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Wide temperature Ethernet switch, 14 TP RJ45 ports, automatic detection of data transmission speed of 10 or 100 Mbps (RJ45), autocrossing function. Two FO ports in SC format.

#### **Product Description**

Standard function Ethernet switch with 14 RJ45 ports and 2 SC-D fiber optic ports for extreme environments (-40°C ... +75°C). Provides automatic detection of data transmission speed of 10 or 100 Mbps (RJ45), autocrossing function, 12 V DC ... 48 V DC input voltage, redundant power supply capable with remote alarming.

#### Your advantages

- ☑ Devices are available for standard temperature range (0°C ... +60°C) and wide temperature range (-40°C ... +75°C)
- 16 ports in narrow metal housing with redundant input voltage
- Muto negotiation and autocrossing detection simplifies installation and setup
- Local diagnostic indicators with LEDs
- Security options with cable locking
- RJ45 ports support a transmission speed of 10/100 Mbps; fiber optic ports support 100 Mbps



# **Key Commercial Data**

Packing unit	1 pc
GTIN	4 046356 551632
GTIN	4046356551632
Weight per Piece (excluding packing)	1,260.000 g
Custom tariff number	85176200
Country of origin	Taiwan

### Technical data

Note



# Technical data

#### Note

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

#### Dimensions

Width	70 mm
Height	135 mm
Depth	110 mm

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C 75 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Permissible humidity (operation)	5 % 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % 95 % (non-condensing)
Air pressure (operation)	62 kPa 108 kPa (up to 4160 m above mean sea level)
Air pressure (storage/transport)	62 kPa 108 kPa (up to 4160 m above mean sea level)

## Interfaces

Interface	Ethernet (RJ45)
No. of ports	14 (RJ45 ports)
Note on the connection method	Auto negotiation and autocrossing
Transmission physics	Ethernet in RJ45 twisted pair
Transmission speed	10/100 Mbps
Transmission length	100 m (per segment)
Interface	Fiber optic interface
No. of ports	2 (SC multi-mode)
Transmission physics	multi-mode fiberglass
Transmission speed	100 Mbps (full duplex)
Transmission length	12.1 km (fiberglass with F-G 62.5/125 0.7 dB/km F1000)
	7.1 km (fiberglass with F-G 50/125 0.7 dB/km F1200)
Wavelength	1300 nm

#### Function

Basic functions	Unmanaged switch / auto negotiation, complies with IEEE 802.3, store-and-forward switching mode, includes alarm contacts
Additional functions	Autonegotiation
Status and diagnostic indicators	LEDs: U <sub>S1</sub> , U <sub>S2</sub> (redundant voltage supply), link and activity per port

# Network expansion parameters

Cascading depth	Network, linear, and star structure: any
Maximum conductor length (twisted pair)	100 m



# Technical data

# Supply voltage

Supply voltage	24 V DC (redundant)
Residual ripple	3.6 V <sub>PP</sub> (within the permitted voltage range)
Supply voltage range	12 V DC 48 V DC
Typical current consumption	350 mA (at U <sub>S</sub> = 24 V DC)
Max. current consumption	700 mA (at 12 V DC)

## General

Mounting type	DIN rail
Type AX	Block design
Net weight	1175.2 g
Housing material	Aluminum
MTTF	39.8 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)

# Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Shock	25g, in accordance with IEC 60068-2-27
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz
Conformance	CE-compliant
ATEX	# II 3 G Ex nA nC IIC T4 Gc
IECEx	Ex nA nC IIC T4 Gc
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 10;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

# Classifications

# eCl@ss

eCl@ss 10.0.1	19170402
eCl@ss 4.0	24010500
eCl@ss 4.1	24010500
eCl@ss 5.0	19030100
eCl@ss 5.1	19030100



# Classifications

# eCl@ss

eCl@ss 6.0	19170100
eCl@ss 7.0	19170106
eCl@ss 8.0	19170106
eCl@ss 9.0	19170106

# **ETIM**

ETIM 3.0	EC000734
ETIM 4.0	EC000734
ETIM 5.0	EC000734
ETIM 6.0	EC000734
ETIM 7.0	EC000734

# **UNSPSC**

UNSPSC 6.01	43172901
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201410
UNSPSC 13.2	43222612
UNSPSC 18.0	43222612
UNSPSC 19.0	43222612
UNSPSC 20.0	43222612
UNSPSC 21.0	43222612

# Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

IECEx / ATEX / UL Listed / cUL Listed / cULus Listed

Approval details



# Approvals

UL Listed

UL LISTED

http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm

FILE E 140324

cUL Listed



http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm

FILE E 140324

cULus Listed



#### Accessories

Accessories

Assembly adapter

Mounting plate - FL PA SFNT 5-8 - 2891012



Mounting plate for SFNT switches

## Data cable preassembled

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



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

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



#### Accessories

Patch cable - NBC-R4AC/10G-R4AC/10G-94F/3,0 - 1408365



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

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

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

FO patch cable - FOC-LC:PA-SC:PA-OM2:D01/1 - 1115607





## Accessories

FO patch cable - FOC-LC:PA-SC:PA-OM2:D01/2 - 1115605



FO patch cable - FOC-SC:PA-SC:PA-OM2:D01/1 - 1115536



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

FO patch cable - FOC-SC:PA-SC:PA-OM2:D01/2 - 1115535



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

FO patch cable - FOC-ST:PA-SC:PA-OM2:D01/1 - 1115574



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

FO patch cable - FOC-ST:PA-SC:PA-OM2:D01/2 - 1115573



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



## Accessories

FO patch cable - FOC-LC:PA-SC:PA-OM4:D01/1 - 1115601



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

FO patch cable - FOC-LC:PA-SC:PA-OM4:D01/2 - 1115600



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

FO patch cable - FOC-SC:PA-SC:PA-OM4:D01/1 - 1115424



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

FO patch cable - FOC-SC:PA-SC:PA-OM4:D01/2 - 1115423



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

End block

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray



### Accessories

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.

#### 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



#### Accessories

Printed-circuit board connector - MSTB 2,5/ 2-ST - 1754449



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 2, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

### Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

#### Safety locking

Port Guard Security Element - FL SEC PAC 4TX - 2832865

Layer1 security elements for four RJ45 network connections for use with patch boxes and panels



Surge protection for information technology

Surge protection device - DT-LAN-CAT.6+ - 2881007



Surge protection in accordance with Class  $E_A$  (CAT6<sub>A</sub>), for Gigabit Ethernet (up to 10 Gbps), token ring, FDDI/CDDI, ISDN, and DS1. Suitable for Power over Ethernet (PoE+) "Mode A" and "Mode B". RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.

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