

FL MC 2000E LC - FO converters



2891056

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FO converter with LC duplex fiber optic connection (1300 nm), for converting 100Base-TX to multi-mode fiberglass. Auto MDI(X) function. Comprehensive link diagnostics. DIN rail mountable, 12 ... 57 V DC supply. Meets IEC 61850-3 and IEEE 1613 standards.

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
- IEEE 1613

Commercial data

Item number	2891056
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN06
Product key	DNC312
GTIN	4046356763141
Weight per piece (including packing)	485.6 g
Weight per piece (excluding packing)	315 g
Customs tariff number	85176200
Country of origin	TW

Technical data

Notes

Note on application

Note on application	Only for industrial use
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Product properties

Product type	Media converter
MTTF	95.3 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)
Signal delay	700 ns (Pass-through mode, 100 Mbps, static)

Electrical properties

Electrical isolation	VCC // FE // Ethernet
Test voltage data interface/power supply	1500 V AC (500 V AC, 1 minute)

Supply

Supply voltage range	12 V DC ... 57 V DC
Nominal supply voltage	24 V DC 48 V DC
Typical current consumption	110 mA (24 V DC)

Output data

Switching

Output name	Relay output
Output description	Alarm output
Number of outputs	1
Contact switching type	N/C contact
Maximum switching voltage	24 V DC
Max. switching current	100 mA

Connection data

Supply

Connection method	Plug-in screw terminal block (COMBICON), redundancy possible
Conductor cross-section, flexible	0.20 mm ² ... 2.50 mm ²
Conductor cross-section, rigid	0.20 mm ² ... 2.50 mm ²
Conductor cross-section, flexible [AWG]	24 ... 12
Conductor cross-section AWG	24 ... 12
Tightening torque	5 Nm ... 7 Nm

Interfaces

Signal	Ethernet
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Data: optical FO

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Transmit capacity, minimum	-19 dBm
Transmit capacity, maximum	-14 dBm
Transmission length incl. 3 dB system reserve	8 km (fiberglass with F-G 62.5/125 0.7 dB/km F1000)
	3.3 km (fiberglass with F-G 62.5/125 2.6 dB/km F600)
	9.6 km (fiberglass with F-G 50/125 0.7 dB/km F1200)
	5.3 km (fiberglass with F-G 50/125 1.6 dB/km F800)
Connection method	LC duplex
Wavelength	1310 nm
Minimum receiver sensitivity	-32 dBm
Maximum receiver sensitivity	-14 dBm
Transmission medium	Multi-mode fiberglass
	GI-HCS fiber

Data: Ethernet interface, 100Base-Tx in acc. with IEEE 802.3u

Data rate	100 Mbps
Serial transmission speed	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, 100
Link through	Link fault pass through
MDI-/MDI-X switchover	Auto-MDI(X)
Data flow control/protocols	IEC 61850-3, IEEE 1613

Dimensions

Width	30 mm
Height	130 mm
Depth	100 mm

Material specifications

Housing material	Aluminum
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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	: 5g, 150 Hz, Criterion 3
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 30g, 11 ms half-sine shock pulse

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 75 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	4850 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Shock	300 m/s ² , 11 ms (IEC 60068-2)
Air pressure (operation)	86 kPa ... 108 kPa
Air pressure (storage/transport)	66 kPa ... 108 kPa

Approvals

Conformity/Approvals

Conformance	CE-compliant
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	IEC 61850-3, IEEE 1613, EN 61000-6-2: 2005

Noise emission

Standards/regulations	EN 61000-6-4
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Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Comments	Criterion B
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Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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Electromagnetic HF field

Comments	Criterion A
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Fast transients (burst)

Standards/regulations	EN 61000-4-4
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Fast transients (burst)

Comments	Criterion A
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Surge current load (surge)

Standards/regulations	EN 61000-4-5
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Surge current load (surge)

Comments	Criterion B
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Conducted interference

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Standards/regulations	EN 61000-4-6
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Conducted interference

Comments	Criterion A
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Mounting

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

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Classifications

ECLASS

ECLASS-13.0

19170411

ETIM

ETIM 9.0

EC001467

UNSPSC

UNSPSC 21.0

43201500

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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-10
	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	bd962b68-8d47-4d62-8600-9db90b2c704d

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