FL SWITCH 2516 PN - Industrial Ethernet Switch

1089205

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CRA-READY



Managed Switch 2000 series, 16 RJ45 ports 10/100/1000 Mbps, degree of protection: IP20, Ambient temperature (operation): -40 °C ... 70 °C, Supply voltage range: 19 V DC ... 32 V DC, PROFINET Conformance Class B, Extended temperature range, PROFINET mode preset, PROFINET status LEDs, Development process certified in accordance with IEC 62443-4-1, Product certified in accordance with IEC 62443-4-2, The product is being prepared for compliance with the Cyber Resilience Act (CRA)

Your advantages

- RSTP
- DHCP client, DHCP server (pool-based and port-based), DHCP option 82
- VLANs
- MRP (client and manager)
- Ambient temperature -40 °C ... 70 °C
- Configuration memory
- Web-based management, SNMP
- PROFINET mode preset

ELEKTROGERÄTE RÜCKNAHME

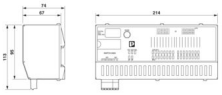
Commercial data

Item number	1089205
Packing unit	1 pc
Minimum order quantity	1 pc

Sales key	DN17
Product key	DNN122
GTIN	4055626891781
Weight per piece (including packing)	1,250 g
Weight per piece (excluding packing)	1,035 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	214 mm
Height	113 mm
Depth	67 mm

Notes

Note on application	Support by phone or on-site (fee is charged)
Note on application	Only for industrial use
Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.

Material specifications

Color (Housing)	Steel/stainless steel color
Material base plate	Die-cast aluminum, corrosion-resistant
Housing material	Stainless steel 1.4301

Mounting

Mounting type	DIN rail mounting

Interfaces

Ethernet (RJ45)

Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100/1000 Mbps
Transmission physics	Copper
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status
No. of channels	16 (RJ45 ports)

Output data

Signal contact

Output name	Relay
Control voltage	typ. 24 V DC
Actuation voltage range	max. 60 V DC
Current carrying capacity	max. 0.2 A

Product properties

Product type	Switch
Product family	Managed Switch 2000
Type	Block design
MTTF	238.46 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	137.07 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	21.04 Years (SN 29500 standard, temperature 70°C, operating cycle 100%)
Special properties	Extended temperature range
	PROFINET mode preset, PROFINET status LEDs
	Development process certified in accordance with IEC 62443-4-1
	Product certified in accordance with IEC 62443-4-2
	The product is being prepared for compliance with the Cyber Resilience Act (CRA)
Signal delay	≥ 1.9 µs (Store-and-Forward mode, 10/100/1000 Mbps, depending on the frame size)

Insulation characteristics

Protection class	III (VDE 0106)
Degree of pollution	2

Switch functions

IP parameterization	DHCP client
	DHCP Option 82 (Relay Agent)
	DHCP server (pool-based, port-based)
	BootP
	DCP (Discovery and Configuration Protocol)
MAC address table	8k
Signal contact control voltage	typ. 24 V DC
PROFINET conformance class	Conformance Class B
PROFINET device function	PROFINET device
	Fast Startup
Status and diagnostic indicators	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (link/activity and speed), PROFINET status LEDs (BF, SF)
Basic functions	Store-and-forward switch, complies with IEEE 802.3
Management functions	Web-based management (HTTP/HTTPS)
	Role-based user management (LDAP, RADIUS)
	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)
	Class of Service
	DiffServ/DSCP
	Port-Priorisierung
	VLAN (up to 32 VLANs)
	IGMP Snooping/Querier (v1/v2)
	Auto-Query-Port
	Extended Multicast Filtering
Redundancy functions	MRP (Media Redundancy Protocol)
	RSTP (Rapid Spanning Tree Protocol)
	FRD (Fast Ring Detection)
	Large Tree Support
	LACP (Link Aggregation Control Protocol)
	PROFINET S2 system redundancy
Time synchronization	SNTP (Simple Network Time Protocol)
Additional functions	Jumbo frames (max. 9,600 bytes)
	Transmission of MMS and GOOSE (IEC 61850-8-1)
	Transmission of Modbus/TCP

