

Switch - FL SWITCH 1605 M12 - 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 interfaceThe FL SWITCH 1605 M12 has five front Ethernet ports in M12 format. Only CAT5/CAT6 Ethernet cables with D-coded M12 connectors can be connected to these. The data transmission rate 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 FL SWITCH 1605 M12–Store-and-forward:All data telegrams that are received by the switch are saved and their validity is checked. Invalid or faulty data packets (>1522 bytes or CRC errors) and fragments (<64 bytes) are rejected. Valid data telegrams are forwarded by the switch. The switch always forwards the data using the data transmission speed that is used in the destination network segment.– Multi-address function:The switch independently learns the addresses for termination 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 when more than one termination device is connected to one or more ports. In this way, several independent subnetworks can be connected to one switch.– Quality of Service (QoS)With help from the Quality of Service function, the switch can preferentially process PROFINET traffic. To do so, the switch detects the Ethernet packets by means of QoS priority and forwards on the higher priority Ethernet packets.

Ethernet

Key commercial data

package_quantity	1
GTIN	4046356499781

Technical data

Dimensions

Width	30 mm
Height	200 mm
Depth	41 mm

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 % (no condensation)
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)

Interfaces

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Technical data

Interfaces

Interface 1	Ethernet
No. of ports	5 (M12 socket)
Connection method	M12
Note on connection method	D-coded
Transmission physics	Twisted pair connection
Transmission speed	10/100 MBit/s
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status

Function

Basic functions	Unmanaged switch/auto negotiation, complies with standard IEEE 802.3, store-and-forward switching mode, 2 priority classes according to IEEE802.1 P, PTCP filter
Status and diagnostic indicators	LEDs: U _S (voltage supply), link and activity per port

Network expansion parameters

Cascading depth	Network, linear, and star structure: any
Maximum conductor length ((twisted pair)	100 m

Supply voltage

Supply voltage	24 V DC (M12 connector)
Residual ripple	3.6 V _{pp} (within the permitted voltage range)
Supply voltage range	18 V DC ... 32 V DC
Typical current consumption	40 mA (24 V DC)
Max. current consumption	40 mA (+ 10 mA per port)
Current consumption	40 mA ... 80 mA (at 24 V DC)

General

Mounting type	Wall mounting
Type AX	Stand-alone
Weight	220 g
Housing material	PBT
Material base plate	High-grade steel (1.4301/1.4016)
Note	NOTE: Meet noise immunity requirementsConnect 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.

Mechanical tests

Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	Operation: 30 g, 6 ms continuous testing, 5 g 30 ms continuous testing
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	Operation/Storage/Transport: 5 g, 150 Hz, Criterion 3
Type of test	Free fall in acc. with IEC 60068-2-32

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Mechanical tests

Test result	0.5 m
Type of test	Vibration resistance according to IEC 61373, EN 61373
Test result	Category 1, Class B

Conformity with EMC directives

Developed in acc. with standard	Noise emission test according to EN 61000-6-3
Test standard	EN 61000-6-3 (noise emission)
Test result	Class B
Test standard	EN 55011 (emitted interference)
Test result	Class B
Test standard	EN 55022 (emitted interference)
Test result	Class B
Test standard	EN 61000-4-2 (ESD)
Test result	Criterion B
Test standard	EN 61000-4-3 (electromagnetic fields)
Test result	Criterion A, 20 V/m
Test standard	EN 61000-4-5 (surge)
Test result	Criterion A; interfaces 1 kV
Test standard	EN 61000-4-4
Test result	Criterion A, 2.2 kV
Test result	Criterion A; Field intensity: 10 V/m

classifications

eCl@ss

eCl@ss 4.0	24010504
eCl@ss 4.1	24010504
eCl@ss 5.0	19030117
eCl@ss 5.1	19030117
eCl@ss 6.0	19170106
eCl@ss 7.0	19170106
eCl@ss 8.0	19170106

