PSI-MOS-DNET CAN/FO 850/EM - FO converters

2708096

https://www.phoenixcontact.com/us/products/2708096

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FO converter with integrated optical diagnostics, for DeviceNet™, CAN, CANopen® up to 800 kbps, extension/redundancy module, interfaces: 1 x FO (BFOC), 850 nm, for PCF/fiberglass cable (multimode)

Product description

The PSI-MOS-DNET... fiber optic transmission system enables DeviceNet™ and CANopen® users to benefit from simple and interference-free networking based on fiber optics. In addition, bus cable short circuits only affect the specific potential segment concerned. This increases overall availability, and improves flexibility when designing the bus topology. The use of fiber optic technology enables branch lines and star and tree structures to be created. The 22.5 mm space-saving devices from the PSI-MOS-DNET CAN/FO... series feature an internal backplane. The maximum network expansion that can be achieved (sum total of copper and fiber optic cables) essentially depends on the data rate used.

Your advantages

- Data rates of up to 800 kbps, set via DIP switches
- Approved for use in zone 2
- Intrinsically safe fiber optic interface (Ex op is) for direct connection to devices in zone 1

Commercial data

Item number	2708096
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN06
Product key	DNC213
GTIN	4017918943219
Weight per piece (including packing)	191.4 g
Weight per piece (excluding packing)	107.98 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Notes

Utilization restriction

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

Product properties

Product type	Media converter
Application	Extension module
MTBF	323 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	49 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

Electrical properties

Electrical isolation	VCC // CAN
Maximum power dissipation for nominal condition	2 W
Test voltage data interface/power supply	1.5 kV_{rms} (50 Hz, 1 min.)

Supply

Supply voltage range	10 V DC ... 30 V DC
Nominal supply voltage	24 V DC (in acc. with UL)
Typical current consumption	100 mA (24 V DC)
Max. current consumption	100 mA

Connection data

Supply

Connection method	Pluggable COMBICON screw terminal block through basic module
Tightening torque	0.56 Nm ... 0.79 Nm

Interfaces

Bit distortion, input	± 35 % (permitted)
Bit distortion, output	< 6.25 %
Signal	CAN
	CANopen®
	DeviceNet™

Data: optical FO

Transmit capacity, minimum	-17.9 dBm (50/125 µm)
	-14.1 dBm (62,5/125 µm)
	-5.1 dBm (200/230 µm)
Transmission length incl. 3 dB system reserve	2800 m (F-K 200/230 10 dB/km with quick mounting connector)
	4800 m (with F-G 50/125 2.5 dB/km)

	4200 m (with F-G 62,5/125 3.0 dB/km)
Connection method	B-FOC (ST®)
Wavelength	850 nm
Minimum receiver sensitivity	-32.5 dBm (50/125 µm)
	-32.5 dBm (62,5/125 µm)
	-32.1 dBm (200/230 µm)
Transmission medium	PCF fiber
	Multi-mode fiberglass

Data: CAN interface, in accordance with ISO/IS 11898 for DeviceNet™, CAN, CANopen®

Serial transmission speed	≤ 800 kbps
Connection method	Pluggable screw connection
Transmission length	≤ 5000 m (Dependent on the data rate and the protocol used)
Transmission medium	Copper
File format/coding	Bit stuffing, NRZ

Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Material specifications

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

Cable/line

FO cable

Fiber types	200/230 µm
	50/125 µm
	62.5/125 µm
	PCF fiber
	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	Ⓔx II 3 G Ex nA nC IIC T4 Gc X
Note	Please follow the special installation instructions in the documentation!

ATEX, FO interface

Identification	Ⓔx II (2) G [Ex op is Gb] IIC
	Ⓔx II (2) D [Ex op is Db] IIIC
Certificate	PTB 06 ATEX 2042 U
Note	Please follow the special installation instructions in the documentation!

UL, USA/Canada

Identification	Class I, Zone 2, AEx nc IIC T5
	Class I, Div. 2, Groups A, B, C, D

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 (5 kHz)
Signal	2 kV (5 kHz)
Comments	Criterion B

Surge current load (surge)

Input	0.5 kV (42 Ω)
Signal	1 kV (2 Ω)
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

Criteria

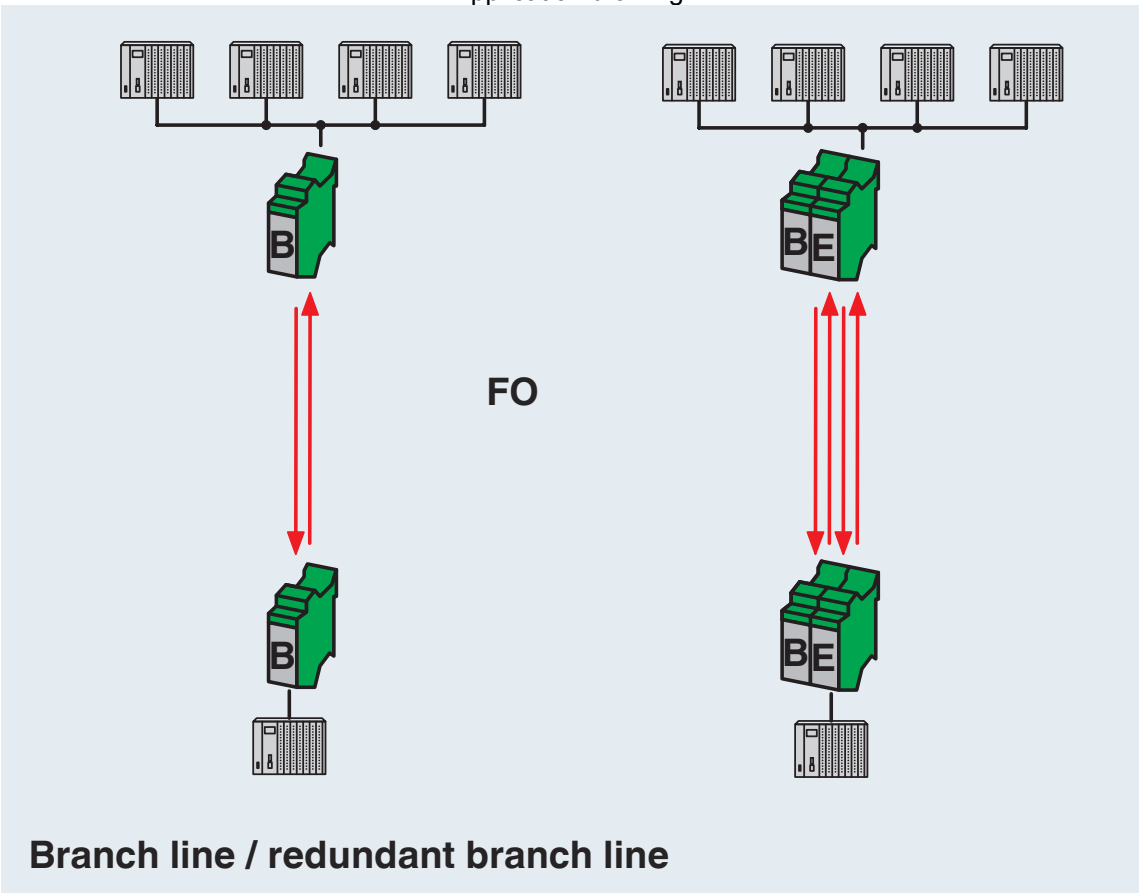
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Mounting

