiport version for especially space-critical port configurations on switches or devices

Identification	Part number		
	Standard	Multiport	
HARTING RJ Industrial® System cable RJ45, 4-wire Type A	Length 1.5 m 09 45 771 0023 Length 3.0 m 09 45 771 0025 Length 5.0 m 09 45 771 0027 Length 10.0 m 09 45 771 0051 Length 20.0 m 09 45 771 0053	09 47 343 4006 09 47 343 4009 09 47 343 4012 09 47 343 4018 09 47 343 4020	
HARTING RJ Industrial® System cable RJ45, 4-wire Type B	Length 1.5 m 09 45 771 1123 Length 3.0 m 09 45 771 1125 Length 5.0 m 09 45 771 1127 Length 10.0 m 09 45 771 1151 Length 20.0 m 09 45 771 1153	09 47 343 4034 09 47 343 4037 09 47 343 4040 09 47 343 4046 09 47 343 4048	
HARTING RJ Industrial® System cable RJ45, 4-wire Type C	Length 1.5 m 09 45 771 1164 Length 3.0 m 09 45 771 1166 Length 5.0 m 09 45 771 1168 Length 10.0 m 09 45 771 1173 Length 20.0 m 09 45 771 1175	09 47 343 4090 09 47 343 4093 09 47 343 4096 09 47 343 4102 09 47 343 4104	

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	☐
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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, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 3 m / 5 m other lengths available on request
Advantages	Robust industrial design For especially space-saving cabling

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	

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	☐
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Connector typesRJ45, overmoulded

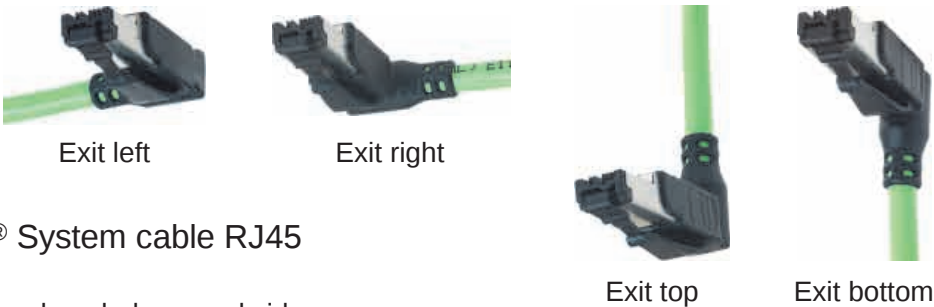
Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 3 m / 5 m other lengths available on request
Advantages	Robust industrial design For especially space-saving cabling

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	

System cables



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

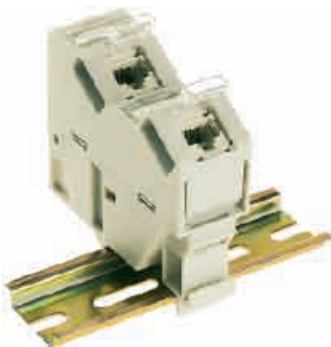
Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	0.5 m / 1 m / 1.5 m / 2 m / 3 m / 5 m other lengths available on request
Advantages	Robust industrial design For especially space-saving cabling Exact length can be customised HARTING RJ Industrial® connector (09 45 151 1100) as ideal completion

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

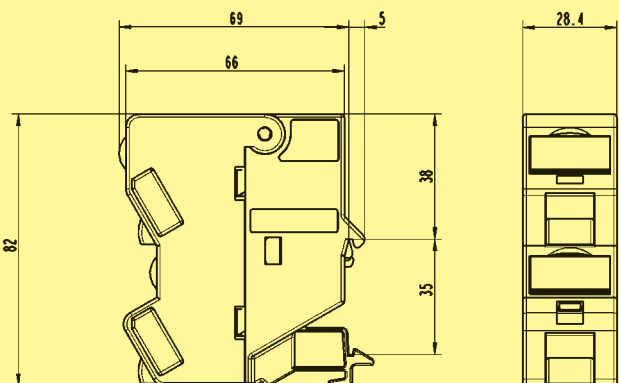
Distribution modules and Outlets



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	☒
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Number of ports, Copper / Termination	2 / RJ45 (Twisted Pair)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 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 insulation	0.7 mm - 1.6 mm
Cable diameter	6 mm - 9 mm
Shielding	fully shielded, 360° shielding contact
Mounting	to 35 mm top-hat mounting rail acc. to DIN EN 60 715, alignable
Dimensions (H x W x D)	82 x 28.4 x 74 mm
Degree of protection	IP 20
Operating temperature range	– 20 °C to +70 °C
Housing material	Polycarbonate, UL94 V-0
Colour	Grey
Advantages	Simple mounting Cable entering optionally from bottom or from top side Dust protection caps Port identification Angled outputs

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

IP 20

RJ45

- Connectors [on page B.1 8]
- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

- Connectors [on page B.1 66]
- System cables [on page B.1 68]
- Panel feed-throughs [on page B.1 70]
- Cables [on page B.1 72]

M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
- Panel feed-throughs [on page B.1 80]

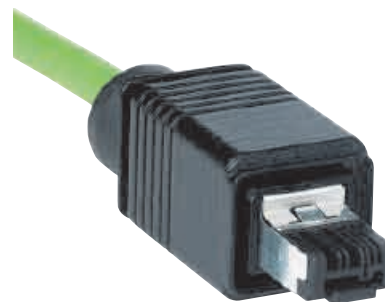
Cables

- Type A [on page B.1 84]
- Type B [on page B.1 85]
- Type C [on page B.1 86]
- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]

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	☐
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Connector type	HARTING PushPull connector RJ45 acc. to ISO/IEC 24 702, variant 4
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly 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, UL94 V-0
Colour	Black

Advantages

- Tool-less field-assembly
- Suitable for termination of solid and stranded cables

Identification

Part number

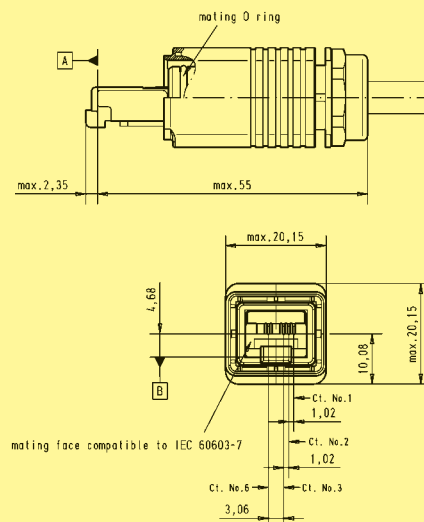
Drawing

Dimensions in mm

HARTING PushPull Connector set RJ45, 4-pole

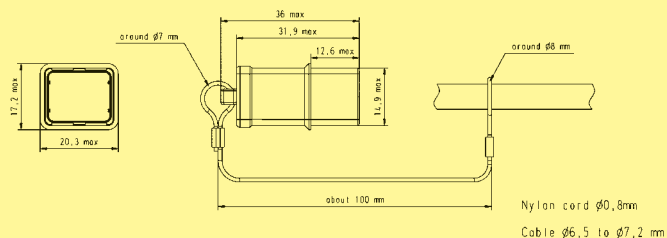
09 45 145 1100

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



Protection cover for PushPull connectors

09 45 845 0001



System cables



HARTING PushPull System cable RJ45, 4-wire
RJ45 connection cable, PushPull screwed, for IP 65 / IP 67 applications

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

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Advantages	Space-saving IP 65 / IP 67 interface Easy handling

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	

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	☐
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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, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Advantages	Space-saving IP 65 / IP 67 interface Protected cable duct via overmoulding Easy handling

Identification	Part number	
HARTING PushPull System cable RJ45, 4-wire Type A Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	09 47 363 6003 09 47 363 6005 09 47 363 6007 09 47 363 6012 09 47 363 6014	
HARTING PushPull System cable RJ45, 4-wire Type B Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	09 47 363 6025 09 47 363 6027 09 47 363 6029 09 47 363 6034 09 47 363 6036	
HARTING PushPull System cable RJ45, 4-wire Type C Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	09 47 363 6047 09 47 363 6049 09 47 363 6051 09 47 363 6056 09 47 363 6058	
HARTING PushPull System cable RJ45, 4-wire Outdoor Length 1.5 m Length 3.0 m Length 5.0 m Length 10.0 m Length 20.0 m	09 47 363 6069 09 47 363 6071 09 47 363 6073 09 47 363 6078 09 47 363 6080	

System cables

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	☐
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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, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C 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, EN 50 173-1

Transmission rate 10/100 Mbit/s

Shielding fully shielded, 360° shielding contact

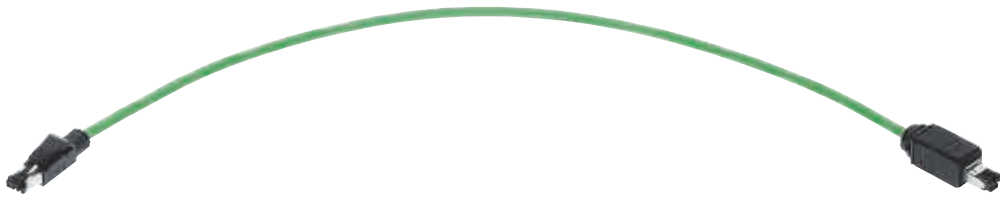
Standard lengths 1.5 m / 3 m / 5 m / 10 m / 20 m
other lengths available on request

Advantages

robust cable duct via overmoulding
For especially space-saving cabling
Exact length can be customised
HARTING RJ Industrial® connector (09 45 151 1100) as ideal
completion

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

System cables



HARTING PushPull 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	☐
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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, useable as trailing cable
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C 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, EN 50 173-1
 Transmission rate 10/100 Mbit/s
 Shielding fully shielded, 360° shielding contact
 Standard lengths 1.5 m / 3 m / 5 m / 10 m / 20 m
 other lengths available on request

Advantages
 Space-saving IP 65 / IP 67 interface
 Easy change-over from harsh industrial environment to protected IP 20 environment
 Easy handling for all applications

Identification

Part number

HARTING PushPull
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

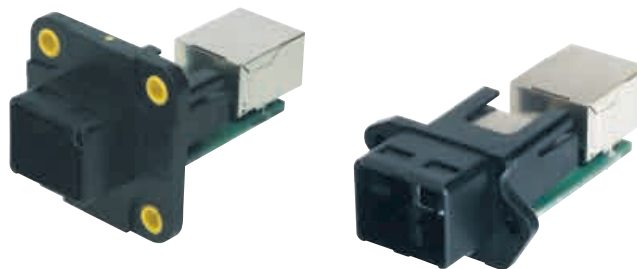
HARTING PushPull
System cable RJ45, 4-wire
Type B

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

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	☐
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Number of ports, Copper / Termination	2 / 1x RJ45 (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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screwable to steel plate covers
Dimensions	see drawing
Panel cut-out	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, UL94 V-0
Colour	Black

Advantages

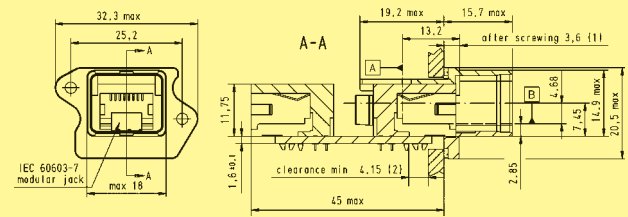
- Small, space-saving PushPull interface with IP 65 / IP 67
- Easy handling of RJ45 system cables in the control cabinet
- Mounting to casings
- Category of transmission Cat. 5

