

# FL MC EF WDM-SET SC - FO converters



2902660

<https://www.phoenixcontact.com/us/products/2902660>

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FO converter set, consisting of type A devices and type B devices, for full duplex transmission from 10/100Base-T(X) to individual simplex fiberglass with WDM (wavelength division multiplex) technology. SC simplex fiber optic connection (1550/1310 nm).

## Product description

Optical transmission with FO technology provides superior immunity to interference at maximum transmission ranges without restricting the transmission bandwidth.

## Your advantages

- Device set for operation on one fiber
- Full duplex communication with only one fiber
- Transmission ranges up to 38 km
- Auto negotiation
- Auto MDI/MDI-X switch-over
- Link fault pass through (LFPT) and far end fault (FEF) functions for easy connection monitoring
- 10/100 Mbps
- Shipbuilding approval in accordance with DNV GL

## Commercial data

Item number	2902660
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN06
Product key	DNC311
Catalog page	Page 350 (C-6-2019)
GTIN	4046356670616
Weight per piece (including packing)	434.6 g
Weight per piece (excluding packing)	434 g
Customs tariff number	85176200
Country of origin	DE

# FL MC EF WDM-SET SC - FO converters

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## Set consists of

### FL MC EF WDM-A SC - FO converters

2902658

<https://www.phoenixcontact.com/us/products/2902658>



FO converter (replacement device A), for full duplex transmission from 10/100Base-T(X) to individual simplex fiberglass with WDM (wavelength division multiplex) technology, SC simplex fiber optic connection (1310/1550 nm). Device set (type A and type B) required for operation.

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### FL MC EF WDM-B SC - FO converters

2902659

<https://www.phoenixcontact.com/us/products/2902659>



FO converter (replacement device B), for full duplex transmission from 10/100Base-T(X) to individual simplex fiberglass with WDM (wavelength division multiplex) technology, SC simplex fiber optic connection (1550/1310 nm). Device set (type A and type B) required for operation.

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## Technical data

### Notes

#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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### Product properties

Product type	Media converter
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### Interfaces

Signal	Ethernet
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#### Data: optical FO

Transmission length incl. 3 dB system reserve	38 km (F-E 9/125 0.36 dB/km)
	34 km (F-E 9/125 0.4 dB/km)
	28 km (F-E 9/125 0.5 dB/km)
	21 km (F-G 62.5/125 0.7 dB/km F 1000)
	5.5 km (F-G 62.5/125 2.6 dB/km F 600)
	21 km (F-G 50/125 0.7 dB/km F 1200)
	9 km (F-G 50/125 1.6 dB/km F 800)
Connection method	SC simplex
Wavelength	1550 nm
	1310 nm
Transmission medium	Multi-mode fiberglass
	Single-mode fiberglass

#### Data

Transmission medium	Copper
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### Environmental and real-life conditions

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 65 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
	≤ 2000 m (in acc. with UL)

### Approvals

#### EAC

Identification	EAC
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#### Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A
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#### Shipbuilding

# FL MC EF WDM-SET SC - FO converters



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Identification	DNV GL
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## DNV GL data

