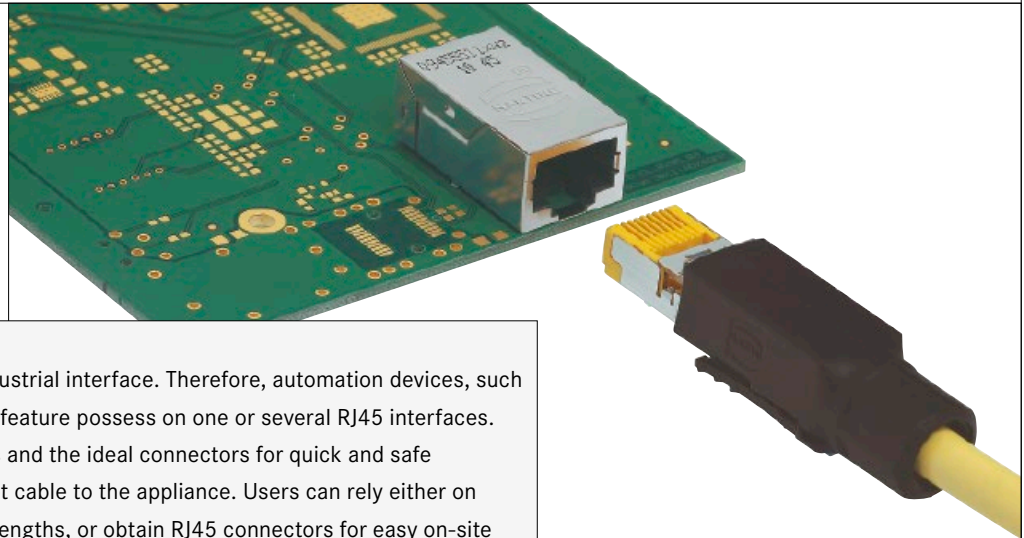# 01. HARTING RJ Industrial® – RJ45 Ethernet Connectors

Ethernet is coming up to standard industrial interface. Therefore, automation devices, such as controllers, sensors and actuators feature possess on one or several RJ45 interfaces. HARTING offers the matching sockets and the ideal connectors for quick and safe connection of the 2- or 4-pair Ethernet cable to the appliance. Users can rely either on ready-to-use patch cables in various lengths, or obtain RJ45 connectors for easy on-site dressing of the cables without using special tools.

HARTING relies on the *HARAX®* quick connection technology for on-site preparation of cables, meeting all industrial requirements made on safe and durable contacting.

The HARTING RJ Industrial® connector family also supports Ethernet automation profiles such as PROFINET, Ethernet/IP, POWERLINK and EtherCAT for the integration of RJ45 connection technology at field levels.

Application profile:

CONNECTION TYPE		ENVIRONMENT		APPLICATION						
Board to Board	Cable/ Wire to Board	IP20	IP65 / IP67	Data	Signal	Power	high performance			
							Data transfer rate	Shielding	Number of contacts, contact density	Voltage, working current
	●	●		●			●	●		

Cable termination

Han-Quick Lock®	IDC HARAX®	Crimp
●	●	●[1]

Screw	Cage clamp	Axial screw

PCB termination

THT	SMC	SMT
●	●	●

Press-in

Application standard

PROFINET EtherNet/IP

IEEE 802.3 ISO IEC 24702

ETHERNET POWERLINK EtherCAT Technology Group

Housing integration

Separate housing	integrated housing

[1] Piercing contacts

01. HARTING RJ Industrial® – RJ45 Ethernet Connectors

Contents

01. HARTING RJ Industrial® – RJ45 Ethernet Connectors

The modular HARTING RJ Industrial® connector family is based on the standard RJ45 pin profile and was developed especially for use in rugged industrial environments.

This technology charts a new course in the wiring of appliances with Ethernet interfaces, enabling the on-site configuration of connectors for many industrial applications, no matter if the product is a power connector or a communications connector.

For the fast wiring of all Ethernet networks, HARTING relies consistently on the *HARAX®* IDC connection technology which has proved its worth in many industrial applications.

Solid or flexible conductors up to a cross-section of AWG 22 are terminated by IDC technology, without stripping or using any special tool.

For all Gigabit Ethernet networks HARTING offers the 8-pole data module with piercing connection technology and the new 8-pole data module with *HARAX®* quick termination technology.

All data modules have the same dimensions.

The replacement of the data module enables the conversion of any 100 MBit Fast Ethernet network into a Gigabit Ethernet network using HARTING RJ Industrial® connectors. This innovative platform strategy also permits the use of the RJ45 data module in combination with the PushPull, Han-Max® and Han® 3 A connector families.

Based on this data module, HARTING has developed a comprehensive connector family which covers all applications for Fast Ethernet, 1/10 Gigabit Ethernet, PROFINET, Ethernet/IP and other Ethernet profiles in the industrial environment.

Degree of protection IP20 is available for the standard RJ45 connectors, either for configuration in the field, or as molded system patch cable.

APPLIANCE INTEGRATION:

HARTING offers various RJ45 jacks for direct mounting on the PCBs of appliances.

Special series features
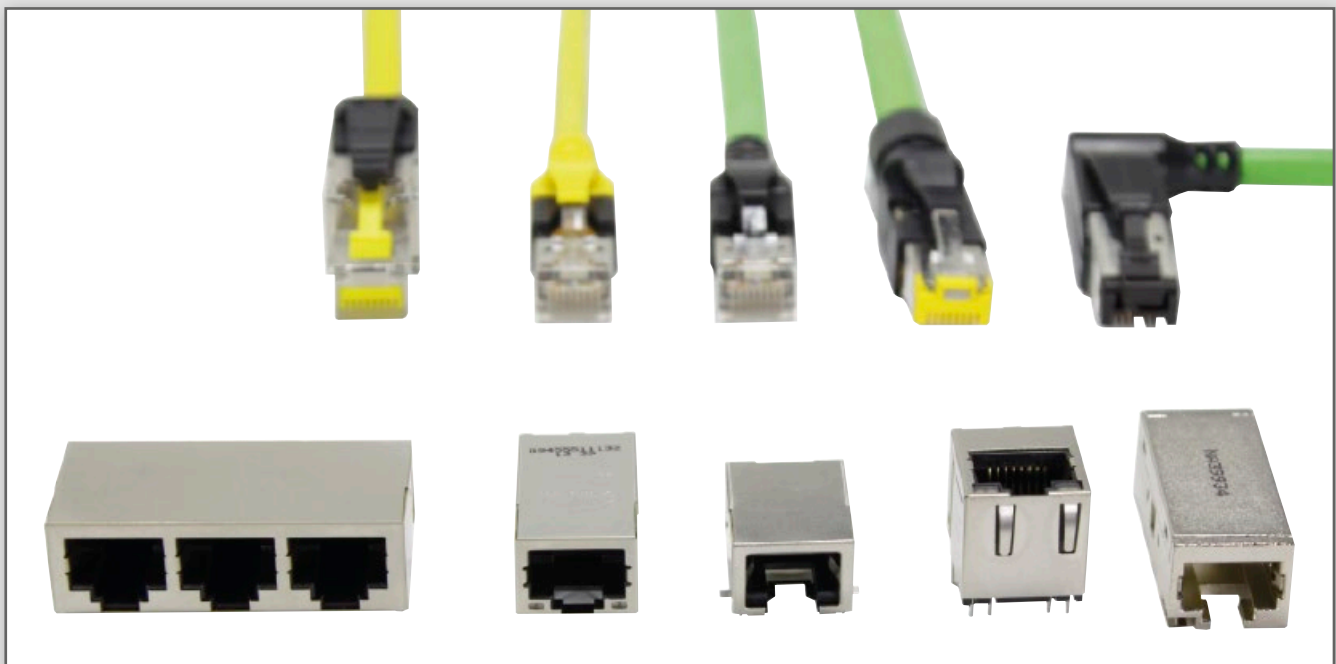
RJ45 QUICK CONNECTION WITH *HARAX*®:

The HARTING *HARAX*® quick connection technology is the ideal solution for dressing RJ45 connectors on-site. In order to produce a gas-proof and vibration resistant Ethernet connection, users only have to strip the cable insulation, insert the conductors, terminate the shielding plates and close the connector.

HARAX® is the most convenient handling standard connection for Ethernet where the emphasis is set on the assembly of connectors in the field.

HARAX® is an ideal IDC connection technology which is deployed universally in a very wide range of data, signal and power series.
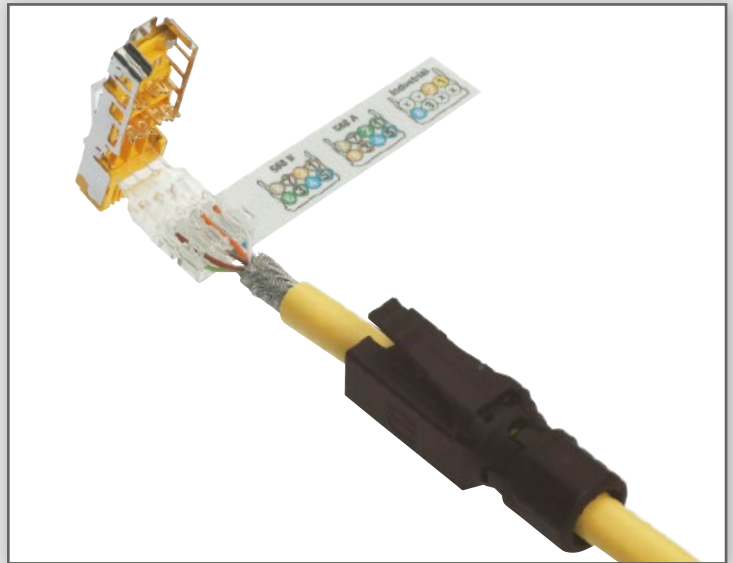

ASSEMBLED SYSTEM CABLES:

HARTING offers a comprehensive range of ready-to-use RJ45 system cables for the simple and easy connection of Ethernet devices. HARTING also provides assembled and tested system cables for special Ethernet profiles such as PROFINET and Ethernet/IP.

The range of solution comprises star quad, double-pair and four-pair cables of diverse structure, as required in drag chain applications, for example.