Security functions

Port security	MAC-based, RADIUS (IEEE 802.1X), MAC Authentication Bypass

Electrical properties

Local diagnostics	US1/2 Supply voltage US1, US2 Green LED
	FAIL Div. LED red
	LNK/ACT Link status Green LED
	SPD Data transmission speed Green/orange LED
	BF Bus errors LED red
	SF Group error LED red
Maximum power dissipation for nominal condition	11.26 W (U_S = max, T_{amb} = max)
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 (redundant)
Supply voltage range	19.2 V DC ... 32 V DC
Power supply connection	Via COMBICON, max. conductor cross-section 2.5 mm²
Residual ripple	3.6 V_{PP} (within the permitted voltage range)
Max. current consumption	610 mA (U_S = min, T_{amb} = max)
Typical current consumption	440 mA (at U_S = 24 V DC and 25 °C ambient temperature)

Ground connection	Via DIN rail
Functional grounding	The functional ground of the module is grounded when it is snapped onto a grounded DIN rail

Connection data

Connection method	Push-in spring 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	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 16
Stripping length	10 mm

Environmental and real-life conditions

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)
Shock (operation)	30g (EN 60068-2-27)
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz
Air pressure (operation)	79 kPa ... 108 kPa up to 2000 m above mean sea level (Without derating)
Air pressure (storage/transport)	79 kPa ... 108 kPa up to 2000 m above mean sea level (Without derating)

Standards and regulations

Free from substances that could impair the application of coating	Yes

Approvals

UL, USA/Canada

Identification	cULus

Corrosive gas test

Identification	ISA S71.04.2013 G3 Harsh Group A

Shipbuilding data

Temperature	B
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

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 A
	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
Noise immunity	EN 61000-6-2