Temperature	B
Humidity	A
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

## Mounting

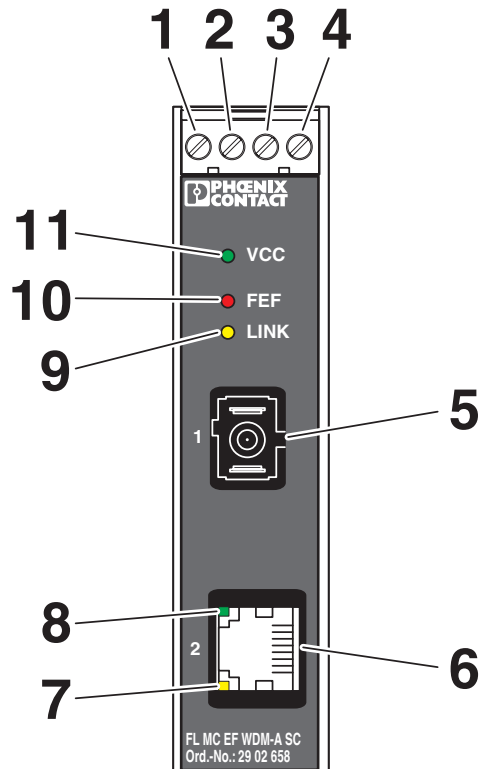
Mounting type	DIN rail mounting
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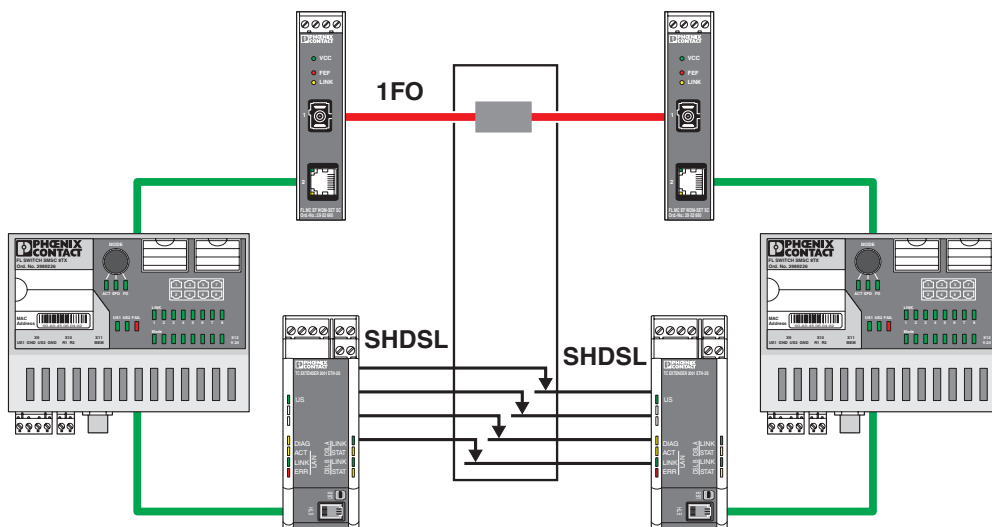
## Drawings