Identification	Part number	Drawing	Dimensions in mm
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HARTING PushPull Panel feed-through RJ45

09 45 245 1102

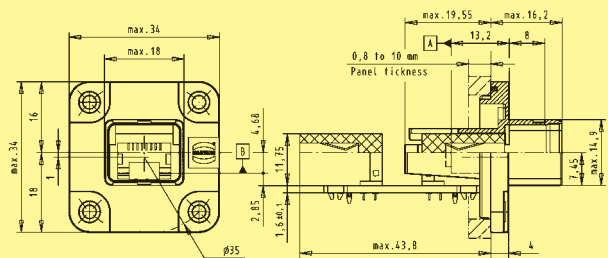
consisting of:
Housing bulkhead mounting
Compact
including flat gasket
2x RJ45 female module
mounted on PCB
Assembly instructions
board drillings for M2.5



HARTING PushPull Easy Install Panel feed-through RJ45

09 45 245 1130

consisting of:
Housing bulkhead mounting
EasyInstall
including integrated seal
RJ45 female module
mounted on PCB
Assembly instructions
board drillings for M3



Protection cover

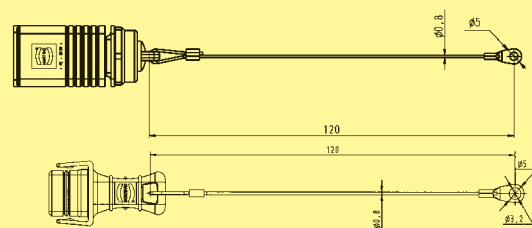
with cord IP 65 / IP 67
fixing ring for M2.5

Version with active locking M2.5
Version with active locking M3

09 45 845 0006
09 45 845 0004

Version with passive locking M3

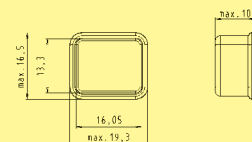
09 45 845 0009



Transport protection

rubber,
for housing bulkhead mounting,
IP 40

09 40 945 0003



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	☒
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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, EN 50 173-1
Transmission rate	10/100 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 insulation	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, UL94 V-0
Colour	Black (similar RAL 9011) or White (similar RAL 9010)

Advantages	Simple mounting Cable entering optionally from bottom or from top side Self-closing protection caps in IP 65 / IP 67 IP 65 / IP 67 label
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Identification	Part number	Drawing	Dimensions in mm
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HARTING PushPull Outlet RJ45 Black white consisting of: 2-port outlet housing with protection caps, cable management, cable glands and label 2x RJ45 female modules, Category 6 1x blind plug (if only 1 cable is used) Assembly instructions	09 45 845 1500 09 45 845 1501		
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IP 20

RJ45

- Connectors [on page B.1 8]
- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

- Connectors [on page B.1 66]
- System cables [on page B.1 68]
- Panel feed-throughs [on page B.1 70]
- Cables [on page B.1 72]

M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
- Panel feed-throughs [on page B.1 80]

Cables

- Type A [on page B.1 84]
- Type B [on page B.1 85]
- Type C [on page B.1 86]
- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]



HARTING PushPull Hybrid
type acc. to IEC 61076-3-106 variant 4

Advantages

HARTING PushPull Hybrid

In the future all new machine generations will be equipped with Fast Ethernet, no matter if PROFINET, Ethernet/IP, Powerlink, Ethercat, Varan or other Ethernet profiles.

With the change of the communication technology also the possibility is offered of simplifying the machine installation and of introducing an innovative Hybrid installation concept. This simplification will unite by data and 24 V (5 A)-supply in a hybrid cable, at least with the space requirement of a M12-connector.

For this new installation solution HARTING offers with the HARTING PushPull Hybrid the trendsetting installation technology.

Everything is halved: the number of pluggings, the number of cables and the space requirement for the connection technology. Everything becomes simpler: the installation, attaching and safe plugging.

The Hybrid connectors were developed particular under the criteria of simple attaching in the field and the particular safe data communication with the patented omega screen concept. As contacts D-Sub and HDD Sub contacts worked world-wide are used. This socket pin contact system ensures highest reliability and optimal shock and vibration stability.

By the optional coding pins 6 different codings can be realized.

This connector is available in the variants straight or angled as well as for field assembling or over-molded.

Technical characteristics

Advantages

- Compact, space-saving design
- Very compact housing with high degree of protection
- Polarisation with nose
- Sixfold codable

Typical application areas

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

Recommended pin assignment

• Power contacts

Contact	Function	Conductor colour
1	V +	Red
2	Ground	Brown
3	V + (switched)	Yellow

• Data contacts

Contact	Signal	Function	Conductor colour
4	RD –	Receiver Data –	Blue
5	RD +	Receiver Data +	White
6	TD –	Transmission Data –	Orange
7	TD +	Transmission Data +	Yellow



Structure Hybrid cable

Data: 4x AWG26/7

Power: 3x AWG20/7

Connector set



HARTING PushPull Hybrid

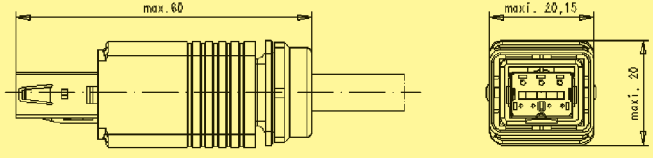
Style according to IEC 61 076-3-106 variant 4 hybrid connectors

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of contacts, Copper / Termination	- Ethernet: 4x, shielded - Power: 3x
Transmission performance	Category 5 / Class D up to 100 MHz according to EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Power supply	32 V / 5 A
Locking	PushPull technology according to ISO/IEC 24 702 variant 4
Mounting	Field-assembly possible
Wire termination	Crimping contacts
Cable options	
– Strand diameter	- Ethernet: AWG 26 - Power: AWG 20
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages

- Combined data transmission and power supply up to 5 A / 32 V included to one connector
- HARTING PushPull technology
- Compact design
- High packing density
- Sixfold condable
- Suitable for all Fast-Ethernet variants

Identification	Part number	Drawing	Dimensions in mm
Connector set HARTING PushPull Hybrid connector IP 65/ 67, black, with cable gland and crimp contacts straight angled Accessories – Coding pin set to avoid accidental incorrect mating a coding system is required. This coding pins are inserted without loss of contact.	 09 45 145 1300 09 45 145 1310 09 45 845 1300		
Tools Crimping tool for data contacts Crimping tool for power contacts Insertion and removal tool for data contacts for power contacts	 09 99 000 0596 09 99 000 0175 09 99 000 0513 09 99 000 0171	  	



System cables



HARTING PushPull Hybrid System cable
type according to IEC 61 076-3-106 variant 4
overmoulded hybrid system cables, for IP 65 / IP 67 applications

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types	HARTING PushPull Hybrid, overmoulded
Cable construction	4 wires, star quad, shielded + 3 power wires
Core structure	Data: 4x AWG 26/7 Power: 3x AWG 20/7
Cable outer diameter	ø (7.0 ±0.4) mm
Sheath material	FRNC
Operating temperature range	-40 to +80 °C
Colour	black
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Standard lengths	0.5 m / 1 m / 2 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Advantages	• Combined data- and power-supply up to 5 A / 32 V included to one connector • HARTING PushPull technology • Robust design, suitable for industrial applications • High packing density • Sixfold codable • Suitable for all Fast-Ethernet variants

HARTING PushPull
Hybride

Identification

Part number

HARTING PushPull Hybrid System cables

2x HARTING PushPull Hybrid connector

Length 0.5 m	09 47 616 1005
Length 1.0 m	09 47 616 1010
Length 2.0 m	09 47 616 1020
Length 3.0 m	09 47 616 1030
Length 5.0 m	09 47 616 1050
Length 10.0 m	09 47 616 1100
Length 20.0 m	09 47 616 1200

HARTING PushPull Hybrid System cables

1x HARTING PushPull Hybrid connector
second side open

Length 0.5 m	09 47 610 0005
Length 1.0 m	09 47 610 0010
Length 2.0 m	09 47 610 0020
Length 3.0 m	09 47 610 0030
Length 5.0 m	09 47 610 0050
Length 10.0 m	09 47 610 0100
Length 20.0 m	09 47 610 0200

Structure hybrid cable



Panel feed-throughs



HARTING PushPull Hybrid
type according to IEC 61 076-3-106 variant 4
device side

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Number of contacts, Copper / Termination	- Data: 4, shielded / solder termination - Power: 3 (5 A / 32 V) / solder termination
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Locking	PushPull Technology acc. to ISO/IEC 24 702 variant 4
Transmission rate	10/100 Mbit/s
Mounting	screwable to steel plate covers
Dimensions	see drawing
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black

Advantages	- Combined data- and power-supply up to 5 A/32 V included to one connector - HARTING PushPull technology - Compact design - High packing density - Sixfold codable - Suitable for all Fast-Ethernet variants
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HARTING PushPull
Hybride

Identification	Part number	Drawing	Dimensions in mm
Components device side			
Set straight HARTING PushPull Hybrid housing bulkhead mounting and pcbs female shielded, IP 65 / IP 67, black, 180° straight	09 45 245 1300		
Set angled HARTING PushPull Hybrid housing bulkhead mounting and pcbs female shielded, IP 65 / IP 67, black, 90° angled	09 45 245 1310		
Female insert PCB jack shielded 180° straight	09 45 545 1300		
PCB jack shielded 90° angled	09 45 545 1305		
Housing bulkhead mounting for female insert straight	09 45 545 1320		
for female insert angled	09 45 545 1325		
Panel feed-through 1 x hybrid female IP 65 / IP 67 on 1 x RJ45 female and 3 pcb clamps, board drillings for M2.5	09 45 245 1320		

Cables



HARTING PushPull Hybrid cable
stranded cable to make up
HARTING PushPull Hybrid system cables

IP 20 ☐	IP 65 / IP 67 ☒	PVC	Cat. 5 ☒	Cat. 6 ☐
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Cable structure	Star quad, double shielding + 3 power wires
Core structure	Data: 4x AWG 26/7 Power: 3x AWG 20/7
Cable outer diameter	ø (7.0 ±0.4) mm
Sheath material	FRNC
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	– 40 °C to +80 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black
Printing	HARTING specific printing

Advantages

- Robust design suitable for industry
- non-halogen
- flame-retarding
- Easy stripping of cable sheath and screening braid with stripping tool 09 45 800 0000
- UL recognised

Identification	Part number	Drawing	Dimensions in mm
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HARTING PushPull Hybrid
stranded cables
PVC

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

09 45 600 0331
09 45 600 0341
09 45 600 0301
09 45 600 0321



IP 20

RJ45

- Connectors [on page B.1 8]
- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

- Connectors [on page B.1 66]
- System cables [on page B.1 68]
- Panel feed-throughs [on page B.1 70]
- Cables [on page B.1 72]

M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
- Panel feed-throughs [on page B.1 80]

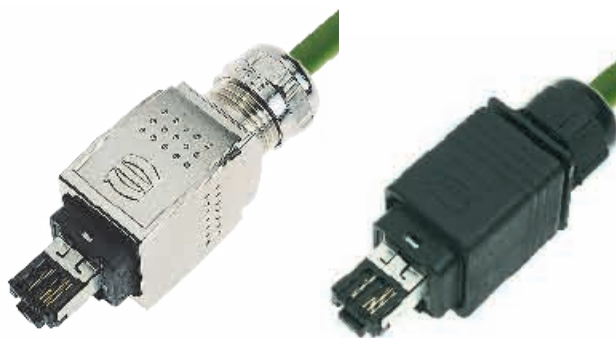
Cables

- Type A [on page B.1 84]
- Type B [on page B.1 85]
- Type C [on page B.1 86]
- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]