Consequently, HARTING system cables can be deployed in all Ethernet applications and all ambient conditions.
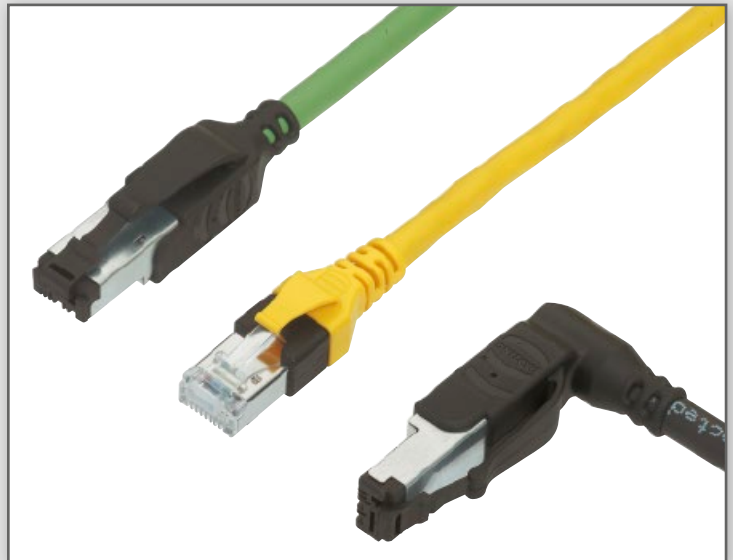
PERFORMANCE FOR THE FUTURE:

The HARTING RJ Industrial® portfolio offers a wide range of solutions for Industrial Ethernet, independent of wiring strategies to ISO/IEC 11801 currently deployed to wire appliances.

HARTING RJ Industrial® provides field connection technology based on 2-pair category 5 variant and on 4-pair category 6 variant.

HARTING RJ Industrial® is ideal for the future-proof planning of appliance interfaces, regardless of whether your future applications will involve Fast or Gigabit Ethernet, or 10 Gigabit Ethernet.

HARTING RJ Industrial® RJ45 jacks for direct device integration

Advantages

- Compact design
- Category of transmission Cat. 5
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)
- Temperature range -40 °C … +70 °C

Technical characteristics

Locking	RJ45 acc. to IEC 60603-7
Number of contacts	8
Degree of protection	IP20
Rated voltage	125 V AC
Rated current	1.5 A
Mating face	RJ45 acc. to IEC 60603-7
Mating cycles	min. 750
ⓊⓁ	UL approval

Identification	Part number	Drawing	Dimensions in mm
Components device side			PCB layout, component side
RJ45 jack (low profile)			
Solder variant SMD, 90° angled	09 45 551 1100[1] 09 45 551 1110[2]		
Solder variant THT, 90° angled with EMC contacts	09 45 551 1101[1]		
Solder variant THT, 90° angled	09 45 551 1102[1]		
Solder variant THT, vertical	09 45 551 1103[3]		

[1] Packaging: Blister à 120 pieces
[2] Packaging: Tape & Reel à 130 pieces
[2] Packaging: Blister à 80 pieces

HARTING RJ Industrial®

HARTING RJ Industrial® RJ45 jacks for direct device integration

Advantages

- Compact design
- Category of transmission Cat. 5
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)
- Temperature range -40 °C … +70 °C
- SMC compatible

Technical characteristics

Locking	RJ45 acc. to IEC 60 603-7
Number of contacts	8
Degree of protection	IP20
Rated voltage	125 V AC
Rated current	1.5 A
Mating face	RJ45 acc. to IEC 60 603-7
Mating cycles	min. 750
	UL approval

Identification	Part number	Drawing	Dimensions in mm
Components device side			
RJ45 jack			
2 ports, 90° angled, THT	09 45 551 1122		
3 ports, 90° angled, THT	09 45 551 1123		
4 ports, 90° angled, THT	09 45 551 1124		
6 ports, 90° angled, THT	09 45 551 1126		
8 ports, 90° angled, THT	09 45 551 1128		

	a	b	c	d
2 ports	31.12	25.40	30.87	1
3 ports	45.09	39.37	44.84	2
4 ports	59.06	53.34	58.81	3
6 ports	87.00	81.28	86.75	5
8 ports	114.94	109.22	114.69	7

HARTING RJ Industrial®

HARTING RJ Industrial® RJ45 jacks for direct device integration

Advantages

- Compact design
- Category of transmission Cat. 6
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)
- Temperature range -40 °C … +70 °C

Technical characteristics

Locking	RJ45 acc. to IEC 60603-7
Number of contacts	8
Degree of protection	IP20
Rated voltage	125 V AC
Rated current	1.5 A
Mating face	RJ45 acc. to IEC 60603-7
Mating cycles	min. 750
ꙍ	UL approval

Identification	Part number	Drawing	Dimensions in mm
Components device side			PCB layout, component side
RJ45 jack (Standard)			
Solder variant overmolded (THT), 90° angled	09 35 002 2101[1]		
Solder variant overmolded (THT), 180° straight	09 35 002 2102[2]		

[1] Packaging: Blister à 90 pieces
[2] Packaging: Blister à 100 pieces

HARTING RJ Industrial®

HARTING RJ Industrial® RJ45 jacks for direct device integration

Advantages

- Compact design
- Excellent EMC behaviour due to integrated transformers and filters for 10/100 Mbit or 1 Gbit Ethernet
- Versions from 10/100 Mbit up to 10 Gbit Ethernet resp. Cat. 5

Technical characteristics

Mating face	RJ45 acc. to IEC 60 603-7
Number of contacts	8
Degree of protection	IP20
Mating cycles	min. 750
Temperature range	-40 °C … +85 °C

Identification	Part number	Drawing	Dimensions in mm
Components device side			
RJ45 jack Cat. 5			
with bicolour LED	09 45 551 1119		
without LED	09 45 551 1120		
RJ45 jack with transformer			
10/100 Mbit with bicolour LED	09 45 551 1140		
10/100 Mbit with LED green/yellow	09 45 551 1142		
1 Gbit with bicolour LED	09 45 551 1141		
1 Gbit with LED green / yellow	09 45 551 1143		
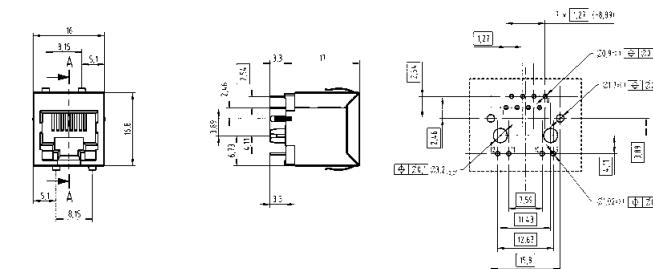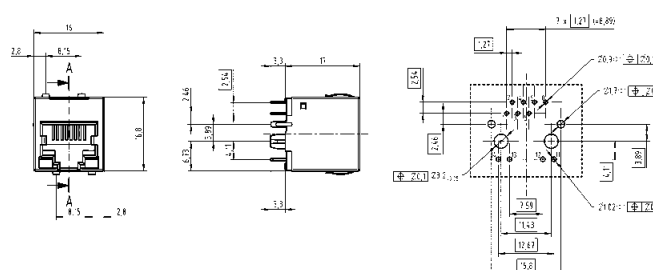
HARTING RJ Industrial®
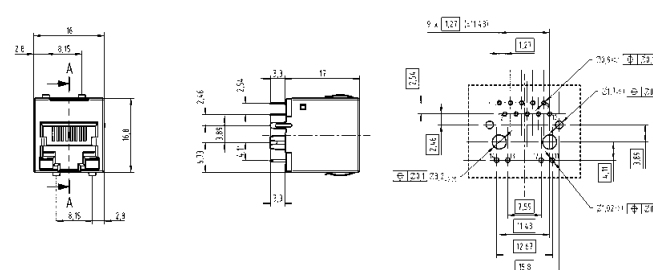
HARTING RJ Industrial® RJ45 jacks with transformer

Advantages

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

Technical characteristics

Mating face	RJ45 acc. to IEC 60 603-7
Number of contacts	8
Degree of protection	IP20
Rated voltage	30 V DC
Rated current	8 mA DC
Mating cycles	min. 750
Temperature range	-25 °C … +70 °C

Identification	Part number	Drawing	Dimensions in mm
Components device side			
RJ45 jack with transformer (low profile)			
90° angled, THT 10/100 Mbit Ethernet	09 45 551 1130[1]		
Schematic:			
10/100 Mbit Ethernet and PoE	09 45 551 1131[1]		
90° angled, THT 1 Gbit Ethernet	09 45 551 1530[1]		
Schematic:			
1 Gbit Ethernet and PoE	09 45 551 1531[1]		
90° angled, THT 10 Gbit Ethernet	09 45 551 1560[1]	Customer specific versions on request	
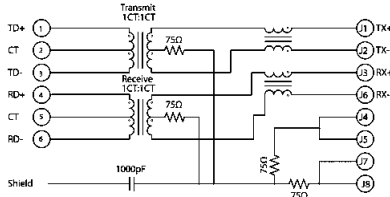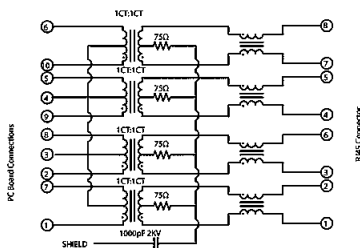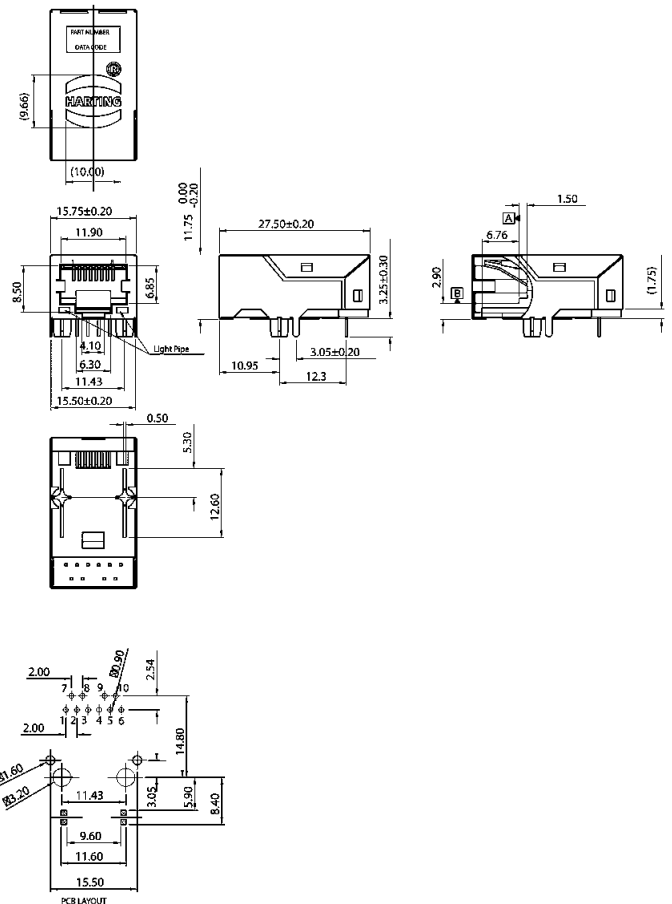
[1] Packaging: Blister à 56 pieces

HARTING RJ Industrial®
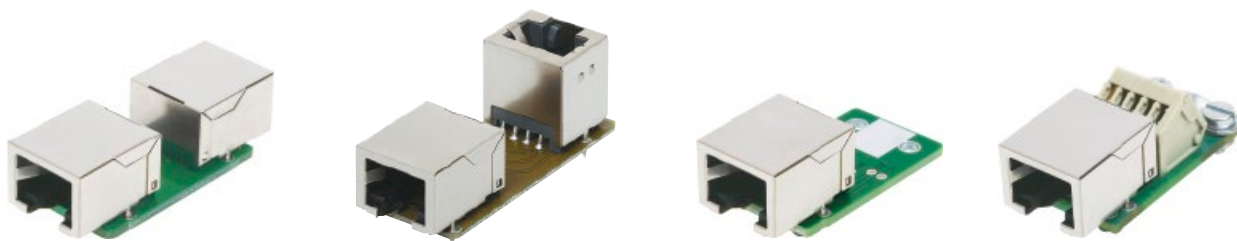
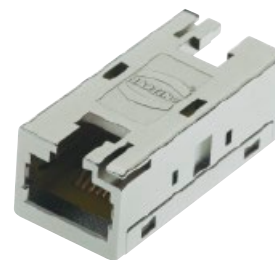HARTING RJ Industrial® RJ45 – coupler and adapter PCB's

Advantages

- Compatible with Han® 3 A[1)]
  and HARTING PushPull

- Suitable for PoE (IEEE 802.3af)
  and PoE+ (IEEE 802.3at)

- Temperature range -40 °C … +70 °C

Technical characteristics

Rated voltage	125 V AC
Rated current	1.5 A
Mating face	RJ45 acc. to IEC 60 603-7
Mating cycles	min. 750

Identification	Part number	Drawing	Dimensions in mm
Coupler PCB **2x RJ45 8-poles** 2 x RJ45 jack (09 45 551 1102)	09 45 545 1130		
1 x RJ45 jack horizontal (09 45 551 1102) and 1 x RJ45 jack vertical (09 45 551 1103)	09 45 545 1138		
Adapter PCB **1x RJ45 8-poles** to solder points	09 45 545 1134		
Adapter PCB **1x RJ45 8-poles** cage clamp, 5-pole, 1.5 mm²	09 45 545 1135		

[1)] with suitable adapter, see page 04.04

HARTING RJ Industrial® 10G

PROFI
NET
INDUSTRIAL ETHERNET

HARTING RJ Industrial® 10G RJ45 bulkhead

Advantages

- Compact and robust design

- 360° shielding

- Compatible with HIFF dimensions for use in:
  – Han® 3 A series
  – HARTING PushPull (V4)
  – Han® PushPull (V14)
  – *har*-port
  Details see page 01.11

- Suitable for PoE (IEEE 802.3af)
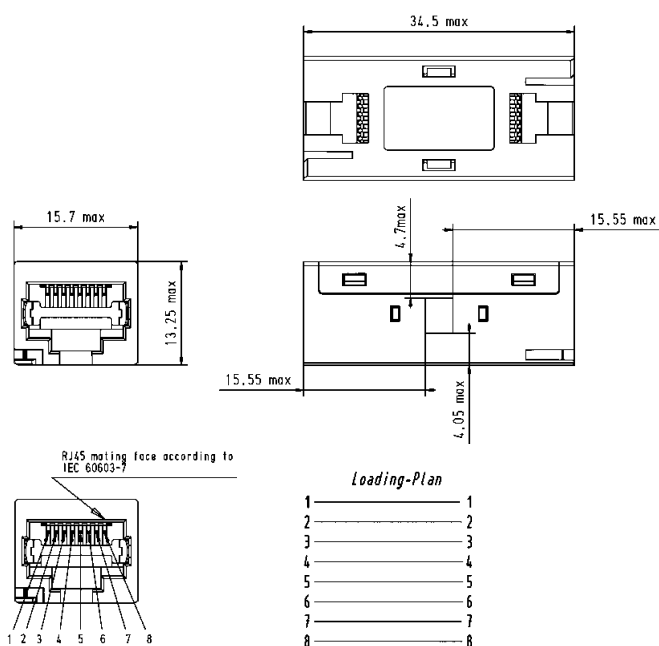 and PoE+ (IEEE 802.3at)

Technical characteristics

Mating face	RJ45 acc. to IEC 60603-7
Number of contacts	8
Transmission category	Cat. 6, performance class E_A, suitable for 1/10 Gigabit Ethernet
Degree of protection	IP20
Mating cycles	min. 750
Temperature range	–40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated
Flammability acc. to UL 94	V0

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® 10G RJ45 bulkhead (HIFF version)	09 45 545 1560		
HARTING RJ Industrial® 10G RJ45 bulkhead (keystone version)	09 45 545 1568		
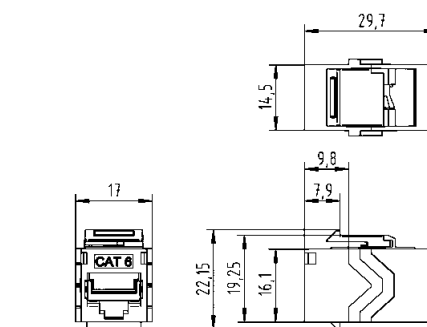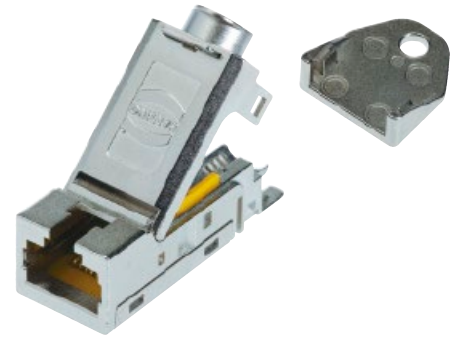
HARTING RJ Industrial® cable jack
(HIFF version)

Advantages

- Compact and robust design

- 360° shielding

- Category of transmission Cat. 6

- Suitable for solid and stranded wires

- Field-assembly with *HARAX®* quick termination in IDC technology

- Compatible with HIFF dimensions for use in:
  - Han® 3 A series with HIFF adapter   09 45 515 0024
  - HARTING PushPull (V4)
    - Compact bulkhead mounting housing   09 45 545 0028
    - EasyInstall bulkhead mounting housing   09 45 545 0032
  - Han® PushPull (V14)
    - Panel feed-through plastic   09 35 012 0331
    - Panel feed-through metal rectangular   09 35 012 0311
    - Panel feed-through metal circular   09 35 012 0312
  - *har*-port   09 45 452 0000
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission category	Category 6, class E_A, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6 / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly
Cable termination	with IDC-contacts, without tools
Connectable cables	
- Conductor cross section	AWG 27 … AWG 24 (solid/stranded)[1] AWG 24 … AWG 22 (solid/stranded)[2]
- Conductor diameter	max. 1.6 mm (incl. insulation)
- Cable diameter	5 ... 9 mm
Mating cycles	min. 750
Degree of protection	IP20
Temperature range	-40 °C … +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® 10G cable jack, 8-poles			
AWG 28 … 24	09 45 545 1561		
AWG 24 … 22	09 45 545 1562		
HARTING RJ Industrial® PN cable jack, 4-poles, Cat. 5			
AWG 24 … 22	09 45 545 1120		
Unlocking tool for opening of the HARTING RJ Industrial® cable jacks	20 82 000 9916		

[1] For part number 09 45 545 1561
[2] For part number 09 45 545 1562 and 09 45 545 1120

HARTING RJ Industrial® 10G
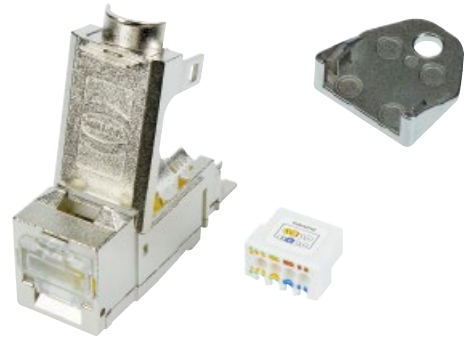
HARTING RJ Industrial® cable jack
(keystone version)

Advantages

- Compact and robust design

- 360° shielding

- Category of transmission Cat. 6$_A$

- Suitable for solid and stranded wires

- Field-assembly with *HARAX*® quick termination in IDC technology

- Keystone form factor – usable for DIN-rail outlet 09 45 851 0000 and a wide range of typical patch panels and wall outlets

- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission category	Category 6$_A$, class E$_A$, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6$_A$ / Class E$_A$ up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly
Cable termination	with IDC-contacts, without tools
Connectable cables	
- Conductor cross section	AWG 27 … AWG 24 (solid/stranded)[1] AWG 24 … AWG 22 (solid/stranded)[2]
- Conductor diameter	max. 1.6 mm (incl. insulation)[1] max. 1.2 mm (incl. insulation)[2]
- Cable diameter	5 ... 9 mm
Mating cycles	min. 750
Degree of protection	IP 20
Temperature range	-40 °C … +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® 10G cable jack, 8-poles			
AWG 28 … 24	09 45 545 1563		
AWG 24 … 22	09 45 545 1564		
HARTING RJ Industrial® PN cable jack, 4-poles, Cat. 5			
AWG 24 … 22	09 45 545 1122		
Unlocking tool for opening of the HARTING RJ Industrial® cable jacks	20 82 000 9916		