ETIM

ETIM 4.0	EC000734
ETIM 5.0	EC000734

UNSPSC

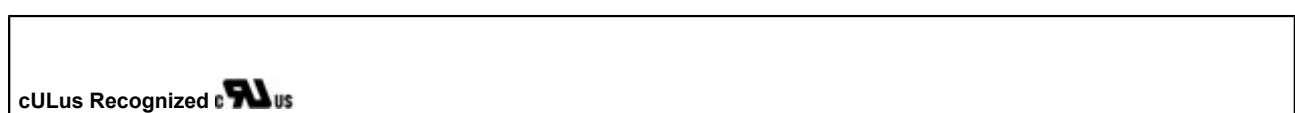
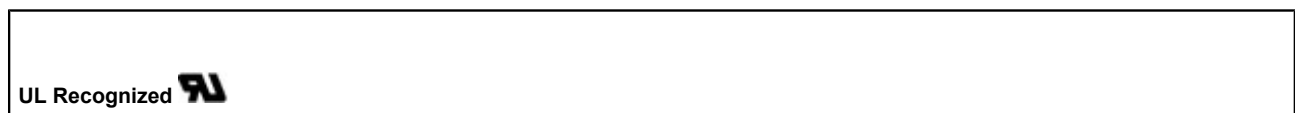
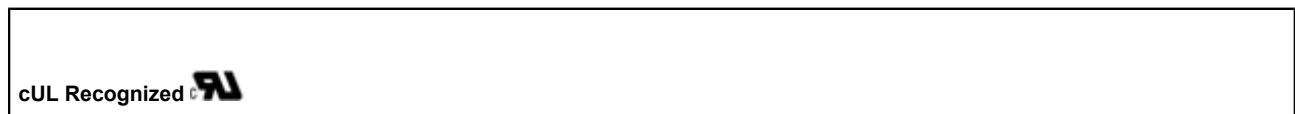
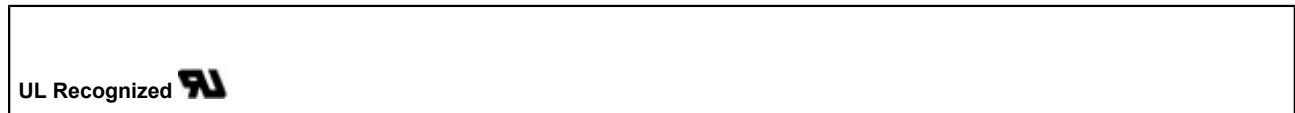
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UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201410
UNSPSC 13.2	43201410

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approvals

UL Recognized / cUL Recognized / UL Recognized / cUL Recognized / cULus Recognized /

Approval details



accessories

Sensor/actuator cable

SAC-5P-FS SCO/.../... - 1536489



SAC-5P-MS-FS SCO/.../... - 1523625



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accessories

SAC-5P-FR SCO/.../... - 1536515



SAC-5P-MS-FR SCO/.../... - 1542415



Y-distributor

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



Data cable preassembled

VS-M12MS-OE-93E-LI/2,0 - 1405798



VS-93E/... - 1416402



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accessories

VS-M12MS-M12MS-93E-LI/2,0 - 1406632



VS-M12MS-IP20-93E-LI/2,0 - 1406056



Circular connector (cable-side)

SACC-M12MSD-4Q SH - 1543223



SACC-M12MRD-4Q SH - 1553624



Circular connectors (device side)