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	☐
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Connector type	Han® PushPull connector RJ45 acc. to ISO/IEC 24 702, variant 14 (AIDA compliant)
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via IDC contacts
Cable options	
– Strand diameter	AWG 24/7 - AWG 22/7 (stranded)
– Cable sheath diameter	AWG 23/1 - AWG 22/1 (solid) to 9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to +70 °C
Housing material	• Polyamide, UL94 V-0 • Zinc die-cast
Colour	• Black • Nickel-plated
Advantages	Field-assembly connector, IP 65 / IP 67 Cat. 5
Mounting information	Tool-less IDC technology

Identification	Part number	Drawing	Dimensions in mm
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Han® PushPull connector set Plastic

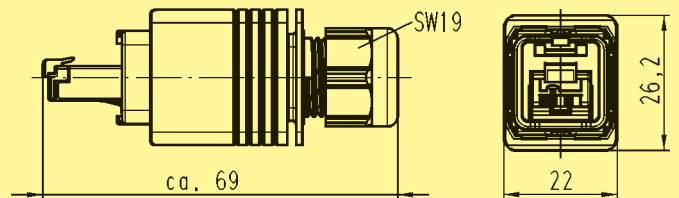
Set consists of:
PushPull housing with
male insert HARTING RJ Industrial®
Category 5, 4-polig
and shielding
Cable gland
Assembly instructions

6,5 - 9,5 mm clamp range
PROFINET-Identification:
PROFINET O-Plug RJ45

5 - 8 mm clamp range

09 35 221 0421

09 35 222 0421

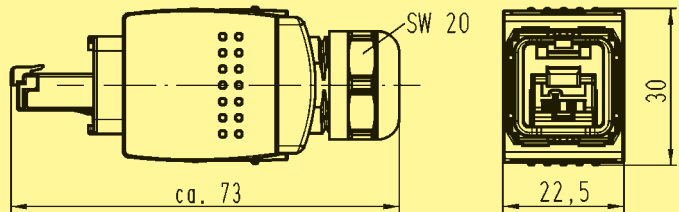


Han® PushPull connector set Metal

Set consists of:
PushPull housing with
male insert HARTING RJ Industrial®
Category 5, 4-polig
and shielding
Cable gland
Assembly instructions

4 - 11 mm clamp range
PROFINET-Identification:
PROFINET O-Plug RJ45

09 35 221 0401



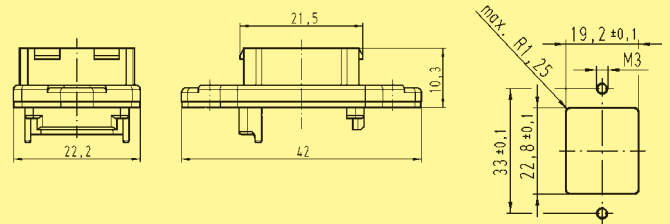
Components device side - Housing bulkhead mounting

plastic

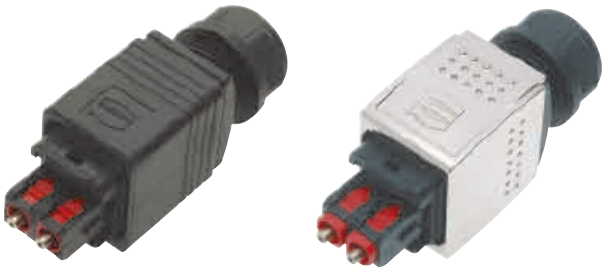
09 35 002 0321

metal

09 35 002 0301



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	☐
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Connector type	Han® PushPull connector SCRJ according to IEC 61 918 (AIDA compliant)
Number of fibres	2
Transmission performance	depends on the fibre type used
Fibre types	Glass fibre MM 50 / 125 µm and 62.5 / 125 µm Glass fibre SM 9 / 125 µm and 10 / 125 µm HCS® 200/230 POF 1 mm
Mounting	Field-assembly via SC 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, UL94 V-0
Colour	Black

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

Han®
PushPull

Identification	Part number	Drawing	Dimensions in mm
Han® PushPull Connector set SCRJ Plastic Set consists of: PushPull housing with SCRJ feeding Cable gland Assembly instructions with SC contacts for POF¹⁾ 1 mm PROFINET-Identification: PROFINET O-Plug RJ45	09 35 241 0422		
Han® PushPull Connector set SCRJ Metal Set consists of: PushPull housing with SCRJ feeding Cable gland Assembly instructions with SC contacts for POF¹⁾ 1 mm PROFINET-Identification: PROFINET O-Plug RJ45	09 35 241 0422		
Components device side - Housing bulkhead mounting Optical transceiver not included plastic metal	09 35 002 0321 09 35 002 0301		

¹⁾ POF = Polymer Optical Fibre

System cables



Han® PushPull System cable RJ45, 4-wire
RJ45 connection cable, Han® PushPull, for IP 65 / IP 67 applications

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

Cable types

PROFINET Cable type	Type A	Type B	Type C	Outdoor
Cables	Copper, solid, shielded	Copper, stranded, shielded	Copper, stranded, shielded, useable as trailing cable	Copper, stranded, shielded
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR	PVC
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request

Advantages	• Space-saving IP 65 / IP 67 interface • AIDA compliant • PROFINET compliant • Easy handling
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Identification	Part number		
	Plastic version	Metal version	
Han® PushPull System cable RJ45, 4-wire Type A			
Length 1,5 m	09 47 555 5003	09 47 565 6003	
Length 3,0 m	09 47 555 5005	09 47 565 6005	
Length 5,0 m	09 47 555 5007	09 47 565 6007	
Length 10,0 m	09 47 555 5012	09 47 565 6012	
Length 20,0 m	09 47 555 5014	09 47 565 6014	
Han® PushPull System cable RJ45, 4-wire Type B			
Length 1,5 m	09 47 555 5033	09 47 565 6033	
Length 3,0 m	09 47 555 5035	09 47 565 6035	
Length 5,0 m	09 47 555 5037	09 47 565 6037	
Length 10,0 m	09 47 555 5042	09 47 565 6042	
Length 20,0 m	09 47 555 5044	09 47 565 6044	
Han® PushPull System cable RJ45, 4-wire Type C			
Length 1,5 m	09 47 555 5063	09 47 565 6063	
Length 3,0 m	09 47 555 5065	09 47 565 6065	
Length 5,0 m	09 47 555 5067	09 47 565 6067	
Length 10,0 m	09 47 555 5072	09 47 565 6072	
Length 20,0 m	09 47 555 5074	09 47 565 6074	
Han® PushPull System cable RJ45, 4-wire Outdoor			
Length 1,5 m	09 47 555 5093	09 47 565 6093	
Length 3,0 m	09 47 555 5095	09 47 565 6095	
Length 5,0 m	09 47 555 5097	09 47 565 6097	
Length 10,0 m	09 47 555 5102	09 47 565 6102	
Length 20,0 m	09 47 555 5104	09 47 565 6104	

IP 20

RJ45

- Connectors [on page B.1 8]
- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

- Connectors [on page B.1 66]
- System cables [on page B.1 68]
- Panel feed-throughs [on page B.1 70]
- Cables [on page B.1 72]

M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
- Panel feed-throughs [on page B.1 80]

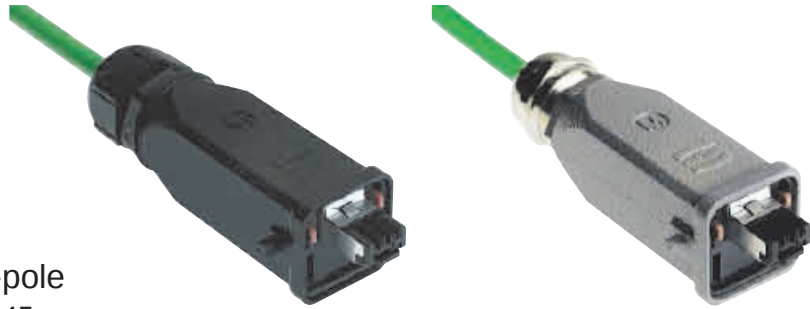
Cables

- Type A [on page B.1 84]
- Type B [on page B.1 85]
- Type C [on page B.1 86]
- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]

Connector sets



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

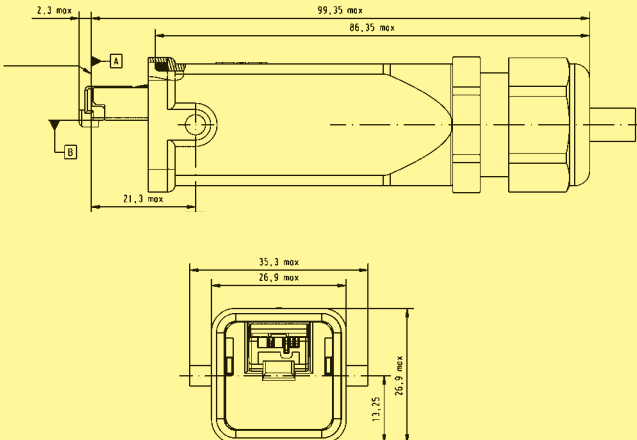
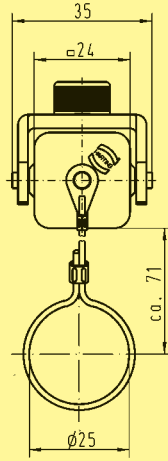
IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	Han® 3 A connector RJ45 acc. to IEC 61 918
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
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	6.0 mm - 9.0 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black

Advantages



Field-assembly connector, Cat. 5, IP 65 / IP 67
UL approval E 10 20 79

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



System cables



Han® 3 A 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	☐
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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, useable as trailing cable
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request
Advantages	Robust design Use on-site made possible by IP 65 / IP 67 protection Easy handling for all applications

Han® 3 A

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

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	☐
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Connector typesHan® 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, useable as trailing cable
Wire gauge	4 x AWG 22/1	4 x AWG 22/7	4 x AWG 22/7
Sheath material	PVC	PVC	PUR
Operating temperature range	– 40 °C 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, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Standard lengths	1.5 m / 3 m / 5 m / 10 m / 20 m other lengths available on request

Advantages	Robust design Easy change-over from harsh industrial environment to protected IP 20 environment Easy handling for all applications
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Han® 3 A

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

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	☐
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Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (IP 20)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screwable to steel plate covers
Dimensions	see drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black
Advantages	Simple mounting RJ45 plug-compatible Different versions cover all applications Coding possible

Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Panel feed-through RJ45 Plastic version straight style angled style Accessories IP 65 / IP 67 protection cap 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 cap angled style Accessories IP 65 / IP 67 protection cap 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 IP 65 / IP 67 protection cap for Panel feed-through	09 45 215 1102 09 45 215 1109 09 37 003 5405		Dimensions valid for Plastic version
Accessories Set of coding pins	09 45 820 0000		

