Industrial Ethernet Switch - FL SWITCH 1605 M12

2700200

https://www.phoenixcontact.com/us/products/2700200

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Ethernet switch, 5 Ethernet ports on the front in M12 format, automatic detection of 10 or 100 Mbps data transmission rate, coupling of network segments with different transmission speeds, auto crossing function, IP67 protection

Product Description

Ethernet interface: The FL SWITCH 1605 M12 has five Ethernet ports on the front in M12 format, to which only CAT5/CAT6 Ethernet cables with D-coded M12 connectors can be connected. The data transmission speed is 10 Mbps or 100 Mbps. In addition, each port has an autocrossing function at 100 Mbps. It is not necessary to distinguish between 1:1 and crossover Ethernet cables. Switching properties of the FL SWITCH 1605 M12 – Store and forward: The switch independently learns the addresses for terminal devices, which are connected via a port, by evaluating the source addresses in the data telegrams. Only packets with unknown addresses, with a source address of this port or with a multicast/broadcast address in the destination address field are forwarded via the corresponding port. The switch can store up to 4096 addresses in its address table with an aging time of 40 seconds. This is important if more than one terminal device is connected to one or more ports. In this way, several independent subnets can be connected to one switch. - Multi-address function: The switch independently learns the addresses for terminal devices, which are connected via a port, by evaluating the source addresses in the data telegrams. Only packets with unknown addresses, with a source address of this port or with a multicast/broadcast address in the destination address field are forwarded via the corresponding port. The switch can store up to 4096 addresses in its address table with an aging time of 40 seconds. This is important if more than one terminal device is connected to one or more ports. In this way, several independent subnets can be connected to one switch. - Quality of Service (QoS) With the aid of the Quality of Service function, the switch can process PROFINET traffic preferentially. To do this, the switch detects the QoS priority from the Ethernet packets and forwards the Ethernet packets with higher priority first.

Your advantages

- Robust IP67 housing
- Easy panel mounting

Commercial Data

Item number	2700200
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C23
Product Key	DNN114
Catalog Page	Page 300 (C-6-2019)
GTIN	4046356499781
Weight per Piece (including packing)	276 g
Weight per Piece (excluding packing)	220 g
Customs tariff number	85176200
Country of origin	CN
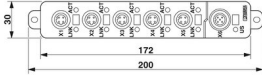
Technical Data

Dimensions

Dimensional drawing	
Width	30 mm
Height	200 mm
Depth	41 mm
Drill hole spacing	186 mm

Notes

General	NOTE: Meet noise immunity requirements Connect FE using a mounting screw when mounting on a conductive surface. When mounting on a non-conductive surface, FE is connected using the mounting screw via a cable lug.

Material specifications

Color	anthracite
Material base plate	High-grade steel (1.4301/1.4016)
Housing material	PBT

Mounting

Mounting type	Wall mounting

Interfaces

Ethernet

Connection method	M12
Note on the connection method	D-coded
Transmission speed	10/100 Mbps
Transmission physics	Twisted pair connection
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status
No. of channels	5 (M12 ports)

Product properties

Type	Stand-alone
Product type	Switch
MTTF	302.5 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	156.52 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)

	40.43 Years (SN 29500 standard, temperature 55°C, operating cycle 100%)

Insulation characteristics

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Switch functions

Basic functions	Unmanaged switch/auto negotiation, complies with standard IEEE 802.3, store-and-forward switching mode, 2 priority classes according to IEEE802.1p, PTCP filter
PROFINET conformance class	Conformance-Class A
Status and diagnostic indicators	LEDs: US (power supply), 2 LEDs per Ethernet port (Link and Activity)
Additional functions	Autonegotiation

Security functions

Basic functions	Unmanaged switch/auto negotiation, complies with standard IEEE 802.3, store-and-forward switching mode, 2 priority classes according to IEEE802.1p, PTCP filter

