

# 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.

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## Commercial Data

Order Key	2891317
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DNC
Product Key	DNC312
Catalog Page	Page 353 (C-6-2019)
GTIN	4046356869591
Weight per Piece (including packing)	310.5 g
Weight per Piece (excluding packing)	302.3 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

MTTF	77.82 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)
Signal delay	865 ns (Pass-through mode)
	835 ns (Auto converter 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 ... 48 V DC
Nominal supply voltage	24 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
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### Interfaces

Signal	Ethernet
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#### Data: optical FO

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

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Data: Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3

Data rate	10/100 Mbps
Serial transmission speed	10/100 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
Auto-negotiation modes	Auto
Link through	Link fault pass through
MDI-/MDI-X switchover	Auto-MDI(X)

## Dimensions

Width	28 mm
Height	110 mm
Depth	70 mm

## Material specifications

Housing material	Aluminum
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## 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 <sup>2</sup> , 11 ms (IEC 60068-2)
Air pressure (operation)	66 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
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### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### Electrostatic discharge

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Comments	Criterion B
Electromagnetic HF field	
Standards/regulations	EN 61000-4-3
Electromagnetic HF field	
Comments	Criterion A
Fast transients (burst)	
Standards/regulations	EN 61000-4-4
Fast transients (burst)	
Comments	Criterion A
Surge current load (surge)	
Standards/regulations	EN 61000-4-5
Surge current load (surge)	
Comments	Criterion B
Conducted interference	
Standards/regulations	EN 61000-4-6
Conducted interference	
Comments	Criterion A
Emitted interference	
Standards/regulations	EN 55032

## Mounting

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

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## Approvals

UL Listed 

cUL Listed 

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UL Listed 

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## Classifications

### ECLASS

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

### ETIM

ETIM 6.0	EC001467
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### UNSPSC

UNSPSC 19.0	43223323
UNSPSC 20.0	43223323
UNSPSC 21.0	43223323

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## 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"



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## Accessories

### DIN 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.



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### Patch cable

Patch cable - FL CAT5 PATCH 0,5 - 2832263

Patch cable, CAT5, assembled, 0.5 m



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## Patch cable

Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1 m

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## Patch cable

Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

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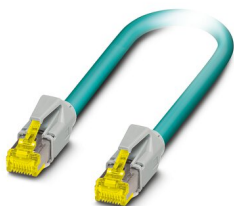


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## Patch cable

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

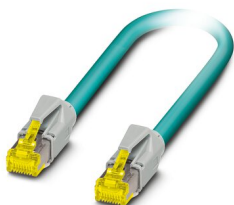


Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6<sub>A</sub>, cable outlet: straight, Ethernet

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## Patch cable

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



Patch cable, CAT6<sub>A</sub>, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

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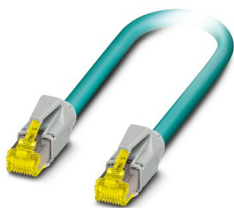


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## Patch cable

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



Patch cable, CAT6<sub>A</sub>, 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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## Patch cable

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

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## Patch cable

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

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## Patch cable

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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## Surge protection device

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

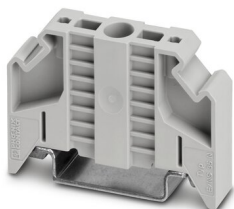


Surge protection in accordance with Class E<sub>A</sub> (CAT6<sub>A</sub>), for Gigabit Ethernet (up to 10 Gbps), token ring, FDDI/CDDI, ISDN, and DS1. Suitable for Power over Ethernet (PoE++ / 4PPoE) "Mode A" and "Mode B". RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.

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## End clamp

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

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## Printed-circuit board connector

Printed-circuit board connector - MSTB 2,5/ 8-ST - 1754562



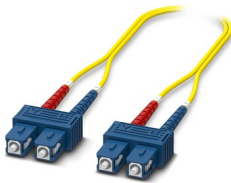
PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: MSTB 2,5/..-ST, 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: CLASSIC COMBICON, Locking: without, mounting: without, type of packaging: packed in cardboard

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## FO patch cable

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

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



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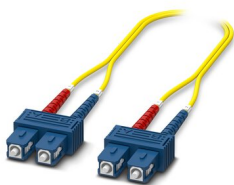
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## FO patch cable

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

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

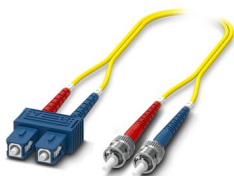


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## FO patch cable

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

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





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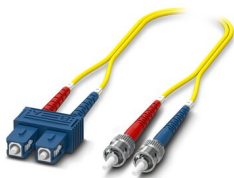
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## FO patch cable

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

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

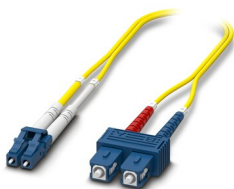


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## FO patch cable

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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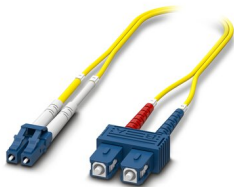
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FO patch cable

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

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



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