VS-BH-M12FSD-RJ45/180 - 1657494



Protective cap

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accessories

PROT-M12 - 1680539



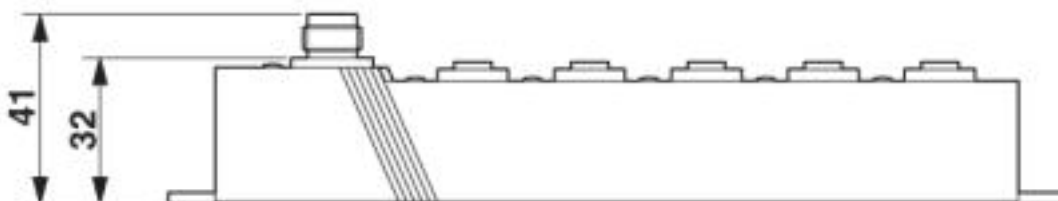
Terminal marking

ZBF 8:UNBEDRUCKT - 0808781



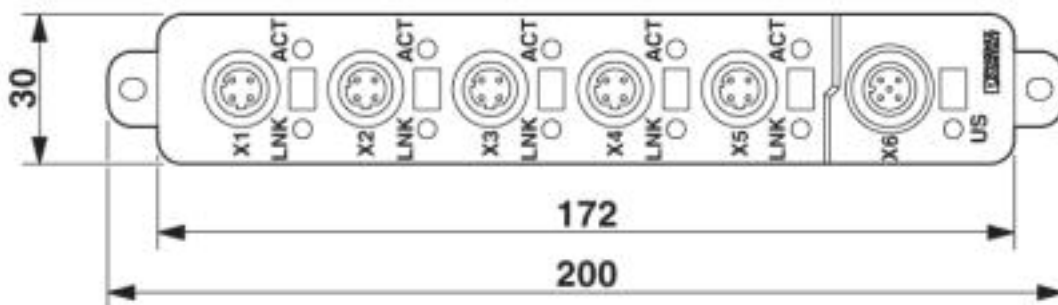
Drawings

Dimensioned drawing



Side view (dimensions in mm)

