



Automatización Eléctrica
Especialistas en Automatización

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FO converters - FL MC 2000E LC - 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.

Why buy this product

- Network structure according to IEC 61850
- IEEE 1613
- Auto MDI/MDI-X switch-over
- Link fault pass through (LFP) function for easy connection monitoring
- Data transfer rates of 100 Mbps



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 763141

Technical data

Note

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

Width	30 mm
Height	130 mm
Depth	100 mm

Ambient conditions

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)
Altitude	4850 m

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Technical data

Ambient conditions

Degree of protection	IP20
Noise immunity	IEC 61850-3, IEEE 1613, EN 61000-6-2: 2005

General

Electrical isolation	VCC // FE // Ethernet
Latency	700 ns (Pass-through mode, 100 Mbps, static)
Test voltage data interface/power supply	500 V DC
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 61000-6-4
Mounting position	On horizontal DIN rail NS 35 in acc. with EN 60715
Net weight	315 g
Housing material	Aluminum

Power supply

Nominal supply voltage	24 V DC
	48 V DC
Supply voltage range	12 V DC ... 57 V DC
Typical current consumption	110 mA (24 V DC)
Connection method	Plug-in screw terminal block (COMBICON), redundancy possible
Max. AWG conductor cross section, flexible	12
Min. AWG conductor cross section, flexible	24
Conductor cross section AWG max.	12
Conductor cross section AWG min.	24

Serial interface

Interface 1	Ethernet interface, 100Base-Tx in acc. with IEEE 802.3u
Connection method	RJ45 socket, shielded
Transmission medium	Copper
Transmission length	100 m (twisted pair, shielded)
Link through	Link fault pass through
MDI-/MDI-X switchover	Auto-MDI(X)
Signal LEDs	LNK/ACT, 100
Data flow control/protocols	IEC 61850-3, IEEE 1613
Serial transmission speed	100 Mbps

Optical interface FO

Wavelength	1310 nm
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)
	2 km (HCS GI fiber with F-GK 200/230)
Transmission medium	Multi-mode fiberglass

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Technical data

Optical interface FO

	GI-HCS fiber
Connection method	LC duplex

Digital outputs

Output name	Relay output
Output description	Alarm output
Number of outputs	1
Contact type	N/C contact
Maximum switching voltage	≤ 250 V AC
Max. switching current	1 A

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	5g, 150 Hz, Criterion 3
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	30g, 11 ms half-sine shock pulse
Shock	300 m/s ² , 11 ms (IEC 60068-2)
Noise emission	EN 61000-6-4
Noise immunity	IEC 61850-3, IEEE 1613, EN 61000-6-2: 2005
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-6

Classifications

eCl@ss

eCl@ss 4.0	27230207
eCl@ss 4.1	27230207
eCl@ss 5.0	27230207
eCl@ss 5.1	27230207
eCl@ss 6.0	27230207
eCl@ss 7.0	27230207
eCl@ss 8.0	19179290

ETIM

ETIM 3.0	EC000310
ETIM 4.0	EC000310
ETIM 5.0	EC001467

UNSPSC

UNSPSC 6.01	30211506
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Classifications

UNSPSC

UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / EAC

Ex Approvals

UL Listed / cUL Listed

Approvals submitted

Approval details

UL Listed	
mm ² /AWG/kcmil	30-14

cUL Listed	
mm ² /AWG/kcmil	30-14

EAC

EAC

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Product	Code	Reference	Product link
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