Schematic diagram



Front view

Application drawing



Redundant slip ring communication

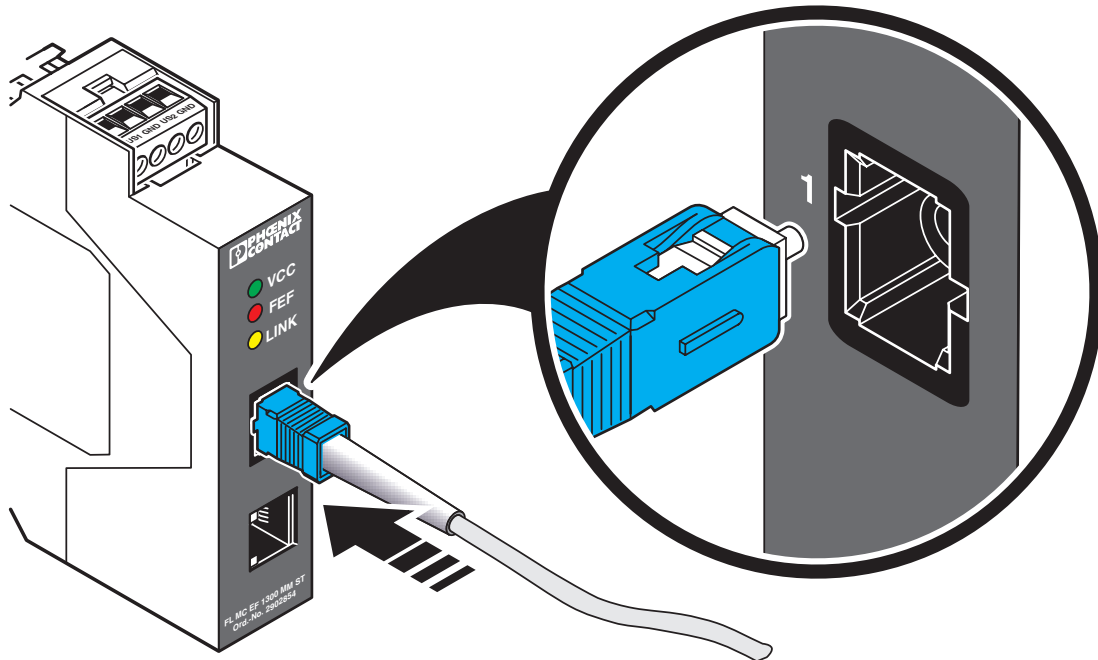
# FL MC EF WDM-SET SC - FO converters



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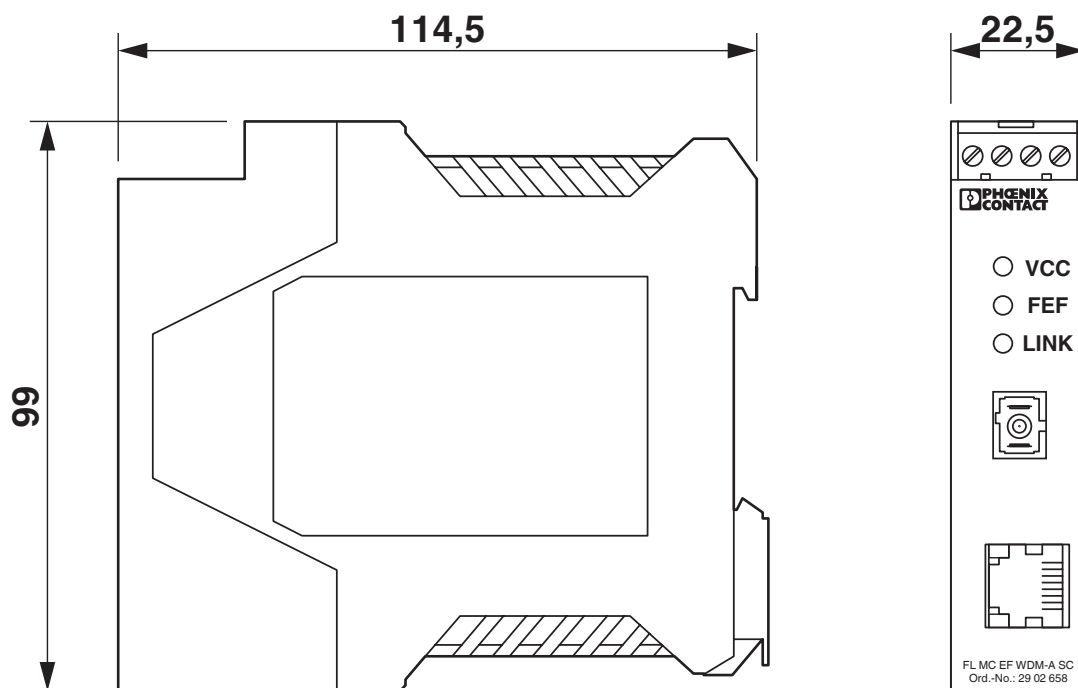
<https://www.phoenixcontact.com/us/products/2902660>

