

FO converters - PSI-MOS-RS232/FO1300 E



2708588

<https://www.phoenixcontact.com/pc/products/2708588>

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Fiber optic converter with integrated optical diagnostics, alarm contact, for RS-232 interfaces up to 115.2 kbps, termination device with one fiber optic interface (SC duplex), 1300 nm, for fiberglass cable

Your advantages

- Connections can be plugged in via a COMBICON screw terminal block
- Supply voltage and data signals routed through the DIN rail connectors
- Redundant power supply possible by means of optional system power supply unit
- High-quality electrical isolation between all interfaces (RS-232 // fiber optic ports // power supply // DIN rail connector)
- Approved for use in zone 2
- Floating switch contact for advance warning of critical FO paths
- Integrated optical diagnostics for continuous monitoring of FO paths
- Automatic data rate detection for all data rates up to 115.2 kbps

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 2708588 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product Key | DNC215 |
| Catalog Page | Page 439 (C-6-2019) |
| GTIN | 4046356176286 |
| Weight per Piece (including packing) | 245.8 g |
| Weight per Piece (excluding packing) | 183.78 g |
| Customs tariff number | 85176200 |
| Country of origin | DE |

Technical Data

Notes

Utilization restriction

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

Utilization restriction

| | |
|------------|---|
| CCCex note | Use in potentially explosive areas is not permitted in China. |
|------------|---|

Product properties

| | |
|--------------|--|
| Product type | Media converter |
| MTTF | 942 Years (SN 29500 standard, temperature 25°C, operating cycle 21%) |
| | 418 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%) |
| | 172 Years (SN 29500 standard, temperature 40°C, operating cycle 100%) |
| MTBF | 549 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day)) |
| | 113 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day)) |

Electrical properties

| | |
|---|---------------------------------------|
| Electrical isolation | VCC // V.24 (RS-232) |
| Maximum power dissipation for nominal condition | 2.5 W |
| Test voltage data interface/power supply | 1.5 kV _{rms} (50 Hz, 1 min.) |

Supply

| | |
|-----------------------------|--|
| Supply voltage range | 18 V DC ... 32 V DC |
| Nominal supply voltage | 24 V DC (in acc. with UL) |
| Typical current consumption | 100 mA (24 V DC) |
| Max. current consumption | ≤ 2 A (For operation in a joining station, via the DIN rail connector) |
| Connection method | COMBICON plug-in screw terminal block |

Output data

Switching

| | |
|-----------------------------|--------------|
| Output name | Relay output |
| Output description | Alarm output |
| Number of outputs | 1 |
| Maximum switching voltage | 60 V DC |
| | 42 V AC |
| Limiting continuous current | 1 A |

Connection data

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Supply

| | |
|-------------------|---------------------------------------|
| Connection method | COMBICON plug-in screw terminal block |
| Tightening torque | 0.56 Nm ... 0.79 Nm |

Interfaces

| | |
|------------------------|--------------------------------|
| Bit distortion, input | ± 35 % (permitted) |
| Bit distortion, output | < 6.25 % |
| Signal | Modbus |
| Transmission channels | 2 (1/1), RxD, TxD, full duplex |

Data: optical FO

| | |
|---|--|
| No. of channels | 1 |
| Transmit capacity, minimum | -3.4 dBm (50/125 µm, multimode fiberglass) |
| | -4.7 dBm (62.5/125 µm, multimode fiberglass) |
| | -5.5 dBm (9/125 µm, singlemode fiberglass) |
| Transmission length incl. 3 dB system reserve | 27 km (With F-G 50/125 0.7 dB/km at 1300 nm) |
| | 22 km (with F-G 62.5/125 0.8 dB/km at 1300 nm) |
| | 45 km (With F-E 9/125 0,4 dB/km at 1300 nm) |
| Transmission protocol | Transparent to protocol for RS-232 interface |
| Connection method | SC duplex |
| Wavelength | 1300 nm |
| Minimum receiver sensitivity | -25.5 dBm (50/125 µm, multimode fiberglass) |
| | -25.5 dBm (62.5/125 µm, multimode fiberglass) |
| | -26.5 dBm (9/125 µm, singlemode fiberglass) |
| Maximum receiver sensitivity | 0 dBm |
| Transmission medium | Multi-mode fiberglass |
| | Single-mode fiberglass |

Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

| | |
|--|-------------------------|
| Serial transmission speed | 9.6 Kbps ... 115.2 Kbps |
| Connection method | D-SUB 9 plug |
| Transmission length | ≤ 15 m |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section solid min. | 0.2 mm ² |
| Max. AWG conductor cross section, flexible | 14 |
| Min. AWG conductor cross section, flexible | 24 |
| Single-wire/terminal point, solid AWG max. | 14 |
| Single-wire/terminal point, solid AWG min. | 24 |
| Transmission medium | Copper |
| File format/coding | UART (11 Bit, NRZ) |
| Data direction switching | Automatic control |

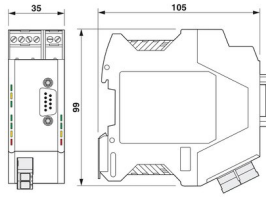
Dimensions

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| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 35 mm |
| Height | 99 mm |
| Depth | 105 mm |

Material specifications

| | |
|----------|---------------------|
| Material | PA 6.6-FR (Housing) |
|----------|---------------------|

Cable / line

FO cable

| | |
|-------------|------------|
| Fiber types | 50/125 µm |
| | 9/125 µm |
| | Fiberglass |

Environmental and real-life conditions

Ambient conditions

| | |
|---|--|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | ≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation) |
| Permissible humidity (operation) | 30 % ... 95 % (non-condensing) |

Approval data

CE

| | |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

ATEX

| | |
|----------------|---|
| Identification | <input type="checkbox"/> II 3 G Ex nA nC IIC T4 Gc X |
| Note | Please follow the special installation instructions in the documentation! |

UL, USA / Canada

| | |
|----------------|----------------|
| Identification | 508 Listed |
| | 508 Recognized |

Corrosive gas test

| | |
|----------------|----------------------------------|
| Identification | ISA-S71.04-1985 G3 Harsh Group A |
|----------------|----------------------------------|

EMC data

| | |
|-------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise emission | EN 55011 |
| Noise immunity | EN 61000-6-2:2005 |

Electrostatic discharge

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|-----------------------|--------------|

Electrostatic discharge

| | |
|-------------------|-------------|
| Contact discharge | ± 6 kV |
| Discharge in air | ± 8 kV |
| Comments | Criterion B |

Electromagnetic HF field

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-3 |
|-----------------------|--------------|

Electromagnetic HF field

| | |
|-----------------|-------------|
| Field intensity | 10 V/m |
| Comments | Criterion A |

Fast transients (burst)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-4 |
|-----------------------|--------------|

Fast transients (burst)

| | |
|----------|-------------|
| Input | ± 2 kV |
| Signal | ± 2 kV |
| Comments | Criterion B |

Surge current load (surge)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-5 |
|-----------------------|--------------|

Surge current load (surge)

| | |
|----------|--------------|
| Input | ± 0.5 kV |
| Signal | ± 1 kV |
| Comments | Criterion B |

Conducted interference

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-6 |
|-----------------------|--------------|

Conducted interference

| | |
|----------|-------------|
| Comments | Criterion A |
| Voltage | 10 V |

Emitted interference

| | |
|-----------------------|--|
| Standards/regulations | EN 55011 |
| Comments | Class A, industrial applications |
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected |

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| | |
|--|-----------------------|
| | by the device itself. |
|--|-----------------------|

Standards and regulations

| | |
|---|--|
| Free from substances that could impair the application of coating | in accordance with VW-AUDI-Seat central standard P-VW 3.10.7 57 65 0 |
|---|--|