Mounting type	DIN rail mounting

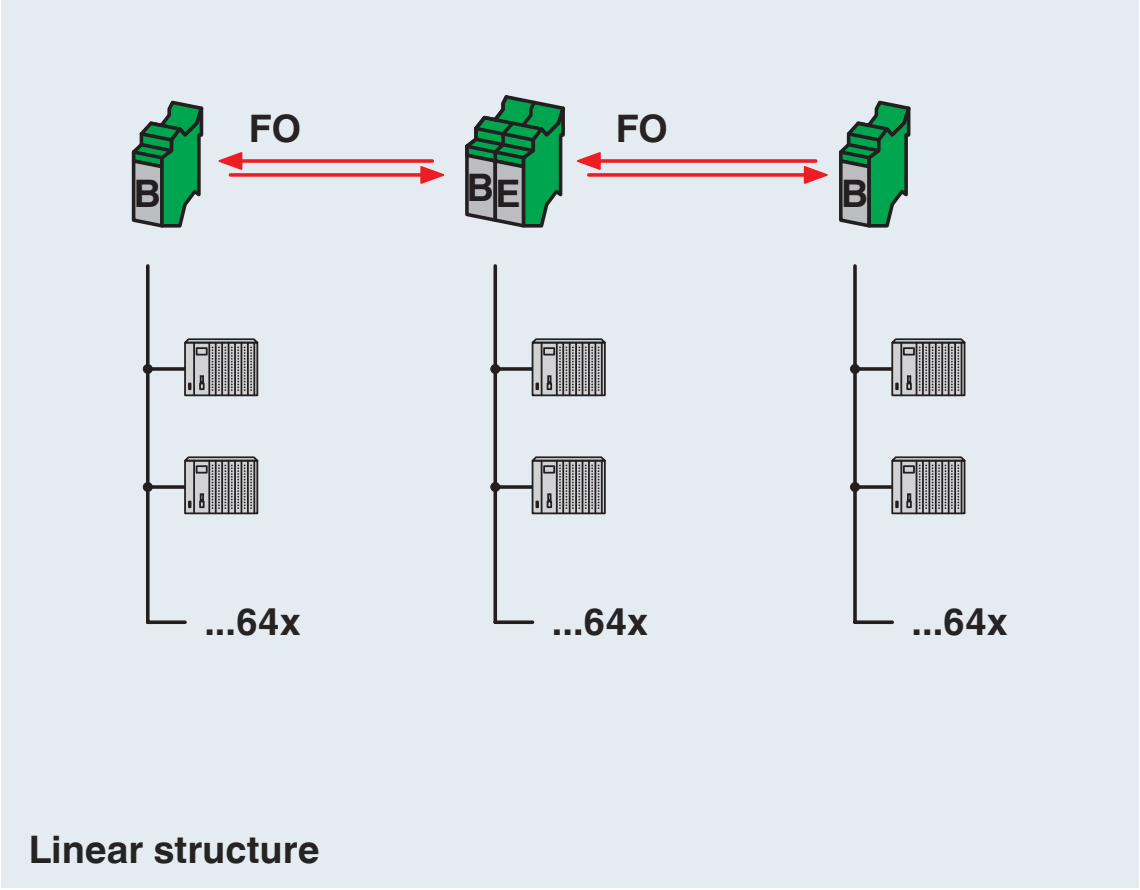
Drawings

Application drawing



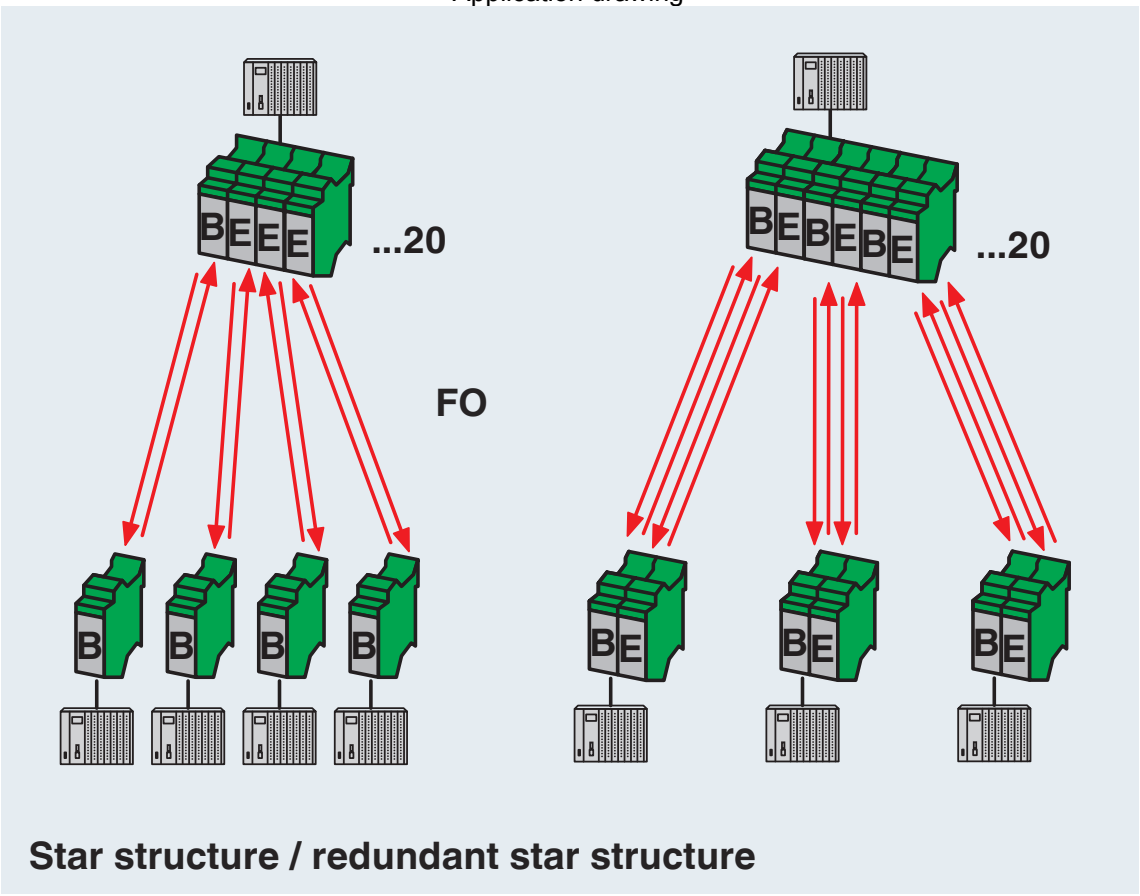
Branch line / redundant branch line

Application drawing



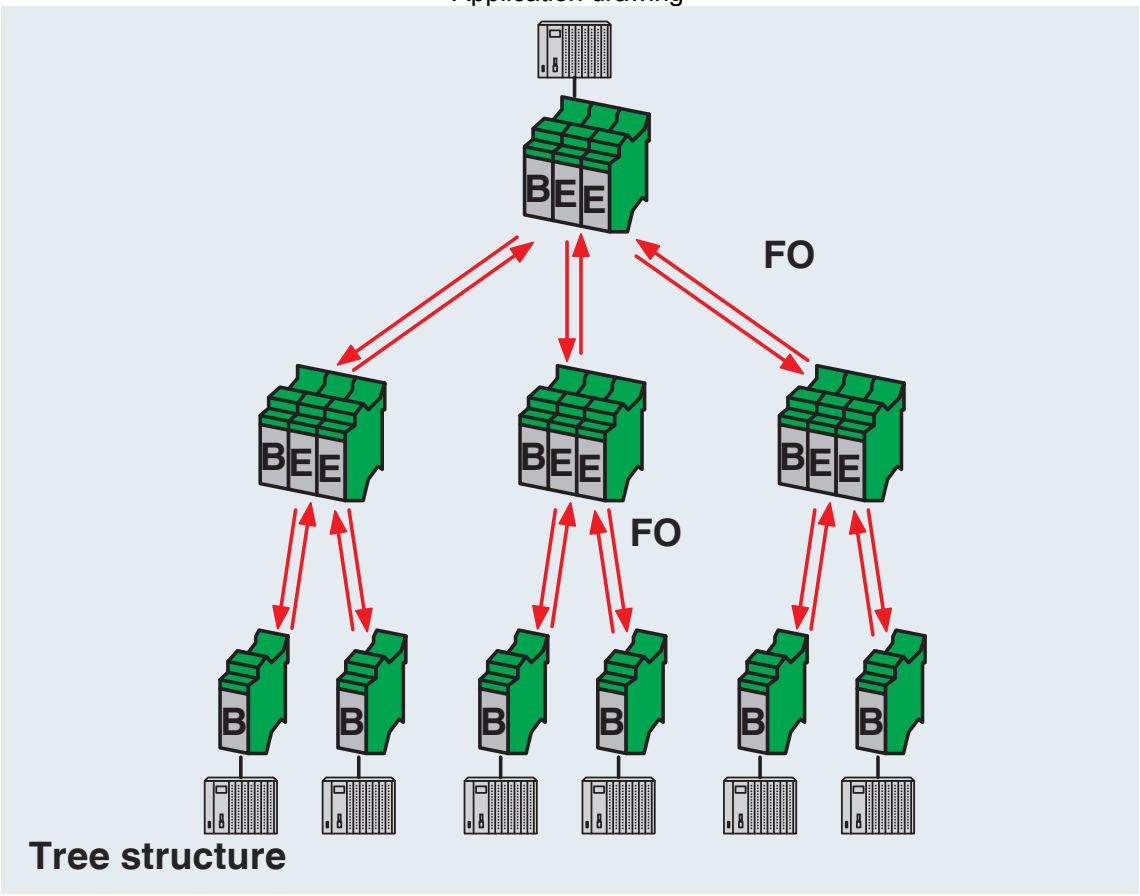
Line structure

Application drawing



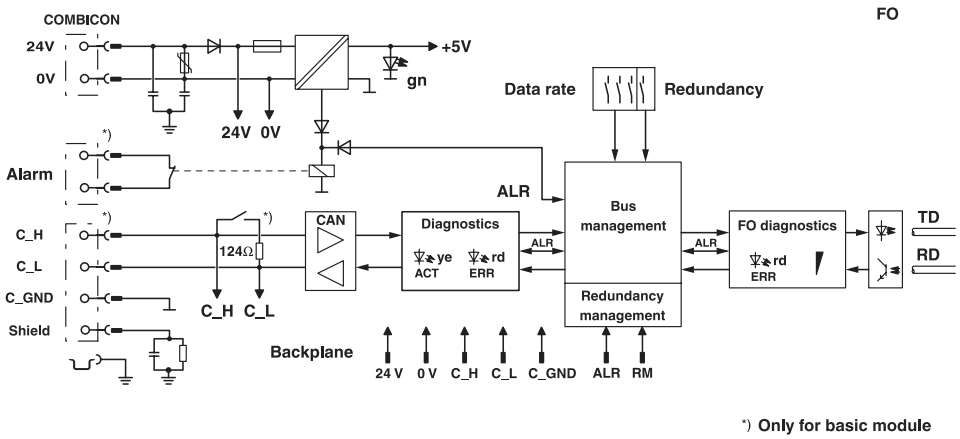
Star structure / redundant star structure

Application drawing



Tree structure

Block diagram



*) Only in the basic module

Classifications

ECLASS

ECLASS-13.0	19170411

ETIM

ETIM 9.0	EC001467

UNSPSC

UNSPSC 21.0	43223323

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	f7324339-143d-40c4-897c-3f7a856c00a4

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