FL SWITCH 2207-FX - Industrial Ethernet Switch

2702328

https://www.phoenixcontact.com/us/products/2702328

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Managed Switch 2000, 7 RJ45 ports 10/100 Mbps, 1 SC multi-mode 100 Mbps, PROFINET Conformance-Class B, Extended temperature range

Your advantages

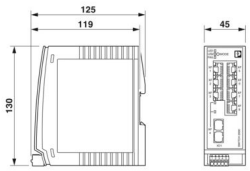
- Ambient temperature -40 °C ... 70 °C
- RSTP
- DHCP client, DHCP server (pool-based and port-based), DHCP option 82
- VLANs
- MRP (client and manager)
- Slim design
- Web-based management, SNMP
- Configuration memory
- Easy and fast startup and commissioning with the FL NETWORK MANAGER software
- Suitable for PROFINET and EtherNet/IP™ networks

Commercial data

Item number	2702328
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN17
Product key	DNN121
Catalog page	Page 308 (C-6-2019)
GTIN	4055626128948
Weight per piece (including packing)	400.7 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)

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 Mbps
Transmission physics	Copper
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status
No. of channels	7 (RJ45 ports)

Ethernet FO

Number of interfaces	1
Connection method	SC
Transmission speed	100 Mbps (full duplex)
Transmit capacity, minimum	-19 dBm
Transmit capacity, maximum	-14 dBm
Minimum receiver sensitivity	-32 dBm
Maximum receiver sensitivity	-14 dBm
Transmission physics	multi-mode fiberglass
Transmission length	11000 m (fiberglass with F-G 62.5/125 0.7 dB/km F1000)
	6400 m (fiberglass with F-G 50/125 0.7 dB/km F1200)

	3000 m (fiberglass with F-G 62.5/125 2.6 dB/km F600)
	2800 m (fiberglass with F-G 50/125 1.6 dB/km F800)
Wavelength	1300 nm
Signal LEDs	Data receive, link status
No. of channels	1 (SC multi-mode)

Output data

Digital:

Output name	Alarm output

Product properties

Product type	Switch
Product family	Managed Switch 2000
Type	Book type
MTTF	404.22 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	185.13 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	22.87 Years (SN 29500 standard, temperature 70°C, operating cycle 100%)
Special properties	Extended temperature range
Signal delay	≥ 6.5 µs (Store and Forward mode, 10/100 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
Signal contact control voltage	typ. 24 V DC
PROFINET conformance class	Conformance-Class B
PROFINET device function	PROFINET device
	Fast Startup
Filter functions	Quality of Service (8 priority classes)
	Class of Service
	DiffServ/DSCP
	Port-Priorisierung
	VLAN (up to 32 VLANs)

	IGMP Snooping/Querier (v1/v2)
	Auto-Query-Port
	Extended Multicast Filtering
IP parameterization	DHCP-Client
	DHCP Option 82 (Relay Agent)
	DHCP server (pool-based, port-based)
	BootP
	DCP (Discovery and Configuration Protocol)
MAC address table	8k
Management	Web-based management (HTTP/HTTPS)
	Role-based user management (LDAP, RADIUS)
	SNMPv1/v2/v3
	Command Line Interface (Telnet, SSH)
Redundancy	MRP (Media Redundancy Protocol)
	RSTP (Rapid Spanning Tree Protocol)
	FRD (Fast Ring Detection)
	Large Tree Support
	LACP (Link Aggregation Control Protocol)
	PROFINET S2 system redundancy
Status and diagnostic indicators	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link/Activity and Speed)
Additional functions	Transmission of MMS and GOOSE (IEC 61850-8-1)
	Transmission of Modbus/TCP
Time synchronization	SNTP (Simple Network Time Protocol)

Security functions

Port security	MAC-based, RADIUS (IEEE 802.1X), MAC Authentication Bypass
Basic functions	Store-and-forward switch, complies with IEEE 802.3

Electrical properties

Local diagnostics	US1/2 Supply voltage US1, US2 Green LED
	FAIL Div. LED red
	LINK Link status Green LED
Maximum power dissipation for nominal condition	5.85 W (U_S = Min, T_{amb} = Max, DO_I = Max)
Test voltage	500 V DC
Test section	for one minute 500 V DC
Transmission medium	Copper
	FO