Panel feed-throughs



Han® 3 A double-coupling RJ45

RJ45 double-coupling for control or distributor cabinets

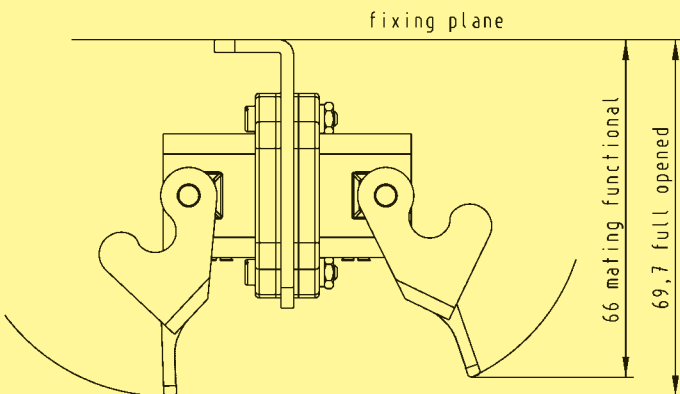
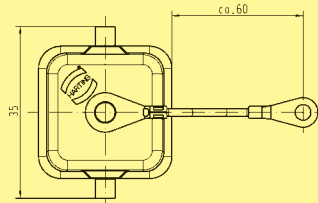
IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission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

Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black

Advantages

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

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



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	☒
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 - 22 (0.5 mm - 0.65 mm) solid and stranded
Strand insulation	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 Han® 3 A connector ports

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

Han® 3 A

Distribution modules and Outlets



Han® 3 A Metal Outlet RJ45, Cat. 5

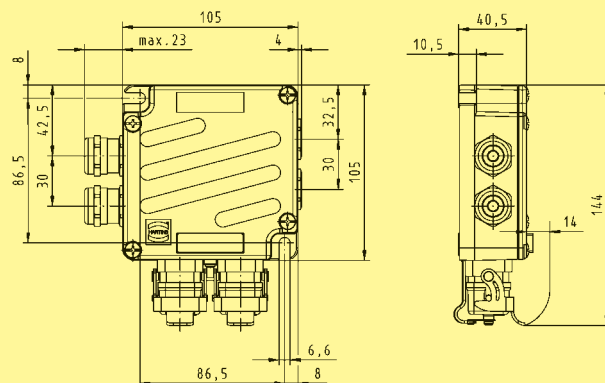
RJ45 Industrial Outlet for IP 65 / IP 67 environments

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminating via LSA-PLUS tool
Strand diameter	AWG 26 - 22 (0.35 mm - 0.65 mm) solid and stranded
Strand insulation	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 optionally from the left or from the right side
Lockable Han® 3 A connector ports

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

IP 20

RJ45

- Connectors [on page B.1 8]
- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

- Connectors [on page B.1 66]
- System cables [on page B.1 68]
- Panel feed-throughs [on page B.1 70]
- Cables [on page B.1 72]

M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
- Panel feed-throughs [on page B.1 80]

Cables

- Type A [on page B.1 84]
- Type B [on page B.1 85]
- Type C [on page B.1 86]
- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]

Connector sets



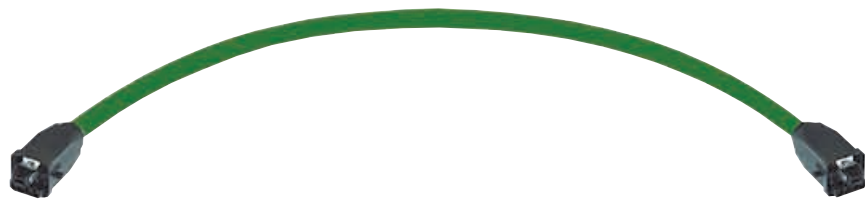
Han® 3 A Hybrid Connector set RJ45, 4-pole
to make up HARTING Han® 3 A Hybrid system cables RJ45

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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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, EN 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 (2 x 2 data + 4x power)
– Wire diameter (data)	AWG 24/7 - AWG 22/7 (stranded)
– Wire diameter (power)	AWG 23/1 - AWG 22/1 (solid)
– Cable sheath diameter	1.5 mm ² , stranded 10 mm - 11 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to +70 °C
Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Advantages	Tool-less field-assembly connector, IP 65 / IP 67 Cat. 5

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	Technical drawing of the Han® 3 A Hybrid Connector set. The side view shows dimensions: 2.3 max, 64.8 max, 51.5 max, 14.95 max, and 21.3 max. The front view shows dimensions: 35.3 max, 26.7 max, 13.25, and 26.7 max. The bottom view shows dimensions: 5.1, 5.1, 5.1, and 5.1.	
Protection cover for Han® 3 A connector Plastic version Metal version Standard	09 20 003 5442 09 20 003 5422	Technical drawing of the Protection cover for Han® 3 A connector. The front view shows dimensions: 35, 24, and 25. The side view shows dimensions: 71 and 25. Dimensions valid for Plastic version	

System cables



Han® 3 A Hybrid System cable RJ45, 4-wire
Han® 3 A Hybrid connection cable for harsh industrial environments

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector types	Han® 3 A Hybrid, plastic
Cable types	4 x AWG 22/7, 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, EN 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 available on request
Colour	Green
Advantages	Robust design Use on-site made possible via IP 65 / IP 67 protection Easy handling for applications with additional power supply



Identification

Part number

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

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	☐
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Number of ports, Copper / Termination	2 / 1x Han® 3 A RJ45 (IP 65 / IP 67) 1x RJ45 (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, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screwable to steel plate covers
Dimensions	see drawing
Panel cut-out	20 mm x 22 mm
Mounting hole	Diameter 3.4 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to +70 °C

Plastic version	
Housing material	Polyamide, UL94 V-0
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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Identification	Part number	Drawing	Dimensions in mm
Han® 3 A Hybrid Panel feed-through RJ45 Plastic version Accessories IP 65 / IP 67 protection cap for Panel feed-through	09 45 225 1300 09 20 003 5445		
Han® 3 A Hybrid Panel feed-through RJ45 Metal version Standard Accessories IP 65 / IP 67 protection cap for Panel feed-through	10 12 005 1002 09 20 003 5425		
Accessories Set of coding pins	09 45 820 0000		

Cables



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

IP 20	☐	IP 65 / IP 67	☒	FRNC	Cat. 5	☒	Cat. 6	☐
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Cable structure	Twisted Pair + 4 power cores, double shielding
Core structure	4x AWG 22/7 + 4x 84 x 0.15 (Cord), stranded
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, EN 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 design suitable for industry PROFINET compliant Additional power supply
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Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 5 Hybrid cable
PROFINET Hybrid Type B,
4x data + 4x power wires
FRNC

10 m ring
20 m ring
50 m ring
100 m ring

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



IP 20

RJ45

- Connectors [on page B.1 8]
- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

- Connectors [on page B.1 66]
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M12 D-coding

- Connectors [on page B.1 74]
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- Type A [on page B.1 84]
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Tools

[on page B.1 90]

Connector sets



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

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	<i>HARAX</i> ® 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	AWG 24 - AWG 22 (Cord)
– Cable sheath diameter	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 Compact design Tool-less assembly
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Specifications	IEC 60 352-4 IEC 60 947-5-2
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Approvals	
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Identification	Part number	Drawing	Dimensions in mm
HARAX® M12 Connector D-coding, 4-pole, male straight style	21 03 281 1405		
HARAX® M12 Connector D-coding, 4-pole, female straight style	21 03 281 2405		

System cables



Han® M12 System cable, 4-wire

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

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

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		
Length 10.0 m	21 03 485 1410		

Additional technical information about overmoulded system cables can be found on page B·1 79

System cables



Han® M12 System cable, 4-wire

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

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

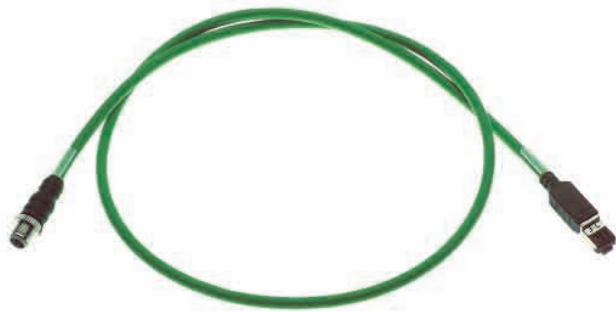
Identification	Part number	Drawing	Dimensions in mm
Han® M12 System cable, 4-wire			
Length 1.0 m	21 03 585 1401		
Length 3.0 m	21 03 585 1403		
Length 5.0 m	21 03 585 1405		
Length 10.0 m	21 03 585 1410		
other lengths	on request		

M12
D-coding

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Additional technical information about overmoulded system cables can be found on page B·1 79

System cables



Han® M12 RJ45 System cable,
4-wire

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

IP 20	☐	IP 65 / IP 67	☐	IP 65 / IP 67 to IP 20	☒	Cat. 5	☒	Cat. 6	☐
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Connector types	Han® M12, D-coding, overmoulded (IP 65 / IP 67) RJ45 4-pole, contacts 1/2 and 3/6, overmoulded (IP 20)
Cable types	4 x AWG 22/7, Star quad, double shielding
Sheath material	PUR
Wiring	4-pole
Transmission performance	Cat. 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 25 °C to +70 °C
Standard lengths	1 m / 3 m / 5 m other lengths available on request
Colour	Green

- Advantages**
- Robust design
 - Useable as trailing cables

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

Identification	Part number	Drawing	Dimensions in mm
Han® M12 System cable, 4-wire			
Length 1.0 m	09 45 700 5022		
Length 3.0 m	09 45 700 5025		
Length 5.0 m	09 45 700 5027		
Length 10.0 m	09 45 700 5051		

Additional technical information about overmoulded system cables can be found on page B-1 79

System cables

Additional technical information about overmoulded System cables M12

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

Contact resistance: $\leq 20 \text{ m}\Omega$

Insulation resistance: $\geq 500 \text{ M}\Omega$

Dielectric withstand voltage:

contact - contact 1 kV

contact - ground 1.5 kV

Electrical characteristics after damp heat cycles

Contact resistance: $\leq 20 \text{ m}\Omega$

Insulation resistance: $\geq 100 \text{ M}\Omega$

Dielectric withstand voltage:

contact - contact 1 kV

contact - ground 1.5 kV

Panel feed-throughs



Han® M12 Panel feed-through D-coding

M12 Panel feed-through for control or distributor cabinets

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

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		

M12
D-coding

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IP 20

RJ45

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- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
- Distribution modules and Outlets [on page B.1 32]

HARTING PushPull Hybrid

- Connectors [on page B.1 36]
- System cables [on page B.1 38]
- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

- Connectors [on page B.1 66]
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- Cables [on page B.1 72]

M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
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Cables

- Type A [on page B.1 84]
- Type B [on page B.1 85]
- Type C [on page B.1 86]
- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]

Cables



Industrial Cat. 5 Standard cable, 4-wire
PROFINET Type A

for permanent installation or
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	4 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, EN 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 design suitable for industry PROFINET compliant Easy stripping of cable sheath and screening braid with stripping tool 09 45 800 0000

Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 5 Standard cable
PROFINET Type A,
4-wire
PVC

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

09 45 600 0130
09 45 600 0140
09 45 600 0100
09 45 600 0110



Cables



Industrial Cat. 5 stranded cable, 4-wire
PROFINET Type B cable
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	4 x AWG 22/7, stranded
Sheath material	PVC
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid

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

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

Advantages

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

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

Industrial Cat. 5 stranded cable
PROFINET Type B,
4-wire
PVC

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

09 45 600 0132
09 45 600 0142
09 45 600 0102
09 45 600 0112



Cables

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



IP 20	☐	IP 65 / IP 67	☒	PUR	Cat. 5	☒	Cat. 6	☐
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Cable structure	Star quad, double shielding
Core structure	4 x AWG 22/7, stranded
Sheath material	PUR
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid
Operating temperature range	– 40 °C to +70 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Green
Printing	HARTING specific printing

Advantages

- Robust design suitable for industry
- PROFINET compliant
- Useable as trailing cables
- Easy stripping of cable sheath and screening braid with stripping tool 09 45 800 0000

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

Industrial Cat. 5 stranded cable,
4-wire,
useable as trailing cables,
PROFINET Type C
PUR

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

09 45 600 0131
09 45 600 0141
09 45 600 0101
09 45 600 0111



Cables



Industrial Cat. 5 stranded cable, 4-wire, outdoor
PROFINET Type B, outdoor
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	4 x AWG 22/7, stranded
Sheath material	PVC
Cable sheath diameter	6.5 mm
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	Shielding foil and shielding braid

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

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

Advantages

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

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

Industrial Cat. 5 stranded cable,
4-wire, Outdoor,
PROFINET Type B, outdoor
PVC

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

09 45 600 0135
09 45 600 0145
09 45 600 0105
09 45 600 0115





System cables

Additional technical information about overmoulded System cables

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

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

Electrical characteristics after damp heat cycles

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

IP 20

RJ45

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- System cables [on page B.1 10]
- Distribution modules and Outlets [on page B.1 18]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B.1 20]
- System cables [on page B.1 22]
- Panel feed-throughs [on page B.1 30]
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HARTING PushPull Hybrid

- Connectors [on page B.1 36]
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- Panel feed-throughs / Bulkhead mounting housing [on page B.1 40]

Han® PushPull

- Connectors [on page B.1 44]
- System cables [on page B.1 48]

Han® 3 A

- Connectors [on page B.1 52]
- System cables [on page B.1 54]
- Panel feed-throughs [on page B.1 58]
- Distribution modules and Outlets [on page B.1 62]

Han® 3 A Hybrid

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- System cables [on page B.1 68]
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M12 D-coding

- Connectors [on page B.1 74]
- System cables [on page B.1 76]
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Cables

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- Type B [on page B.1 85]
- Type C [on page B.1 86]
- Type B, Outdoor [on page B.1 87]

Tools

[on page B.1 90]

Identification	Part number	
HARTING RJ Industrial® Stripping Tool Stripping tool for Ethernet cables including blade cassette Spare blade cassette	09 45 800 0000 09 45 800 0001	 The RJ Industrial Stripping Tool is ready to remove insulation from Ethernet cables for fast mounting with diameters from 2.5 to 8 mm quick and easy. It allows to remove cable sheath and shielding braid in one.
HARTING RJ Industrial® LSA-Punch Down Tool	09 45 800 0020	 The LSA-Punch Down Tool is used to wire RJ45 Industrial Metal Outlets (part no. 09 45 815 1100). The various conductors are cut to length and inserted into the insulation displacement contacts in a single pass.
Insertion and removal tool for data contacts for power contacts	09 99 000 0513 09 99 000 0171	

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- System cables [on page B-2 8]
- Distribution modules and Outlets [on page B-2 10]

RJ45

IP 65 / IP 67**HARTING PushPull**

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- System cables [on page B-2 16]
- Panel feed-throughs [on page B-2 18]
- Distribution modules and Outlets [on page B-2 20]

HARTING
PushPull**Han® PushPull**

- Connectors [on page B-2 22]

Han®
PushPull**Han® 3 A**

- Connectors [on page B-2 26]
- System cables [on page B-2 28]
- Panel feed-throughs [on page B-2 30]
- Distribution modules and Outlets [on page B-2 34]

Han® 3 A

Han-Max®

- Connectors [on page B-2 38]
- Panel feed-throughs [on page B-2 40]

Han-Max®

Cables

- Industrial Cat. 6, stranded, PVC [on page B-2 44]
- Industrial Cat. 6, stranded, PUR [on page B-2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B-2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B-2 47]
- Industrial Cat. 5, stranded, PUR [on page B-2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B-2 49]

Cables

Tools

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Tools

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Introduction

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

The product line includes:

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

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

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

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

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

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

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

The special requirements for industrial cable use are described in the ISO/IEC 24 702 and in its European equivalent EN 50173-3.

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

technical compliance with the established requirements mentioned above.

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

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

Thus in this chapter, products are specified for:

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

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

An overview of the advantages of eight-wire cabling:

- Profile-independent cabling infrastructure which can be used for all Ethernet applications
- Supports all safety features and real-time requirements of various applications
- Can be extended and integrated into existing IT infrastructures without difficulty
- Conforms to ISO/IEC 24 702 standard and facilitates roll-outs at companies operating internationally.
- The use of standardized connectors reduces product variety and simplifies the purchasing and storage of components
- Future-oriented design ensures the convenient application of new technologies such as Gigabit Ethernet or PoE
- Superior quality of the cabling system guarantees long life span and high operational reliability
- Simple and convenient planning, installation and reliable operation of the network - thus saving costs and delivering a high ROI
- The eight-wire generic cabling system is a part of HARTING's AUTOMATION IT network solution - all solutions coming from one source

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- Connectors [on page B·2 6]
- System cables [on page B·2 8]
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IP 65 / IP 67**HARTING PushPull**

- Connectors [on page B·2 12]
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Han® PushPull

- Connectors [on page B·2 22]

Han® 3 A

- Connectors [on page B·2 26]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 34]

Han-Max®

- Connectors [on page B·2 38]
- Panel feed-throughs [on page B·2 40]

Cables

- Industrial Cat. 6, stranded, PVC [on page B·2 44]
- Industrial Cat. 6, stranded, PUR [on page B·2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B·2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B·2 47]
- Industrial Cat. 5, stranded, PUR [on page B·2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B·2 49]

Tools

[on page B·2 52]

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	☒
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Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via piercing contacts
Cable options	
– Strand diameter	AWG 27/7 - AWG 24/7
– Strand sheath diameter	max. 1.05 mm (including insulation)
– Cable sheath diameter	6.1 mm - 6.9 mm
Degree of protection	IP 20
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polycarbonate, UL94 V-0
Colour	Black
Advantages	Field-assembly connector, Cat. 6
Mounting information	If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)

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

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

Identification	Part number		Drawing	Dimensions in mm
	PVC	PUR		
HARTING RJ Industrial System cable RJ45, 8-wire	Yellow	Yellow		
Length 1.5 m	09 45 751 1523	09 45 751 1563		
Length 3.0 m	09 45 751 1525	09 45 751 1565		
Length 5.0 m	09 45 751 1527	09 45 751 1567		
Length 10.0 m	09 45 751 1551	09 45 751 1572		
Length 20.0 m	09 45 751 1553	09 45 751 1574		

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	☐
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Connector types	RJ45, overmoulded
Cable types	4 x 2, Twisted Pair, shielded
Sheath material	PUR, non-halogene LSZH
Wiring	8-pole, 1:1
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Operating temperature range	– 20 °C to + 60 °C
Standard lengths	0.5 m / 1 m / 2 m / 3 m / 5 m / 7.5 m other lengths available on request
Colour	Black or Green
Advantages	Robust design Easy handling for all applications with protection clip for locking lever

Identification	Part number	
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HARTING Industrial Ethernet
Patch cable RJ45, 8-wire

Black

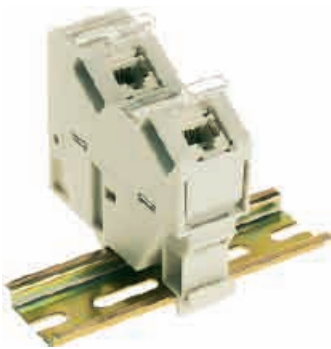
Green

Length 0.5 m
Length 1.0 m
Length 2.0 m
Length 3.0 m
Length 5.0 m
Length 7.0 m

09 45 971 1121
09 45 971 1122
09 45 971 1123
09 45 971 1124
09 45 971 1126
09 45 971 1129

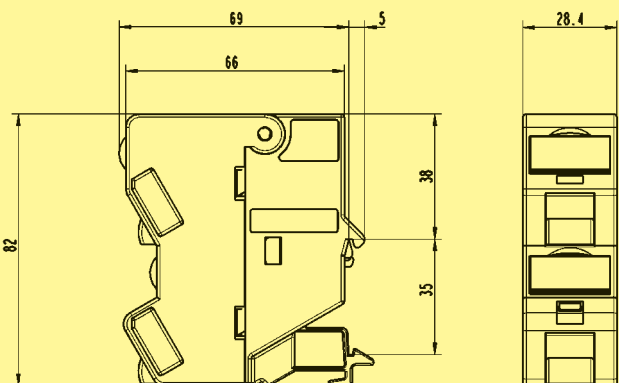
09 45 971 1101
09 45 971 1102
09 45 971 1103
09 45 971 1104
09 45 971 1106
09 45 971 1109

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

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

IP 20

RJ45

- Connectors [on page B-2 6]
- System cables [on page B-2 8]
- Distribution modules and Outlets [on page B-2 10]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B-2 12]
- System cables [on page B-2 16]
- Panel feed-throughs [on page B-2 18]
- Distribution modules and Outlets [on page B-2 20]

Han® PushPull

- Connectors [on page B-2 22]

Han® 3 A

- Connectors [on page B-2 26]
- System cables [on page B-2 28]
- Panel feed-throughs [on page B-2 30]
- Distribution modules and Outlets [on page B-2 34]

Han-Max®

- Connectors [on page B-2 38]
- Panel feed-throughs [on page B-2 40]

Cables

- Industrial Cat. 6, stranded, PVC [on page B-2 44]
- Industrial Cat. 6, stranded, PUR [on page B-2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B-2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B-2 47]
- Industrial Cat. 5, stranded, PUR [on page B-2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B-2 49]

Tools

[on page B-2 52]

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	☒
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Connector type	PushPull connector RJ45 acc. to ISO/IEC 24 702
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via piercing contacts
Cable options	
– Strand diameter	AWG 27/7 - AWG 24/7
– Strand sheath diameter	max. 1.05 mm (including insulation)
– 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, UL94 V-0
Colour	Black
Advantages	Space-saving connector assembly via PushPull interface Field-assembly connector, Cat. 6, in IP 65 / IP 67 Standard conform to ISO/IEC 24 702
Mounting information	If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull Connector set RJ45, 8-pole with White cable manager Blue cable manager Set consists of: PushPull housing including RJ45 connector and shielding Splice element 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		

Connector sets



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

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Connector type	PushPull LC duplex connector acc. to IEC 61 076-3-106 variant 4
Number of contacts	2
Transmission rate	10/100/1000 Mbit/s
Locking	PushPull Technology acc. to IEC 61 076-3-106 variant 4
Degree of protection	IP 65 / IP 67
Mating face	LC acc. to IEC 61 754-20
Cable diameter	6.5 ... 8.6 mm
Mating cycles	min. 100
Temperature range	-40 °C up to +70 °C
Housing material	Plastic, Polyamide, UL94 V-0
Colour	Black

Advantages	• Optical PushPull connector based on LC with small form factor (requires 50 % compared to SC and ST) • EasyInstall Panel feed-through for simple device integration • Optical module with inserts acc. to IEC 61 754-20 • One-piece LC body assures high mechanical stability • A & B partsidentification for Duplex according TIA 568 standard
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Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull LC duplex Connector set Cable side Multimode GOF Singlemode GOF	09 57 441 0500 09 57 441 0501	 	
Device side Multimode GOF Singlemode GOF	09 57 402 0500 09 57 402 0501		

