

FO converters - FL MC 2000E SM40 LC - 2891156

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FO converter with LC duplex fiber optic connection (1300 nm), for converting 100Base-TX to single 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



Ethernet IEC 61850-3



Key Commercial Data

| | |
|--------------------------------------|----------|
| Packing unit | 1 STK |
| Weight per Piece (excluding packing) | 50.000 g |
| Custom tariff number | 85176200 |
| Country of origin | Taiwan |

Technical data

Note

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

Dimensions

| | |
|--------|--------|
| Width | 30 mm |
| Height | 130 mm |
| Depth | 100 mm |

Ambient conditions

| | |
|---------------------------------|------------------|
| Ambient temperature (operation) | -40 °C ... 75 °C |
|---------------------------------|------------------|

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Ambient conditions

| | |
|--|--|
| 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 |
| 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 |
| Noise emission | EN 61000-6-4 |
| Mounting position | On horizontal DIN rail NS 35 in acc. with EN 60715 |
| Net weight | 498 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

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Technical data

Optical interface FO

| | |
|---|--|
| Wavelength | 1310 nm |
| Transmission length incl. 3 dB system reserve | 40 km (fiberglass with F-G 9/125 0.36 dB/km) |
| | 36 km (fiberglass with F-G 9/125 0.4 dB/km) |
| | 29 km (fiberglass with F-G 9/125 0.5 dB/km) |
| Transmission medium | Single-mode fiberglass |
| 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

| | |
|----------------|--|
| 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 |

Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.1 | 27230207 |
| eCl@ss 5.1 | 27230207 |
| eCl@ss 6.0 | 27230207 |
| eCl@ss 8.0 | 19179290 |
| eCl@ss 9.0 | 19179290 |

ETIM

| | |
|----------|----------|
| ETIM 4.0 | EC000310 |
| ETIM 5.0 | EC001467 |

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Approvals

Approvals


Approvals


UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

| | |
|---|-------|
| UL Listed  http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm FILE E 140324 | |
| mm ² /AWG/kcmil | 30-14 |

| | |
|--|-------|
| cUL Listed  http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm FILE E 140324 | |
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| | |
|--|--|
| cULus Listed  | |
|--|--|

Accessories

Accessories

Patch cable

Patch cable - FL CAT5 PATCH 0,3 - 2832250

Patch cable, CAT5, assembled, 0.3 m



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Accessories

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1.0 m

Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2.0 m

Patch cable - FL CAT5 PATCH 3,0 - 2832292



Patch cable, CAT5, assembled, 3.0 m

Patch cable - FL CAT5 PATCH 5,0 - 2832580



Patch cable, CAT5, assembled, 5.0 m

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Accessories

Patch cable - FL CAT5 PATCH 7,5 - 2832616



Patch cable, CAT5, assembled, 7.5 m

Patch cable - FL CAT5 PATCH 10,0 - 2832629



Patch cable, CAT5, assembled, 10.0 m

Safety locking

Security element - FL PATCH GUARD - 2891424



Lockable security element

Key - FL PATCH GUARD KEY - 2891521



Key for lockable security element