Drawing dimensions: 41, 15,6, 21,9, 16,25, 8,2
RJ45 mating face according to IEC 60603-7

[1] For part number 09 45 545 1564
[2] For part number 09 45 545 1563 and 09 45 545 1122

HARTING RJ Industrial® 10G Extender
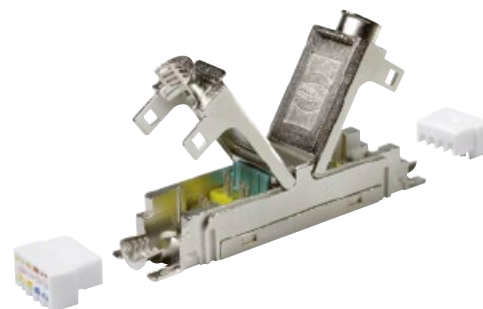
HARTING RJ Industrial® 10G Extender

Advantages

- Simple, fast and reliable connection of data cables

- Compact and robust design

- 360° shielding

- Category of transmission Cat. 6$_A$

- Suitable for solid and stranded wires

- Field assembly without special tools

Application

- Extension of cables for data communication

- Connection of cables with different cross-sections

- Linking of fire compartments

Technical characteristics

|	
Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission category	Category 6$_A$, Class E$_A$, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6$_A$ / Class E$_A$ up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	IDC termination
Connectable cables – Conductor cross section	AWG 23 … AWG 22 (solid and stranded)
– Conductor diameter	1.3 … 1.6 mm
Cable diameter	5 … 9 mm
Degree of protection	IP20
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® 10G Extender	09 45 545 1569	57,4 65,7	13,15 15,6
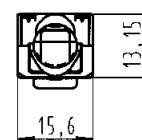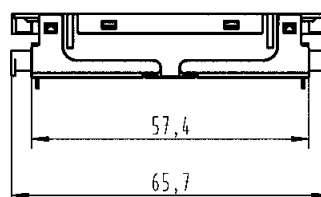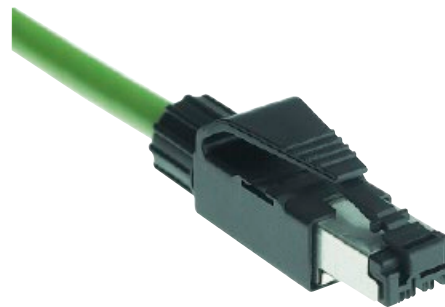
HARTING RJ Industrial®

HARTING RJ Industrial® connector set RJ45, 4-poles

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 reconductable
- PROFINET compatible
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Mounting	field-assembly
Cable termination	with IDC-contacts, without tools
Connectable cables	
- Conductor cross section	AWG 24/7 … AWG 22/7 (stranded) AWG 23/1 … AWG 22/1 (solid) AWG 26/7 (09 45 151 1109)
- Conductor diameter	max. 1.6 mm (09 45 151 1100 / 09 45 151 1108) max. 1.2 mm (09 45 151 1109)
- Cable diameter	6.1 … 6.9 mm
Mating cycles	min. 750
Degree of protection	IP20
Temperature range	-40 °C … +70 °C
Housing material	Polyamide, UL 94-V0
Colour	black
	UL approval (E102079)

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® connector set RJ45, 4-poles		Mating face acc. to IEC 60 603-7	
incl.: housing with shielding, splicing element, cable gland and instruction manual	09 45 151 1100 09 45 151 1108[1]		
like 09 45 151 1100 but for AWG 26	09 45 151 1109		

[1] Packaging with 100 sets

HARTING RJ Industrial®

HARTING RJ Industrial® PN connector set RJ45, 4-poles

Advantages

- RJ45 Ethernet-Data connector suitable for industry
- Field-assembly with *HARAX®* quick termination in IDC technology
- Compact design
- Ergonomically unlocking clip
- Less weight assures shock- and vibration resisting connection
- Category of transmission Cat. 5
- Suitable for solid and stranded wires
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	4
Transmission category	Category 5, class D
Transmission performance	Category 5 / Class D up to 100 MHz acc. 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
Cable termination	with IDC-contacts, without tools
Connectable cables	
- Conductor cross section	AWG 27 … AWG 22 (solid / stranded)
- Conductor diameter	max. 1.6 mm (incl. insulation)
- Cable diameter	4.5 ... 9 mm (straight version) 4.5 up to 8 mm (45° angled version)
Mating cycles	min. 750
Degree of protection	IP20
Temperature range	-40 °C … +70 °C
Housing material	Polyamide, UL 94-V0
Colour	black

Identification	Part number
HARTING RJ Industrial® PN connector set RJ45, 4-poles	
straight version	09 45 151 1120
45° angled version (four different cable outlets possible)	09 45 151 1121

Drawing — Dimensions in mm

Identification	Colour	Part number
Colour clips for colour coding the HARTING RJ Industrial® PN connector	White	09 45 850 0001
	Grey	09 45 850 0002
If required the colour clips can be equipped with an RFID-chip for automatic patch cable-ID recognition and storage.	Yellow	09 45 850 0003
	Magenta	09 45 850 0005
	Red	09 45 850 0007
	Blue	09 45 850 0008
	Green	09 45 850 0009
	Brown	09 45 850 0010

HARTING RJ Industrial®

HARTING RJ Industrial® EtherRail® RJ45 connector set, 4-poles

Advantages

- RJ45 Ethernet-Data connector suitable for industry
- Field-assembly with *HARAX*® quick termination in IDC technology
- Compact design
- Ergonomically unlocking clip
- Less weight assures shock- and vibration resisting connection
- Category of transmission Cat. 5
- Suitable for solid and stranded wires
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)
- Optimized version for Ha-VIS EtherRail® Ethernet cable, Shielded Star Quad Cable, AWG 22/19 ultra-flexible, according Cat. 5 cabling standard (ISO/IEC 11 801), part numbers 09 45 600 0188, 09 45 600 0138, 09 45 600 0148 and 09 45 600 0158
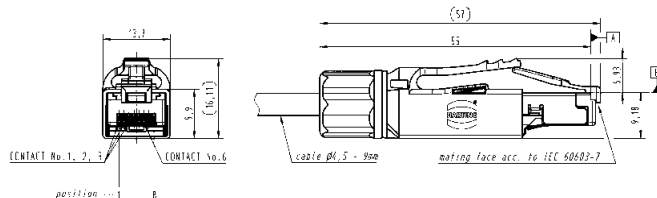
Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	4
Transmission category	Category 5, class D
Transmission performance	Category 5 / Class D up to 100 MHz acc. 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
Cable termination	with IDC-contacts, without tools
Connectable cables	
- Conductor cross section	AWG 27 … AWG 22 (solid / stranded)
- Conductor diameter	max. 2 mm (incl. insulation)
- Cable diameter	4.5 ... 9 mm
Mating cycles	min. 750
Degree of protection	IP20
Temperature range	-40 °C … +70 °C
Housing material	Polyamide, UL 94-V0
Colour	black

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® EtherRail® RJ45 connector set, 4-poles			
straight version	09 45 151 1122		

Identification	Colour	Part number
Colour clips for colour coding the HARTING RJ Industrial® EtherRail® RJ45 connector	White	09 45 850 0001
	Grey	09 45 850 0002
	Yellow	09 45 850 0003
If required the colour clips can be equipped with an RFID-chip for automatic patch cable-ID recognition and storage.	Magenta	09 45 850 0005
	Red	09 45 850 0007
	Blue	09 45 850 0008
	Green	09 45 850 0009
	Brown	09 45 850 0010

HARTING RJ Industrial® PN Compact

HARTING RJ Industrial® PN Compact connector set, 4-poles

Advantages

- RJ45 Ethernet-Data connector suitable for industry

- Field-assembly with piercing contacts

- Compact design

- Less weight assures shock- and vibration resisting connection

- Category of transmission Cat. 5

- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	4
Transmission performance	Category 5 / Class D up to 100 MHz acc. 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
Cable termination	with piercing contacts
Connectable cables	
- Conductor cross section	AWG 24/7 … AWG 22/7 (stranded)
- Conductor diameter	max. 1.6 mm (incl. insulation)
- Cable diameter	4.5 ... 7.5 mm
Mating cycles	min. 750
Degree of protection	IP20
Temperature range	-40 °C … +70 °C
Housing material	PA, UL 94-V0
Colour	green
🅄🅛	UL approval (E102079)

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® PN Compact connector set, 4-poles			
Compact version	09 45 151 1130[1]		
Assembly tool	09 45 800 0530		
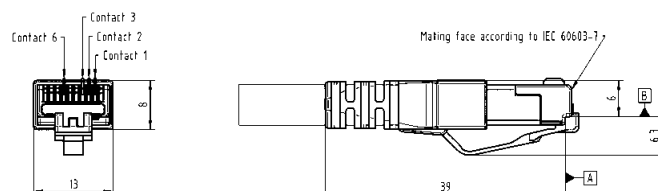
[1] Packaging with 100 sets

HARTING RJ Industrial® Gigalink, 8-poles

HARTING RJ Industrial® connector set RJ45, 8-poles

Advantages

- RJ45 Ethernet-Data connector suitable for industry
- Field-assembly with piercing contacts
- Compact design
- Ergonomically unlocking clip
- Less weight assures shock- and vibration resisting connection
- Category of transmission Cat. 6_A
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission performance	Category 6_A / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly
Cable termination	with piercing contacts
Connectable cables	
- Conductor cross section	AWG 28/7 … AWG 24/7 (stranded)
- Conductor diameter	max. 1.05 mm (incl. insulation)
- Cable diameter	6.1 ... 6.9 mm
Mating cycles	min. 750
Degree of protection	IP20
Temperature range	-40 °C … +70 °C
Housing material	Polycarbonate, UL 94-V0
Colour	black
®L	UL approval (E102079)