Schematic diagram



Connect SC simplex plug

Dimensional drawing



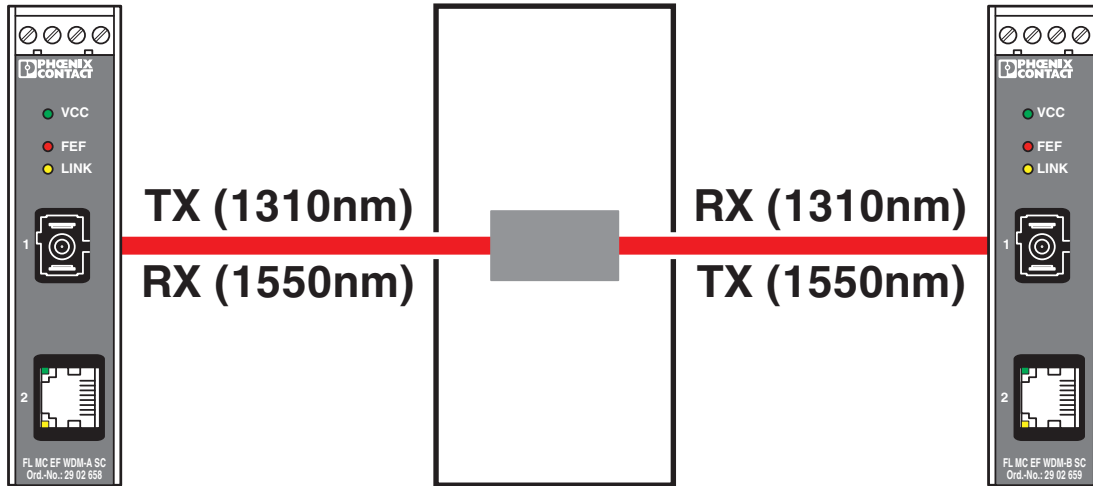
Slim design

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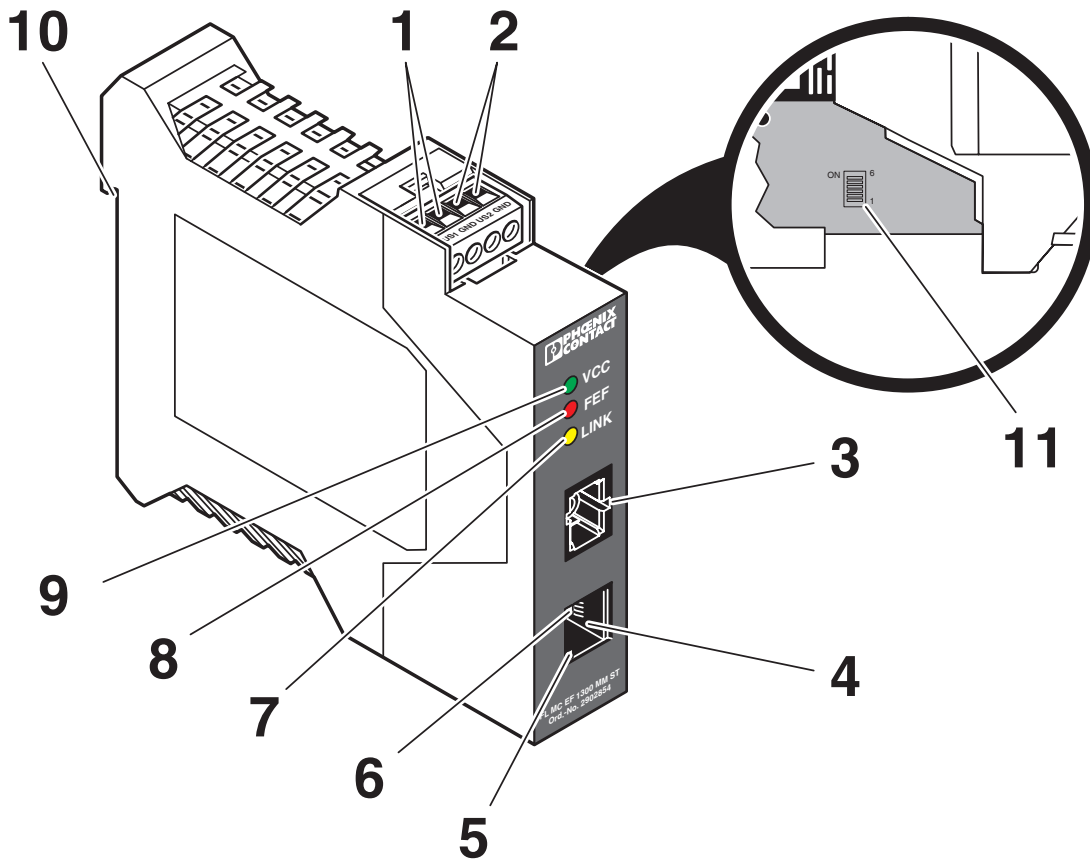
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Application drawing



