

# FL NAT 2008 - Industrial Ethernet Switch



2702881

<https://www.phoenixcontact.com/us/products/2702881>

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

## Your advantages

- 1:1 NAT, virtual NAT, IP masquerading, port forwarding
- MRP client
- Ambient temperature -40 °C ... 70 °C
- VLANs
- DHCP client, DHCP server (port-based)
- RSTP
- Flexible distribution into several LAN and WAN areas
- Configuration memory
- Slim design
- 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	2702881
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DN17
Product Key	DNN131
Catalog Page	Page 328 (C-6-2019)
GTIN	4055626376622
Weight per Piece (including packing)	383.1 g
Weight per Piece (excluding packing)	240 g
Customs tariff number	85176200
Country of origin	DE

## Technical Data

### Dimensions

Width	45 mm
Height	130 mm
Depth	115 mm

### Notes

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

Housing material	Polycarbonate fiber reinforced
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### 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	8 (RJ45 ports)

### Product properties

Type	Book type
Product type	Switch
Product family	Managed NAT Switch 2000
MTTF	507.8 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	246.55 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	56.66 Years (SN 29500 standard, temperature 55°C, operating cycle 100%)
Special properties	1:1-NAT, Virtual NAT, IP-Masquerading
Signal delay	≥ 6.5 μs (Store and Forward mode, 10/100 Mbps, depending on the frame size)

#### Insulation characteristics

Protection class	III (VDE 0106)
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#### Switch functions

	RMON History
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Diagnostic functions	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps
	N:1-Portmirroring
	ACD (Address Conflict Detection)
	SysLog
	CRC-Surveillance
Basic functions	Router for standard routing, NAT, 1:1-NAT and port forwarding
NAT functions	1:1-NAT
	Virtual-NAT
	IP-Masquerading
	Port forwarding
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
IP parameterization	Extended Multicast Filtering
	DHCP-Client
	DHCP server (port based)
	BootP
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)
Status and diagnostic indicators	LEDs: US (power supply), 2 LEDs per Ethernet port (Link/Activity and Speed)
Time synchronization	SNTP (Simple Network Time Protocol)

## Security functions

Basic functions	Router for standard routing, NAT, 1:1-NAT and port forwarding
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## Electrical properties

Local diagnostics	US Supply voltage Green LED
	LNK/ACT Link status Green LED
	SPD Data transmission speed Green LED
Maximum power dissipation for nominal condition	4.86 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 mm <sup>2</sup>
Residual ripple	3.6 V <sub>PP</sub> (within the permitted voltage range)
Max. current consumption	0.35 A (At U <sub>S</sub> = 18 V DC and 60°C ambient temperature)
Typical current consumption	180 mA (at U <sub>S</sub> = 24 V DC and 25 °C ambient temperature)
Current consumption	180 mA

## Connection data

Connection method	Screw connection
Note on the connection method	Use only copper connecting cables providing the permitted temperature range (-40 °C ... 75 °C).
Conductor cross section, rigid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16
Stripping length	7 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

## Standards and regulations

Free from substances that could impair the application of coating	Yes
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## Approval data

### Conformity/Approvals

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

## 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

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	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
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2

## LED signaling

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



**EAC**

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



**UL Listed**

Approval ID: FILE E 238705



**cUL Listed**

Approval ID: FILE E 238705

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-9.0	19170106
ECLASS-10.0.1	19170401
ECLASS-11.0	19170401
ECLASS-12.0	19170401
ECLASS-13.0	19170401

### ETIM

ETIM 8.0	EC000734
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### UNSPSC

UNSPSC 21.0	43222600
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"



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## Accessories

### SD FLASH 512MB - Program / configuration memory

2988146

<https://www.phoenixcontact.com/us/products/2988146>

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



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### 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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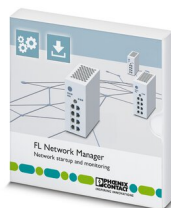
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## FL NETWORK MANAGER BASIC - Network management software

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

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## FL SNMP OPC SERVER V3 - Driver and interface software

2701139

<https://www.phoenixcontact.com/us/products/2701139>



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

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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.



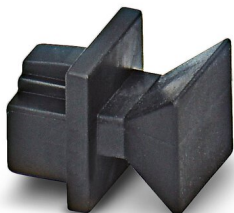
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## FL RJ45 PROTECT CAP - Dust protection

2832991

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

Dust protection caps for RJ45 socket



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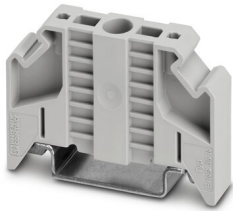
<https://www.phoenixcontact.com/us/products/2702881>

## E/NS 35 N - End clamp

0800886

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

End clamp, width: 9.5 mm, color: gray



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## 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<sup>2</sup>, color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, 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 °, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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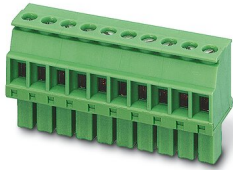
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## MCVW 1,5/ 5-ST-3,81GY7035BD2US - PCB connector

1034103

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



PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, 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 °, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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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

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## 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

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

Patch cable, CAT5, assembled, 2 m



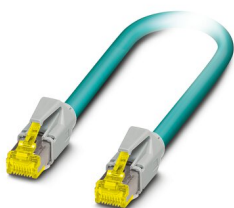
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## NBC-R4AC-R4AC-IE8A/.../... - Patch cable

1411854

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



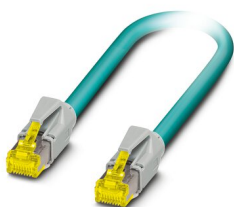
Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6<sub>A</sub>, cable outlet: straight, Ethernet

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

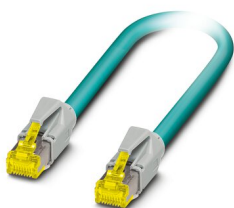
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## NBC-R4AC/10G-R4AC/10G-94F/3,0 - Patch cable

1408365

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Patch cable, CAT6<sub>A</sub>, 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



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## 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

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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

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