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

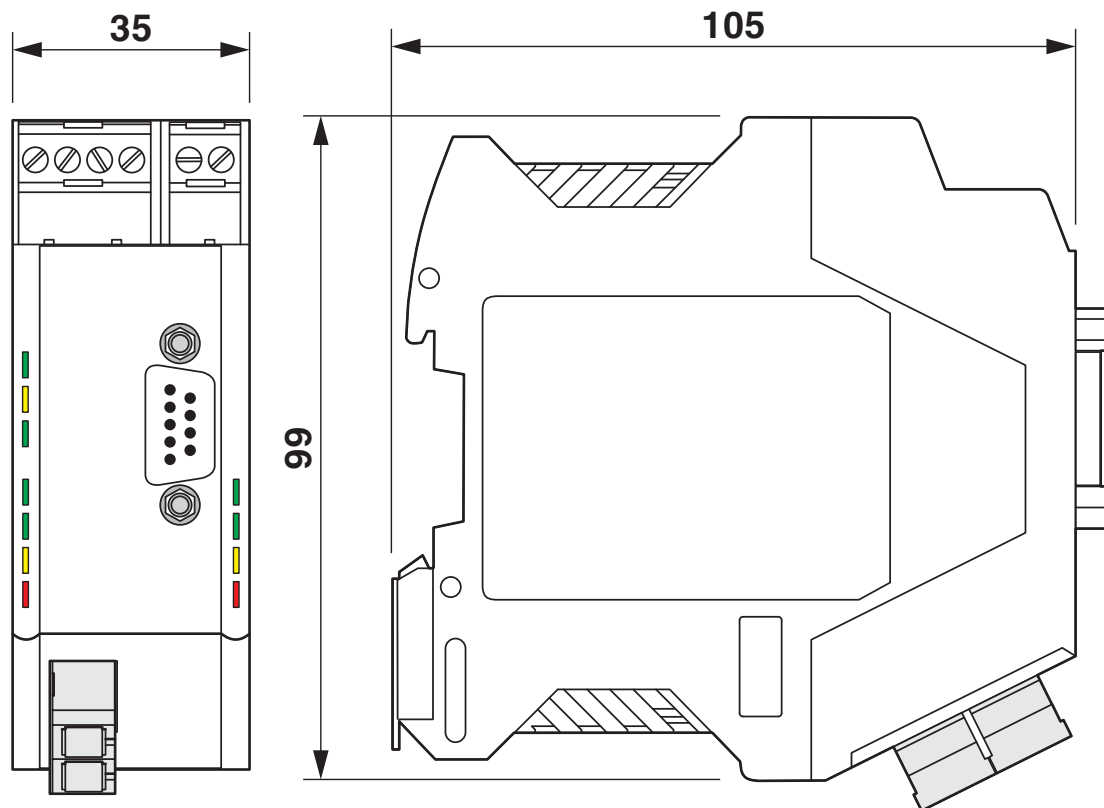
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Drawings

