

FO converters - PSI-MOS-DNET/FO 850 E - 2313999

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Fiber optic converter with integrated optical diagnostics, for DeviceNet™, CAN, CANopen® up to 1000 kbps, termination device, interfaces: 1 x CAN, 1 x Alarm, 1 x FO (B-FOC), 850 nm, for HCS/fiberglass (multi-mode)

Product Features

- ✓ Data rates of up to 1000 kbps
- ✓ Supply voltage and data signals routed through via DIN rail connectors
- ✓ Can be combined with the PSI copper repeater in a modular way using DIN rail connectors
- ✓ Automatic data rate detection or fixed data rate setting via DIP switches
- ✓ Integrated optical diagnostics for continuous monitoring of fiber optic paths
- ✓ High-quality electrical isolation between all interfaces (DeviceNet // fiber optic ports // power supply // DIN rail connector)
- ✓ Connections can be plugged in using a COMBICON screw terminal block
- ✓ Redundant power supply possible by means of optional system power supply unit
- ✓ Approved for use in zone 2
- ✓ Intrinsically safe fiber optic interface (Ex op is) for direct connection to devices in zone 1
- ✓ Floating switch contact for leading alarm generation in relation to critical fiber optic paths



CANopen



DeviceNet

Key commercial data

| | |
|--------------------------------------|-----------|
| Packing unit | 1 pc |
| Weight per Piece (excluding packing) | 240.0 GRM |
| Custom tariff number | 85176200 |
| Country of origin | Germany |

Technical data

Note

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

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Technical data

Dimensions

| | |
|--------|--------|
| Width | 35 mm |
| Height | 102 mm |
| Depth | 119 mm |

Ambient conditions

| | |
|---|--|
| Ambient temperature (operation) | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Permissible humidity (operation) | 30 % ... 95 % (non-condensing) |
| Altitude | 5000 m (For restrictions see manufacturer's declaration) |
| Degree of protection | IP20 |
| Noise immunity | EN 61000-6-2 |

Serial interface

| | |
|--|--|
| Interface 1 | CAN interface, in accordance with ISO/IS 11898 for DeviceNet, CAN, CANopen |
| Operating mode | Semi-duplex |
| No. of channels | 2 (CAN_High / CAN_Low) |
| Connection method | COMBICON plug-in screw terminal block |
| File format/coding | Bit stuffing, NRZ |
| Transmission medium | 2-wire twisted pair, shielded |
| Transmission method | CSMA/CA |
| Transmission length | ≤ 5000 m (Dependent on the data rate and the protocol used) |
| Number of INTERBUS devices | ≤ 64 (per potential segment) |
| | ≤ 63 (DeviceNet™, can be addressed logically) |
| | ≤ 128 (CANopen®, can be addressed logically) |
| Termination resistor | 124 Ω (Integrated and ready to be switched) |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section stranded min. | 0.2 mm ² |
| Conductor cross section stranded max. | 2.5 mm ² |
| Conductor cross section AWG/kcmil min. | 24 |
| Conductor cross section AWG/kcmil max | 14 |

Optical interface FO

| | |
|------------------------------|-------------------------|
| Transmit capacity, minimum | -13.5 dBm (50/125 μm) |
| | -12.3 dBm (62,5/125 μm) |
| | -10.2 dBm (200/230 μm) |
| Minimum receiver sensitivity | -28.1 dBm (50/125 μm) |
| | -28.1 dBm (62,5/125 μm) |

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Optical interface FO

| | |
|---|---|
| | -28.1 dBm (200/230 µm) |
| Wavelength | 850 nm |
| Transmission length incl. 3 dB system reserve | 1800 m (with F-K 200/230 8 dB/km with quick mounting connector) |
| | 4600 m (with F-G 50/125 2.5 dB/km) |
| | 4200 m (with F-G 62,5/125 3.0 dB/km) |
| Transmission medium | HCS fiber |
| | Multi-mode fiberglass |
| Transmission protocol | Protocol transparent for CAN interface |
| Connection method | B-FOC (ST®) |

Digital outputs

| | |
|-----------------------------|--------------|
| Output name | Relay output |
| Number of outputs | 1 |
| Contact type | N/O contact |
| Minimum switching voltage | 11 V DC |
| Maximum switching voltage | 30 V DC |
| Limiting continuous current | 500 mA |

Power supply

| | |
|-----------------------------|---|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 11 V DC ... 30 V DC (via pluggable COMBICON screw terminal block) |
| Typical current consumption | 130 mA (24 V DC) |

General

| | |
|--|---|
| Bit distortion, input | ± 35 % (permitted) |
| Bit distortion, output | < 6.25 % |
| Electrical isolation | VCC // CAN |
| Test voltage data interface/power supply | 1.5 kV _{rms} (50 Hz, 1 min.) |
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Noise emission | EN 55011 |
| Net weight | 180 g |
| Housing material | PA 6.6-FR |
| Color | green |
| MTBF | 253 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day)) |
| | 38 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day)) |
| MTTF | 831 Years (SN 29500 standard, temperature 25°C, operating cycle 21 % (5 days a week, 8 hours a day)) |

