

PSI-MOS-RS232/FO1300 E - FO converters



2708588

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



RS-232

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2708588 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN06 |
| Product key | DNC215 |
| 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

Note on application

| | |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

Utilization restriction

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

Product properties

| | |
|----------------|--|
| Product type | Media converter |
| Product family | PSI-MOS |
| 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 |
| Typical current consumption | 100 mA (24 V DC) |
| Max. current consumption | ≤ 2 A (For operation in a joining station, via the DIN rail connector) |

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 |
| Single conductor/terminal point, rigid | 0.2 mm ² ... 2.5 mm ² |
| Single-wire/terminal point, flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section, flexible [AWG] | 24 ... 14 |
| Stripping length | 7.00 mm |
| 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 |
| Tightening torque | 0.4 Nm |
| Transmission length | ≤ 15 m |
| Transmission medium | Copper |
| File format/coding | UART (11 Bit, NRZ) |
| Data direction switching | Automatic control |

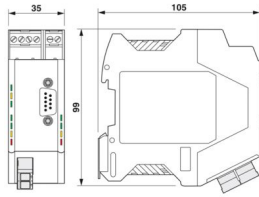
Dimensions

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

Material specifications

| | |
|--------------------|------------------|
| Color (Housing) | green (RAL 6021) |
| Material (Housing) | PA 6.6-FR |

Cable/line

FO cable

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

Mechanical tests

| | |
|--|---|
| Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6 | Vibration (operation): 5g, 10...150 Hz, 2.5 h, in XYZ direction |
| Shock in accordance with EN 60068-2-27/IEC 60068-2-27 | Shock (operation): 15g, 11 ms period, half-sine shock pulse |

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) |

Approvals

CE

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

ATEX

| | |
|----------------|---|
| Identification | ⊕ II 3 G Ex ec nC IIC T4 Gc |
| Certificate | PxCIF07ATEX2708559X |
| Note | Please follow the special installation instructions in the documentation! |

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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 immunity | EN 61000-6-2:2005 |

Noise emission

| | |
|-----------------------|----------|
| Standards/regulations | EN 55011 |
|-----------------------|----------|

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

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

Emitted interference

| | |
|-----------------------|----------------------------------|
| Standards/regulations | EN 55011 |
| Comments | Class A, industrial applications |

Criteria

| | |
|-------------|--|
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |

Standards and regulations

| | |
|---|--------------------|
| Free from substances that could impair the application of coating | VDMA 24364:2018-05 |
|---|--------------------|

Mounting

| | |
|-----------------------|--|
| Mounting type | DIN rail mounting |
| Assembly note | The product can be snapped onto all 35 mm DIN rails in accordance with EN/IEC 60715. |
| Useable DIN rail type | DIN rail: 35 mm |

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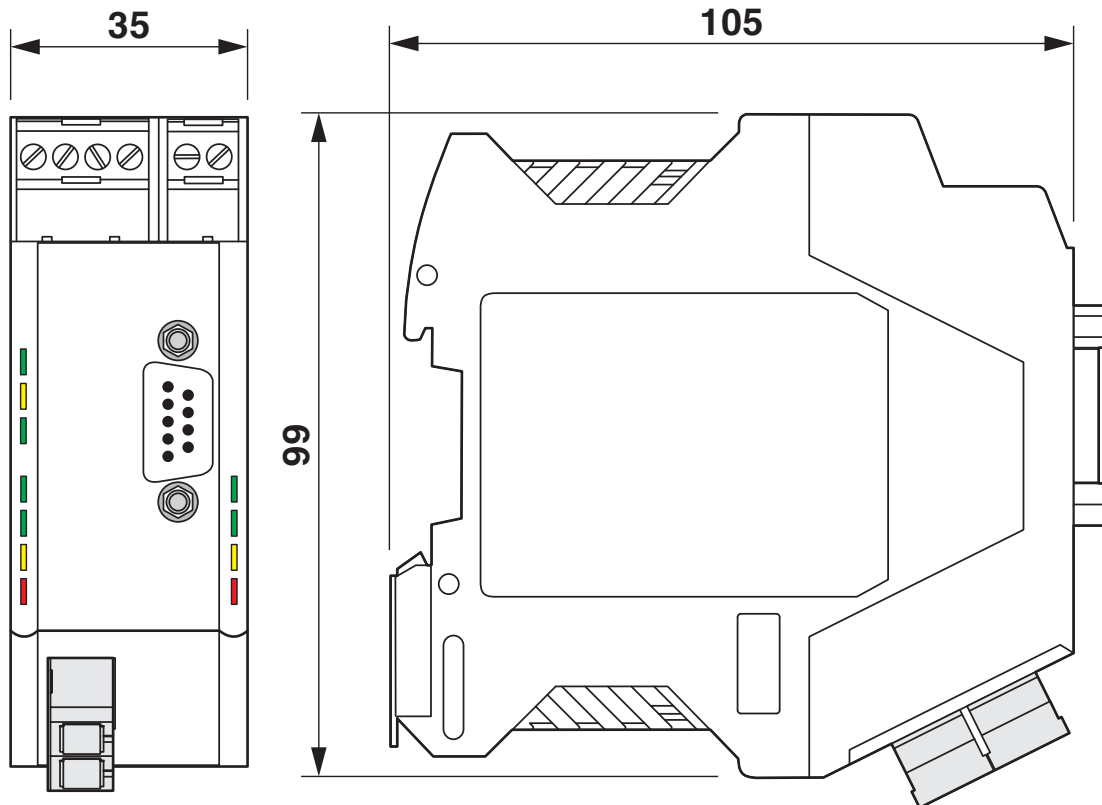