Dimensional drawing

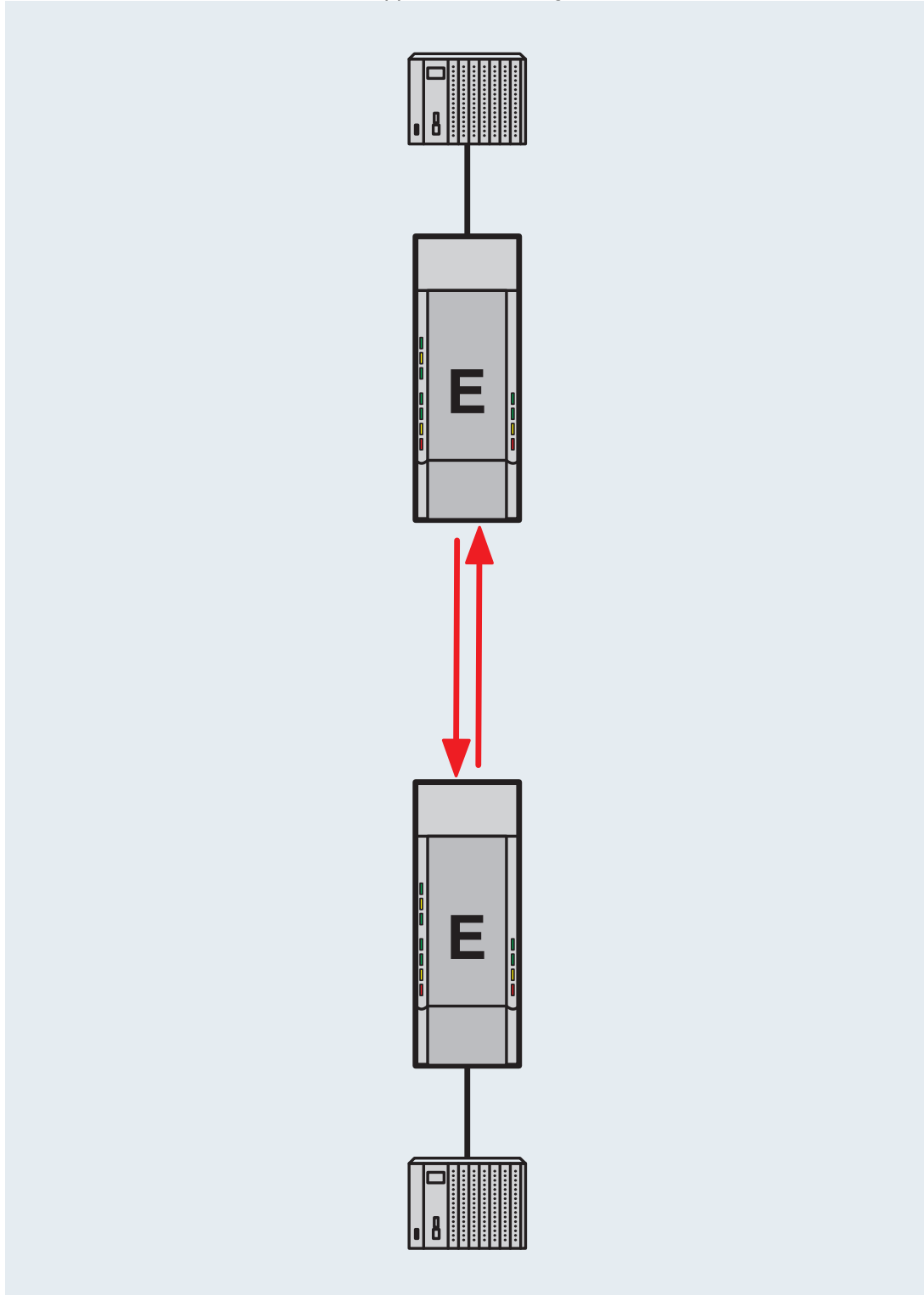


Housing dimensions

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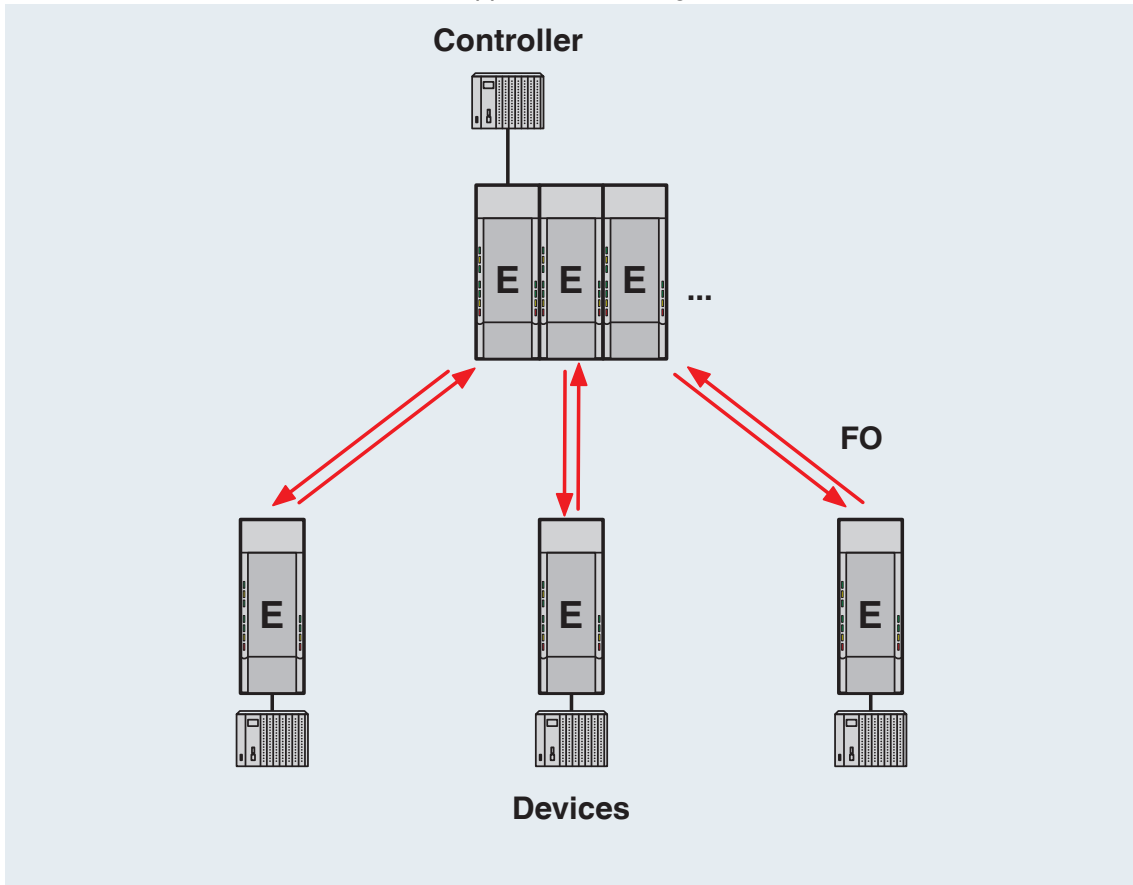
<https://www.phoenixcontact.com/pc/products/2708588>

