FL SWITCH 2105 - Industrial Ethernet Switch

2702665

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Managed Switch 2000, 5 RJ45 ports 10/100/1000 Mbps, PROFINET Conformance-Class A

Your advantages

- VLANs
- RSTP
- DHCP client, DHCP server (port-based)
- MRP client
- Unmanaged Mode
- Configuration memory
- Web-based management, SNMP
- Easy and fast startup and commissioning with the FL NETWORK MANAGER software
- Suitable for PROFINET and EtherNet/IP™ networks

Commercial data

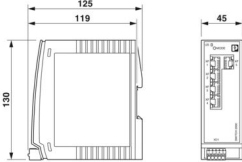|	
Item number	2702665
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN17
Product key	DNN121
Catalog page	Page 305 (C-6-2019)
GTIN	4055626283425
Weight per piece (including packing)	382.8 g
Weight per piece (excluding packing)	240 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	45 mm
Height	130 mm
Depth	119 mm

Notes

General	Support by phone or on-site (fee is charged)

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area

Material specifications

Housing material	Polycarbonate fiber reinforced

Mounting

Mounting type	DIN rail mounting

Interfaces

Ethernet (RJ45)

Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100/1000 Mbps
Transmission physics	Copper
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status
No. of channels	5 (RJ45 ports)

Product properties

Product type	Switch
Product family	Managed Switch 2000
Type	Book type
MTTF	398.76 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	174.97 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)

		31.76 Years (SN 29500 standard, temperature 55°C, operating cycle 100%)
Signal delay		≥ 1.9 μs (Store-and-Forward mode, 10/100/1000 Mbps, depending on the frame size)

Insulation characteristics

Protection class	III (VDE 0106)
Degree of pollution	2

Switch functions

Diagnostic functions	RMON History
	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps
	N:1-Portmirroring
	ACD (Address Conflict Detection)
	SysLog
	CRC-Surveillance
Basic functions	Store-and-forward switch, complies with IEEE 802.3
PROFINET conformance class	Conformance-Class A
Filter functions	Quality of Service (8 priority classes)
	Class of Service
	DiffServ/DSCP
	Port-Priorisierung
	VLAN (up to 8 VLANs)
	IGMP Snooping/Querier (v1/v2)
	Auto-Query-Port
	Extended Multicast Filtering
IP parameterization	DHCP-Client
	DHCP server (port based)
	BootP
MAC address table	8k
Management	Web-based management (HTTP/HTTPS)
	Role-based user management (LDAP)
	SNMPv1/v2/v3
	Command Line Interface (Telnet, SSH)
Redundancy	MRP (Media Redundancy Protocol)
	RSTP (Rapid Spanning Tree Protocol)
Status and diagnostic indicators	LEDs: US (power supply), 2 LEDs per Ethernet port (Link/Activity and Speed)
Additional functions	Jumbo frames (max. 9,600 bytes)
	Transmission of MMS and GOOSE (IEC 61850-8-1)
	Transmission of Modbus/TCP
Time synchronization	SNTP (Simple Network Time Protocol)

Security functions

Basic functions	Store-and-forward switch, complies with IEEE 802.3

Electrical properties

Local diagnostics	US Supply voltage Green LED
	LNK/ACT Link status Green LED
	SPD Data transmission speed Green/orange LED
Maximum power dissipation for nominal condition	6.12 W (At U_S = 18 V DC and 60°C ambient temperature)
Test voltage	500 V DC
Test section	for one minute 500 V DC
Transmission medium	Copper

Supply

Supply voltage (DC)	24 V DC (single)
Supply voltage range	18 V DC ... 32 V DC
Power supply connection	via COMBICON, max. conductor cross section 1.5 mm²
Residual ripple	3.6 V_{PP} (within the permitted voltage range)
Max. current consumption	0.35 A (At U_S = 18 V DC and 60°C ambient temperature)
Typical current consumption	225 mA (at U_S = 24 V DC and 25 °C ambient temperature)
Current consumption	225 mA

Connection data

Connection method	Push-in spring connection
Note on the connection method	Use only copper connecting cables providing the permitted temperature range (-40 °C ... 75 °C).
Conductor cross section, rigid	0.25 mm² ... 1.5 mm²
Conductor cross section, flexible	0.25 mm² ... 1.5 mm²
Conductor cross section AWG	24 ... 16
Stripping length	9 mm