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General

| | |
|------------------|--|
| | 378 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day)) |
| | 155 Years (SN 29500 standard, temperature 40°C, operating cycle 100 % (7 days a week, 24 hours a day)) |
| Conformance | CE-compliant |
| ATEX | # II (2) D [Ex op is Db] IIIC (PTB 06 ATEX 2042 U) (Please follow the special installation instructions in the documentation!) |
| | # II (2) G [Ex op is Gb] IIC (PTB 06 ATEX 2042 U) (Please follow the special installation instructions in the documentation!) |
| | # II 3 G Ex nA IIC T4 Gc X (Please follow the special installation instructions in the documentation!) |
| UL, USA / Canada | 508 listed |

Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27230207 |
| eCl@ss 4.1 | 27230207 |
| eCl@ss 5.0 | 27230207 |
| eCl@ss 5.1 | 27230207 |
| eCl@ss 6.0 | 27230207 |
| eCl@ss 7.0 | 27230207 |
| eCl@ss 8.0 | 27143136 |

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC000236 |
| ETIM 4.0 | EC000236 |
| ETIM 5.0 | EC001467 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211506 |
| UNSPSC 7.0901 | 39121008 |
| UNSPSC 11 | 39121008 |
| UNSPSC 12.01 | 39121008 |
| UNSPSC 13.2 | 43201553 |

Approvals

Approvals

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Approvals

Approvals


UL Listed / cUL Listed / DNV / cULus Listed


Ex Approvals

ATEX


Approvals submitted

Approval details

UL Listed 

cUL Listed 

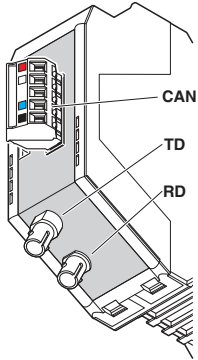
DNV

cULus Listed 

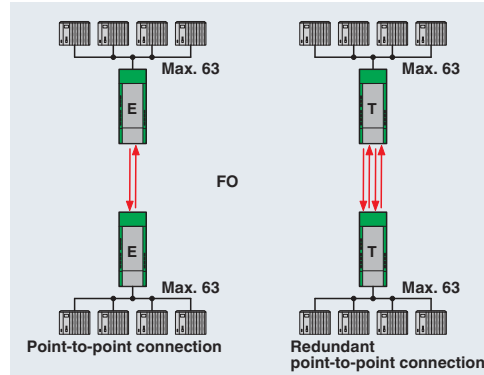
Drawings

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Schematic diagram



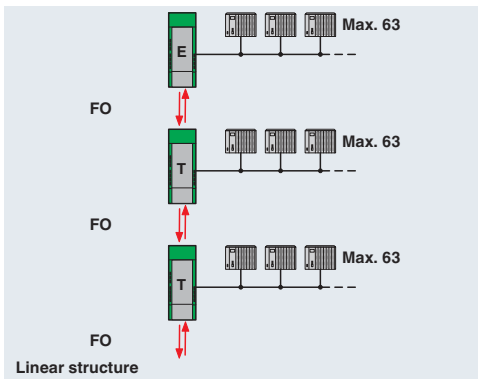
Application drawing



Device connections

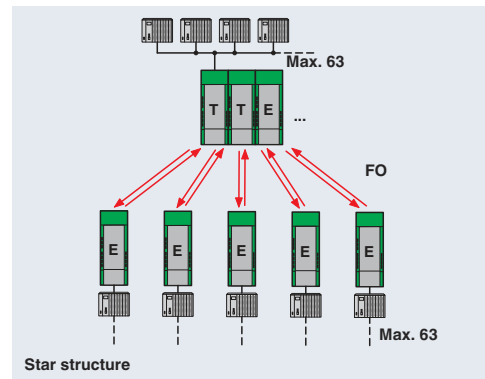
Point-to-point connection

Application drawing



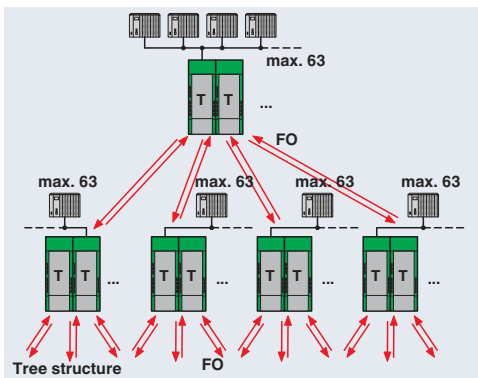
Line structure

Application drawing



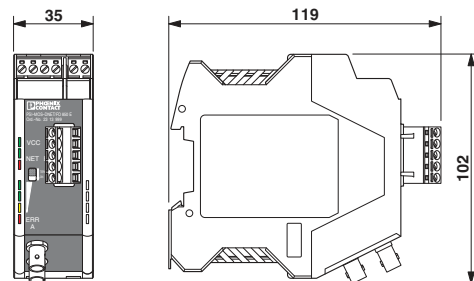
Star structure

Application drawing



Tree structure

Dimensioned drawing



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Block diagram

