

Industrial Ethernet Switch - FL NAT 2008 - 2702881

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Managed NAT Switch 2000, 8 RJ45 ports 10/100 Mbps, degree of protection: IP20, PROFINET Conformance-Class A, 1:1-NAT, Virtual NAT, IP-Masquerading

Your advantages

- ✓ Suitable for PROFINET and EtherNet/IP™ networks
- ✓ Easy and fast startup and commissioning with the FL NETWORK MANAGER software
- ✓ Configuration memory
- ✓ RSTP
- ✓ DHCP client, DHCP server (port-based)
- ✓ VLANs
- ✓ MRP client
- ✓ Web-based management, SNMP
- ✓ Slim design
- ✓ -40°C ... +70°C ambient temperature
- ✓ Flexible distribution into several LAN and WAN areas
- ✓ 1:1 NAT, virtual NAT, IP masquerading, port forwarding



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 376622
GTIN	4055626376622
Weight per Piece (excluding packing)	378.000 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

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

Dimensions

Width	45 mm
Height	130 mm
Depth	115 mm

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)
Air pressure (operation)	86 kPa ... 108 kPa (1500 m above sea level)
Air pressure (storage/transport)	86 kPa ... 108 kPa

Interfaces

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

Function

Basic functions	Router for standard routing, NAT, 1:1-NAT and port forwarding
Management	Web-based management (HTTP/HTTPS)
	SNMPv1/v2/v3
	Command-line interface (Telnet, SSH)
Diagnostic functions	RMON History
	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps
	N:1-Portmirroring
	ACD (Address Conflict Detection)
	SysLog
	CRC-Surveillance
Filter functions	Quality of Service (8 priority classes)
	Port-Priorisierung
	VLAN (up to 8 VLANs)
	IGMP Snooping/Querier (v1/v2)
	Auto-Query-Port
NAT functions	Extended Multicast Filtering
	1:1-NAT
	Virtual-NAT

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Function

	IP-Masquerading
	Port forwarding
Redundancy	MRP (Media Redundancy Protocol)
	RSTP (Rapid Spanning Tree Protocol)
MAC address table	8k
IP parameterization	DHCP-Client
	DHCP server (port based)
	BootP
PROFINET conformance class	Conformance-Class A
Time synchronization	SNTP (Simple Network Time Protocol)
Status and diagnostic indicators	LEDs: US (power supply), 2 LEDs per Ethernet port (Link/Activity and Speed)

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 (single)
Residual ripple	3.6 V _{PP} (within the permitted voltage range)
Supply voltage range	18 V DC ... 32 V DC
Typical current consumption	180 mA (at U _S = 24 V DC and 25 °C ambient temperature)
Max. current consumption	0.35 A (At U _S = 18 V DC and 60°C ambient temperature)
Current consumption	180 mA

General

Mounting type	DIN rail
Type AX	Book type
Net weight	378 g
Housing material	Polycarbonate fiber reinforced
Note	Support by phone or on-site (fee is charged)
Special properties	1:1-NAT, Virtual NAT, IP-Masquerading
MTTF	507.8 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	246.55 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	56.66 Years (SN 29500 standard, temperature 55 °C, operating cycle 100 % (7 days a week, 24 hours a day))

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.08 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.08 mm ²

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Connection data

Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	28
Conductor cross section AWG max.	16
Stripping length	7 mm

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Interference emission	EN 61000-6-2 EN 61000-6-4 (interference) Class A
Conducted noise emission	EN 61000-6-2 EN 61000-6-4 (conducted interference) Class A
Immunity to surge	EN 61000-6-2 EN 61000-4-5 (surge) Criterion B
Immunity to burst	EN 61000-6-2 EN 61000-4-4 (EFT burst) Criterion A
Immunity to EF	EN 61000-6-2 EN 61000-4-3 (electromagnetic fields) Criterion A
Immunity to ESD	EN 61000-6-2 EN 61000-4-2 (ESD) Criterion B
Immunity to conducted interference	EN 61000-6-2 EN 61000-4-6 (line noise immunity) Criterion A
Type of test	Free fall in accordance with EN 61131-2
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Vibration (storage/transport)	2g, criterion 1 according to IEC 60068-2-6
Free from substances that could impair the application of coating	Yes
Vibration (operation)	2g, according to IEC 60068-2-6
Shock (operation)	30g (EN 60068-2-27)
UL, USA	UL 61010-1, Ed.3 / UL 61010-2-201, Ed.1
UL, Canada	CSA C22.2 NO.61010-2-201:14, Ed.1 / CSA C22.2 NO.61010-1-12, Ed.3

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Classifications

eCl@ss

eCl@ss 10.0.1	19170401
eCl@ss 5.0	19030100
eCl@ss 5.1	19030100
eCl@ss 6.0	19170100
eCl@ss 7.0	19170106
eCl@ss 8.0	19170106
eCl@ss 9.0	19170106

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Classifications

ETIM

ETIM 5.0	EC000734
ETIM 6.0	EC000734
ETIM 7.0	EC000734

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / UL Listed / cUL Listed / EAC

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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EAC			RU*- DE.*.B.00741/19
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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EAC			RU*- DE.*.B.00741/19
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Accessories

Accessories

Data cable preassembled

Patch cable - NBC-R4AC-R4AC-IE8A/.../... - 1411854



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

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

Patch cable - NBC-R4AC/10G-R4AC/10G-94F/3,0 - 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

Patch cable - NBC-R4AC/1,0-93B/R4AC - 1408968



PROFINET patch cable, shielded, star-quad, 22 AWG stranded (7-wire), green, straight RJ45 male connector/IP20 to straight RJ45 male connector/IP20, length: 1.0 m

Patch cable - NBC-R4AC/2,0-93B/R4AC - 1408969



PROFINET patch cable, shielded, star quad, 22 AWG stranded (7-wire), green, straight RJ45 plug/IP20, to straight RJ45 plug/IP20, length: 2 m

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Accessories

Patch cable - NBC-R4AC/5,0-93B/R4AC - 1408970



PROFINET patch cable, shielded, star quad, 22 AWG stranded (7-wire), green, straight RJ45 plug/IP20 to straight RJ45 plug/IP20, length: 5 m

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

End block

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

Mounting rail adapter

DIN rail 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.

Network management software

Software - FL NETWORK MANAGER BASIC - 2702889



FL Network Manager, SNMP-based configuration and firmware update software, for easy startup of Managed Switches

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Accessories

Parameterization memory

Memory - SD FLASH 512MB - 2988146



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

Program / configuration memory - SD FLASH 2GB - 2988162



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

Patch cable

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1 m

Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

PCB plug

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Accessories

Printed-circuit board connector - FK-MCP 1,5/ 5-ST-3,81GY35BD1-5 - 1015782



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 5, pitch: 3.81 mm, connection method: Push-in spring connection, color: light gray, contact surface: Tin

Printed-circuit board connector - MCVW 1,5/ 5-ST-3,81GY7035BD2US - 1034103



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 5, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: light gray, contact surface: Tin

Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket