

Industrial Ethernet Switch - FL SWITCH 7008-EIP - 2701418

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Managed Switch 7000 with eight 10/100 Mbit/s RJ45 ports for EtherNet/IP™

Product Description

The FL SWITCH 7008-EIP is a managed Ethernet switch suitable for industrial applications with eight Fast Ethernet ports in RJ45 format. The switches communicate directly via the Common Industrial Protocol (CIP) in the EtherNet/IP™ network. Via CIP, the switch can be integrated into an EtherNet/IP™ control system from where it can be configured and diagnosed. Multicast functions which are important for EtherNet/IP™, such as IGMP snooping, multicast source detection, and auto query port, are also available.

The switch can also be used universally in other automation networks. For maximum network availability, the switches support the non-proprietary Device Level Ring (DLR) redundancy protocol for EtherNet/IP™ with switch-over times <3 ms. In addition, the switch supports Rapid Spanning Tree (RSTP) with fast ring detection (FRD) extension. Thanks to the extended temperature range of -40 °C to 70 °C and the robust metal housing, it can also be used in harsh industrial environments.

Product Features

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



Ethernet EtherNet/IP ODP A CONFORMANT

Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	1000.0 g
Country of origin	Germany

Technical data

Note

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Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	60 mm
Height	130 mm
Depth	135.5 mm

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)
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)

Interfaces

Interface 1	Ethernet (RJ45)
No. of ports	8 (RJ45 ports)
Connection method	RJ45
Note on connection method	Auto negotiation and autocrossing
Transmission physics	Copper
Transmission speed	10/100 MBit/s
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status

Function

Basic functions	Store-and-forward switch, complies with IEEE 802.3
Management	Web-based management (HTTP/HTTPS)
	SNMPv1/v2/v3
Diagnostic functions	Remanente Event-Table
	RMON History
	N:1-Portmirroring
	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps
	ACD (Address Conflict Detection)
Filter functions	Quality of Service (8 priority classes)
	Port-Priorisierung
	VLAN (up to 32 VLANs)

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Technical data

Function

	IGMP Snooping (512 groups)
	IGMP Query
	Auto-Query-Port
	Extended Multicast Filtering
	Static Multicast Filtering (32 groups)
	Link Aggregation (Up to 4 trunks)
MAC address table	16k
Redundancy	DLR (Device Level Ring)
	RSTP (Rapid Spanning Tree Protocol)
	FRD (Fast Ring Detection)
	Large Tree Support
IP parameterization	DHCP-Client
	DHCP Option 82 (Relay Agent)
	DHCP server (pool-based, port-based)
	BootP
PROFINET IO device function	Fast Startup
PROFINET IO conformance class	Conformance-Class A
EtherNet/IP™ supported protocols	Common Industrial Protocol (CIP)
Time synchronization	PTP 1588 (Transparent clock on the DLR ports)
Additional functions	Link aggregation (Up to 4 trunks)
	MAC-based Port Security
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
Signal contact control voltage	24 V DC (typical)
Signal contact control current	1 A (maximum)

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 (redundant)
Residual ripple	3.6 V _{PP} (within the permitted voltage range)
Supply voltage range	12 V DC ... 58 V DC
Typical current consumption	350 mA (at U _S = 24 V DC)
Current consumption	350 mA

General

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Technical data

General

Mounting type	DIN rail
Type AX	Book type
Net weight	900 g

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Developed in acc. with standard	IEC 61000-6.2
Test standard	IEC 61000-4-2 (ESD)
Test result	Criterion B
Test standard	EN 61000-4-3 (electromagnetic fields)
Test result	Criterion A
Test standard	IEC 61000-4-4 (burst)
Test result	Criterion A
Test standard	IEC 61000-4-5 (surge)
Test result	Criterion A
Test standard	IEC 61000-4-6 (immunity to conducted interference)
Test result	Criterion A
Test section	For one minute 500 V DC
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	Operation/Storage/Transport: 5g, 150 Hz, Criterion 3
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2:2005
Vibration (storage/transport)	5g, 150 Hz, in acc. with IEC 60068-2-6
Free from substances that could impair the application of coating	Yes
Vibration (operation)	In acc. with IEC 60068-2-6: 5g, 150 Hz

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Classifications

eCl@ss

eCl@ss 4.0	27250501
eCl@ss 4.1	27250501
eCl@ss 5.0	27250501
eCl@ss 5.1	27250501
eCl@ss 6.0	27250501
eCl@ss 7.0	27250501
eCl@ss 8.0	19170106
eCl@ss 9.0	19170106

ETIM

ETIM 3.0	EC000734
ETIM 4.0	EC000734
ETIM 5.0	EC000734

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201410
UNSPSC 13.2	43201410

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

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Approvals

UL Listed

cUL Listed

cULus Listed

Accessories

Accessories

Assembly adapter

Adapter - FL DIN RA - 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.

Drivers and interfaces

Software - FL SNMP OPC SERVER V3 - 2701139



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

Software - FL SNMP OPC AGENT V3 - 2701136



SNMP-OPC agent, German and English, for integrating OPC-based automation solutions in company-wide network management systems

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Accessories

Network management software

Software - FL VIEW 32 LITE - 2701744



FL VIEW, SNMP-based software in English, for the detection and display of Ethernet networks. 32 nodes (network devices) can be monitored in one Class C subnetwork with this version.

Parameterization memory

Memory - SD FLASH 512MB - 2988146



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

Patch cable

Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1.0 m

Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

Services

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Accessories

Service material - FL START-UP SUPPORT - 2701426



Startup of Phoenix Contact network components and support regarding analysis, consultation/planning or configuration/startup together with a responsible person employed by the initiator.

Service material - FL MAINTENANCE SUPPORT - 2701424



Troubleshooting in an Ethernet communication network together with a responsible person employed by the initiator.

Service material - FL TRAINING - 2701427

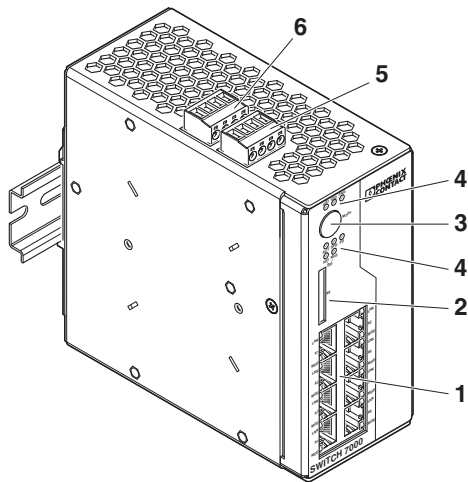


Training for network standards, Ethernet security or wireless with Phoenix Contact components

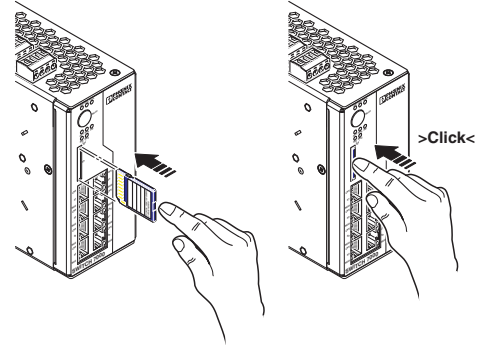
Drawings

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Schematic diagram



Schematic diagram



Inserting/removing the SD card

Key:

- 1 Ethernet ports
- 2 Slot for optional SD memory card
- 3 Mode switch with LEDs
- 4 Diagnostics and status indicators
- 5 Connection of the supply voltage
- 6 Floating signal contact