Supply

Supply voltage (DC)	24 V DC (redundant)
Supply voltage range	9 V DC ... 57 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	1.4 A (U_S = Min, T_{amb} = Max, DO_I = Max)
Typical current consumption	220 mA (at U_S = 24 V DC and 25 °C ambient temperature)
Current consumption	220 mA

Function

Signal contact control voltage	typ. 24 V DC

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)	-40 °C ... 70 °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)	in acc. with IEC 60068-2-6: 5g, 150 Hz
Air pressure (operation)	80 kPa ... 110 kPa up to 2000 m above mean sea level (Without derating)
Air pressure (storage/transport)	79 kPa ... 108 kPa up to 2000 m above mean sea level (Without derating)

Standards and regulations

Free from substances that could impair the application of coating	Yes

Approvals

Shipbuilding approval	Tested in accordance with IEC 60945 and IACS E10

ATEX

Identification	Ⓔx II 3 G Ex ec IIC T4 Gc
Certificate	DEMKO 16 ATEX 1709X
References to standards	EN 60079-0
	EN 60079-7

IECEx

Identification	Ex ec IIC T4 Gc
Certificate	IECEx ULD 16.0018 X
References to standards	IEC 60079-0

	IEC 60079-7

UL, USA/Canada

Identification	cULus

UL Ex, USA / Canada

Identification	Class I, Division 2, Groups A, B, C, and D, T4
	Class I, Zone 2, AEx ec IIC T4
	Ex ec IIC T4 Gc X
Certificate	E366272
Note	UL 60079-0 Ed. 6 / UL 60079-7 Ed. 5, CSA 22.2 No. 60079-0 Ed. 3 / CSA C22.2 No. 60079-7 Ed. 2

EAC Ex

Identification	2Ex e IIC T4 Gc X
Certificate	RU C-DE.HB49.B.00118/21

The following continue to apply for EAC Ex:

Identification	При монтаже использовать походящий допущенный корпус со степенью защиты не ниже IP66.
	На корпусе/шкафу управления должна быть размещена предупреждающаяя надпись, запрещающая открывать корпус или шкаф во взрывоопасной зоне.
	Эксплуатация устройства допускается только при условии, что все оптические порты заняты подключенными устройствами или закрыты прилагаемыми заглушками.

CCC / China-Ex

Identification	Ex ec IIC T4 Gc
Certificate	2022122310115629

Corrosive gas test

Identification	ISA S71.04.2013 G3 Harsh Group A

UKCA Ex (UKEX)

Identification	Ⓔx II 3 G Ex ec IIC T4 Gc
Certificate	PxCIMA22UKEX2702910X

DNV GL data

Temperature	B
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

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 B
	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

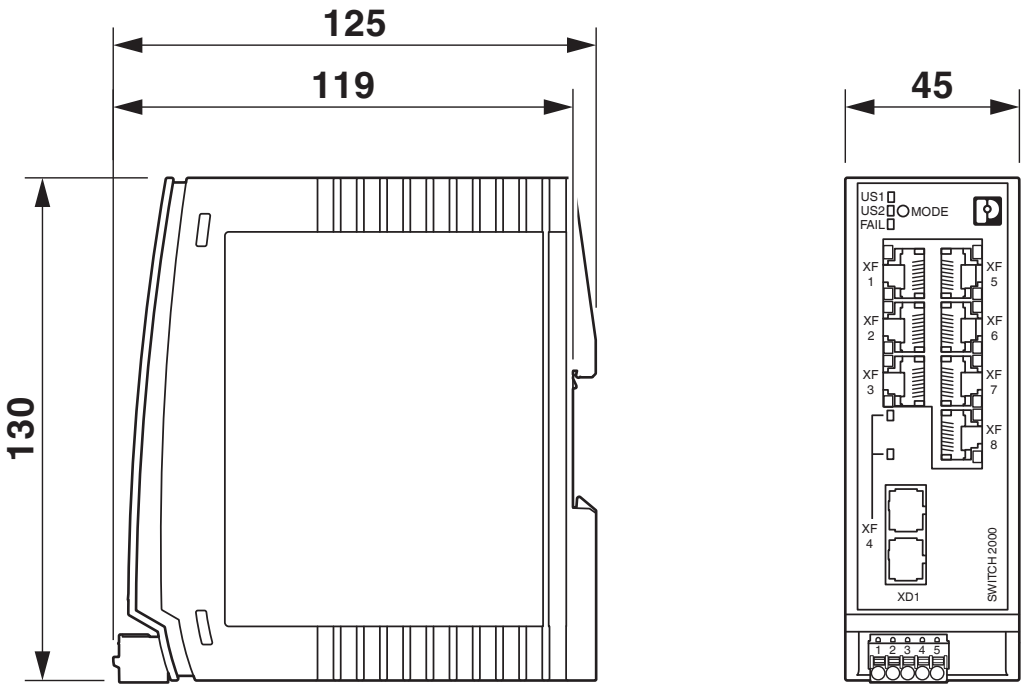
Basic functions	Store-and-forward switch, complies with IEEE 802.3