Electrical properties

Local diagnostics	US Supply voltage US Green LED
	X1...X5 Link status Green LED
	X1...X5 Receiving/sending telegrams Green LED
Maximum power dissipation for nominal condition	0.96 W
Test section	Between the Ethernet ports 1500 V AC 1 min.
	24 V supply (US) / FE 500 V DC 1 min.
Transmission medium	Copper

Supply

Supply voltage	24 V DC (M12 connector)
Supply voltage range	9 V DC ... 32 V DC
Power supply connection	via M12 connector
Residual ripple	3.6 V_{PP}
Max. current consumption	40 mA (+10 mA per port)
Typical current consumption	40 mA (at U_S = 24 V DC)
Current consumption	40 mA ... 80 mA (at 24 V DC)

Ambient conditions

Degree of protection	IP65
	IP66
	IP67
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Permissible humidity (operation)	10 % ... 95 %
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Air pressure (operation)	86 kPa ... 108 kPa (2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (3500 m above sea level)

EMC data

Conformance with EMC directives	Noise emission test in accordance with EN 61000-6-3/IEC 61000-6-3 EN 61000-6-3 (noise emission) Class B
	EN 55011 (emitted interference) Class B
	EN 55022 (emitted interference) Class B
	EN 61000-4-2 (ESD) Criterion B
	EN 61000-4-3 (electromagnetic fields) Criterion A, 20 V/m
	EN 61000-4-3 (electromagnetic fields) Criterion A, 10 V/m
	EN 61000-4-4 Criterion A, 2.2 kV
	EN 61000-4-5 (surge) Criterion A, interfaces 1 kV
	EN 61000-4-6 (line noise immunity) Criterion A, Field intensity: 10 V/m
	EN 60950-1
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2

LED signaling

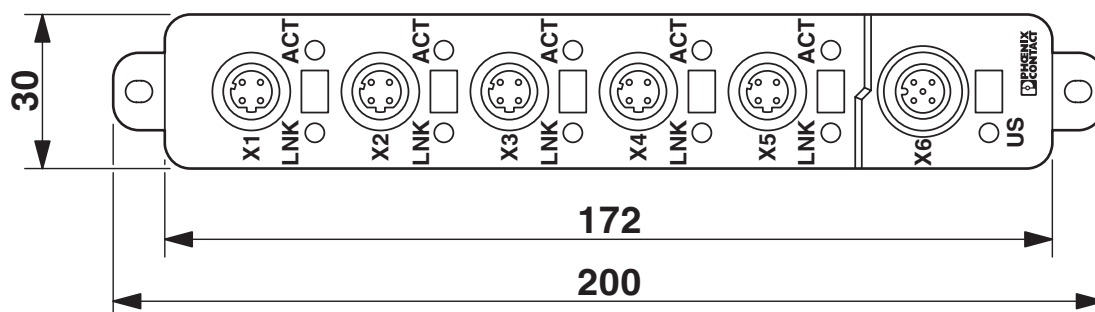|	
Status display	LEDs: US (power supply), 2 LEDs per Ethernet port (Link and Activity)