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® connector set RJ45, 8-poles		Mating face acc. to IEC 60603-7	
incl.: housing with shielding, cable gland and instruction manual	09 45 151 1520 09 45 151 1520 XL[1]	Contact No. 8 Contact No. 1	
Assembly tool for 09 45 151 1520	09 45 800 0520		
Compact version	09 45 151 1525[1]	Mating face acc. to IEC 60603-7 Contact No. 8 Contact No. 1	
Assembly tool for 09 45 151 1525	09 45 800 0025		

[1] Packaging with 100 sets

HARTING RJ Industrial® 10G

HARTING RJ Industrial® 10G connector set RJ45, 8-poles

Advantages

- RJ45 Ethernet-Data connector suitable for industry
- Field-assembly with *HARAX®* quick termination in IDC technology
- Compact design
- Ergonomically unlocking clip
- Less weight assures shock- and vibration resisting connection
- Category of transmission Cat. 6
- Suitable for solid and stranded wires
- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

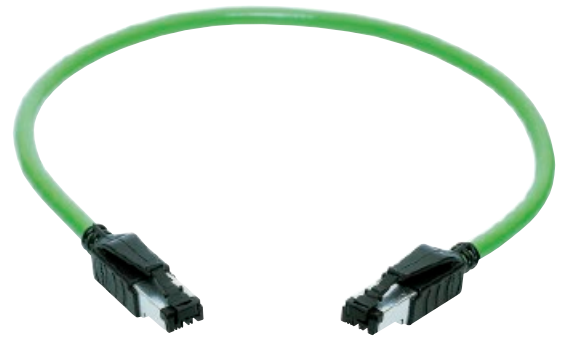## Technical characteristics

Connector type	RJ45 connector acc. to IEC 60603-7
Number of contacts	8
Transmission category	Category 6, class E_A, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6 / Class E_A up to 500 MHz acc. to ISO/IEC 11801:2002, EN 50173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	Field-assembly
Cable termination	with IDC-contacts, without tools
Connectable cables	
- Conductor cross section	AWG 27 … AWG 22 (solid / stranded)
- Conductor diameter	max. 1.6 mm (incl. insulation)
- Cable diameter	4.5 ... 9 mm (straight version) 4.5 up to 8 mm (45° angled version)
Mating cycles	min. 750
Degree of protection	IP20
Temperature range	-40 °C … +70 °C
Housing material	Polyamide, UL 94-V0
Colour	black

Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® 10G connector set RJ45, 8-poles			
straight version	09 45 151 1560 09 45 151 1560 XL[1]		
45° angled version (four different cable outlets possible)	09 45 151 1561		

Identification	Colour	Part number
Colour clips for colour coding the HARTING RJ Industrial® 10G connector	White	09 45 850 0001
	Grey	09 45 850 0002
	Yellow	09 45 850 0003
If required the colour clips can be equipped with an RFID-chip for automatic patch cable-ID recognition and storage.	Magenta	09 45 850 0005
	Red	09 45 850 0007
	Blue	09 45 850 0008
	Green	09 45 850 0009
	Brown	09 45 850 0010

[1] Packaging with 100 sets

HARTING RJ Industrial® – Tools

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	
Stripping tool	09 45 800 0002	
HARTING RJ Industrial® **Gigalink Mounting tools** for HARTING RJ Industrial® Gigalink connectors	09 45 800 0520	
for HARTING RJ Industrial® Gigalink Cat. 6$_A$ compact connectors	09 45 800 0025	 With the RJ Industrial Gigalink Assembly Tool Ethernet connectors can be quickly, easily and reliably connected to flexible cables.
Wire cutter	09 45 800 0005	
Cable shear	09 45 800 0004	

HARTING RJ Industrial® system cable
RJ45, 4-wire, IP20

RJ45 patch cords for switch cabinet or PLC

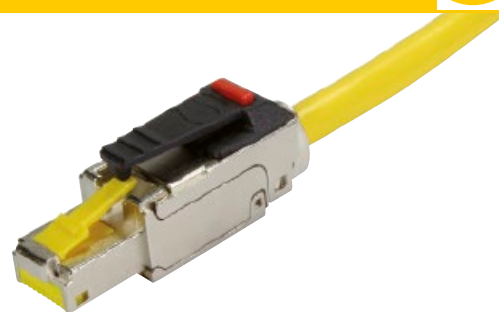| Description	Part number		Technical characteristics
	Standard	Multiport	

For the cabling of Industrial Ethernet networks (for example in accordance with the PROFINET guideline), based on RJ45 connectors.
 	
Wiring:
Contacts RJ45 1/2 and 3/6
			Transmission properties in accordance with ISO/IEC 11 801:2002: Class D
			Mating face: 2 x RJ45 in acc. with IEC 60 603-7
			Protection level: IP20 (if mated)
			Temperature range -40 °C … +70 °C
			
			Electrical characteristics at 20 °C
			Contact resistance: ≤ 20 mΩ
			Insulation resistance: ≥ 500 MΩ
			Dielectric withstanding voltage:
			  contact - contact 1 kV
			  contact - ground 1.5 kV
			
			Electrical characteristics after damp heat cycles
			Contact resistance: ≤ 20 mΩ
			Insulation resistance: ≥ 100 MΩ
			Dielectric withstanding voltage:
			  contact - contact 1 kV
			  contact - ground 1.5 kV

HARTING RJ Industrial® 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 45 771 0023 09 45 771 0025 09 45 771 0027 09 45 771 0051 09 45 771 0053	 09 47 343 4006 09 47 343 4009 09 47 343 4012 09 47 343 4018 09 47 343 4020	Cable type: Industrial Ethernet Standard Cable, 2 x 2 x AWG 22/1, double shielding (PROFINET Typ A) Sheath: PVC green, Ø 6.5 mm Connectors: 2 x HARTING RJ Industrial® IP20 Data with overmolded housings
HARTING RJ Industrial® 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 45 771 1123 09 45 771 1125 09 45 771 1127 09 45 771 1151 09 45 771 1153	 09 47 343 4034 09 47 343 4037 09 47 343 4040 09 47 343 4046 09 47 343 4048	Cable type: Industrial Ethernet Stranded Cable, 2 x 2 x AWG 22/7, double shielding (PROFINET Typ B) Sheath: PVC green, Ø 6.5 mm Connectors: 2 x HARTING RJ Industrial® IP20 Data with overmolded housings
HARTING RJ Industrial® 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 45 771 1164 09 45 771 1166 09 45 771 1168 09 45 771 1173 09 45 771 1175	 09 47 343 4090 09 47 343 4093 09 47 343 4096 09 47 343 4102 09 47 343 4104	Cable type: Industrial Ethernet Trailing Cable, 2 x 2 x AWG 22/7, double shielding (PROFINET Typ C) Sheath: PUR green, Ø 6.5 mm Connectors: 2 x HARTING RJ Industrial® IP20 Data with overmolded housings

Further system cables see HARTING-catalogue "Intelligent Network Solutions"

HARTING RJ Industrial® – System cables

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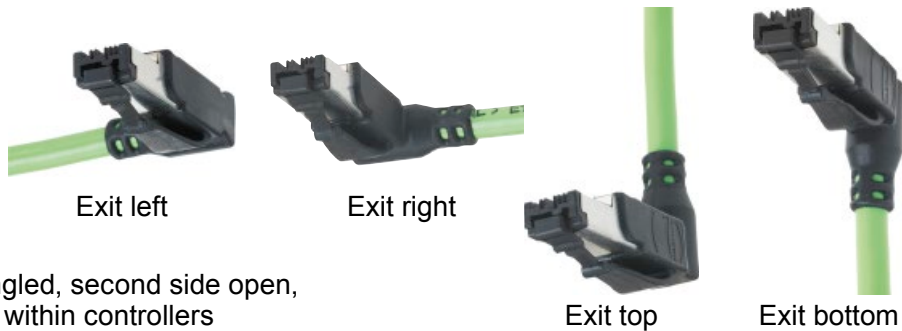
HARTING RJ Industrial®
system cable RJ45
angled, 4-wire, IP20

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

Exit left

Exit right

Exit top

Exit bottom

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	Length 0.5 m	09 47 050 0001	09 47 060 0001	09 47 030 0001	09 47 040 0001
Cable type A, green 2 x 2 x AWG 22/1	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	Length 0.5 m	09 47 050 0023	09 47 060 0023	09 47 030 0023	09 47 040 0023
Cable type B, green 2 x 2 x AWG 22/7	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	Length 0.5 m	09 47 050 0045	09 47 060 0045	09 47 030 0045	09 47 040 0045
Cable type C, green 2 x 2 x AWG 22/7	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	Length 0.5 m	09 47 050 0067	09 47 060 0067	09 47 030 0067	09 47 040 0067
Outdoor cable, black 2 x 2 x AWG 22/7	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

Further system cables see HARTING-catalogue "Intelligent Network Solutions"

**PROFI®
INDUSTRIAL ETHERNET
NET**

Ha-VIS preLink® RJ45 connector

Advantages

- RJ45 Ethernet-Data connector suitable for industry

- Compact and robust design

- 360° shielding

- Ergonomically unlocking clip

- Category of transmission Cat. 6$_A$

- Suitable for solid and stranded wires

- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission category	Category 6$_A$, Class E$_A$, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6$_A$ / Class E$_A$ up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	IDC termination

Cable termination for preLink® terminal module, yellow, 20 82 000 0001
Connectable cables
  – Conductor cross section AWG 23 … AWG 22 (solid and stranded)
  – Conductor diameter 1.3 … 1.6 mm

Cable termination for preLink® terminal module, white, 20 82 000 0003
Connectable cables
  – Conductor cross section AWG 27 … AWG 26 (solid and stranded)
  – Conductor diameter 0.8 … 1.1 mm

Cable diameter	5 … 9 mm
Degree of protection	IP20
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® RJ45 connector	20 82 101 0010		
Ha-VIS preLink® RJ45 terminal module			
AWG 22/23, yellow[1]	20 82 000 0001		
AWG 26/27, white[1]	20 82 000 0003		
Ha-VIS preLink® assembly tool	20 82 000 9901		