Signaling

Status display	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link/Activity and Speed)

Drawings

Dimensional drawing



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2702328

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

DNV GL
Approval ID: TAA00000YV

LR
Approval ID: LR22250919TA

NK
Approval ID: TA19464M

BV
Approval ID: 48146_B0 BV

BSH
Approval ID: Nr. 966

RINA
Approval ID: ELE014724XG001

ABS
Approval ID: 21_2066186_1_PDA

UAE-RoHS
Approval ID: 23-02-63230

cULus Listed
Approval ID: E238705

cUL Listed
Approval ID: FILE E 366272

IECEx
Approval ID: IECEx ULD 16.0018X

ATEX
Approval ID: DEMKO 16 ATEX 1709X

CCC
Approval ID: 2022122310115629

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	fdab6972-fc8f-4fdc-ad87-b9f2437ae78b

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

FL DIN RA - DIN rail adapter

2891053

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

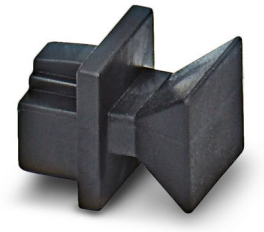


The FL DIN RA is installed in a standard, 19-inch rack (EIA-310-D, IEC 60297-3-100) to allow DIN rail mounted equipment to be rack mounted.

FL RJ45 PROTECT CAP - Dust protection

2832991

https://www.phoenixcontact.com/us/products/2832991

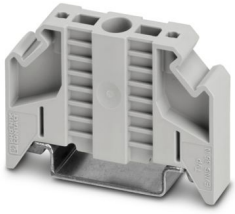


Dust protection caps for RJ45 socket

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

https://www.phoenixcontact.com/us/products/1015782

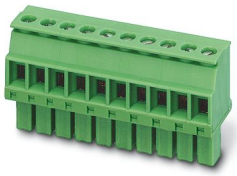


PCB connector, nominal cross section: 1.5 mm^2, color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FK-MCP 1,5/..-ST, 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

MCVW 1,5/ 5-ST-3,81GY7035BD2DO - PCB connector

1034096

https://www.phoenixcontact.com/us/products/1034096



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

https://www.phoenixcontact.com/us/products/2832263



Patch cable, CAT5, assembled, 0.5 m

FL CAT5 PATCH 1,0 - Patch cable

2832276

https://www.phoenixcontact.com/us/products/2832276



Patch cable, CAT5, assembled, 1 m

FL CAT5 PATCH 2,0 - Patch cable

2832289

https://www.phoenixcontact.com/us/products/2832289

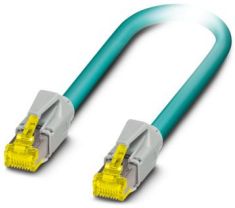


Patch cable, CAT5, assembled, 2 m

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

1411854

https://www.phoenixcontact.com/us/products/1411854

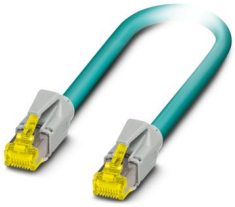


Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, $CAT6_A$, cable outlet: straight, Ethernet