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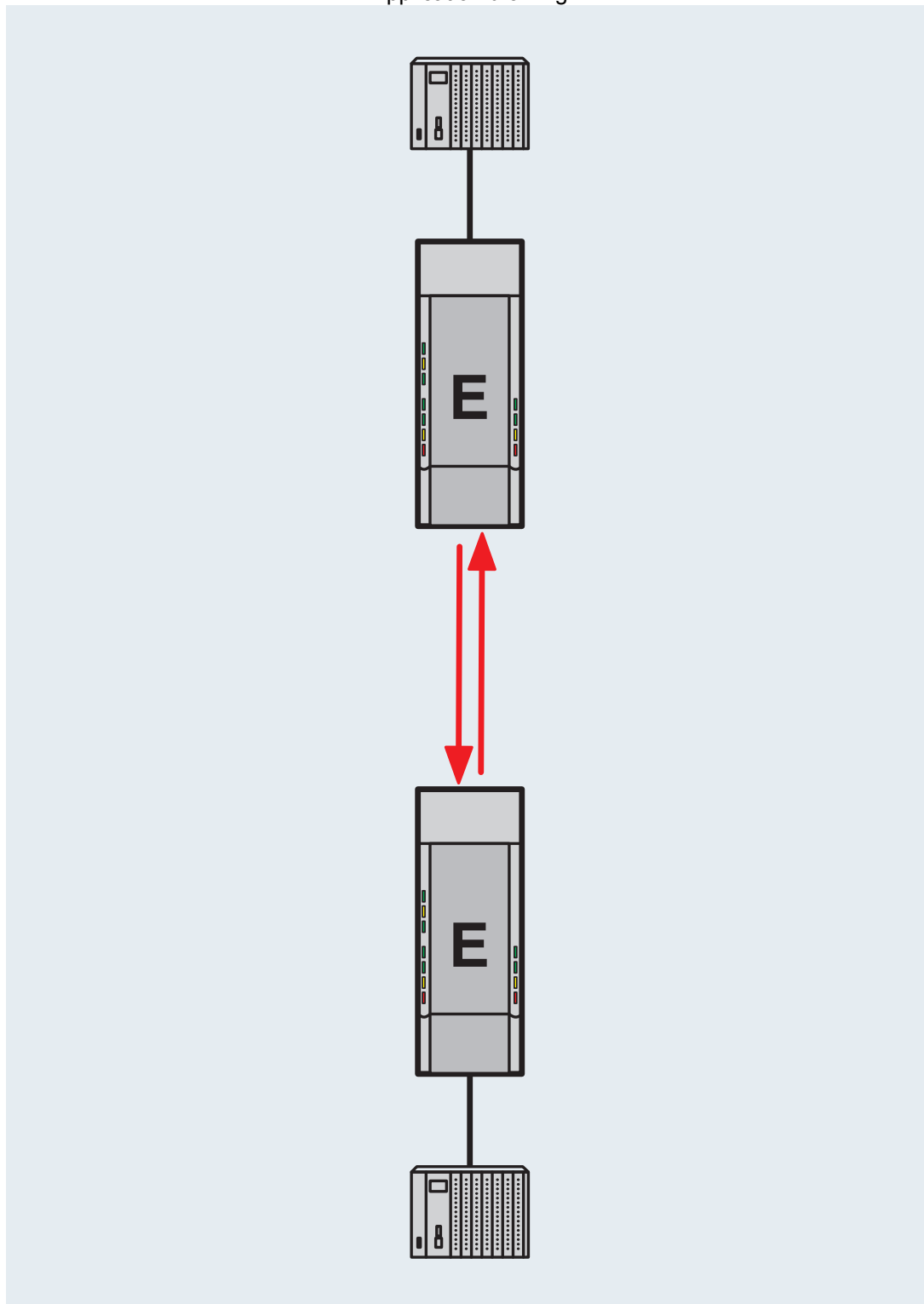
Drawings

