

FL SWITCH 7005/FX-2FXSM-EIP - Industrial Ethernet Switch

2701420
<https://www.phoenixcontact.com/us/products/2701420>

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Managed Switch 7000, 5 RJ45 ports 10/100 Mbps, 1 SC multi-mode 100 Mbps, 2 SC single mode 100 Mbps, PROFINET Conformance-Class A, EtherNet/IP™

Your advantages

- VLANs
- Common Industrial Protocol (CIP)
- Device Level Ring (DLR)
- Ambient temperature -40 °C ... 70 °C
- RSTP with fast switch-over
- DHCP client, DHCP server (pool-based and port-based), DHCP option 82
- Web-based management, SNMP
- Slim design

Commercial data

Item number	2701420
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	DN17
Product key	DNN122
Catalog page	Page 327 (C-6-2019)
GTIN	4046356749756
Weight per piece (including packing)	1,167.2 g
Weight per piece (excluding packing)	1,000 g
Customs tariff number	85176200
Country of origin	DE

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Technical data

Dimensions

Width	60 mm
Height	130 mm
Depth	135.5 mm

Mounting

Mounting type	DIN rail mounting
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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	5 (RJ45 ports)

Ethernet FO

Connection method	SC
Transmission speed	100 Mbps (full duplex)
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)

Ethernet FO

Connection method	SC
Transmission speed	100 Mbps (full duplex)
Transmission physics	Single-mode fiberglass
Transmission length	36000 m (fiberglass with F-G 9/125 0.36 dB/km)
	32000 m (fiberglass with F-G 9/125 0.4 dB/km)
	26000 m (fiberglass with F-G 9/125 0.5 dB/km)
Wavelength	1300 nm
No. of channels	2 (SC single mode)

Product properties

Product type	Switch
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Product family	Managed Switch 7000
Type	Book type
MTTF	117.48 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	61.64 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	8.89 Years (SN 29500 standard, temperature 70°C, operating cycle 100%)
Special properties	EtherNet/IP™

Data management status

Article revision	08
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Insulation characteristics

Protection class	III (VDE 0106, IEC 60536)
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Switch functions

Diagnostic functions	Remanente Event-Table
	RMON History
	N:1-Portmirroring
	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps
	ACD (Address Conflict Detection)
EtherNet/IP™ supported protocols	Common Industrial Protocol
Basic functions	Store-and-forward switch, complies with IEEE 802.3
Signal contact control voltage	24 V DC (typical)
Signal contact control current	1 A (maximum)
PROFINET conformance class	Conformance-Class A
PROFINET device function	Fast Startup
Filter functions	Quality of Service (8 priority classes)
	Port-Priorisierung
	VLAN (up to 32 VLANs)
	IGMP Snooping/Querier (v1/v2)
	Auto-Query-Port
	Extended Multicast Filtering
	Static Multicast Filtering (32 groups)
	Link Aggregation (up to 4 trunks)
IP parameterization	DHCP-Client
	DHCP Option 82 (Relay Agent)
	DHCP server (pool-based, port-based)
	BootP
MAC address table	16k
Management	Web-based management (HTTP/HTTPS)
	SNMPv1/v2/v3
Redundancy	DLR (Device Level Ring)
	RSTP (Rapid Spanning Tree Protocol)

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	FRD (Fast Ring Detection)
	Large Tree Support
Status and diagnostic indicators	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link and switchable Activity/Speed/Duplex) EtherNet/IP™ status LED: Net, Mod
Additional functions	MAC-based Port-Security
Time synchronization	PTP 1588 (Transparent clock on the DLR ports)

Security functions

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

Power consumption	12.8 W
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	12.8 W
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	12 V DC ... 58 V DC
Power supply connection	Via COMBICON, max. conductor cross section 2.5 mm²
Residual ripple	3.6 V _{PP} (within the permitted voltage range)
Typical current consumption	445 mA (at U _S = 24 V DC)

Function

Signal contact control voltage	24 V DC (typical)
Signal contact control current	1 A (maximum)

Connection data

Connection method	Screw connection
Conductor cross section, rigid	0.2 mm² ... 2.5 mm²
Conductor cross section, flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 12
Stripping length	7 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)

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Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz
Air pressure (operation)	86 kPa ... 108 kPa (1500 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (3500 m above sea level)

Standards and regulations

Free from substances that could impair the application of coating	Yes
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Approvals

Conformity/Approvals

Noxious gas test	ISA S71.04.2013 G3 Harsh Group A
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EMC data

Conformance with EMC directives	IEC 61000-6-2 IEC 61000-4-2 (ESD) Criterion B
	IEC 61000-6-2 EN 61000-4-3 (electromagnetic fields) Criterion A
	IEC 61000-6-2 IEC 61000-4-4 (burst) Criterion A
	IEC 61000-6-2 IEC 61000-4-5 (surge) Criterion A
	IEC 61000-6-2 IEC 61000-4-6 (immunity to conducted interference) Criterion A
Noise immunity	EN 61000-6-2:2005
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 61000-6-4

System properties

Functionality

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

Status display	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link and switchable Activity/Speed/Duplex) EtherNet/IP™ status LED: Net, Mod
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Classifications

ECLASS

ECLASS-11.0	19170401
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ETIM

ETIM 8.0	EC000734
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UNSPSC

UNSPSC 21.0	43222600
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes
Exemption	15(a), 6(a)-I, 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)

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Accessories

SD FLASH 512MB - Program/configuration memory

2988146

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Program and configuration memory, plug-in, 512 Mbyte.



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.



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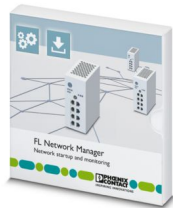
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FL NETWORK MANAGER BASIC - Network management software

2702889

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

FL SNMP OPC SERVER V3 - Driver and interface software

2701139

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SNMP-OPC server, German and English, for monitoring and configuration of SNMP-capable equipment in HMI and SCADA systems

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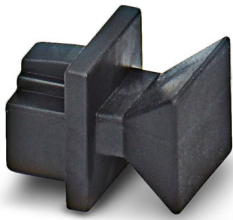
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FL RJ45 PROTECT CAP - Dust protection

2832991

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



Dust protection caps for RJ45 socket

FL DIN RA - DIN rail adapter

2891053

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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.



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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

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Patch cable, CAT5, assembled, 1 m



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FL CAT5 PATCH 2,0 - Patch cable

2832289

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Patch cable, CAT5, assembled, 2 m

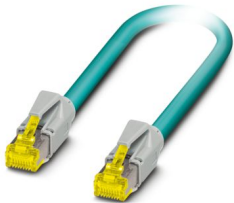


NBC-R4AC-R4AC-IE8A/.../... - Patch cable

1411854

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



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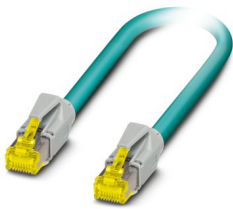
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NBC-R4AC/10G-R4AC/10G-94F/2,0 - Patch cable

1408360

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

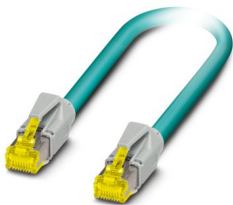


Patch cable, CAT6_A, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

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

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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

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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

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

1408970

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

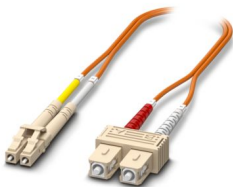


Patch cable, degree of protection: IP20, cable length: 5 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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

1115607

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

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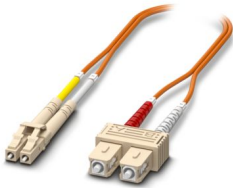
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FOC-LC:PA-SC:PA-OM2:D01/2 - FO patch cable

1115605

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

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

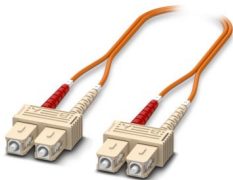


FOC-SC:PA-SC:PA-OM2:D01/1 - FO patch cable

1115536

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

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



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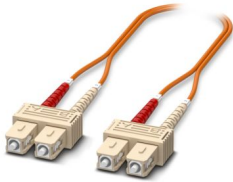
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FOC-SC:PA-SC:PA-OM2:D01/2 - FO patch cable