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	0 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Shock (operation)	30g (EN 60068-2-27)
Vibration (operation)	2g, according to IEC 60068-2-6
Air pressure (operation)	86 kPa ... 108 kPa (1500 m above sea level)
Air pressure (storage/transport)	86 kPa ... 108 kPa (1500 m above sea level)

Standards and regulations

Free from substances that could impair the application of coating	Yes

Approvals

UL, USA/Canada

Identification	cULus
Note	UL 61010-1, Ed. 3 / UL 61010-2-201, Ed. 1, CSA C22.2 NO. 61010-2-201:14. Ed. 1 / CSA C22.2 NO.61010-1-12. Ed. 3

EMC data

Conformance with EMC directives	EN 61000-6-2 EN 61000-4-2 (ESD) Criterion B
	EN 61000-6-2 EN 61000-4-3 (electromagnetic fields) Criterion A
	EN 61000-6-2 EN 61000-4-4 (EFT burst) Criterion A
	EN 61000-6-2 EN 61000-4-5 (surge) Criterion A
	EN 61000-6-2 EN 61000-4-6 (line noise immunity) Criterion A
	EN 61000-6-2 EN 61000-6-4 (interference) Class A
	EN 61000-6-2 EN 61000-6-4 (conducted interference) Class A
Noise immunity	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 61000-6-4

System properties

Functionality

Basic functions	Store-and-forward switch, complies with IEEE 802.3

Signaling

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

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Drawings

Dimensional drawing
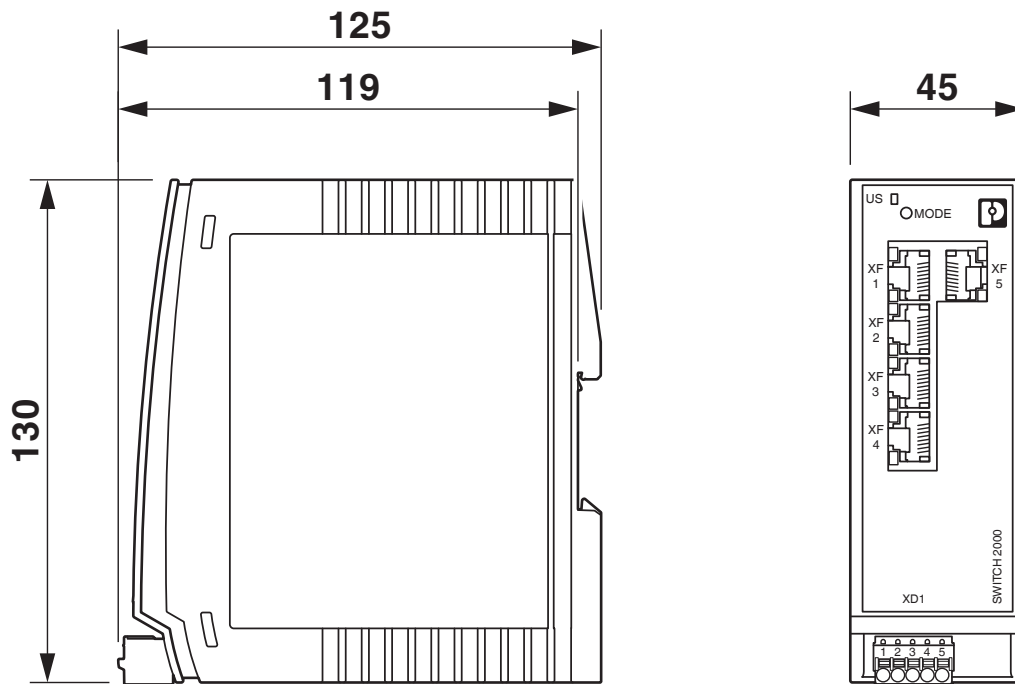
Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2702665

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

CC-Link IE Field
Approval ID: Ref. No. 100

UAE-RoHS
Approval ID: 23-02-63230

cULus Listed
Approval ID: E238705

Classifications

ECLASS

ECLASS-11.0	19170401
ECLASS-12.0	19170401
ECLASS-13.0	19170401

ETIM

ETIM 9.0	EC000734

UNSPSC

UNSPSC 21.0	43222600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	cc2c42a1-912e-40b6-a406-c101562ff6fa

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Accessories

SD FLASH 2GB - Program / configuration memory

2988162

https://www.phoenixcontact.com/us/products/2988162

Program and configuration memory, for extending the internal flash memory, pluggable, 2 GB.

