

FO converters - FL MC 2000E LC



2891056

<https://www.phoenixcontact.com/pc/products/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
Product Key	DNC312
Catalog Page	Page 353 (C-6-2019)
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

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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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)
Connection method	Plug-in screw terminal block (COMBICON), redundancy possible

Output data

Switching

Output name	Relay output
Output description	Alarm output
Number of outputs	1
Contact 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

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Signal	Ethernet
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Data: optical FO

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

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

Approval data

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 emission	EN 61000-6-4
Noise immunity	IEC 61850-3, IEEE 1613, EN 61000-6-2: 2005

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

Standards/regulations	EN 61000-4-6
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Conducted interference

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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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Approvals



EAC

Approval ID: RU *-DE.A*08.B.00731



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 199827



UL Listed

Approval ID: FILE E 199827

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Classifications

ECLASS

ECLASS-9.0	19170114
ECLASS-10.0.1	19170132
ECLASS-11.0	19170411

ETIM

ETIM 8.0	EC001467
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UNSPSC

UNSPSC 21.0	43201500
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 10; For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

PCB connector

PCB connector - MSTB 2,5/ 8-ST - 1754562

<https://www.phoenixcontact.com/pc/products/1754562>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: MSTB 2,5/...-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

Surge protection device

Surge protection device - DT-LAN-CAT.6+ - 2881007

<https://www.phoenixcontact.com/pc/products/2881007>



Surge protection in accordance with Class E_A (CAT6_A), for Gigabit Ethernet (up to 10 Gbps), token ring, FDDI/CDDI, ISDN, and DS1. Suitable for Power over Ethernet (PoE++ / 4PPoE) "Mode A" and "Mode B". RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.

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Patch cable

Patch cable - FL CAT5 PATCH 0,5 - 2832263

<https://www.phoenixcontact.com/pc/products/2832263>

Patch cable, CAT5, assembled, 0.5 m



Patch cable

Patch cable - FL CAT5 PATCH 1,0 - 2832276

<https://www.phoenixcontact.com/pc/products/2832276>

Patch cable, CAT5, assembled, 1 m



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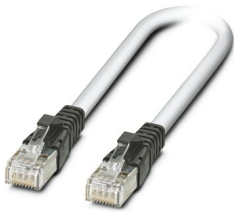
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Patch cable

Patch cable - FL CAT5 PATCH 2,0 - 2832289

<https://www.phoenixcontact.com/pc/products/2832289>

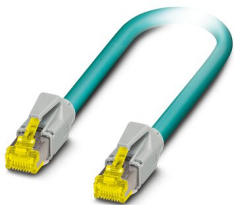


Patch cable, CAT5, assembled, 2 m

Patch cable

Patch cable - NBC-R4AC-R4AC-IE8A/.../... - 1411854

<https://www.phoenixcontact.com/pc/products/1411854>



Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6_A, cable outlet: straight, Ethernet

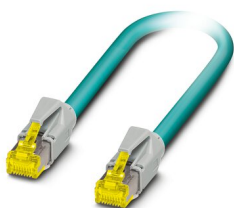
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Patch cable

Patch cable - NBC-R4AC/10G-R4AC/10G-94F/2,0 - 1408360

<https://www.phoenixcontact.com/pc/products/1408360>

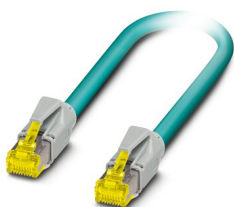


Patch cable, CAT6_A, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

Patch cable

Patch cable - NBC-R4AC/10G-R4AC/10G-94F/3,0 - 1408365

<https://www.phoenixcontact.com/pc/products/1408365>



Patch cable, CAT6_A, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 3.0 m

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DIN rail adapter

DIN rail adapter - FL DIN RA - 2891053

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The FL DIN RA is installed in a standard, 19-inch rack (EIA-310-D, IEC 60297-3-100) to allow DIN rail mounted equipment to be rack mounted.

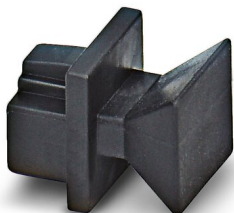


Dust protection

Dust protection - FL RJ45 PROTECT CAP - 2832991

<https://www.phoenixcontact.com/pc/products/2832991>

Dust protection caps for RJ45 socket



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End clamp

End clamp - E/NS 35 N - 0800886

<https://www.phoenixcontact.com/pc/products/0800886>

End clamp, width: 9.5 mm, color: gray



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