System cables



HARTING PushPull System cable RJ45, 8-wire
RJ45 connection cable HARTING PushPull for IP 65 / IP 67 applications

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

Identification	Part number		Drawing	Dimensions in mm
	PVC	PUR		
HARTING PushPull System cable RJ45, 8-wire	Yellow	Yellow		
Length 1.5 m	09 45 745 1523	09 45 744 1523		
Length 3.0 m	09 45 745 1525	09 45 744 1525		
Length 5.0 m	09 45 745 1527	09 45 744 1527		
Length 10.0 m	09 45 745 1551	09 45 744 1532		
Length 20.0 m	09 45 745 1553	09 45 744 1534		

System cables



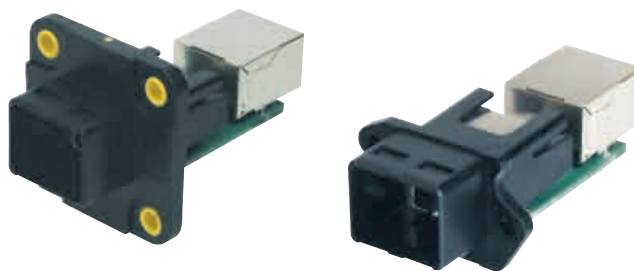
HARTING PushPull System cable RJ45, 8-wire
connection cable HARTING PushPull to RJ45 (IP 20)

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

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

Panel feed-throughs



HARTING PushPull 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	☐
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Number of ports, Copper / Termination	2 / 1x RJ45 (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, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	screwable to steel plate covers
Dimensions	see drawing
Panel cut-out	21 mm x 27 mm
Mounting drillings	M2.5
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polyamide, UL94 V-0
Colour	Black
Advantages	Small, space-saving PushPull interface with IP 65 / IP 67 Easy handling of RJ45 system cables in the control cabinet

Identification	Part number	Drawing	Dimensions in mm
HARTING PushPull Panel feed-through RJ45 consisting of: Housing bulkhead mounting Compact including flat gasket RJ45 female module mounted on PCB Assembly instructions board drillings for M2.5	09 45 245 1102		
HARTING PushPull Panel feed-through RJ45 consisting of: Housing bulkhead mounting EasyInstall with integrated seal, 2x RJ45-jacks mounting on PCB board drillings for M3	09 45 245 1130		
Protection cover for housing bulkhead mounting with cord IP 65 / IP 67 fixing ring for M2.5 Version with active locking Version with passive locking IP 40 transport protection rubber, for housing bulkhead mounting	for screw M2,5 09 45 845 0004 for screw M3 09 45 845 0006 09 45 845 0009 09 45 845 0003		

Distribution modules and Outlets

HARTING PushPull Outlet RJ45

RJ45 Industrial Outlet for IP 65 / IP 67 environments

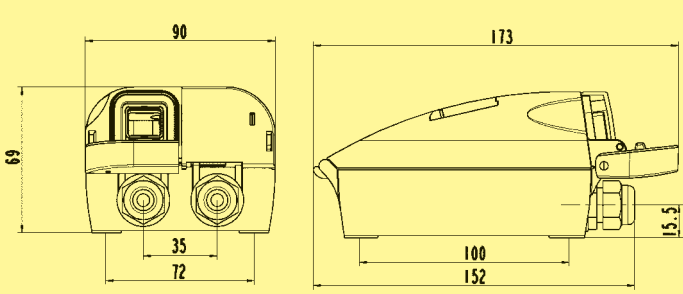


IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☐	Cat. 6	☒
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Number of ports, Copper / Termination	2 / RJ45 PushPull (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 - 22 (0.5 mm - 0.65 mm) solid and stranded
Strand insulation	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, UL94 V-0
Colour	Black (similar RAL 9011) or White (similar RAL 9010)

Advantages

Simple mounting
 Cable entering optionally from bottom or from top side
 Self-closing protection caps in IP 65 / IP 67
 IP 65 / IP 67 label

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

IP 20

RJ45

- Connectors [on page B·2 6]
- System cables [on page B·2 8]
- Distribution modules and Outlets [on page B·2 10]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 12]
- System cables [on page B·2 16]
- Panel feed-throughs [on page B·2 18]
- Distribution modules and Outlets [on page B·2 20]

Han® PushPull

- Connectors [on page B·2 22]

Han® 3 A

- Connectors [on page B·2 26]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 34]

Han-Max®

- Connectors [on page B·2 38]
- Panel feed-throughs [on page B·2 40]

Cables

- Industrial Cat. 6, stranded, PVC [on page B·2 44]
- Industrial Cat. 6, stranded, PUR [on page B·2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B·2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B·2 47]
- Industrial Cat. 5, stranded, PUR [on page B·2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B·2 49]

Tools

[on page B·2 52]

Connector sets



Han® PushPull Connector set RJ45, 8-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	☒
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Connector type	Han® PushPull connector RJ45 acc. to IEC 61 076-3-117, variant 14
Number of contacts	8
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via piercing contacts
Cable options	
– Strand diameter	AWG 27/7 - AWG 24/7 (stranded)
– Strand sheath diameter	AWG 23/1 - AWG 22/1 (solid)
– Cable sheath diameter	max. 1.05 mm (including insulation) up to 9 mm
Degree of protection	IP 65 / IP 67
Operating temperature range	– 40 °C to + 70 °C
Housing material	Polyamide, UL94 V-0 / Metal
Colour	Black

Advantages	Space-saving connector assembly via PushPull interface Field-assembly connector, Cat. 6, in IP 65 / IP 67 tool-less fast termination technique
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Mounting information	If the cable is assembled on both sides, please use one connector set with white and one connector set with blue cable manager (assures optimal transmission behavior)
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Identification	Part number	Drawing	Dimensions in mm
Han® PushPull Connector set RJ45, 8-pole Plastic Cable diameter 6.5 - 9.5 mm White cable manager Blue cable manage	09 35 223 0421 09 35 224 0421		
Metal Cable diameter 4 - 11 mm White cable manager Blue cable manage	09 35 223 0401 09 35 224 0401		

IP 20

RJ45

- Connectors [on page B·2 6]
- System cables [on page B·2 8]
- Distribution modules and Outlets [on page B·2 10]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 12]
- System cables [on page B·2 16]
- Panel feed-throughs [on page B·2 18]
- Distribution modules and Outlets [on page B·2 20]

Han® PushPull

- Connectors [on page B·2 22]

Han® 3 A

- Connectors [on page B·2 26]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 34]

Han-Max®

- Connectors [on page B·2 38]
- Panel feed-throughs [on page B·2 40]

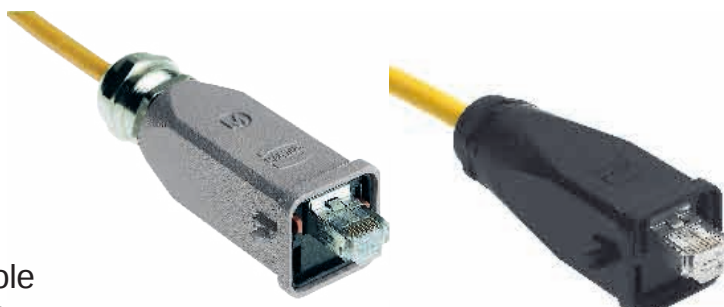
Cables

- Industrial Cat. 6, stranded, PVC [on page B·2 44]
- Industrial Cat. 6, stranded, PUR [on page B·2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B·2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B·2 47]
- Industrial Cat. 5, stranded, PUR [on page B·2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B·2 49]

Tools

[on page B·2 52]

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	☒
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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, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly possible
Wire termination	via piercing contacts
Cable options	
– Strand diameter	AWG 27/7 - AWG 24/7
– Strand sheath diameter	max. 1.05 mm (including insulation)
– 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, UL94 V-0
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 (assures optimal transmission behavior)

Han® 3 A

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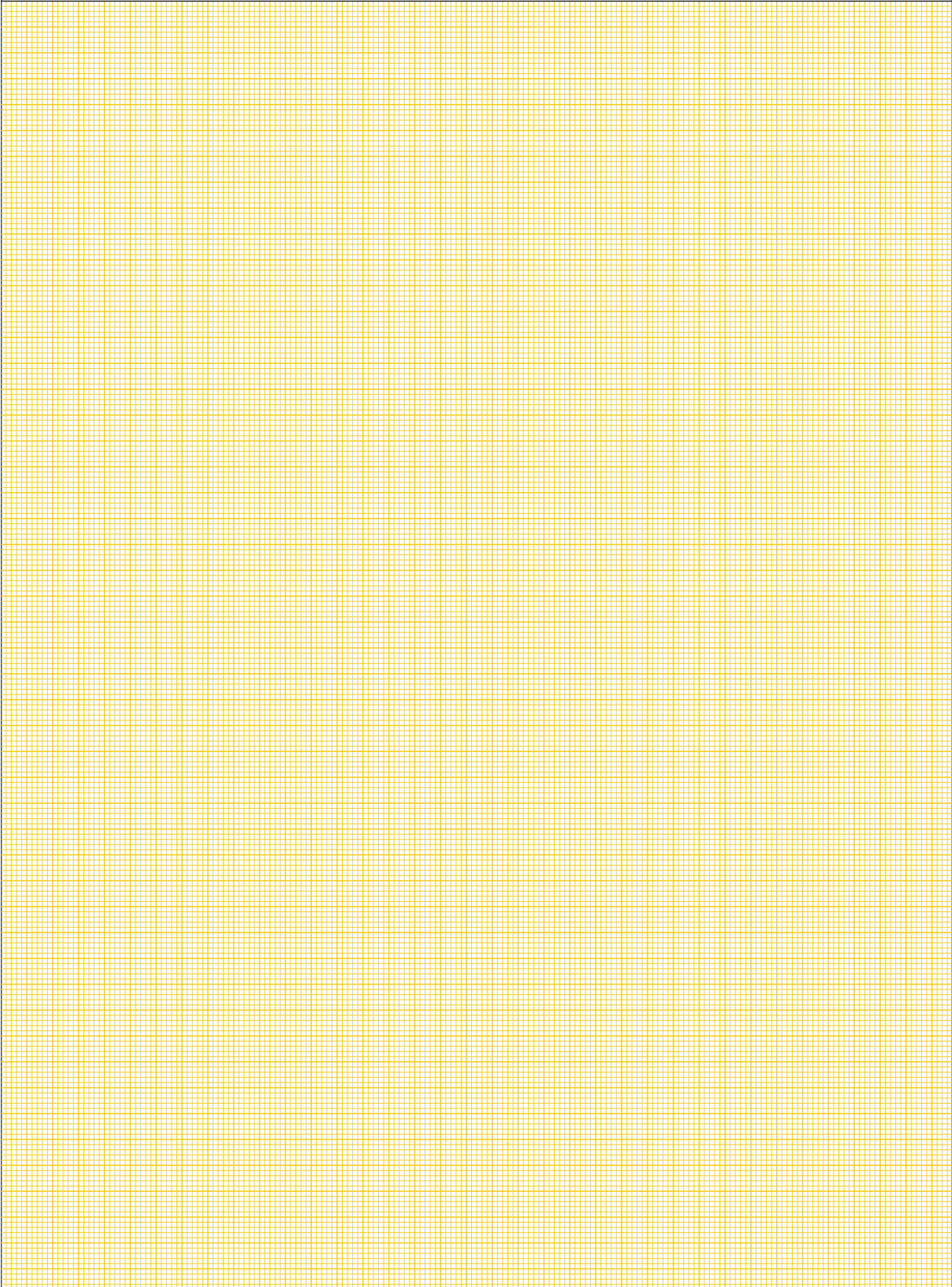
Connector types	Han® 3 A RJ45
Cable types	4 x 2, Twisted Pair, shielded
Sheath material	PVC / PUR
Wiring	8-pole, 1:1
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding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