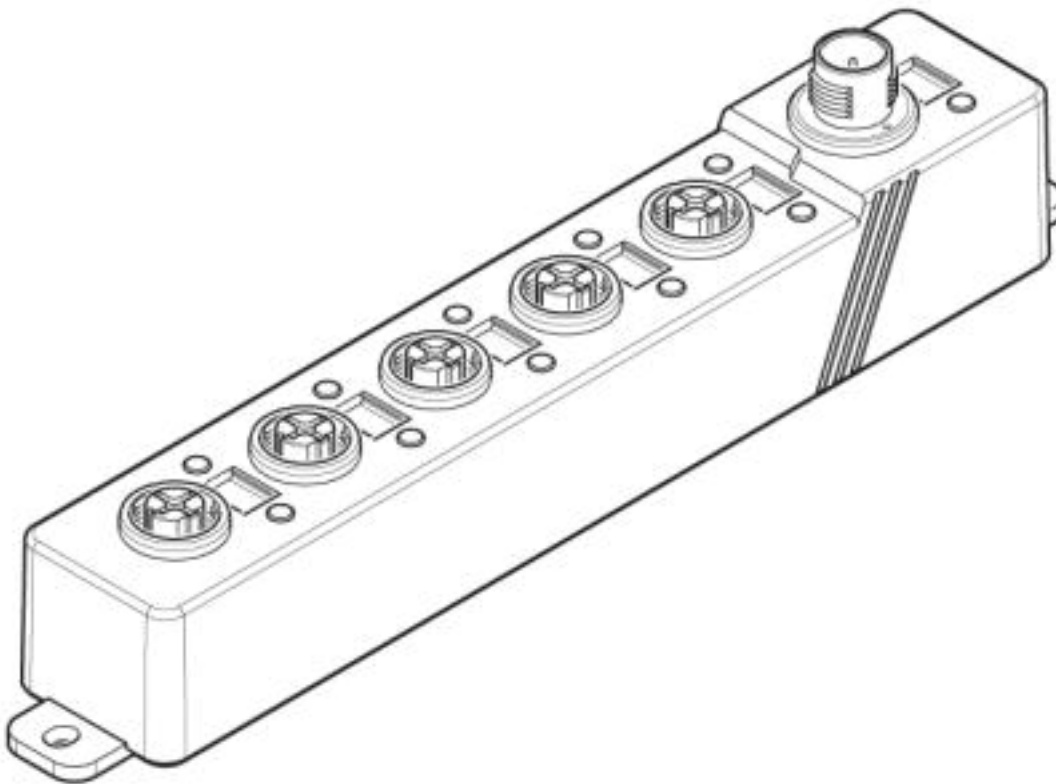
Dimensioned drawing



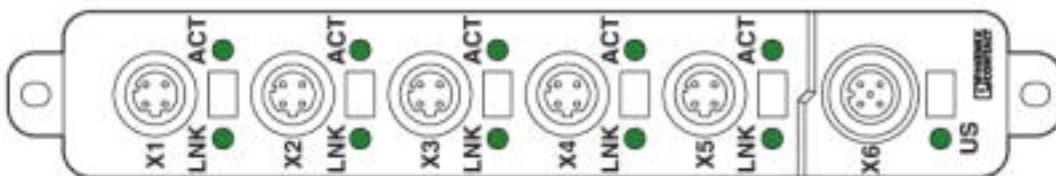
Top view (dimensions in mm)