Application drawing



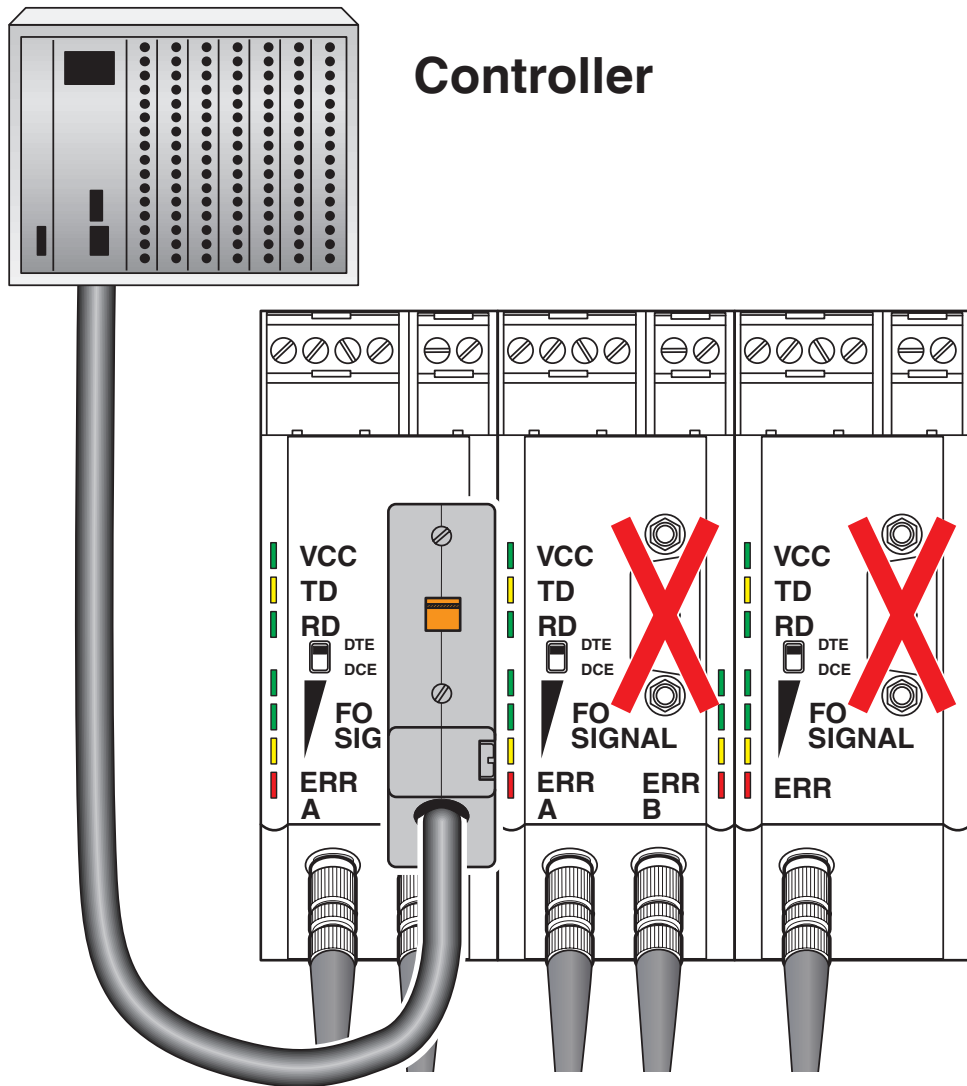
Point-to-point connection

Application drawing



Star structure

Schematic diagram



Connecting data cables

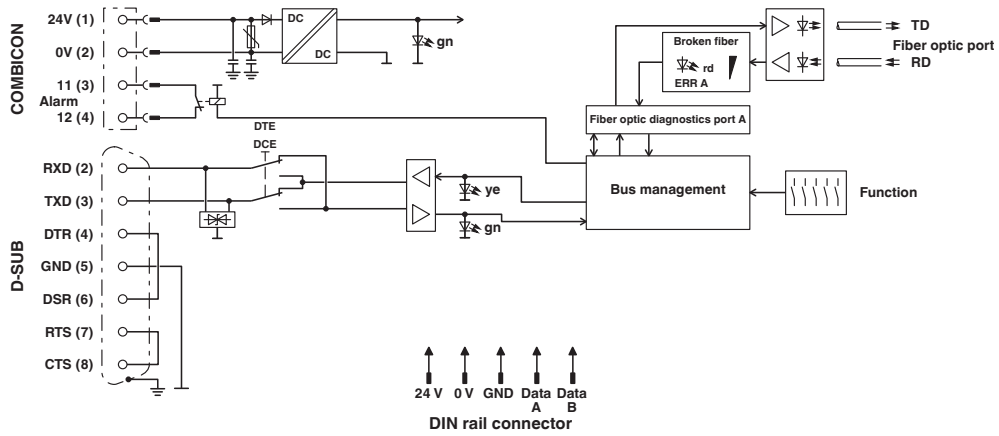
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Block diagram



Basic circuit diagram

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Approvals



cUL Recognized
Approval ID: FILE E 238705



UL Recognized
Approval ID: FILE E 238705



UL Listed
Approval ID: FILE E 238705



cUL Listed
Approval ID: FILE E 238705



ATEX
Approval ID: PxCIF07ATEX2708559X

cULus Recognized

cULus Listed

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Classifications

ECLASS

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

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001467 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 43201500 |
|-------------|----------|

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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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<https://www.phoenixcontact.com/pc/products/2708588>

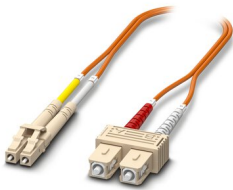
Accessories

FO patch cable

FO patch cable - FOC-LC:PA-SC:PA-OM2:D01/1 - 1115607

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

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

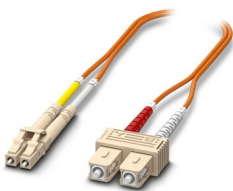


FO patch cable

FO patch cable - FOC-LC:PA-SC:PA-OM2:D01/2 - 1115605

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

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



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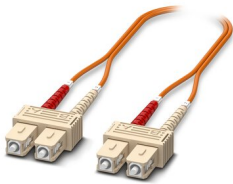
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FO patch cable