FL NETWORK MANAGER BASIC - Network management software

2702889

https://www.phoenixcontact.com/us/products/2702889

SNMP-based software for easy commissioning and monitoring of network components such as switches, routers, and WLAN access points

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FL DIN RA - DIN rail adapter

2891053

https://www.phoenixcontact.com/us/products/2891053

The FL DIN RA is installed in a standard, 19-inch rack (EIA-310-D, IEC 60297-3-100) to allow DIN rail mounted equipment to be rack mounted.
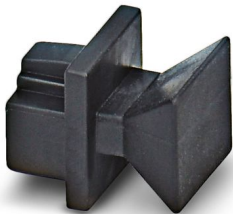
FL RJ45 PROTECT CAP - Dust protection

2832991

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Dust protection caps for RJ45 socket

E/NS 35 N - End bracket

0800886

https://www.phoenixcontact.com/us/products/0800886

End clamp, width: 9.5 mm, color: gray
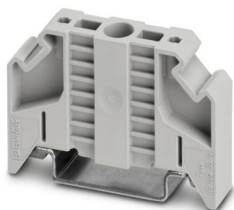
FK-MCP 1,5/ 5-ST-3,81GY35BD1-5 - PCB connector

1015782

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PCB connector, nominal cross section: 1.5 mm^2, color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FK-MCP 1,5/..-ST, pitch: 3.81 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard
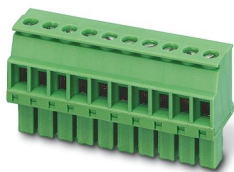
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MCVW 1,5/ 5-ST-3,81GY7035BD2US - PCB connector

1034103

https://www.phoenixcontact.com/us/products/1034103

PCB connector, nominal cross section: 1.5 mm^2, color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MCVW 1,5/..-ST, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -90 °, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

FL CAT5 PATCH 0,5 - Patch cable

2832263

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Patch cable, CAT5, assembled, 0.5 m

FL CAT5 PATCH 1,0 - Patch cable

2832276

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Patch cable, CAT5, assembled, 1 m

FL CAT5 PATCH 2,0 - Patch cable

2832289

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Patch cable, CAT5, assembled, 2 m

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NBC-R4AC-R4AC-IE8A/.../... - Patch cable

1411854

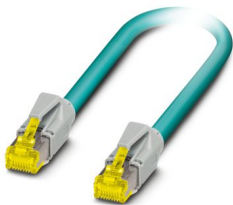https://www.phoenixcontact.com/us/products/1411854
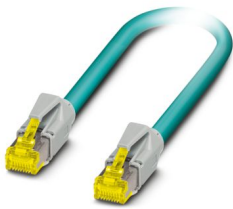
Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6$_A$, cable outlet: straight, Ethernet

NBC-R4AC/10G-R4AC/10G-94F/2,0 - Patch cable

1408360

https://www.phoenixcontact.com/us/products/1408360

Patch cable, CAT6$_A$, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m
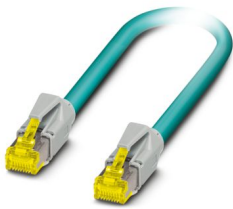
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NBC-R4AC/10G-R4AC/10G-94F/3,0 - Patch cable

1408365

https://www.phoenixcontact.com/us/products/1408365

Patch cable, CAT6$_A$, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 3.0 m

NBC-R4AC/1,0-93B/R4AC - Patch cable

1408968

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Patch cable, degree of protection: IP20, cable length: 1 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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NBC-R4AC/2,0-93B/R4AC - Patch cable

1408969

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Patch cable, degree of protection: IP20, cable length: 2 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

NBC-R4AC/5,0-93B/R4AC - Patch cable

1408970

https://www.phoenixcontact.com/us/products/1408970

Patch cable, degree of protection: IP20, cable length: 5 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

VS-08-RJ45-5-Q/IP20 - RJ45 connector

1656725

https://www.phoenixcontact.com/us/products/1656725

RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Plastic, connection method: Insulation displacement connection, connection cross section: AWG 26- 23, cable outlet: straight, color: traffic grey A RAL 7042, Ethernet

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