MC 1000E-MM ST - FO converters

1330504

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CRA-READY



Industrial Ethernet/PROFINET converter, 10/100 Mbps, RJ45 to multimode fiber optics (B-FOC, ST), 12 V DC ... 58 V DC, -40°C ... +75°C, metal housing, redundant power supply, alarm output, ATEX/IECEx, UL HazLoc, IEC 61850, IEEE 1613, DNV, LFPT. Product is being prepared for compliance with the Cyber Resilience Act (CRA).

Product description

This media converter integrates interference-immune multimode fiber-optic links into Industrial Ethernet and PROFINET networks. Optical transmission improves immunity to interference and enables the reliable networking of geographically separated machine and system components. High EMC immunity and extensive approvals provide planning reliability for demanding applications in the Ex area, in energy technology, and in the maritime sector.

Your advantages

- Auto MDI/MDI-X switch-over
- Data transfer rates of 100 Mbps
- Link fault pass through (LFPT) function for easy connection monitoring
- Network structure according to IEC 61850-3
- IEEE 1613
- Class 1 laser product complies with EN 60825-1

Commercial data

Item number	1330504
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN06
Product key	DNC314
GTIN	4063151627041
Weight per piece (including packing)	279.9 g
Weight per piece (excluding packing)	180 g
Customs tariff number	85176200
Country of origin	CA

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.

Product properties

Product type	Media converter
Product family	MC 1000E
MTTF	68.5 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)
	508.3 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	551.7 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	1.5 W

Supply

Supply voltage range	12 V DC ... 57 V DC
Nominal supply voltage	24 V DC
	48 V DC
Typical current consumption	62 mA (24 V DC)
Max. current consumption	170 mA (12 V DC, 75 °C)

Output data

Signal

Output name	Digital output
Voltage output signal	12 V DC ... 48 V DC (depending on the input voltage)
Current output signal	100 mA

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	-20 dBm (62.5/125 µm, multimode fiberglass)
	-23.5 dBm (50/125 µm, multimode fiberglass)
Transmit capacity, maximum	-14 dBm
Transmission length incl. 3 dB system reserve	2 km
Connection method	B-FOC (ST)
Wavelength	1310 nm
Minimum receiver sensitivity	-32 dBm
Maximum receiver sensitivity	-8 dBm
Transmission medium	Multi-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, Err, US, US2
Auto-negotiation modes	Auto
Link through	Link fault pass through
MDI-/MDI-X switchover	Auto-MDI(X)

Dimensions

Width	22.5 mm
Height	125 mm
Depth	90 mm

Material specifications

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

Cable/line

FO cable

Fiber types	50/125 µm
	62.5/125 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)	-40 °C ... 75 °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
	Class I, Division 2, Groups A, B, C, and D, T4
	Class I, Zone 2, IIC T4

IECEx

Identification	Ex ec IIC T4 Gc
Certificate	IECEx UL 25.0019X

ATEX

Identification	Ⓔx II 3 G Ex ec IIC T4 Gc
Certificate	UL 25 ATEX 3348X

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	IEC 61850-3, IEEE 1613

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/us/products/1330504

cULus Listed
Approval ID: E238705

BSH
Approval ID: BSH Nr. 1176

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

DNV
Approval ID: TAA00003RU

IECEx
Approval ID: IECEx UL 25.0019X

ATEX
Approval ID: UL 25 ATEX 3348X

cULus Listed
Approval ID: E196811

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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