FO patch cable - FOC-SC:PA-SC:PA-OM2:D01/1 - 1115536

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

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

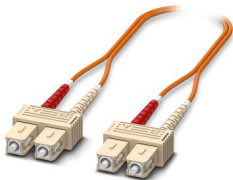


FO patch cable

FO patch cable - FOC-SC:PA-SC:PA-OM2:D01/2 - 1115535

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

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



FO converters - PSI-MOS-RS232/FO1300 E

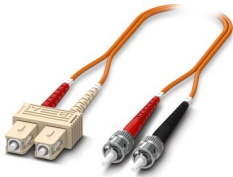
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<https://www.phoenixcontact.com/pc/products/2708588>

FO patch cable

FO patch cable - FOC-ST:PA-SC:PA-OM2:D01/1 - 1115574

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

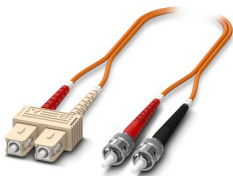


Multi-mode OM2 duplex jumper, ST-SC, UPC polishing, length 1 m

FO patch cable

FO patch cable - FOC-ST:PA-SC:PA-OM2:D01/2 - 1115573

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



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

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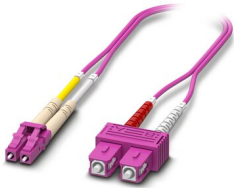
<https://www.phoenixcontact.com/pc/products/2708588>

FO patch cable

FO patch cable - FOC-LC:PA-SC:PA-OM4:D01/1 - 1115601

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

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

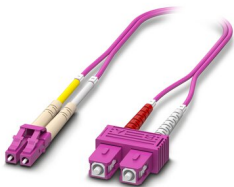


FO patch cable

FO patch cable - FOC-LC:PA-SC:PA-OM4:D01/2 - 1115600

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

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



FO converters - PSI-MOS-RS232/FO1300 E

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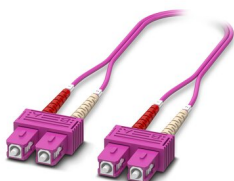
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FO patch cable