Slip ring communication

Schematic diagram



Function elements

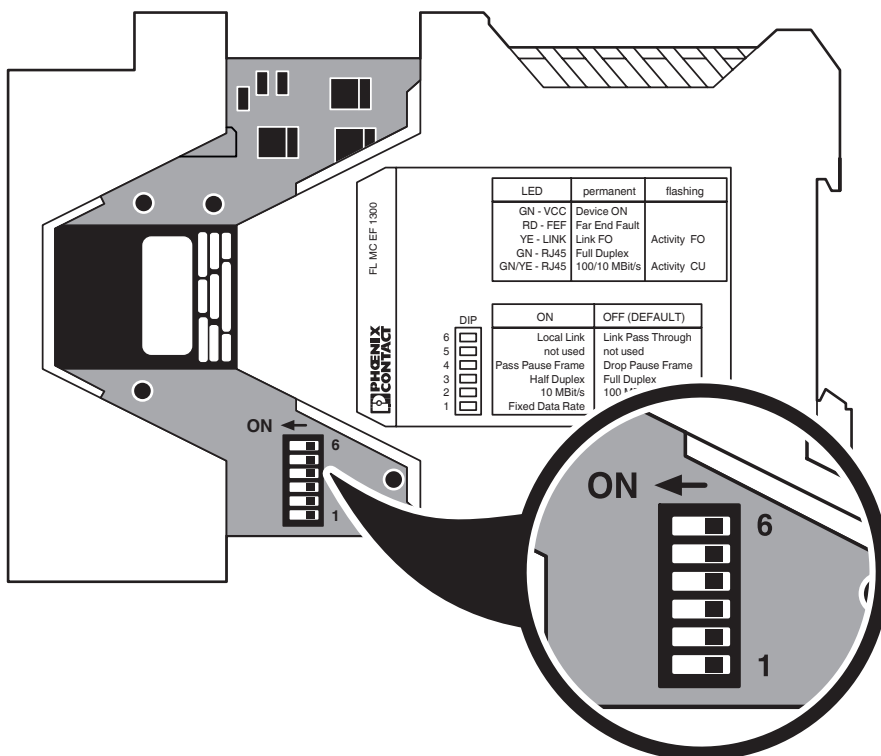
# FL MC EF WDM-SET SC - FO converters



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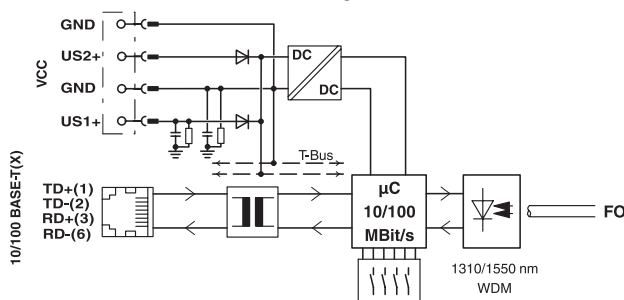
<https://www.phoenixcontact.com/us/products/2902660>

Schematic diagram



DIP switches

Block diagram



Basic circuit diagram




# FL MC EF WDM-SET SC - FO converters



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## Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2902660>



**EAC**

Approval ID: RU\*DE\*08.B.00731/19



**DNV GL**

Approval ID: TAA00001KR

# FL MC EF WDM-SET SC - FO converters



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## Classifications

### ECLASS

ECLASS-11.0	19170411
ECLASS-12.0	19170411
ECLASS-13.0	19170411

### ETIM

ETIM 9.0	EC001467
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### UNSPSC

UNSPSC 21.0	43201500
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# FL MC EF WDM-SET SC - FO converters



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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### FL MC EF WDM-A SC - FO converters

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FO converter (replacement device A), for full duplex transmission from 10/100Base-T(X) to individual simplex fiberglass with WDM (wavelength division multiplex) technology, SC simplex fiber optic connection (1310/1550 nm). Device set (type A and type B) required for operation.