Drawings

Product drawing
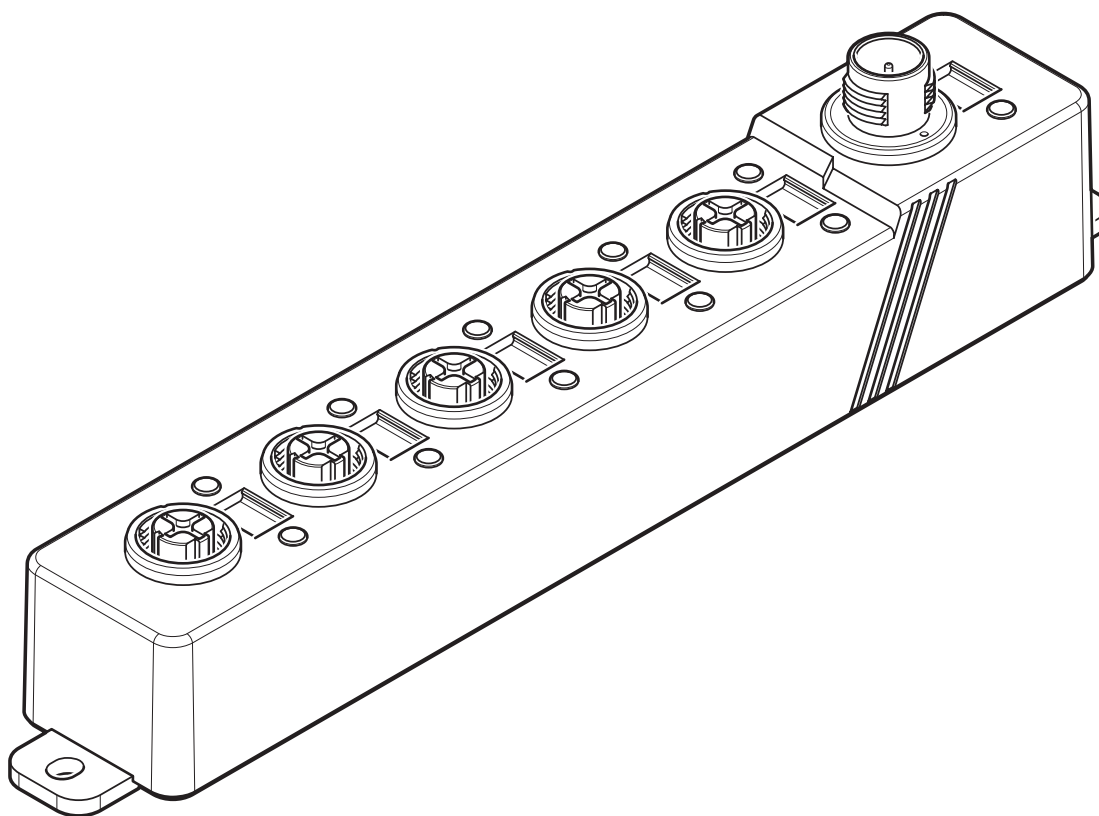
Dimensional drawing

Top view (dimensions in mm)

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Product drawing
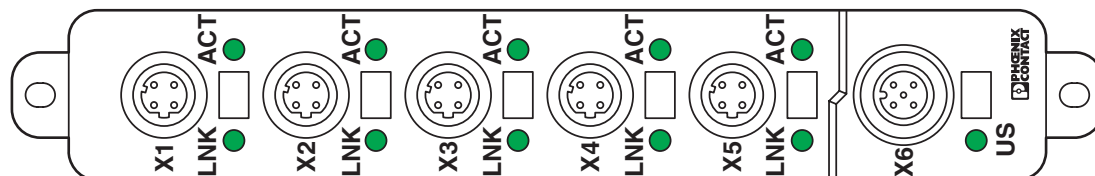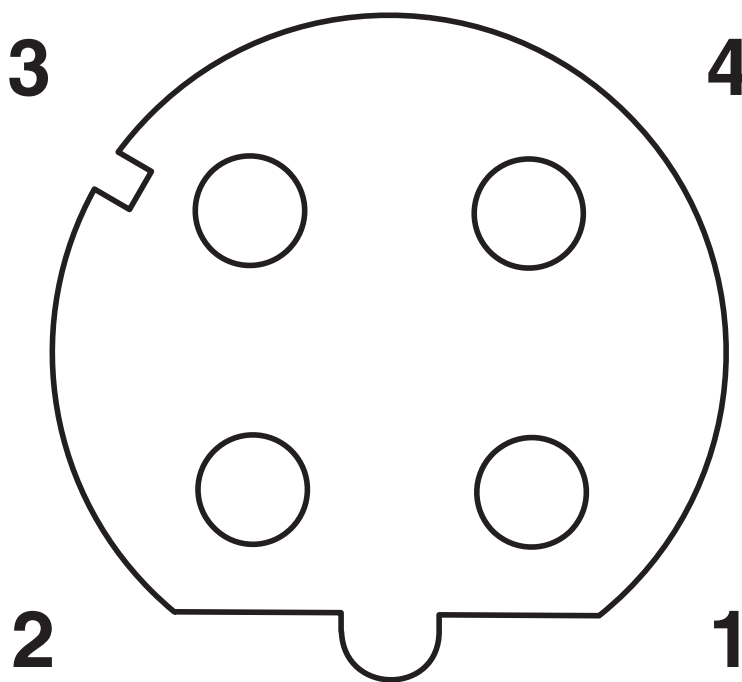