1115535

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

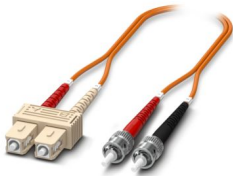


FOC-ST:PA-SC:PA-OM2:D01/1 - FO patch cable

1115574

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



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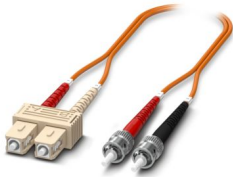
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FOC-ST:PA-SC:PA-OM2:D01/2 - FO patch cable

1115573

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

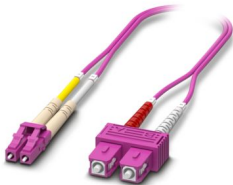


FOC-LC:PA-SC:PA-OM4:D01/1 - FO patch cable

1115601

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



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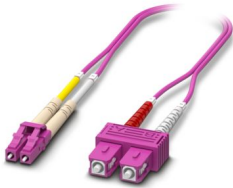
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FOC-LC:PA-SC:PA-OM4:D01/2 - FO patch cable

1115600

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

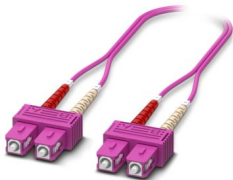


FOC-SC:PA-SC:PA-OM4:D01/1 - FO patch cable

1115424

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



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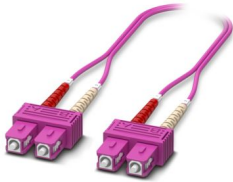
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FOC-SC:PA-SC:PA-OM4:D01/2 - FO patch cable

1115423

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

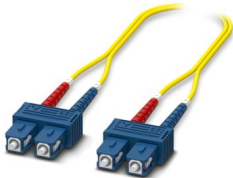


FOC-SC:PA-SC:PA-OS2:D01/1 - FO patch cable

1115550

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Single-mode OS2 duplex jumper, SC-SC, UPC polishing, length 1 m



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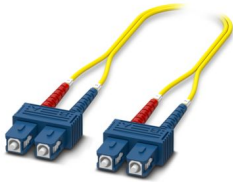
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FOC-SC:PA-SC:PA-OS2:D01/2 - FO patch cable

1115548

<https://www.phoenixcontact.com/us/products/1115548>

Single-mode OS2 duplex jumper, SC-SC, UPC polishing, length 2 m

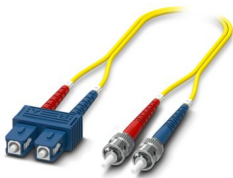


FOC-ST:PA-SC:PA-OS2:D01/1 - FO patch cable

1115582

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Single-mode OS2 duplex jumper, ST-SC, UPC polishing, length 1 m



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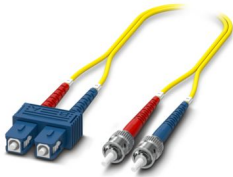
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FOC-ST:PA-SC:PA-OS2:D01/2 - FO patch cable

1115581

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Single-mode OS2 duplex jumper, ST-SC, UPC polishing, length 2 m

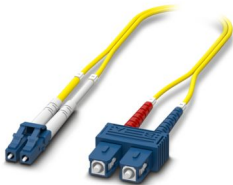


FOC-LC:PA-SC:PA-OS2:D01/1 - FO patch cable

1115618

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Single-mode OS2 duplex jumper, LC-SC, UPC polishing, length 1 m



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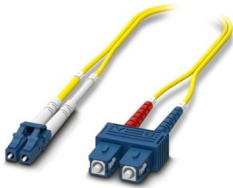
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FOC-LC:PA-SC:PA-OS2:D01/2 - FO patch cable

1115617

<https://www.phoenixcontact.com/us/products/1115617>

Single-mode OS2 duplex jumper, LC-SC, UPC polishing, length 2 m



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