Identification	Colour	Part number
Colour clips for colour coding the Ha-VIS preLink® connectors	White	09 45 850 0001
	Grey	09 45 850 0002
	Yellow	09 45 850 0003
	Magenta	09 45 850 0005
	Red	09 45 850 0007
	Blue	09 45 850 0008
	Green	09 45 850 0009
	Brown	09 45 850 0010

[1] Packaging with 10 pieces

HARTING Ethernet cabling Ha-VIS preLink®

PROFI NET®
INDUSTRIAL ETHERNET

Ha-VIS preLink® RJ45 jacks (HIFF)

Advantages

- Compact and robust design

- Category of transmission Cat. 6

- Suitable for solid and stranded wires

- Compatible with HIFF dimensions for use in:

  – Han® 3 A series with HIFF adapter   09 45 515 0024

  – HARTING PushPull (V4)
    Compact bulkhead mounting housing   09 45 545 0028
    EasyInstall bulkhead mounting housing   09 45 545 0032

  – Han® PushPull (V14)
    Panel feed-through plastic   09 35 012 0331
    Panel feed-through metal rectangular   09 35 012 0311
    Panel feed-through metal circular   09 35 012 0312

  – *har*-port   09 45 452 0000

- Suitable for PoE (IEEE 802.3af)
  and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission category	Category 6_A, Class E_A, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6_A / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	IDC termination
Cable termination for preLink® terminal module, yellow, 20 82 000 0001 Connectable cables	
– Conductor cross section	AWG 23 … AWG 22 (solid and stranded)
– Conductor diameter	1.3 … 1.6 mm
Cable termination for preLink® terminal module, white, 20 82 000 0003 Connectable cables	
– Conductor cross section	AWG 27 … AWG 26 (solid and stranded)
– Conductor diameter	0.8 … 1.1 mm
Cable diameter	5 … 9 mm
Degree of protection	IP20
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® set RJ45 jack consists of: • 1x RJ45 module • 1x terminal module • 1x cable tie			
AWG 22/23	20 82 001 0001		
AWG 26/27	20 82 001 0002		
Ha-VIS preLink® RJ45 jack module	20 82 000 0002		
Ha-VIS preLink® RJ45 terminal module			
AWG 22/23, yellow[1]	20 82 000 0001		
AWG 26/27, white[1]	20 82 000 0003		
Ha-VIS preLink® protection cover	20 82 000 9915		
Ha-VIS preLink® unlocking tool	20 82 000 9916		
Ha-VIS preLink® assembly tool	20 82 000 9901		

Drawing dimensions: 36,9 / 41 / 13,15 / 15,6

[1] Packaging with 10 pieces

Ha-VIS preLink®
19" Patch panel, HIFF

Advantages

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

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

- Safety, additional strain-relief

- Fully shielded modules connected by module carrier

- Earth bolt

- IP20 installation for distributors and switch cabinets

Technical characteristics

Number of modules	24
Transmission performance	Category 6 / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Assembly	in 19" racks acc. to IEC/DIN EN 60 297-3-100 (DIN 41 494-1)
Dimensions (W x H x D)	482.6 mm (19") x 44.5 mm (1 U) x 181 mm
Degree of protection	IP20
Operating temperature range	-40 °C … +70 °C
Material module carrier, 2-parts front cover	steel sheet stainless steel

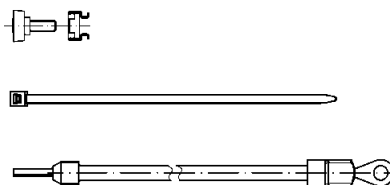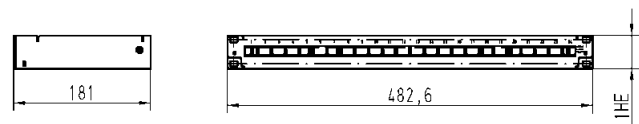| Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® 19" patch panel, unloaded Suitable modules: • Ha-VIS preLink® RJ45 jack, HIFF • mixed loading possible Range of delivery:: • Screw set M5 • 24 cable ties • 1x earth conductor 6 mm²	20 82 400 0001		

Ha-VIS preLink®
HIFF RJ45 AP Box

Advantages

- Flexible, suitable for on-wall mounting or for top-hat mounting rail (35 mm)

- Economical, time-saving installation due to the use of pre-assembled data cables with Ha-VIS preLink® termination

- Robust design, powder-coated steel plate housing

- Structured cabling for industrial premises

Technical characteristics

Number of ports, Copper / Termination	2 / RJ45 jack HIFF
Transmission performance	Category 6 / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Cable diameter	5 mm ... 9 mm
Mounting	on-wall or DIN Rail
Dimensions (WxHxD)	60 x 81 x 70 mm
Degree of protection	IP20
Operating temperature	-40 °C … +70 °C
Housing material	steel plate
Colour	Anthracite grey (RAL 7016)

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® HIFF RJ45 AP Box RJ45 wall-mounted box consisting of: • 1x steel-plate housing, 2-parts • 2x Ha-VIS preLink® Set, RJ45 jack HIFF, AWG 22/23 • 2x grommet with membrane • 1x assembly instruction	20 82 101 0220		
Accessory DIN Rail mounting bracket	20 80 000 0003		

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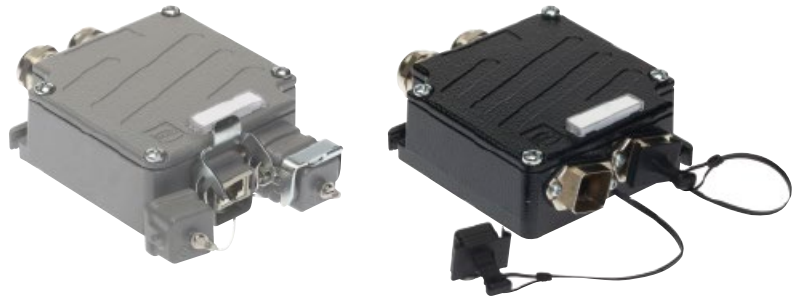
Ha-VIS preLink®
Han® PushPull Metal Outlet
and Han® 3 A Metal Outlet

Advantages

- Simple mounting, fixing and earth connection both outside

- Fast termination of data cables due to Ha-VIS preLink® technology

- Structured cabling for industrial premises

- Mating face AIDA compliant, protection cover incl.

- PROFINET compatible

Technical characteristics

Number of ports, Copper / Termination	2 x Han® PushPull RJ45 (IP65 / IP67) or Han® 3 A RJ45
Transmission performance	Category 6 / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Termination	Ha-VIS preLink®
Wire gauge	AWG 24 ... 22 (0.25 mm² ... 0.34 mm²) solid and stranded
Strand diameter	Ø 1.3 mm ... 1.6 mm
Cable diameter	7.2 mm ... 8 mm
Shielding	Fully shielded 360° flexible shielding termination
Mounting	Wall mounting
Dimensions (H x W x D)	105 x 105 x 40.5 mm
Degree of protection	IP65 / IP67
Operating temperature range	-40 °C … +70 °C
Housing material	Aluminium, die-cast
Colour	Black

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® Han® PushPull Metal Outlet consists of: • 1x Housing including protection covers • 2x Ha-VIS preLink® Set RJ45 jack AWG 22/23 • 2x Cable gland with slotted seal • 1x Assembly instruction	20 82 104 0101		
Ha-VIS preLink® Han® 3 A Metal Outlet consists of: • 1x Housing including protection covers • 2x Ha-VIS preLink® Set RJ45 jack AWG 22/23 • 2x Cable gland with slotted seal • 1x Assembly instruction	20 82 102 0101		

PROFI NET ® INDUSTRIAL ETHERNET

Ha-VIS preLink® RJ45 jack (keystone version)

Advantages

- RJ45 Ethernet-Data jack suitable for industry

- Compact and robust design

- 360° shielding

- Ergonomically unlocking clip

- Category of transmission Cat. 6$_A$

- Suitable for solid and stranded wires

- Compatible with keystone panel cut out acc. to IEC 60 603-7

- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission category	Category 6$_A$, Class E$_A$, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6$_A$ / Class E$_A$ up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	IDC termination
Cable termination for preLink® terminal module, yellow, 20 82 000 0001 Connectable cables	
– Conductor cross section	AWG 23 … AWG 22 (solid and stranded)
– Conductor diameter	1.3 … 1.6 mm
Cable termination for preLink® terminal module, white, 20 82 000 0003 Connectable cables	
– Conductor cross section	AWG 27 … AWG 26 (solid and stranded)
– Conductor diameter	0.8 … 1.1 mm
Cable diameter	5 … 9 mm
Degree of protection	IP20
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® set RJ45 keystone jack consists of: • 1x RJ45 module • 1x terminal module • 1x cable tie AWG 22/23	20 82 501 0001		
Ha-VIS preLink® RJ45 keystone jack module	20 82 500 0001		
Ha-VIS preLink® RJ45 angled keystone jack module	20 82 500 0002[2]		
Ha-VIS preLink® RJ45 terminal module AWG 22/23, yellow[1]	20 82 000 0001		
AWG 26/27, white[1]	20 82 000 0003		
Ha-VIS preLink® protection cover	20 82 000 9915		
Ha-VIS preLink® unlocking tool	20 82 000 9916		
Ha-VIS preLink® assembly tool	20 82 000 9901		

Drawing dimensions: 41, 15,6, 21,9, 16,25, 8,2
RJ45 mating face according to IEC 60603-7
Contacts 1 2 3 4 5 6 7 8

[1] Packaging with 10 pieces
[2] Packaging with 24 pieces

Ha-VIS preLink®
19" Patch panel, keystone

Advantages

- Suitable for Ha-VIS preLink® RJ45 module in keystone size

  - Economic due to easy design

  - Safety, additional strain-relief

  - Fully shielded modules connected through metal holding fixture
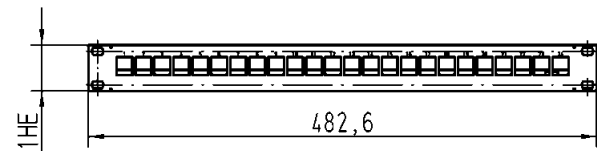
  - Earth bolt