FO patch cable - FOC-SC:PA-SC:PA-OM4:D01/1 - 1115424

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

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

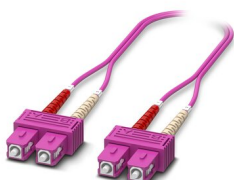


FO patch cable

FO patch cable - FOC-SC:PA-SC:PA-OM4:D01/2 - 1115423

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

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



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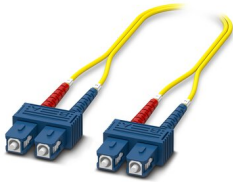
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FO patch cable

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

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

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

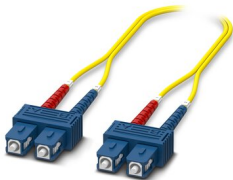


FO patch cable

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

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

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



FO converters - PSI-MOS-RS232/FO1300 E

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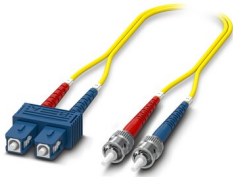
<https://www.phoenixcontact.com/pc/products/2708588>

FO patch cable

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

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

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

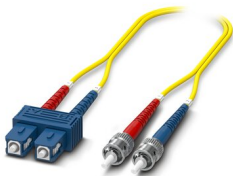


FO patch cable

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

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

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



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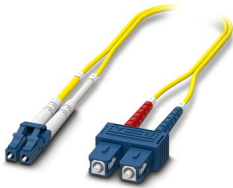
<https://www.phoenixcontact.com/pc/products/2708588>

FO patch cable

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

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

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

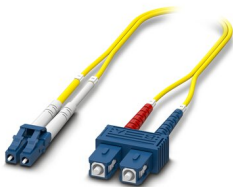


FO patch cable

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

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

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



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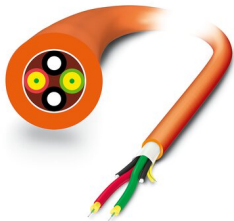
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FO patch cable

FO patch cable - FOC-GDM-RUGGED-1016/IP20/... - 2901558

<https://www.phoenixcontact.com/pc/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

FO patch cable

FO patch cable - FOC-GDO-1017/IP20/... - 2901559

<https://www.phoenixcontact.com/pc/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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FO cable

FO cable - PSM-LWL-GDO- 50/125 - 2799432

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



Fiberglass cable, duplex 50/125 μm , by the meter, without connector, for outdoor installation

FO cable

FO cable - PSM-LWL-GDM-RUGGED- 50/125 - 2799322

<https://www.phoenixcontact.com/pc/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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Power supply unit

Power supply unit - QUINT4-SYS-PS/1AC/24DC/2.5/SC - 2904614

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

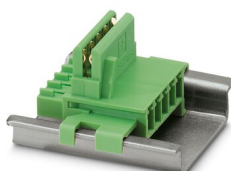


Primary-switched power supply unit, QUINT POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 2.5 A

DIN rail bus connectors

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561

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



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

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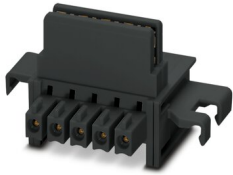
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<https://www.phoenixcontact.com/pc/products/2708588>

DIN rail bus connectors

DIN rail bus connectors - ME 17,5 TBUS 1,5/PP000-3,81 BK - 2890014

<https://www.phoenixcontact.com/pc/products/2890014>

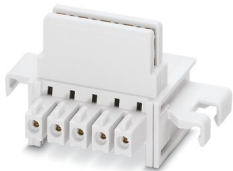


DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 2-pos.

DIN rail bus connectors

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 KMGY - 2713645

<https://www.phoenixcontact.com/pc/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

FO converters - PSI-MOS-RS232/FO1300 E



2708588

<https://www.phoenixcontact.com/pc/products/2708588>

D-SUB bus connector

D-SUB bus connector - SUBCON 9/F-SH - 2761499

<https://www.phoenixcontact.com/pc/products/2761499>



D-SUB plug, 9-pos. female connector, one 35° cable entry, universal type for all systems, pin assignment: 1, 2, 3, 4, 5, 6, 7, 8, 9 to screw connection terminal block

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