MC 1000-SM20 SC - FO converters

1329820

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CRA-READY



Media converter for industrial Ethernet and PROFINET networks, 10/100 Mbps, RJ45 to up to 20 km of singlemode fiber optics (SC Duplex), 12 V DC ... 48 V DC, -10°C ... +60°C, low latency, cut-through/store-and-forward mode, LFPT. Product is being prepared for compliance with the Cyber Resilience Act (CRA).

Product description

The media converter integrates interference-immune singlemode fiber-optic links over distances of up to 20 km into industrial Ethernet and PROFINET networks. Optical transmission improves immunity to interference and enables the reliable networking of geographically separated machine and system components. Low latency supports real-time communication, while LFPT enables rapid detection of interrupted connections.

Your advantages

- Auto MDI/MDI-X switch-over
- Data transfer rates of 100 Mbps
- Link fault pass through (LFPT) function for easy connection monitoring
- Class 1 laser product complies with EN 60825-1

Commercial data

Item number	1329820
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DNC314
GTIN	4063151625801
Weight per piece (including packing)	164 g
Weight per piece (excluding packing)	124 g
Customs tariff number	85176200
Country of origin	MY

Technical data

Notes

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.

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area

Product properties

Product type	Media converter
Product family	MC 1000
MTTF	87.2 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)
	756.3 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	668.4 Years (Telcordia standard, temperature 25 °C, operating cycle 100 % (7 days a week, 24 hours a day))
Special properties	The product is being prepared for compliance with the Cyber Resilience Act (CRA)

Functions

Basic functions	Store-and-forward media converter

Security functions

Basic functions	Store-and-forward media converter

System properties

Functionality

Basic functions	Store-and-forward media converter

Electrical properties

Maximum power dissipation for nominal condition	1.4 W

Supply

Supply voltage range	12 V DC ... 48 V DC
Nominal supply voltage	24 V DC
Typical current consumption	59 mA (24 V DC)
Max. current consumption	170 mA (12 V DC, 60 °C)

Connection data

Supply

Connection method	Push-in spring connection

Single conductor/terminal point, rigid	0.2 mm² ... 2.5 mm²
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section, flexible [AWG]	24 ... 12
Stripping length	10.00 mm

Interfaces

Signal	Ethernet
Basic functions	Store-and-forward media converter

Data: optical FO

Transmit capacity, minimum	-15 dBm (9/125 µm, singlemode fiberglass)
Transmit capacity, maximum	-8 dBm (9/125 µm, singlemode fiberglass)
Connection method	SC duplex
Wavelength	1310 nm
Minimum receiver sensitivity	-32 dBm (9/125 µm, singlemode fiberglass)
Maximum receiver sensitivity	0 dBm (9/125 µm, singlemode fiberglass)
Transmission medium	Single-mode fiberglass

Data: Ethernet interface, 100Base-T(X) in accordance with IEEE 802.3

Transmission speed	10/100 Mbps
Connection method	RJ45 jack, shielded
No. of channels	1
Transmission length	100 m (twisted pair, shielded)
Transmission medium	Copper
Signal LEDs	LNK/ACT, SPD, US
Auto-negotiation modes	Auto
Link through	Link fault pass through
MDI-/MDI-X switchover	Auto-MDI(X)

Dimensions

Width	22.5 mm
Height	123 mm
Depth	90 mm

Material specifications

Color (Housing)	gray (RAL 7042)
Color (Cover)	light gray (RAL 7035)
Material (Housing)	Polyamide fiberglass reinforced

Cable/line

FO cable

Fiber types	9/125 µm
	Fiberglass

Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	Operation: 5g, 150 Hz, Criterion 3
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	Operation: 30g, 11 ms half-sine shock pulse

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP30
Ambient temperature (operation)	-10 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m (in acc. with UL)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Shock	300 m/s², 11 ms (IEC 60068-2)

Approvals

CE

Certificate	CE-compliant

UL, USA/Canada

Identification	UL 61010-1
	UL 61010-2-201

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Comments	Criterion A

Surge current load (surge)

Standards/regulations	EN 61000-4-5

Surge current load (surge)

Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Comments	Criterion A

Emitted interference

Standards/regulations	EN 55032

Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Mounting

Mounting type	DIN rail mounting
Mounting position	on horizontal DIN rail NS 35 in acc. with EN 60715
Useable DIN rail type	DIN rail: 35 mm

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/1329820

cULus Listed
Approval ID: E238705

IECEE CB Scheme
Approval ID: CA-11671-M1-UL

Classifications

ECLASS

ECLASS-13.0	19170411
ECLASS-15.0	19170411

ETIM

ETIM 10.0	EC001467

UNSPSC

UNSPSC 21.0	43223323

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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.)	No substance above 0.1 wt%

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