Technical characteristics

Number of modules	24
Transmission performance	Category 6 / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Module design	Keystone size acc. to EN 60 603-7:2009
Assembly	in 19" racks acc. to IEC/DIN EN 60 297-3-100 (DIN 41 494-1)
Dimensions (W x H x D)	482.6 mm (19") x 44.5 mm (1 U) x 107 mm
Degree of protection	IP20
Operating temperature range	-40 °C … +70 °C
Material	steel sheet

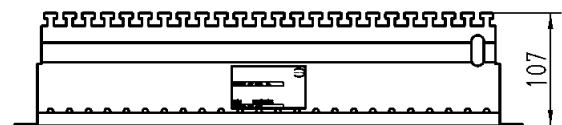| Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® 19" patch panel, keystone	20 82 405 0001		
Range of delivery: 24 pieces of: • Ha-VIS preLink® RJ45 keystone jack • terminal modules for AWG 22 / 23 • strain relief			
Ha-VIS preLink® 19" patch panel, keystone empty	20 82 400 0002		

1HE

482,6

107

HARTING Ethernet cabling Ha-VIS preLink®

HARTING Cabinet Outlet RJ45, 8-poles

RJ45 distribution module for IP20 environments
(top-hat rail mounting)

Advantages

- Simple mountng

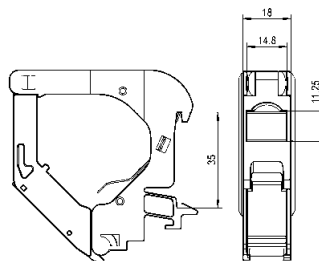- Dust protection caps

- Port identification

- Angled output

Technical characteristics

Number of ports, Copper / Termination	1 / RJ45 (Twisted Pair)
Transmission performance	Category 6_A / Class E_A up to 250 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Mounting	To 35 mm top-hat mounting rail acc. to DIN EN 60 715, alignable
Dimensions (H x W x D)	71 x 18 x 68 mm
Degree of protection	IP20
Operating temperature range	–20 °C … +70 °C
Housing material	Polyamide, UL94 V-0
Colour	Grey

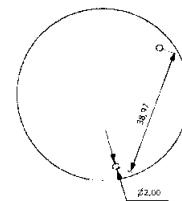| Identification	Part number	Drawing	Dimensions in mm
HARTING RJ Industrial® Cabinet Outlet RJ45	09 45 851 0000		
Protection cover set for 09 45 851 0000	09 45 851 0001		
Usable RJ45 cable jacks			
• Ha-VIS preLink® keystone set AWG 22/23 (with Ha-VIS preLink® terminal block)	20 82 501 0001		
• Ha-VIS preLink® keystone set (without Ha-VIS preLink® terminal block)	20 82 500 0001		
Usable with Ha-VIS preLink® terminal blocks			
• Ha-VIS preLink® terminal block AWG 22/23 (24)	20 82 000 0001		
• Ha-VIS preLink® terminal block AWG 26/27	20 82 500 0003		
Usable RJ45 cable jacks			
• RJ45 keystone module IDC AWG 24 – AWG 22	09 45 545 1564		
• RJ45 keystone module IDC AWG 27 – AWG 26	09 45 545 1563		

HARTING Ethernet cabling Ha-VIS preLink®

Ha-VIS preLink® Patch cables

Advantages

- Pre-assembled system cable, fast, flexible and reliable in the application

- Simple in handling

- Robust in design

- Installation of Ha-VIS preLink® cables for industrial environment

- Connection cable for control or distributor cabinets or within controllers

Technical characteristics

Cable types	4 x 2 AWG 27/7, shielded, S/FTP Cat. 7
Sheath material	PUR
Wiring	TIA/EIA 568B, 1:1
Transmission performance	Category 6 / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	up to 10 Gbit/s
Shielding	Copper braid, tinned
Operating temperature range fixed operation flexible operation	-35 °C … +70 °C -5 °C ... +50 °C
Standard lengths	0.6 m / 1 m / 2 m / 3 m / 5 m / 10 m other lengths available on request
Colour	Yellow

Identification			Part number	Drawing	Dimensions in mm
Ha-VIS preLink® Patch cable			Yellow		
terminal module to one side, secured by protection cap (I)	Length	0.2 m	20 82 600 1002		
		0.4 m	20 82 600 1004		
		0.6 m	**20 82 600 1006**		
		0.8 m	20 82 600 1008		
		1.0 m	**20 82 600 1010**		
		2.0 m	**20 82 600 1020**		
		3.0 m	**20 82 600 1030**		
		4.0 m	20 82 600 1040		
		5.0 m	**20 82 600 1050**		
		10.0 m	**20 82 600 1100**		
terminal module to both sides, secured by protection cap (II)	Length	0.2 m	20 82 600 2002		
		0.4 m	20 82 600 2004		
		0.6 m	**20 82 600 2006**		
		0.8 m	20 82 600 2008		
		1.0 m	**20 82 600 2010**		
		2.0 m	**20 82 600 2020**		
		3.0 m	**20 82 600 2030**		
		4.0 m	20 82 600 2040		
		5.0 m	**20 82 600 2050**		
		10.0 m	**20 82 600 2100**		
Side 1 with terminal module, secured by protection cap Side 2 RJ45 overmoulded, with locking lever protection (III)	Length	0.2 m	20 82 601 1002		
		0.4 m	20 82 601 1004		
		0.6 m	**20 82 601 1006**		
		0.8 m	20 82 601 1008		
		1.0 m	**20 82 601 1010**		
		2.0 m	**20 82 601 1020**		
		3.0 m	**20 82 601 1030**		
		4.0 m	20 82 601 1040		
		5.0 m	**20 82 601 1050**		
		10.0 m	**20 82 601 1100**		

HARTING Ethernet cabling Ha-VIS preLink®

Ha-VIS preLink® Extender

Advantages

- Simple, fast and reliable connection of data cables

- Compact and robust design

- 360° shielding

- Category of transmission Cat. 6$_A$
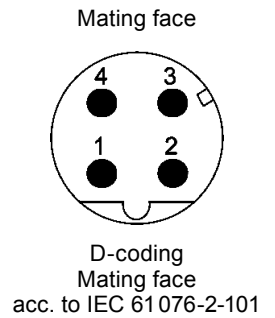
- Suitable for solid and stranded wires

Application

- Extension of cables for data communication

- Connection of cables with different cross-sections

- Linking of fire compartments

Technical characteristics

Connector type	RJ45 connector acc. to IEC 60 603-7
Number of contacts	8
Transmission category	Category 6$_A$, Class E$_A$, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6$_A$ / Class E$_A$ up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	IDC termination
Cable termination for preLink® terminal module, yellow, 20 82 000 0001 Connectable cables	
– Conductor cross section	AWG 23 … AWG 22 (solid and stranded)
– Conductor diameter	1.3 … 1.6 mm
Cable termination for preLink® terminal module, white, 20 82 000 0003 Connectable cables	
– Conductor cross section	AWG 27 … AWG 26 (solid and stranded)
– Conductor diameter	0.8 … 1.1 mm
Cable diameter	5 … 9 mm
Degree of protection	IP20
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
Ha-VIS preLink® Extender	20 82 101 0001		
Ha-VIS preLink® RJ45 terminal module		57,4 / 65,7	13,15 / 15,6
AWG 22/23, yellow[1]	20 82 000 0001		
AWG 26/27, white[1]	20 82 000 0003		
Ha-VIS preLink® assembly tool	20 82 000 9901		

[1] Packaging with 10 pieces

PROFI NET INDUSTRIAL ETHERNET

Mating face

Ha-VIS preLink® M12 connector
D-coding

D-coding
Mating face
acc. to IEC 61 076-2-101
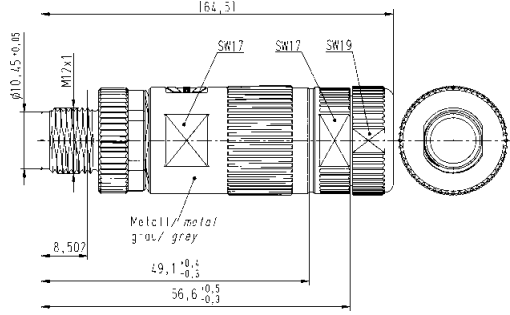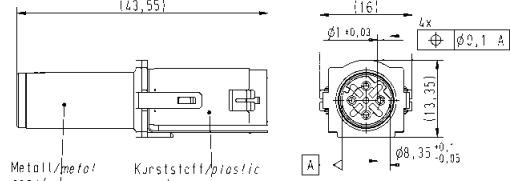
Advantages

- M12 Ethernet-Data connector suitable for industry

- Robust design

- 360° shielding

- Suitable for solid and stranded wires

- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)
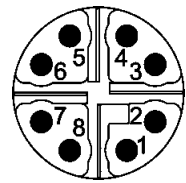
Technical characteristics

Connector type	M12 D-coding acc. to IEC 61 076-2-101
Number of contacts	4
Transmission category	Category 5, Class D, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 5 / Class D up to 200 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	IDC termination

Cable termination for preLink® terminal module, yellow, 20 82 000 0001
Connectable cables
   – Conductor cross section   AWG 23 … AWG 22 (solid and stranded)
   – Conductor diameter   1.3 … 1.6 mm

Cable termination for preLink® terminal module, white, 20 82 000 0003
Connectable cables
   – Conductor cross section   AWG 27 … AWG 26 (solid and stranded)
   – Conductor diameter   0.8 … 1.1 mm

Cable diameter	5 … 9 mm
Degree of protection	IP65 / IP67
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
preLink® M12 housing	20 82 000 1210		
preLink® M12 male module Male 4 poles, D-coding	20 82 005 1214		
preLink® M12 connector set D-coding	20 82 005 0001		
Ha-VIS preLink® RJ45 terminal module AWG 22/23, yellow[1]	20 82 000 0001		
AWG 26/27, white[1]	20 82 000 0003		
Ha-VIS preLink® assembly tool	20 82 000 9901		