Dimensional drawing



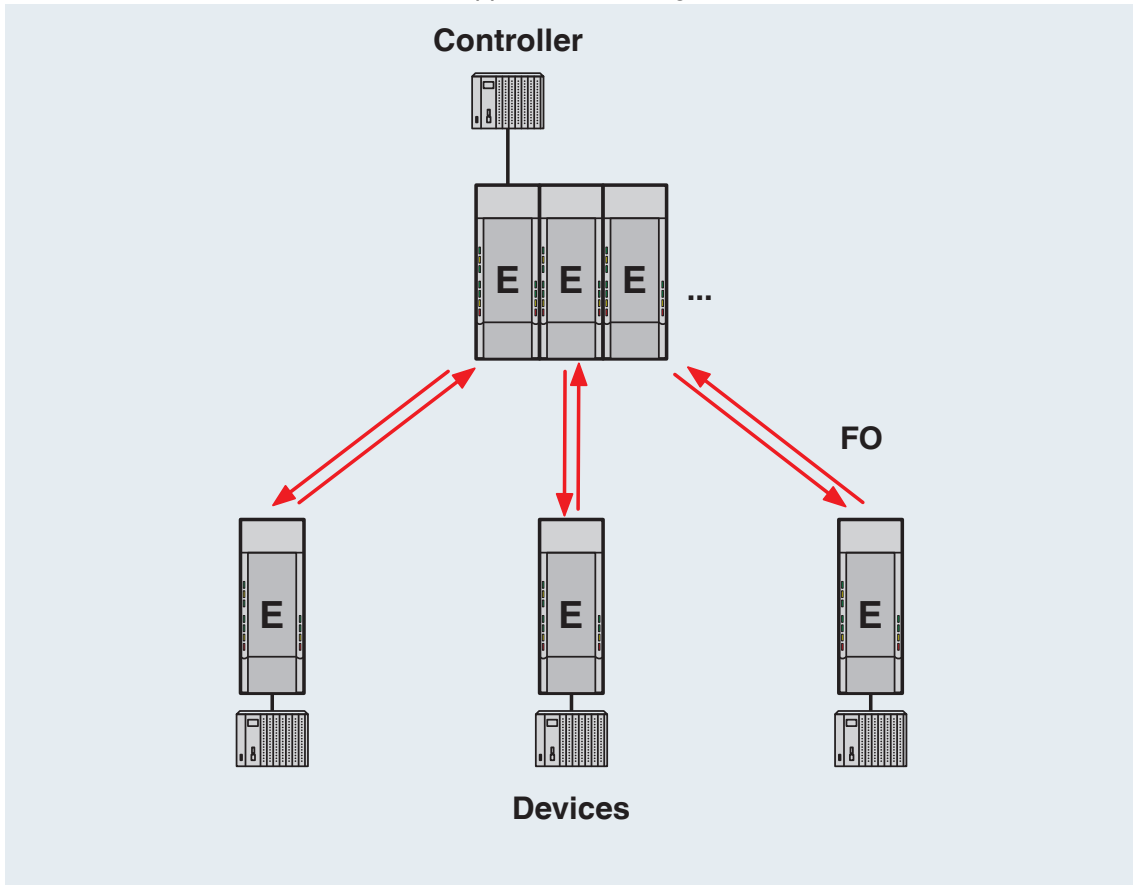
Housing dimensions

Application drawing



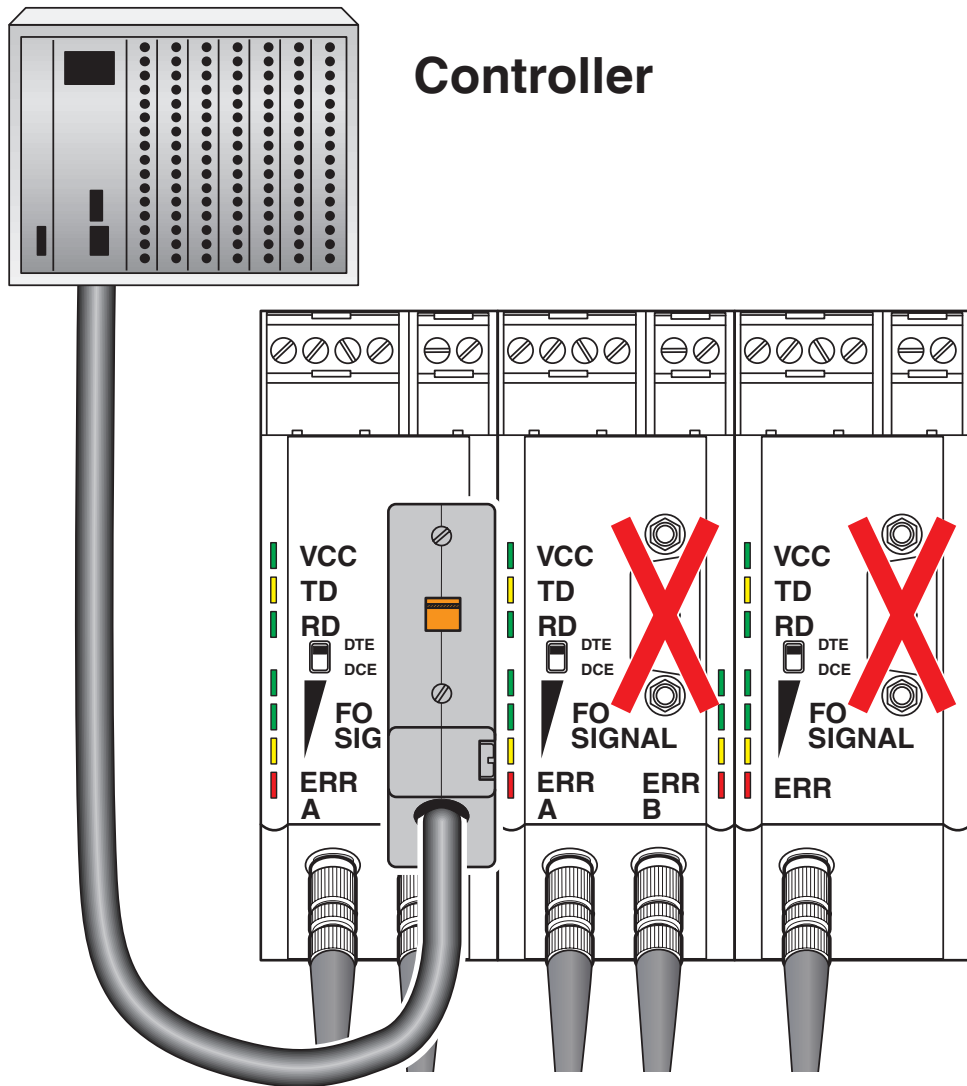
Point-to-point connection

Application drawing



Star structure

Schematic diagram



Connecting data cables

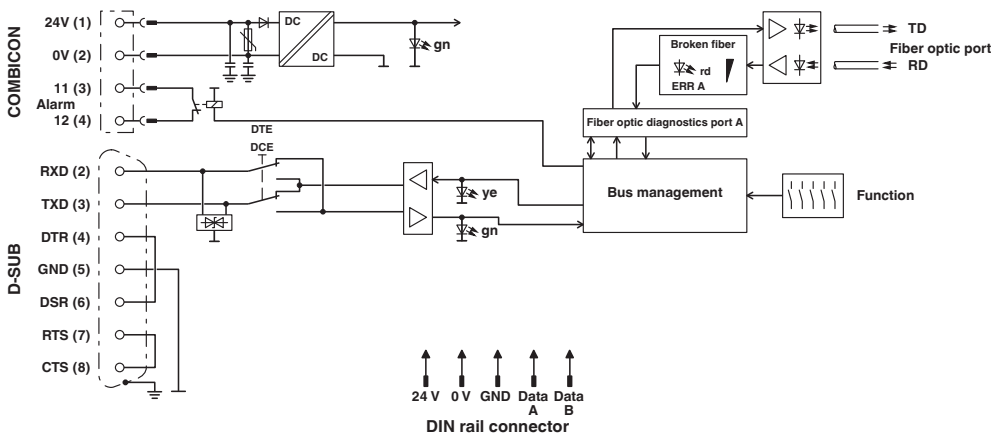
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Block diagram



Basic circuit diagram

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Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2708588>



cULus Listed

Approval ID: E238705



cULus Recognized

Approval ID: E238705



ATEX

Approval ID: PxCIF07ATEX2708559X

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 19170411 |
| ECLASS-15.0 | 19170411 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC001467 |
|-----------|----------|

UNSPSC

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

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 6(c), 7(a), 7(c)-I |

China RoHS

| | |
|--|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | 79d9c3e3-067f-49ba-ab9e-5448ae9e7261 |

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