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

Advantages	Very robust metal housing Han® 3 A for IP 65 / IP 67 Additional locking
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Identification	Part number		Drawing	Dimensions in mm
	PVC	PUR		

Han® 3 A System cable RJ45, 8-wire			
	Yellow	Yellow	
Length 1.5 m	09 45 715 1523	09 45 715 1563	
Length 3.0 m	09 45 715 1525	09 45 715 1565	
Length 5.0 m	09 45 715 1527	09 45 715 1567	
Length 10.0 m	09 45 715 1551	09 45 715 1572	
Length 20.0 m	09 45 715 1553	09 45 715 1574	



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

Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black

Advantages	Simple mounting RJ45 plug-compatible Various versions cover all applications Coding possible
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Han® 3 A

Panel feed-throughs



Han® 3 A double-coupling RJ45

RJ45 double-coupling for control or distributor cabinets

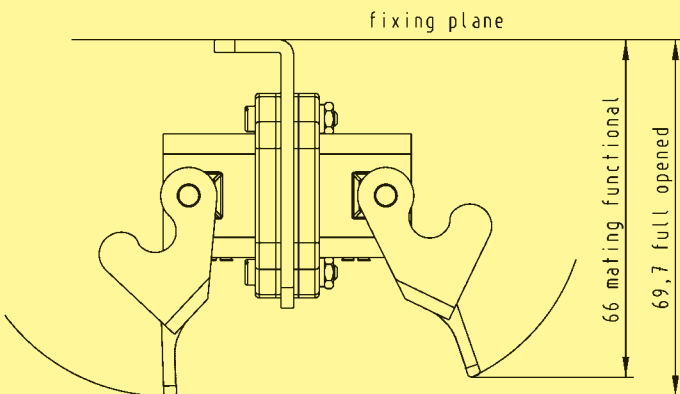
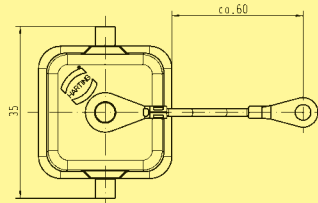
IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact

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

Plastic version	
Housing material	Polyamide, UL94 V-0
Colour	Black
Metal version Standard	
Housing material	Zinc, die-cast
Colour	Grey
Metal version M	
Housing material	Zinc, die-cast, chromatised, powder coated
Colour	Black

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

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

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	☒
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminated without special tools
Strand diameter	AWG 24 - 22 (0.5 mm - 0.65 mm) solid and stranded
Strand insulation	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 Han® 3 A connector ports

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

Han® 3 A

Distribution modules and Outlets



Han® 3 A Metal Outlet RJ45, Cat. 5

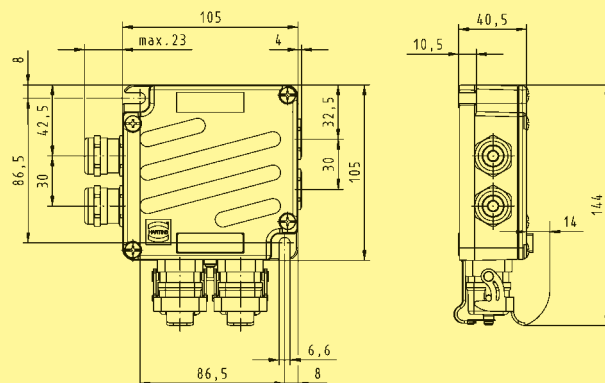
RJ45 Industrial Outlet for IP 65 / IP 67 environments

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Number of ports, Copper / Termination	2 / Han® 3 A RJ45 (IP 65 / IP 67)
Transmission performance	Category 5 / Class D up to 100 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Termination	LSA-PLUS module, terminating via LSA-PLUS tool
Strand diameter	AWG 26 - 22 (0.35 mm - 0.65 mm) solid and stranded
Strand insulation	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 optionally from the left or from the right side
Lockable Han® 3 A connector ports

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

IP 20

RJ45

- Connectors [on page B·2 6]
- System cables [on page B·2 8]
- Distribution modules and Outlets [on page B·2 10]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B·2 12]
- System cables [on page B·2 16]
- Panel feed-throughs [on page B·2 18]
- Distribution modules and Outlets [on page B·2 20]

Han® PushPull

- Connectors [on page B·2 22]

Han® 3 A

- Connectors [on page B·2 26]
- System cables [on page B·2 28]
- Panel feed-throughs [on page B·2 30]
- Distribution modules and Outlets [on page B·2 34]

Han-Max®

- Connectors [on page B·2 38]
- Panel feed-throughs [on page B·2 40]

Cables

- Industrial Cat. 6, stranded, PVC [on page B·2 44]
- Industrial Cat. 6, stranded, PUR [on page B·2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B·2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B·2 47]
- Industrial Cat. 5, stranded, PUR [on page B·2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B·2 49]

Tools

[on page B·2 52]

Connector sets



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

IP 20	☐	IP 65 / IP 67	☒	IP 65 / IP 67 to IP 20	☐	Cat. 5	☒	Cat. 6	☐
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Connector type	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 or unshielded
Mounting	Field-assembly possible
Wire termination	via crimp contacts
Cable options	
– Strand diameter	AWG 26 - AWG 24 (Cord)
– Cable sheath diameter	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 Shielded or unshielded
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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		

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	☐
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Number of ports, Copper / Termination	1x RJ45 (IP 65 / IP 67) on LSA-PLUS IDC terminal (IP 20) 1x RJ45 Bayonet (IP 65 / IP 67)
Transmission performance	Category 5e up to 100 MHz according to TIA/EIA 568-B
Transmission rate	10/100/1000 Mbit/s
Shielding	fully shielded, 360° shielding contact or unshielded
Mounting	screwable to steel plate covers
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 or unshielded
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Identification

Part number

Drawing

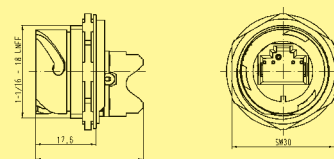
Dimensions in mm

Han-Max®
Panel feed-through RJ45

fully shielded (STP)
unshielded (UTP)

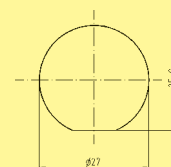
consisting of:
Bulkhead mounted including seal
RJ45 female module, mounted
on PCB
LSA-PLUS termination blocks
on the rear side

09 15 300 0302
09 15 300 0301

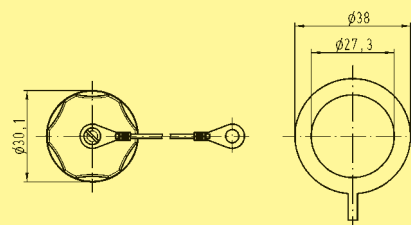


	Length l (mm)
09 15 300 0301	31,5
09 15 300 0302	42,0

Panel cut-out
for max.
wall thickness
2.3 mm


Protection cover
for Panel feed-through


09 15 300 5411



IP 20

RJ45

- Connectors [on page B-2 6]
- System cables [on page B-2 8]
- Distribution modules and Outlets [on page B-2 10]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B-2 12]
- System cables [on page B-2 16]
- Panel feed-throughs [on page B-2 18]
- Distribution modules and Outlets [on page B-2 20]

Han® PushPull

- Connectors [on page B-2 22]

Han® 3 A

- Connectors [on page B-2 26]
- System cables [on page B-2 28]
- Panel feed-throughs [on page B-2 30]
- Distribution modules and Outlets [on page B-2 34]

Han-Max®

- Connectors [on page B-2 38]
- Panel feed-throughs [on page B-2 40]

Cables

- Industrial Cat. 6, stranded, PVC [on page B-2 44]
- Industrial Cat. 6, stranded, PUR [on page B-2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B-2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B-2 47]
- Industrial Cat. 5, stranded, PUR [on page B-2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B-2 49]

Tools

[on page B-2 52]

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	☒
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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	6.7 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	paired shielded with additional cable shield
Operating temperature range	– 10 °C to + 80 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Yellow
Advantages	Robust design suitable for industry Optimal performance reserves  flame retardant best usable for all 8-wire HARTING RJ45 connectors

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 6 cable, stranded, 8-wire PVC 20 m ring 50 m ring 100 m ring 500 m drum	 09 45 600 0532 09 45 600 0542 09 45 600 0502 09 45 600 0522		

Cables



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

IP 20	☒	IP 65 / IP 67	☒	PUR	Cat. 5	☐	Cat. 6	☒
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Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	Cord, 4 x 2 x AWG 27/7
Sheath material	PUR
Cable sheath diameter	6.7 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	paired shielded with additional cable shield
Operating temperature range	– 40 °C to + 70 °C

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

Advantages	Robust design suitable for industry Optimal performance reserves halogen free flame retardant sheath material
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Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 6 cable, stranded,
8-wire
PUR

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

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



Cables



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

IP 20	☒	IP 65 / IP 67	☒	PVC	Cat. 5	☐	Cat. 6	☒
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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	6.6 mm
Transmission performance	Category 6 / Class E up to 250 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	paired shielded with additional cable shield
Operating temperature range	– 10 °C to + 80 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Black
Advantages	Robust design suitable for industry Optimal performance reserves Usable for outdoor applications UL recognised

Identification	Part number	Drawing	Dimensions in mm
Industrial Cat. 6 cable, stranded, 8-wire PVC 20 m ring 50 m ring 100 m ring 500 m drum	09 45 600 0531 09 45 600 0541 09 45 600 0501 09 45 600 0521		

Cables



Industrial Cat. 6_A installation cable, 8-wire, FRNC
to fixed laying in industrial environments

IP 20	☒	IP 65 / IP 67	☒	FRNC	Cat. 5	☐	Cat. 6	☒
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Cable structure	4 x 2, Twisted Pair, shielded, PIMF
Core structure	4 x 2 x AWG 23/1, solid
Sheath material	FRNC
Cable sheath diameter	7.4 mm
Transmission performance	Category 6 _A / Class E _A up to 500 MHz according to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	paired shielded with additional cable shield
Operating temperature range	– 20 °C to + 60 °C

Supply lengths	500 m / 1000 m
Colour	Black

Advantages

Robust design suitable for industry
Optimal performance reserves
Usable for transfer rate up to 10 Gigabit Ethernet
non-halogene

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

500 m drum
1000 m drum

09 45 600 0650
09 45 600 0660





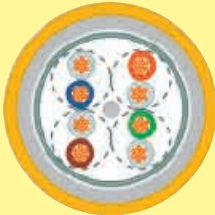
Cables



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

IP 20	☒	IP 65 / IP 67	☒	PUR	Cat. 5	☒	Cat. 6	☐
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Cable structure	4 x 2, Twisted Pair, shielded
Core structure	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, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Foil screen and additional plaited cable
Operating temperature range	– 10 °C to + 60 °C
Standard lengths	20 m / 50 m / 100 m / 500 m
Colour	Yellow
Advantages	Robust design suitable for industry non-halogene UL recognised flame retardant oil proof with Fast Connect inside sheath