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### FL MC EF WDM-B SC - FO converters

2902659

<https://www.phoenixcontact.com/us/products/2902659>



FO converter (replacement device B), for full duplex transmission from 10/100Base-T(X) to individual simplex fiberglass with WDM (wavelength division multiplex) technology, SC simplex fiber optic connection (1550/1310 nm). Device set (type A and type B) required for operation.

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## FL CAT5 HEAVY - Data cable

2744814

<https://www.phoenixcontact.com/us/products/2744814>



CAT5-SF/UTP cable (J-02YS(ST)C HP 2 x 2 x 24 AWG), heavy-duty installation cable, 2 x 2 x 0.22 mm<sup>2</sup>, solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

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## FL CAT5 FLEX - Installation cable

2744830

<https://www.phoenixcontact.com/us/products/2744830>



By the meter, Installation cable, Ethernet CAT5 (100 Mbps), shielded, PUR halogen-free, water blue RAL 5021, 4-wire (2x2xAWG26/7, SF/UTP), color single wire: white/orange-orange, white/green-green, cable length: Free entry (1.0 ... 1000.0 m)

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<https://www.phoenixcontact.com/us/products/2902660>

## FL CRIMPTOOL - Assembly tool

2744869

<https://www.phoenixcontact.com/us/products/2744869>

Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site



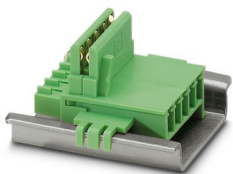
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## ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - DIN rail bus connectors

2707437

<https://www.phoenixcontact.com/us/products/2707437>

DIN rail connector, color: green, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts



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## QUINT4-SYS-PS/1AC/24DC/2.5/SC - Power supply unit

2904614

<https://www.phoenixcontact.com/us/products/2904614>



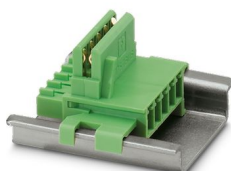
Primary-switched power supply, QUINT POWER, screw connection, DIN rail mounting, supply of devices possible via the TBUS DIN rail connector, protective coating, input: single-phase, output: 24 V DC/2.5 A

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## ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - DIN rail bus connectors

2709561

<https://www.phoenixcontact.com/us/products/2709561>



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

# FL MC EF WDM-SET SC - FO converters



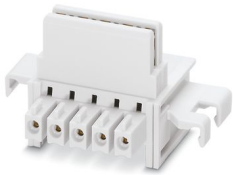
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<https://www.phoenixcontact.com/us/products/2902660>

## ME 17,5 TBUS 1,5/ 5-ST-3,81 KMGY - DIN rail bus connectors

2713645

<https://www.phoenixcontact.com/us/products/2713645>



DIN rail connector, color: light grey, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

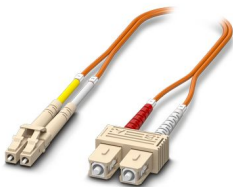
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## FOC-LC:PA-SC:PA-OM2:D01/1 - FO patch cable

1115607

<https://www.phoenixcontact.com/us/products/1115607>

Multi-mode OM2 duplex jumper, LC-SC, UPC polishing, length 1 m





# FL MC EF WDM-SET SC - FO converters

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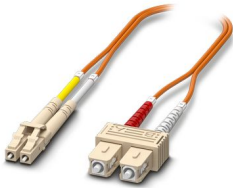
<https://www.phoenixcontact.com/us/products/2902660>

## FOC-LC:PA-SC:PA-OM2:D01/2 - FO patch cable

1115605

<https://www.phoenixcontact.com/us/products/1115605>

Multi-mode OM2 duplex jumper, LC-SC, UPC polishing, length 2 m



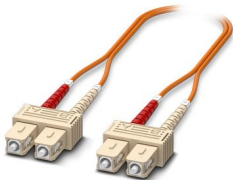
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## FOC-SC:PA-SC:PA-OM2:D01/1 - FO patch cable