[1] Packaging with 10 pieces

HARTING Ethernet cabling Ha-VIS preLink®

PROFI NET ® INDUSTRIAL ETHERNET

Mating face

X-coding
Mating face
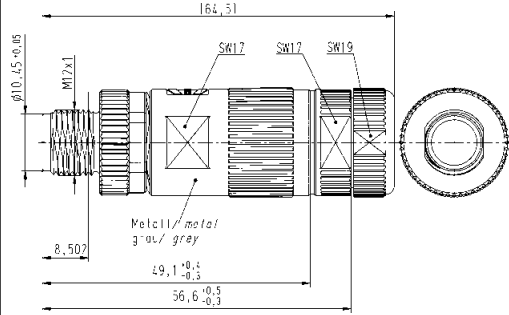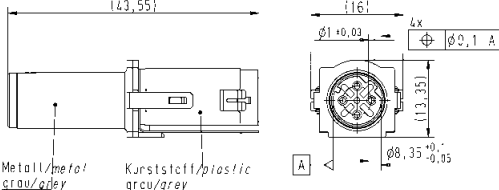acc. to IEC 61 076-2-101

Ha-VIS preLink® M12 connector X-coding

Advantages

- M12 Ethernet-Data connector suitable for industry

- Robust design

- 360° shielding

- Category of transmission Cat. 6_A

- Suitable for solid and stranded wires

- Suitable for PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at)

Technical characteristics

Connector type	M12 X-coding acc. to IEC 61 076-2-101
Number of contacts	8
Transmission category	Category 6_A, Class E_A, suitable for 1/10 Gigabit Ethernet
Transmission performance	Category 6_A / Class E_A up to 500 MHz acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	fully shielded, 360° shielding contact
Mounting	IDC termination
Cable termination for preLink® terminal module, yellow, 20 82 000 0001	
Connectable cables	
– Conductor cross section	AWG 23 … AWG 22 (solid and stranded)
– Conductor diameter	1.3 … 1.6 mm
Cable termination for preLink® terminal module, white, 20 82 000 0003	
Connectable cables	
– Conductor cross section	AWG 27 … AWG 26 (solid and stranded)
– Conductor diameter	0.8 … 1.1 mm
Cable diameter	5 … 9 mm
Degree of protection	IP65 / IP67
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Zinc die-cast, nickel-plated

Identification	Part number	Drawing	Dimensions in mm
preLink® M12 housing	20 82 000 1210		
preLink® M12 male module Male 8 poles, X-coding	20 82 006 1218		
preLink® M12 connector set X-coding	20 82 005 0002		
Ha-VIS preLink® RJ45 terminal module AWG 22/23, yellow[1]	20 82 000 0001		
AWG 26/27, white[1]	20 82 000 0003		
Ha-VIS preLink® assembly tool	20 82 000 9901		

[1] Packaging with 10 pieces

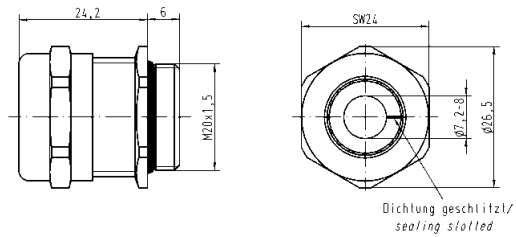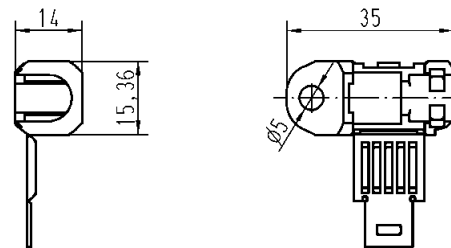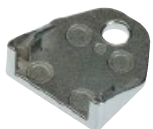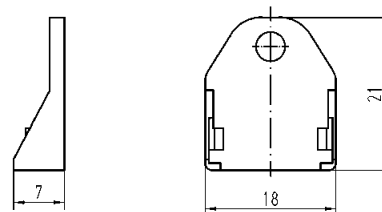| Identification	Part number	
Cable gland M20x1.5 for pre-terminated Ha-VIS preLink® cable assemblies with slotted seal Cable-sheath 7.2 mm ... 8.0 mm Cable-sheath 4.0 mm ... 6.5 mm	 19 00 000 5020 19 00 000 5079	
Protection cover for pre-terminated Ha-VIS preLink® cable assemblies Set of 10 pieces	20 82 000 9915	
Unlocking tool for Ha-VIS preLink® RJ45 module Set of 5 pieces	20 82 000 9916	
HARTING Assembly tool for Ha-VIS preLink® terminal module	20 82 000 9901	

har-port coupler

HARTING
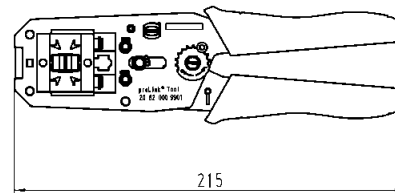
har-port USB coupler

Advantages

- Compact and well-shaped service interface in a timeless attractive design
- Easy mounting
- Compact and robust design
- Practical accessories

Technical characteristics

Mounting	Screwable in cover plates (thread M22 x 1)
Degree of protection	IP20
Mating cycles	min. 1500
Temperature range	-25 °C ... +70 °C
Housing material	Polyamide

Identification	Part number		Drawing	Dimensions in mm
	silver	black		
har-port USB 2.0 coupler				
Type A jack – Type A jack	09 45 452 1901	09 45 452 1903		
har-port USB 3.0 coupler				
Type A jack – Type A jack	09 45 452 1902	09 45 452 1904		
har-port USB 2.0 coupler with cable				
Type A jack – Type A connector				
Length: 0.5 m	09 45 452 1920	09 45 452 1960		
1.0 m	09 45 452 1921	09 45 452 1961		
1.5 m	09 45 452 1922	09 45 452 1962		
2.0 m	09 45 452 1923	09 45 452 1963		
3.0 m	09 45 452 1924	09 45 452 1964		
5.0 m	09 45 452 1925	09 45 452 1965		
Type B jack – Type B connector				
Length: 0.5 m	09 45 452 1910			
1.0 m	09 45 452 1911			
1.5 m	09 45 452 1912			
2.0 m	09 45 452 1913			
3.0 m	09 45 452 1914			
5.0 m	09 45 452 1915			

har-port coupler

har-port USB coupler

Identification	Part number		Drawing	Dimensions in mm
	silver	black		
har-port USB 2.0 coupler				
2 x Type A jack – Type A connector				
Length: 0.5 m	09 45 452 1950			
1.0 m	09 45 452 1951			
1.5 m	09 45 452 1952			
2.0 m	09 45 452 1953			
3.0 m	09 45 452 1954			
5.0 m	09 45 452 1955			
har-port USB 3.0 coupler				
Type A jack – Type A connector				
Length: 0.5 m	09 45 452 1930	09 45 452 1970		
1.0 m	09 45 452 1931	09 45 452 1971		
1.5 m	09 45 452 1932	09 45 452 1972		
2.0 m	09 45 452 1933	09 45 452 1973		
3.0 m	09 45 452 1934	09 45 452 1974		
5.0 m	09 45 452 1935	09 45 452 1975		
har-port USB 2.0 coupler				
Type Mini-B jack – Type A connector				
Length: 0.5 m	09 45 452 1940			

har-port coupler

har-port RJ45 coupler

Advantages

- Compact and well-shaped service interface in a timeless attractive design
- Easy mounting
- Transmission category 6, performance class E_A, suitable for 1/10 Gigabit Ethernet
- Compact and robust design
- Practical accessories

Technical characteristics

Number of ports	2x RJ45
Transmission performance	Category 6 / class E_A acc. to ISO/IEC 11 801:2002, EN 50 173-1
Transmission rate	10/100 Mbit/s and 1/10 Gbit/s
Shielding	Fully shielded, 360° shielding contact
Mounting	Screwable in cover plates
Degree of protection	IP20
Mating cycles	min. 750
Temperature range	-25 °C ... +70 °C
Housing material	Polyamide

Identification	Part number		Drawing	Dimensions in mm
	silver	black		
har-port RJ45 Cat. 6 coupler	09 45 452 1560	09 45 452 1561		
har-port RJ45 Cat. 6 coupler with cable				
Length: 0.15 m	09 45 452 1500	09 45 452 1530		
0.2 m	09 45 452 1501	09 45 452 1531		
0.3 m	09 45 452 1502	09 45 452 1532		
0.5 m	09 45 452 1504	09 45 452 1534		
0.7 m	09 45 452 1506	09 45 452 1536		
1.0 m	09 45 452 1509	09 45 452 1539		
1.5 m	09 45 452 1510	09 45 452 1540		
2.0 m	09 45 452 1511	09 45 452 1541		
2.5 m	09 45 452 1512	09 45 452 1542		
3.0 m	09 45 452 1513	09 45 452 1543		
3.5 m	09 45 452 1514	09 45 452 1544		
4.0 m	09 45 452 1515	09 45 452 1545		
5.0 m	09 45 452 1516	09 45 452 1546		
7.5 m	09 45 452 1517	09 45 452 1547		
10.0 m	09 45 452 1518	09 45 452 1548		
har-port HIFF coupler housing (for all HIFF compatible modules)	09 45 452 0000	09 45 452 0001		

har-port coupler

har-port RJ45 coupler

Identification	Part number silver	Drawing	Dimensions in mm
har-port audio interface 3.5 mm stereo phone jack jack to connector Length: 1.0 m 2.0 m	09 45 452 1000 09 45 452 1001		
HDMI video interface	09 45 452 1010		

har-port coupler

har-port accessories

Advantages

- Compact and well-shaped service interface in a timeless attractive design
- Easy mounting
- Compact and robust design
- Practical accessories

Technical characteristics

Temperature range	-25 °C ... +70 °C
Housing material	Polyamide

Identification	Part number	Drawing	Dimensions in mm
Accessories			
har-port protection cover IP65 / IP67 black	09 45 502 0000		
har-port sealing cover	09 45 502 0001		
har-port label holder	09 45 502 0002		
har-port label for label holder 09 45 502 0002	09 45 502 0003		
har-port blind cover IP65 / IP67	09 45 502 0004		
har-port protection cover IP65 / IP67 transparent	09 45 502 0005		
har-port protection cover IP65 / IP67 metal	09 45 502 0006		

har-port label holder
09 45 502 0002

position for har-port label
09 45 502 0003

Notes