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

Cables



Industrial Cat. 5 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	☐
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Cable structure	4 x 2, Twisted Pair, shielded
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, EN 50 173-1
Transmission rate	10/100/1000 Mbit/s
Shielding	Foil screen and additional plaited cable
Operating temperature range	– 10 °C to + 60 °C

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

Advantages	Robust design suitable for industry Applicable also for outside applications UL recognised flame retardant weather proof with Fast Connect inside sheath
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Identification	Part number	Drawing	Dimensions in mm
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Industrial Cat. 5 outdoor cable,
8-wire

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

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



IP 20

RJ45

- Connectors [on page B-2 6]
- System cables [on page B-2 8]
- Distribution modules and Outlets [on page B-2 10]

IP 65 / IP 67

HARTING PushPull

- Connectors [on page B-2 12]
- System cables [on page B-2 16]
- Panel feed-throughs [on page B-2 18]
- Distribution modules and Outlets [on page B-2 20]

Han® PushPull

- Connectors [on page B-2 22]

Han® 3 A

- Connectors [on page B-2 26]
- System cables [on page B-2 28]
- Panel feed-throughs [on page B-2 30]
- Distribution modules and Outlets [on page B-2 34]

Han-Max®

- Connectors [on page B-2 38]
- Panel feed-throughs [on page B-2 40]

Cables

- Industrial Cat. 6, stranded, PVC [on page B-2 44]
- Industrial Cat. 6, stranded, PUR [on page B-2 45]
- Industrial Cat. 6, stranded, outdoor, PVC [on page B-2 46]
- Industrial Cat. 6_A, solid, PIMF [on page B-2 47]
- Industrial Cat. 5, stranded, PUR [on page B-2 48]
- Industrial Cat. 5, stranded, outdoor, PVC [on page B-2 49]

Tools

[on page B-2 52]

Identification

Part number

HARTING RJ Industrial® Stripping Tool

Stripping tool
for Ethernet cables
including blade cassette

09 45 800 0000



The RJ Industrial Stripping Tool is ready to remove insulation from cables for fast mounting with diameters from 2.5 to 8 mm quick and easy. It allows to remove cable sheath and shielding braid in one.

Spare 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). The various conductors are cut to length and inserted into the insulation displacement contacts in a single pass.

Insertion and removal tool for data contacts

09 99 000 0513

for power contacts

09 99 000 0171



HARTING RJ Industrial® Gigalink-Mounting tools

for HARTING RJ Industrial®
Gigalink connectors

09 45 800 0500



With the RJ Industrial Gigalink Assembly Tool Ethernet connectors can be quickly, easily and reliably connected to flexible cables.

Standard / Approvals

		eCon 2000	eCon 3000	eCon 4000	eCon 9000	eCon 6000	eCon 7000	sCon 3000	sCon 9000	pCon 7000	pCon 2000
				mCon 4000	mCon 9000	mCon 6000	mCon 7000	mCon 3000			
Mechanical stability											
Shock assay	IEC 60 068-2-27	X	X	X	X	X	X	X	X	X	X
Vibration	IEC 60 068-2-6	X	X	X	X	X	X	X	X	X	X
Rail standard	EN 50 155, Class 1		X	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	X
Interference immunity HF, radiated	IEC 61 000-4-3	X	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	X
Interference immunity Surge	IEC 61 000-4-5	X	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	X
Emitted radiation	EN 55 011, Class	A	A	A	A	A	A	A	A	B	B
Emitted radiation	EN 55 022, Class	A	A	A	A	A	A	A	A	B	B
System perturbation	IEC 61 000-3-3									X	X
Rail standard	EN 50 121-3-2		X	X	X	X	X	X	X	X	

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 RJ1	eCon 6050-A
20 73 305 3941	ESC 67-30 TP05U M12	eCon 6050-BA
20 73 308 3972	ESC 67-30 TP08U RJ1 Hybrid	eCon 6080-HA
20 70 305 3921	ESC 67-10 TP05U RJ1	eCon 7050-A
20 70 305 3941	ESC 67-10 TP05U M12	eCon 7050-B
20 70 310 3921	ESC 67-10 TP10U RJ1	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

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 RJ1	mCon 6050-A
20 73 305 4941	ESC 67-30 TP05M M12	mCon 6050-BA
20 70 305 4921	ESC 67-10 TP05M RJ1	mCon 7050-A
20 70 305 4941	ESC 67-10 TP05M M12	mCon 7050-B
20 70 310 4921	ESC 67-10 TP10M RJ1	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

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

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 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 15 300 030x	Z 5	09 35 223 0401	B-2 23	09 45 145 1310	B-1 37	09 45 245 1310	B-1 41
09 15 300 0401	B-2 39	09 35 223 0421	B-2 23	09 45 145 1500	B-2 13	09 45 245 1320	B-1 41
09 15 300 0402	B-2 39			09 45 145 1510	B-2 13		
09 15 300 040x	Z 5	09 35 224 0401	B-2 23	09 45 145 15x0	Z 4	09 45 2x5 11xx	Z 5
09 15 300 5401	B-2 39	09 35 224 0421	B-2 23				
09 15 300 5411	B-2 41					09 45 343 4009	B-1 11
		09 35 241 0402	B-1 47	09 45 151 1100	B-1 9		
		09 35 241 0422	B-1 47	09 45 151 1109	B-1 9	09 45 545 1300	B-1 41
				09 45 151 1500	B-2 7	09 45 545 1305	B-1 41
09 20 003 2711	A-1 52			09 45 151 1510	B-2 7	09 45 545 1320	B-1 41
09 20 003 2711	A-3 36	09 37 003 5402	B-1 53	09 45 151 15x0	Z 4	09 45 545 1325	B-1 41
09 20 003 5422	B-1 53	09 37 003 5402	B-2 27				
09 20 003 5422	B-1 67	09 37 003 5405	B-1 59	09 45 215 1100	B-1 59	09 45 600 0100	B-1 84
09 20 003 5422	B-2 27	09 37 003 5405	B-1 61	09 45 215 1100	B-2 31	09 45 600 0101	B-1 86
09 20 003 5425	B-1 59	09 37 003 5405	B-2 31	09 45 215 1102	B-1 59	09 45 600 0102	B-1 85
09 20 003 5425	B-1 61	09 37 003 5405	B-2 33	09 45 215 1102	B-2 31	09 45 600 0105	B-1 87
09 20 003 5425	B-1 71			09 45 215 1103	B-1 59	09 45 600 0110	B-1 84
09 20 003 5425	B-2 31			09 45 215 1103	B-2 31	09 45 600 0111	B-1 86
09 20 003 5425	B-2 33			09 45 215 1107	B-1 61	09 45 600 0112	B-1 85
09 20 003 5426	A-1 52	09 40 945 0003	B-1 31	09 45 215 1107	B-2 33	09 45 600 0115	B-1 87
09 20 003 5426	A-3 36			09 45 215 1108	B-1 59	09 45 600 0130	B-1 84
09 20 003 5442	B-1 53			09 45 215 1108	B-2 31	09 45 600 0131	B-1 86
09 20 003 5442	B-1 67	09 42 2x5 11xx	Z 5	09 45 215 1109	B-1 59	09 45 600 0132	B-1 85
09 20 003 5442	B-2 27			09 45 215 1109	B-2 31	09 45 600 0135	B-1 87
09 20 003 5445	B-1 59			09 45 215 1110	B-1 61	09 45 600 0140	B-1 84
09 20 003 5445	B-1 61			09 45 215 1110	B-2 33	09 45 600 0141	B-1 86
09 20 003 5445	B-1 71	09 45 115 1100	B-1 53			09 45 600 0142	B-1 85
09 20 003 5445	B-2 31	09 45 115 1102	B-1 53			09 45 600 0145	B-1 87
09 20 003 5445	B-2 33	09 45 115 1104	B-1 53	09 45 225 1100	B-1 59	09 45 600 0200	B-2 49
		09 45 115 1106	B-1 53	09 45 225 1100	B-2 31	09 45 600 0220	B-2 49
09 20 004 2711	A-1 52	09 45 115 1500	B-2 27	09 45 225 1107	B-1 61	09 45 600 0230	B-2 49
09 20 004 2711	A-3 36	09 45 115 1502	B-2 27	09 45 225 1107	B-2 33	09 45 600 0240	B-2 49
		09 45 115 1510	B-2 27	09 45 225 1108	B-1 59	09 45 600 02x0	Z 4
		09 45 115 1512	B-2 27	09 45 225 1108	B-2 31	09 45 600 0300	B-1 72
		09 45 115 15xx	Z 4	09 45 225 1300	B-1 71	09 45 600 0301	B-1 42
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09 35 002 0323	B-1 47	09 45 125 1300	B-1 67	09 45 245 1102	B-1 31	09 45 600 0331	B-1 42
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09 45 600 0501	B-2 46	09 45 701 0053	B-1 29	09 45 715 1553	B-2 28		
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09 45 971 1106	B-2 9	09 47 030 4003	B-1 15	09 47 040 0051	B-1 17	09 47 050 6045	B-1 13
09 45 971 1109	B-2 9	09 47 030 4004	B-1 15	09 47 040 0067	B-1 17	09 47 050 6046	B-1 13
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09 45 971 1121	B-2 9	09 47 030 4007	B-1 15	09 47 040 0069	B-1 17	09 47 050 6048	B-1 13
09 45 971 1122	B-2 9	09 47 030 4023	B-1 15	09 47 040 0070	B-1 17	09 47 050 6049	B-1 13
09 45 971 1123	B-2 9	09 47 030 4024	B-1 15	09 47 040 0071	B-1 17	09 47 050 6051	B-1 13
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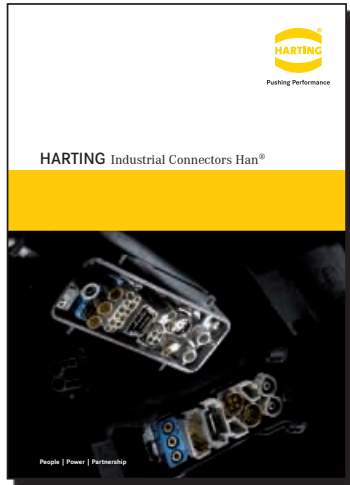
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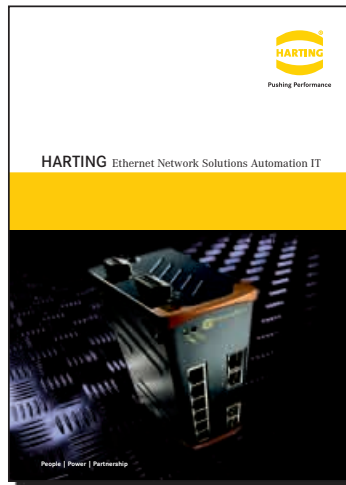


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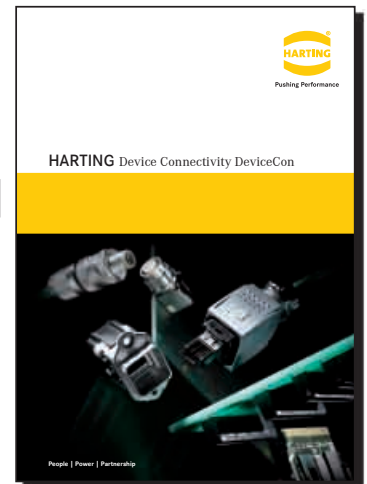
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