1115536

<https://www.phoenixcontact.com/us/products/1115536>

Multi-mode OM2 duplex jumper, SC-SC, UPC polishing, length 1 m



# FL MC EF WDM-SET SC - FO converters

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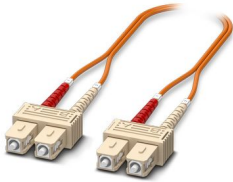
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## FOC-SC:PA-SC:PA-OM2:D01/2 - FO patch cable

1115535

<https://www.phoenixcontact.com/us/products/1115535>

Multi-mode OM2 duplex jumper, SC-SC, UPC polishing, length 2 m

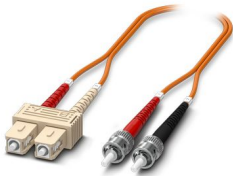


## FOC-ST:PA-SC:PA-OM2:D01/1 - FO patch cable

1115574

<https://www.phoenixcontact.com/us/products/1115574>

Multi-mode OM2 duplex jumper, ST-SC, UPC polishing, length 1 m



# FL MC EF WDM-SET SC - FO converters

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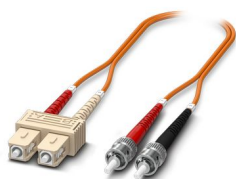
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## FOC-ST:PA-SC:PA-OM2:D01/2 - FO patch cable

1115573

<https://www.phoenixcontact.com/us/products/1115573>

Multi-mode OM2 duplex jumper, ST-SC, UPC polishing, length 2 m



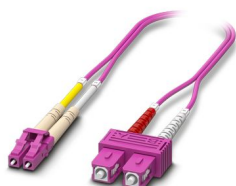
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## FOC-LC:PA-SC:PA-OM4:D01/1 - FO patch cable

1115601

<https://www.phoenixcontact.com/us/products/1115601>

Multi-mode OM4 duplex jumper, LC-SC, UPC polishing, length 1 m



# FL MC EF WDM-SET SC - FO converters

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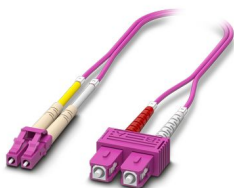
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## FOC-LC:PA-SC:PA-OM4:D01/2 - FO patch cable

1115600

<https://www.phoenixcontact.com/us/products/1115600>

Multi-mode OM4 duplex jumper, LC-SC, UPC polishing, length 2 m



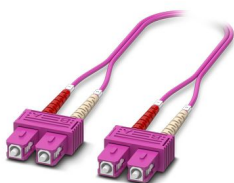
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## FOC-SC:PA-SC:PA-OM4:D01/1 - FO patch cable

1115424

<https://www.phoenixcontact.com/us/products/1115424>

Multi-mode OM4 duplex jumper, SC-SC, UPC polishing, length 1 m



# FL MC EF WDM-SET SC - FO converters

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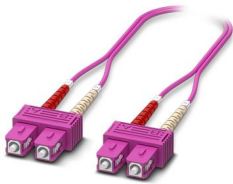
<https://www.phoenixcontact.com/us/products/2902660>

## FOC-SC:PA-SC:PA-OM4:D01/2 - FO patch cable

1115423

<https://www.phoenixcontact.com/us/products/1115423>

Multi-mode OM4 duplex jumper, SC-SC, UPC polishing, length 2 m



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## VS-08-RJ45-5-Q/IP20 - RJ45 connector

1656725

<https://www.phoenixcontact.com/us/products/1656725>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Plastic, connection method: Insulation displacement connection, connection cross section: AWG 26- 23, cable outlet: straight, color: traffic grey A RAL 7042, Ethernet

# FL MC EF WDM-SET SC - FO converters



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## VS-08-RJ45-5-Q/IP20 BK - RJ45 connector

1658008

<https://www.phoenixcontact.com/us/products/1658008>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5, material: Plastic, connection method: Insulation displacement connection, connection cross section: AWG 26- 23, cable outlet: straight, color: black, Ethernet

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## FOC-GDM-RUGGED-1016/IP20/... - FO patch cable

