

FL NAT 2008 - Industrial Ethernet Switch



2702881

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Managed NAT Switch 2000 series, 8 RJ45 ports 10/100 Mbps, degree of protection: IP20, Ambient temperature (operation): 0 °C ... 60 °C, Supply voltage range: 18 V DC ... 32 V DC, PROFINET Conformance Class A, 1:1-NAT, Virtual NAT, IP-Masquerading, Development process certified in accordance with IEC 62443-4-1, Product certified in accordance with IEC 62443-4-2

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	DNN131
Product key	DNN131
GTIN	4055626376622
Weight per piece (including packing)	323.1 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)
Note on application	
Note on application	Only for industrial use

Material specifications

Color (Housing)	gray (RAL 7042)
Color (Cover)	light gray (RAL 7035)
Housing material	Polycarbonate fiber reinforced

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

Product type	Switch
Product family	Managed NAT Switch 2000
Type	Book type
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
	Development process certified in accordance with IEC 62443-4-1
	Product certified in accordance with IEC 62443-4-2
Signal delay	≥ 6.5 µs (Store and Forward mode, 10/100 Mbps, depending on

	the frame size)
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Insulation characteristics

Protection class	III (VDE 0106)
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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	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)
MAC address table	BootP
	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

Current consumption	180 mA
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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 section	24 V supply / functional ground 500 V DC 1 min
	Ethernet interface/all other potentials 2.25 kV DC 1 min
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 ²
Residual ripple	3.6 V _{PP} (within the permitted voltage range)
Max. current consumption	0.35 A (At $U_S = 18$ V DC and 60°C ambient temperature)
Typical current consumption	180 mA (at $U_S = 24$ 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)
pluggable	yes
Conductor cross-section, rigid	0.08 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.08 mm ² ... 1.5 mm ²
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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Approvals

Conformity/Approvals

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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

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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
Noise immunity	EN 61000-6-2 EN 61000-6-4 (conducted interference) Class A
	EN 61000-6-2

Noise emission

Standards/regulations	EN 61000-6-4
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System properties

Functionality

Basic functions	Router for standard routing, NAT, 1:1-NAT and port forwarding
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Signaling

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

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cULus Listed

Approval ID: E238705

Cybersecurity Certificate

Approval ID: 968 CSP 1043.00 25



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Classifications

ECLASS

ECLASS-13.0	19170401
ECLASS-15.0	19170401

ETIM

ETIM 10.0	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	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	32343c0b-ae97-4d47-8cf0-e57836e114b1

EF3.1 Climate Change

CO2e kg	10.11 kg CO2e
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