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

1408360

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

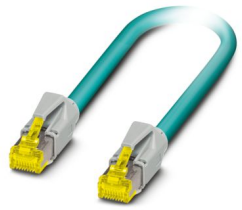


Patch cable, $CAT6_A$, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

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

https://www.phoenixcontact.com/us/products/1408968



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

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

1408969

https://www.phoenixcontact.com/us/products/1408969



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



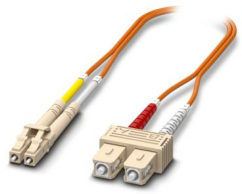
Patch cable, degree of protection: IP20, cable length: 5 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

FOC-LC:PA-SC:PA-OM2:D01/1 - FO patch cable

1115607

https://www.phoenixcontact.com/us/products/1115607

Multi-mode OM2 duplex jumper, LC-SC, UPC polishing, length 1 m

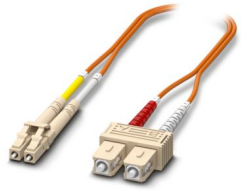


FOC-LC:PA-SC:PA-OM2:D01/2 - FO patch cable

1115605

https://www.phoenixcontact.com/us/products/1115605

Multi-mode OM2 duplex jumper, LC-SC, UPC polishing, length 2 m

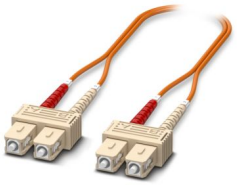


FOC-SC:PA-SC:PA-OM2:D01/1 - FO patch cable

1115536

https://www.phoenixcontact.com/us/products/1115536

Multi-mode OM2 duplex jumper, SC-SC, UPC polishing, length 1 m

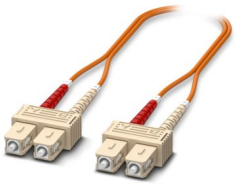


FOC-SC:PA-SC:PA-OM2:D01/2 - FO patch cable

1115535

https://www.phoenixcontact.com/us/products/1115535

Multi-mode OM2 duplex jumper, SC-SC, UPC polishing, length 2 m

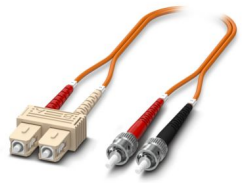


FOC-ST:PA-SC:PA-OM2:D01/1 - FO patch cable

1115574

https://www.phoenixcontact.com/us/products/1115574

Multi-mode OM2 duplex jumper, ST-SC, UPC polishing, length 1 m

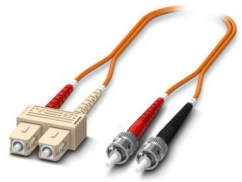


FOC-ST:PA-SC:PA-OM2:D01/2 - FO patch cable

1115573

https://www.phoenixcontact.com/us/products/1115573

Multi-mode OM2 duplex jumper, ST-SC, UPC polishing, length 2 m

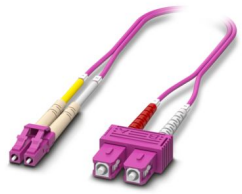


FOC-LC:PA-SC:PA-OM4:D01/1 - FO patch cable

1115601

https://www.phoenixcontact.com/us/products/1115601

Multi-mode OM4 duplex jumper, LC-SC, UPC polishing, length 1 m

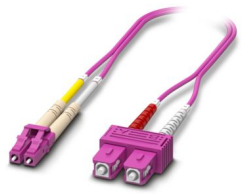


FOC-LC:PA-SC:PA-OM4:D01/2 - FO patch cable

1115600

https://www.phoenixcontact.com/us/products/1115600

Multi-mode OM4 duplex jumper, LC-SC, UPC polishing, length 2 m

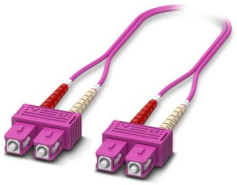


FOC-SC:PA-SC:PA-OM4:D01/1 - FO patch cable

1115424

https://www.phoenixcontact.com/us/products/1115424

Multi-mode OM4 duplex jumper, SC-SC, UPC polishing, length 1 m

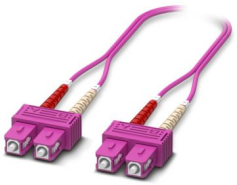


FOC-SC:PA-SC:PA-OM4:D01/2 - FO patch cable

1115423

https://www.phoenixcontact.com/us/products/1115423

Multi-mode OM4 duplex jumper, SC-SC, UPC polishing, length 2 m



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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