

FO converters - FL MC 2000T SM20 SC - 2891317


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FO converter with SC duplex fiber optic connection (1300 nm), for converting 100Base-TX to single mode fiberglass with a maximum FO segment length of 20 km. Auto MDI(X) function and comprehensive link diagnostics. DIN rail mountable with wide operating temperature range.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 869591
GTIN	4046356869591

Technical data

Note

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

Width	28 mm
Height	110 mm
Depth	70 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
Degree of protection	IP20

General

Electrical isolation	VCC // FE // Ethernet
Latency	865 ns (Pass-through mode)

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Technical data

General

Test voltage data interface/power supply	1500 V AC (500 V AC, 1 minute)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Mounting position	On horizontal DIN rail NS 35 in acc. with EN 60715
Mounting type	DIN rail mounting
Net weight	302.3 g
Housing material	Aluminum
MTTF	77.82 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)
Conformance	CE-compliant
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D

Power supply

Nominal supply voltage	24 V DC
Supply voltage range	12 V DC ... 48 V DC
Typical current consumption	110 mA (24 V DC)
Connection method	Plug-in screw terminal block (COMBICON), redundancy possible

Interfaces

Interface 1	Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3
No. of ports	1
Connection method	RJ45 jack, shielded
Transmission medium	Copper
Transmission length	100 m (twisted pair, shielded)
Auto-negotiation modes	Auto
Link through	Link fault pass through
MDI-/MDI-X switchover	Auto-MDI(X)
Signal LEDs	LNK/ACT, 100
Serial transmission speed	10/100 Mbps

Optical interface FO

Wavelength	1310 nm
Transmission length incl. 3 dB system reserve	20 km (fiberglass with F-G 9/125 0.36 dB/km)
Transmission medium	Single-mode fiberglass
Connection method	SC duplex

Digital outputs

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

Standards and Regulations

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Technical data

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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
Standards/regulations	EN 61000-4-2
	EN 61000-4-3
	EN 61000-4-4
Comments	Criterion A
Standards/regulations	EN 61000-4-5
	EN 55032
	EN 61000-4-6
Shock	300 m/s ² , 11 ms (IEC 60068-2)
Conformance	CE-compliant
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 10;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Classifications

eCl@ss

eCl@ss 10.0.1	19170132
eCl@ss 11.0	19170411
eCl@ss 4.0	27230200
eCl@ss 4.1	27230200
eCl@ss 5.0	27230200
eCl@ss 5.1	27230200
eCl@ss 6.0	19179200
eCl@ss 7.0	19179290
eCl@ss 9.0	19170114

ETIM

ETIM 4.0	EC001099
ETIM 6.0	EC001467
ETIM 7.0	EC001467

UNSPSC

UNSPSC 13.2	43222604
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Classifications

UNSPSC

UNSPSC 18.0	43223323
UNSPSC 19.0	43223323
UNSPSC 20.0	43223323
UNSPSC 21.0	43223323

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

Accessories

Data cable preassembled

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



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

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Accessories

Patch cable - NBC-R4AC/10G-R4AC/10G-94F/2,0 - 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 - NBC-R4AC/10G-R4AC/10G-94F/3,0 - 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

Patch cable - NBC-R4AC/1,0-93B/R4AC - 1408968



Patch cable, degree of protection: IP20, cable length: 1 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

Patch cable - NBC-R4AC/2,0-93B/R4AC - 1408969



Patch cable, degree of protection: IP20, cable length: 2 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

Patch cable - NBC-R4AC/5,0-93B/R4AC - 1408970



Patch cable, degree of protection: IP20, cable length: 5 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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Accessories

FO patch cable - FOC-SC:PA-SC:PA-OS2:D01/1 - 1115550



Single-mode OS2 duplex jumper, SC-SC, UPC polishing, length 1 m

FO patch cable - FOC-SC:PA-SC:PA-OS2:D01/2 - 1115548



Single-mode OS2 duplex jumper, SC-SC, UPC polishing, length 2 m

FO patch cable - FOC-ST:PA-SC:PA-OS2:D01/1 - 1115582



Single-mode OS2 duplex jumper, ST-SC, UPC polishing, length 1 m

FO patch cable - FOC-ST:PA-SC:PA-OS2:D01/2 - 1115581



Single-mode OS2 duplex jumper, ST-SC, UPC polishing, length 2 m

FO patch cable - FOC-LC:PA-SC:PA-OS2:D01/1 - 1115618



Single-mode OS2 duplex jumper, LC-SC, UPC polishing, length 1 m

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Accessories

FO patch cable - FOC-LC:PA-SC:PA-OS2:D01/2 - 1115617



Single-mode OS2 duplex jumper, LC-SC, UPC polishing, length 2 m

End block

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

Mounting rail adapter

DIN rail adapter - FL DIN RA - 2891053



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.

Patch cable

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 m

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Accessories

Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

PCB plug

Printed-circuit board connector - MSTB 2,5/ 8-ST - 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 per row: 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: CLASSIC COMBICON, Locking: without, mounting: without, type of packaging: packed in cardboard

Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

Safety locking

Port Guard Security Element - FL PATCH GUARD - 2891424



Lockable security element

Key - FL PATCH GUARD KEY - 2891521



Key for lockable security element

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Accessories

Surge protection for information technology

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