2901558

<https://www.phoenixcontact.com/us/products/2901558>



Robust GOF installation cable for assembly (IP20 heads only) for installation in stationary systems and machines, aramid strain-relief elements, with individual elements made from FRNC material, halogen-free, ozone and UV resistant, with a polyurethane (PUR) outer sheath

# FL MC EF WDM-SET SC - FO converters

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## FOC-GDO-1017/IP20/... - FO patch cable

2901559

<https://www.phoenixcontact.com/us/products/2901559>



Highly rugged GOF round cable (IP20 heads only) for assembly and for outdoor installation with integrated moisture barrier as well as rodent-proof scrim. Individual elements made from highly flexible FRNC material. The wire is ozone and UV resistant with a very rugged polyethylene outer sheath.

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## PSM-LWL-GDO- 50/125 - FO cable

2799432

<https://www.phoenixcontact.com/us/products/2799432>



Fiberglass cable, duplex 50/125  $\mu\text{m}$ , by the meter, without connector, for outdoor installation

# FL MC EF WDM-SET SC - FO converters



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<https://www.phoenixcontact.com/us/products/2902660>

## PSM-LWL-GDM-RUGGED- 50/125 - FO cable

2799322

<https://www.phoenixcontact.com/us/products/2799322>



Fiber glass cable, duplex 50 µm/125 µm, by the meter, without male connector, for installation in stationary systems and machines

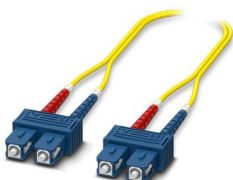
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## FOC-SC:PA-SC:PA-OS2:D01/1 - FO patch cable

1115550

<https://www.phoenixcontact.com/us/products/1115550>

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





# FL MC EF WDM-SET SC - FO converters

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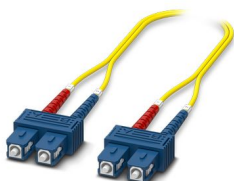
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## FOC-SC:PA-SC:PA-OS2:D01/2 - FO patch cable

1115548

<https://www.phoenixcontact.com/us/products/1115548>

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

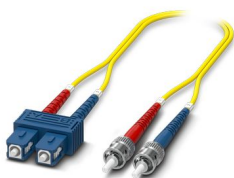


## FOC-ST:PA-SC:PA-OS2:D01/1 - FO patch cable

1115582

<https://www.phoenixcontact.com/us/products/1115582>

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



# FL MC EF WDM-SET SC - FO converters



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

1115581

<https://www.phoenixcontact.com/us/products/1115581>

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



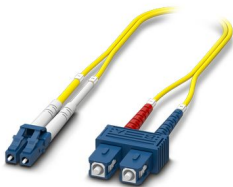
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## FOC-LC:PA-SC:PA-OS2:D01/1 - FO patch cable

1115618

<https://www.phoenixcontact.com/us/products/1115618>

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



# FL MC EF WDM-SET SC - FO converters

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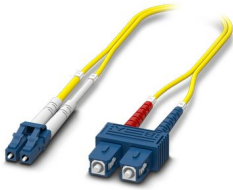
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## FOC-LC:PA-SC:PA-OS2:D01/2 - FO patch cable

1115617

<https://www.phoenixcontact.com/us/products/1115617>

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



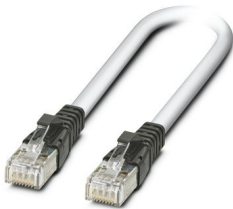
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## FL CAT5 PATCH 0,5 - Patch cable

2832263

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

Patch cable, CAT5, assembled, 0.5 m



# FL MC EF WDM-SET SC - FO converters

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## FL CAT5 PATCH 1,0 - Patch cable

2832276

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

Patch cable, CAT5, assembled, 1 m



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## FL CAT5 PATCH 2,0 - Patch cable

2832289

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

Patch cable, CAT5, assembled, 2 m



# FL MC EF WDM-SET SC - FO converters



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## FL CAT5 PATCH 3,0 - Patch cable

2832292

<https://www.phoenixcontact.com/us/products/2832292>

Patch cable, CAT5, assembled, 3 m



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