X1 - X5: Ethernet connection
X6: Supply voltage
ACT: ACT LEDs
LNK: Link LED
US: U_{S1} LED

Schematic diagram

Assignment of the LAN socket

Pin 1 Transmit +
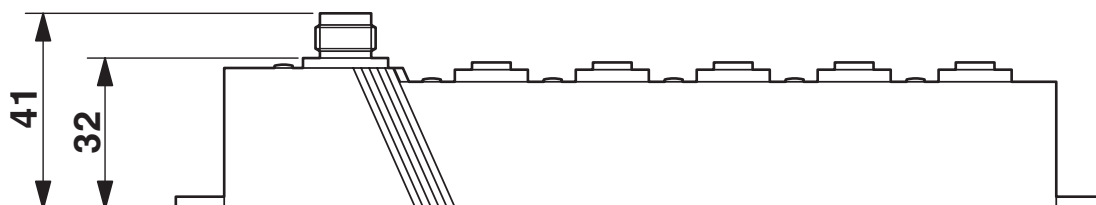Pin 2 Receive +
Pin 3 Transmit -
Pin 4 Receive -

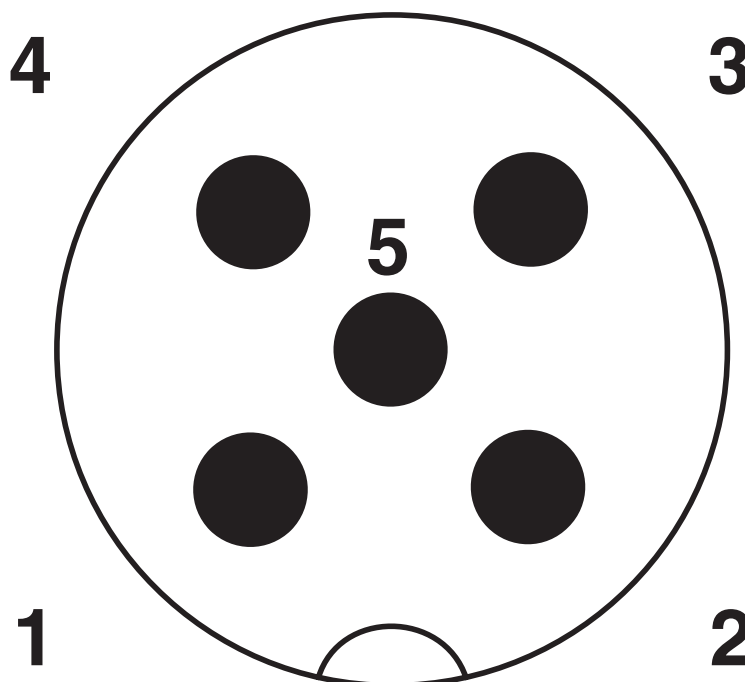# Industrial Ethernet Switch - FL SWITCH 1605 M12

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Dimensional drawing

Side view (dimensions in mm)

Schematic diagram

Connecting the supply voltage
PIN 1 Us
PIN 2 n.c.
Pin 3 GND
Pin 4 n.c.
Pin 5 functional ground