Noise emission

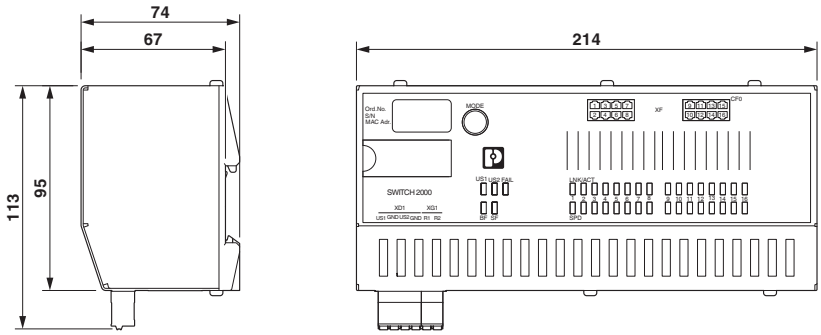
Standards/regulations	EN 61000-6-4

Signaling

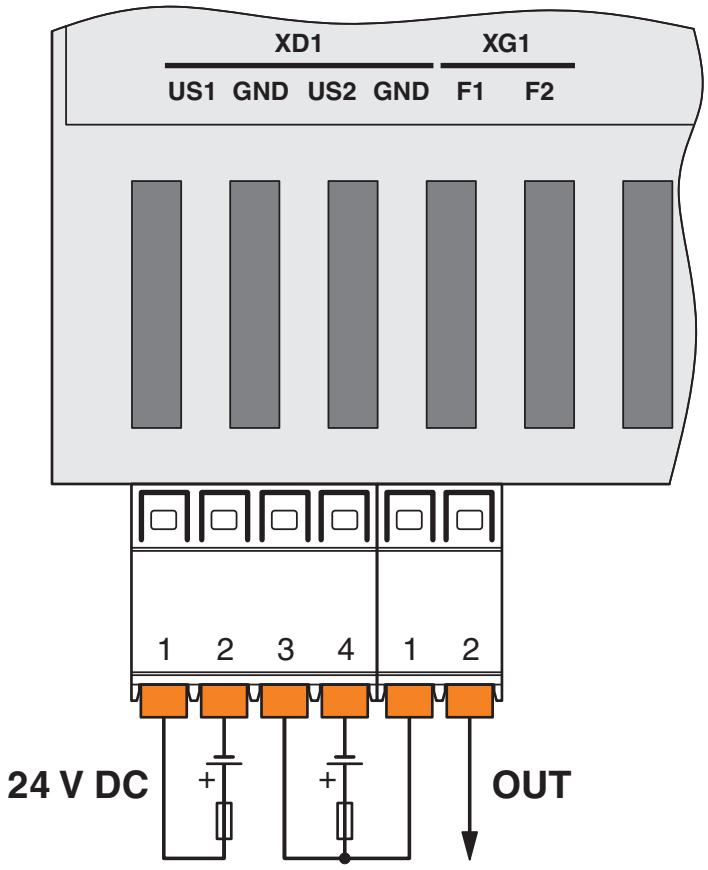
Status display	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (link/activity and speed), PROFINET status LEDs (BF, SF)

Drawings

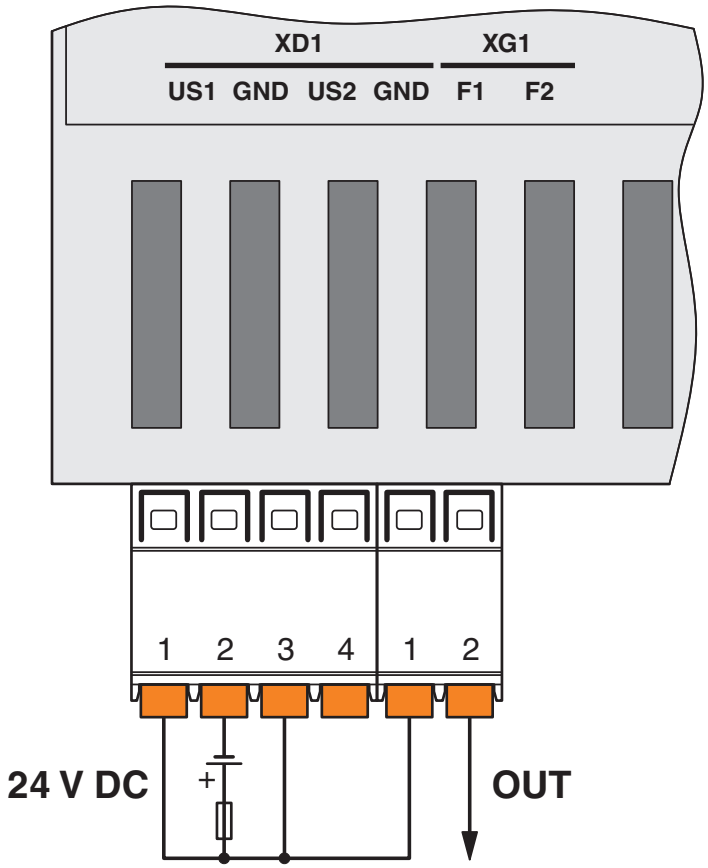
Dimensional drawing



Connection diagram



Connection diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1089205

DNV GL
Approval ID: TAA00000YV

LR
Approval ID: LR22250919TA

BV
Approval ID: 48146_B1 BV

BSH
Approval ID: 1045

ABS
Approval ID: 26-0501235-PDA

RINA
Approval ID: ELE014724XG001

cULus Listed
Approval ID: E238705

PROFINET
Approval ID: Z12635

Cybersecurity Certificate
Approval ID: 968 CSP 1043.00 25

Classifications

ECLASS

ECLASS-13.0	19170401
ECLASS-15.0	19170401

ETIM

ETIM 10.0	EC000734

UNSPSC

UNSPSC 21.0	43222600

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	9d1e0d95-8ed5-407b-bacc-7107a003cefd

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