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Product drawing



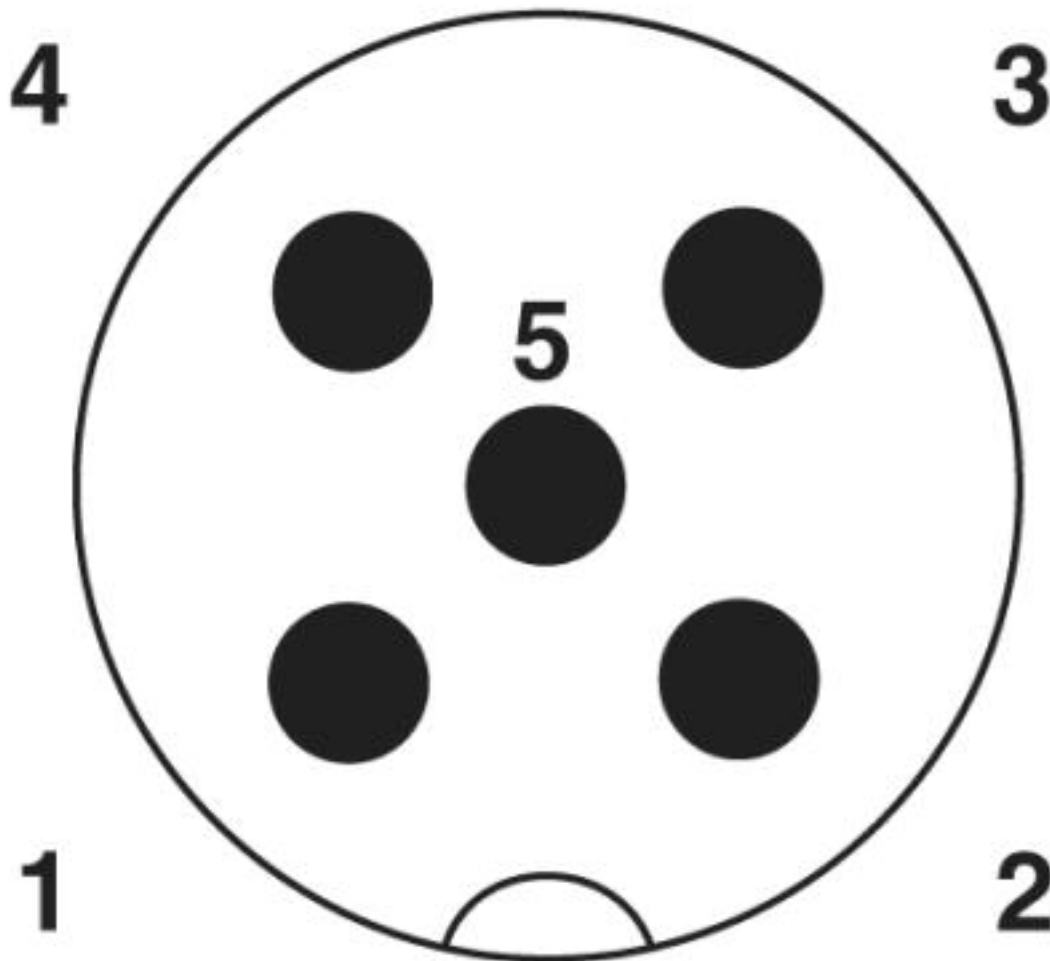
Product drawing



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

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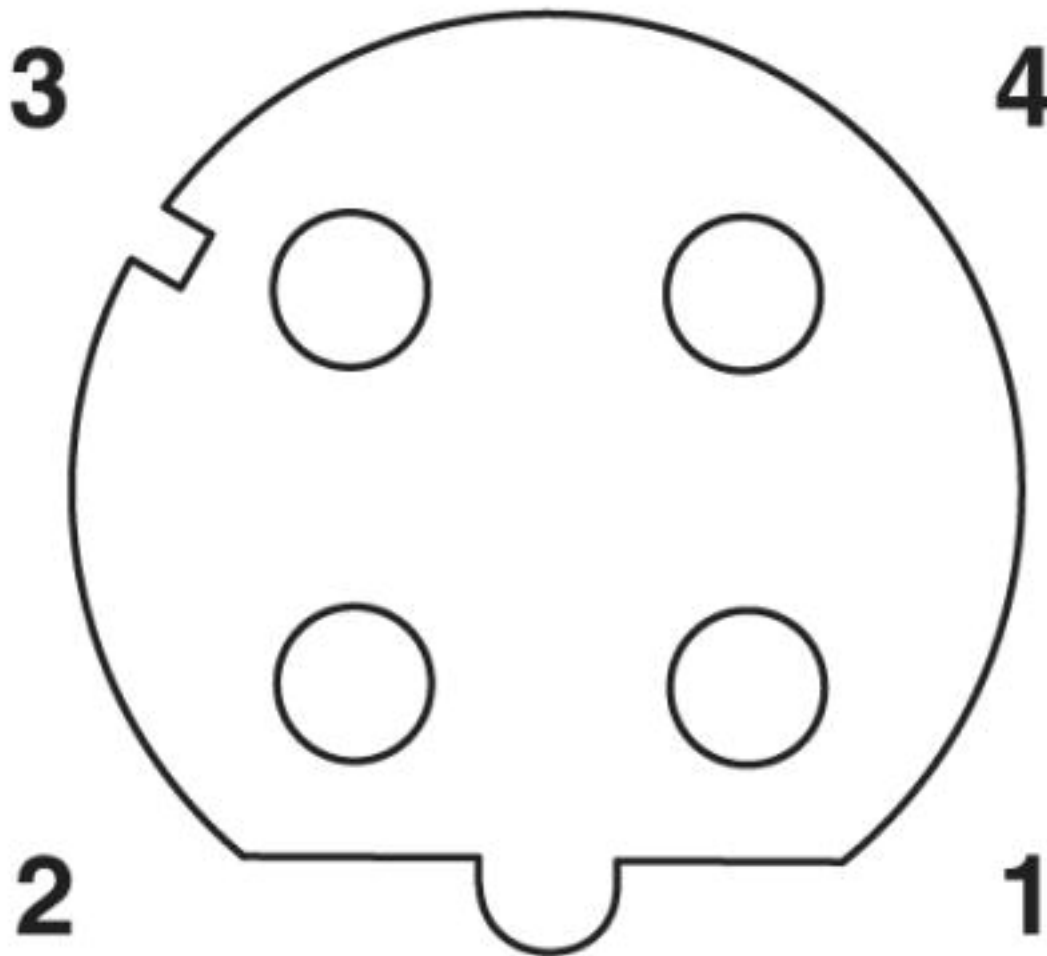
Schematic diagram



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

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Schematic diagram



Assignment of the LAN socket
Pin 1 Transmit +
Pin 2 Receive +
Pin 3 Transmit -
Pin 4 Receive -

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