Approvals

cUL Recognized
Approval ID: FILE E 140324

UL Recognized
Approval ID: FILE E 140324

EAC
Approval ID: RU*-DE.*.B.00741/19

cULus Recognized

Classifications

ECLASS

ECLASS-9.0	19170106
ECLASS-10.0.1	19170402
ECLASS-11.0	19170402

ETIM

ETIM 8.0	EC000734

UNSPSC

UNSPSC 21.0	43222600

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Network cable

Network cable - NBC-MSD SCO/.../... - 1408713

https://www.phoenixcontact.com/us/products/1408713

Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on free cable end, cable length: Free input (0.2 ... 40.0 m)

Network cable

Network cable - NBC-MSD-MSD SCO/.../... - 1408706

https://www.phoenixcontact.com/us/products/1408706

Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight M12 SPEEDCON / IP67, coding: D, cable length: Free input (0.2 ... 40.0 m)

Network cable

Network cable - NBC-MSD-MRD SCO/.../... - 1408700

https://www.phoenixcontact.com/us/products/1408700

Network cable, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug angled M12 SPEEDCON / IP67, coding: D, cable length: Free input (0.2 ... 40.0 m)

Network cable

Network cable - NBC-MSD-R4AC SCO/.../... - 1408712

https://www.phoenixcontact.com/us/products/1408712

Network cable, Ethernet CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug straight RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)

Control cabinet feed-through

Control cabinet feed-through - CUC-BH-M12D1PBK-A/R4BE - 1414397

https://www.phoenixcontact.com/us/products/1414397

Control cabinet feed-through, M12, 4-pos., D-coded to RJ45 socket, socket entry: 90°, IP65/IP67

Data connector

Data connector - SACC-M12MSD-4QO SH PN - 1411068

https://www.phoenixcontact.com/us/products/1411068

Data connector, PROFINET CAT5 (100 Mbps), 4-position, halogen-free, shielded, Plug straight M12 SPEEDCON, Coding: D, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

Data connector

Data connector - SACC-M12MRD-4Q SH - 1553624

https://www.phoenixcontact.com/us/products/1553624

Data connector, Ethernet CAT5 (100 Mbps), 4-position, shielded, Plug angled M12, Coding: D, Insulation displacement connection, knurl material: Nickel-plated brass, external cable diameter 4 mm ... 8 mm

Sensor/actuator cable

Sensor/actuator cable - SAC-5P-M12FR/.../... - 1697124

https://www.phoenixcontact.com/us/products/1697124

Sensor/actuator cable, 5-position, Variable cable type, free cable end, on Socket angled M12, coding: A, cable length: Free input (0.2 ... 40.0 m)

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Y distributor

Y distributor - SAC-5PY-F/M-F VP SH - 1419933

https://www.phoenixcontact.com/us/products/1419933

Y distributor, 5-position, shielded, Socket straight M12 SPEEDCON, coding: A, on Socket straight M12 SPEEDCON, coding: A and Plug straight M12 SPEEDCON, coding: A, Parallel distributor

Connector

Connector - SACC-M12MS-5PL M - 1424649

https://www.phoenixcontact.com/us/products/1424649

Connector, Universal, 5-position, unshielded, Plug straight M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Connector

Connector - SACC-M12MR-5PL M - 1424651

https://www.phoenixcontact.com/us/products/1424651

Connector, Universal, 5-position, unshielded, Plug angled M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

Screw plug

Screw plug - PROT-M12 - 1680539

https://www.phoenixcontact.com/us/products/1680539

An M12 screw plug for the unoccupied M12 sockets of the sensor/actuator cable, boxes and flush-type connectors

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https://www.phoenixcontact.com/us/products/2700200

Zack Marker strip, flat

Zack Marker strip, flat - ZBF 8:UNBEDRUCKT - 0808781

https://www.phoenixcontact.com/us/products/0808781

Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 8 mm, lettering field size: 5.15 x 8.15 mm, Number of individual labels: 10

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