

2708083

<https://www.phoenixcontact.com/us/products/2708083>

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FO converter with integrated optical diagnostics, for DeviceNet™, CAN, CANopen® up to 800 kbps, basic module, interfaces: 1 x CAN, 1 x alarm, 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	2708083
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN06
Product key	DNC213
GTIN	4017918943202
Weight per piece (including packing)	200.3 g
Weight per piece (excluding packing)	198.2 g
Customs tariff number	85176200
Country of origin	DE

## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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#### Utilization restriction

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

Product type	Media converter
Product family	PSI-MOS
Application	Base module
MTBF	299 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	47 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 <sub>rms</sub> (50 Hz, 1 min.)

#### Supply

Supply voltage range	10 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
Nominal supply voltage	24 V DC (in acc. with UL)
Typical current consumption	100 mA (24 V DC)
Max. current consumption	100 mA

### 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	0.46 A

### 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

No. of channels	1
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 8 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)
Termination resistor	120 Ω (Can be connected)
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

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	62.5/125 µm
	PCF fiber
	Fiberglass

## Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	Operation: 5g, 10...150 Hz, 2.5 h, in XYZ direction
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	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
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### ATEX

Identification	⊕ II 3 G Ex nA nC IIC T4 Gc X
Note	Please follow the special installation instructions in the documentation!

### ATEX, FO interface

Identification	⊕ II (2) G [Ex op is Gb] IIC ⊕ 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
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### Corrosive gas test

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

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 61000-6-2

### Noise emission

Standards/regulations	EN 55011
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# PSI-MOS-DNET CAN/FO 850/BM - FO converters



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## Electrostatic discharge

Standards/regulations	EN 61000-4-2
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## Electrostatic discharge

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

## Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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## Electromagnetic HF field

Field intensity	10 V/m
Comments	Criterion A

## Fast transients (burst)

Standards/regulations	EN 61000-4-4
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## 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
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## Conducted interference

Comments	Criterion A
Voltage	10 V

## Emitted interference

Standards/regulations	EN 55011
Comments	Class A, industrial applications

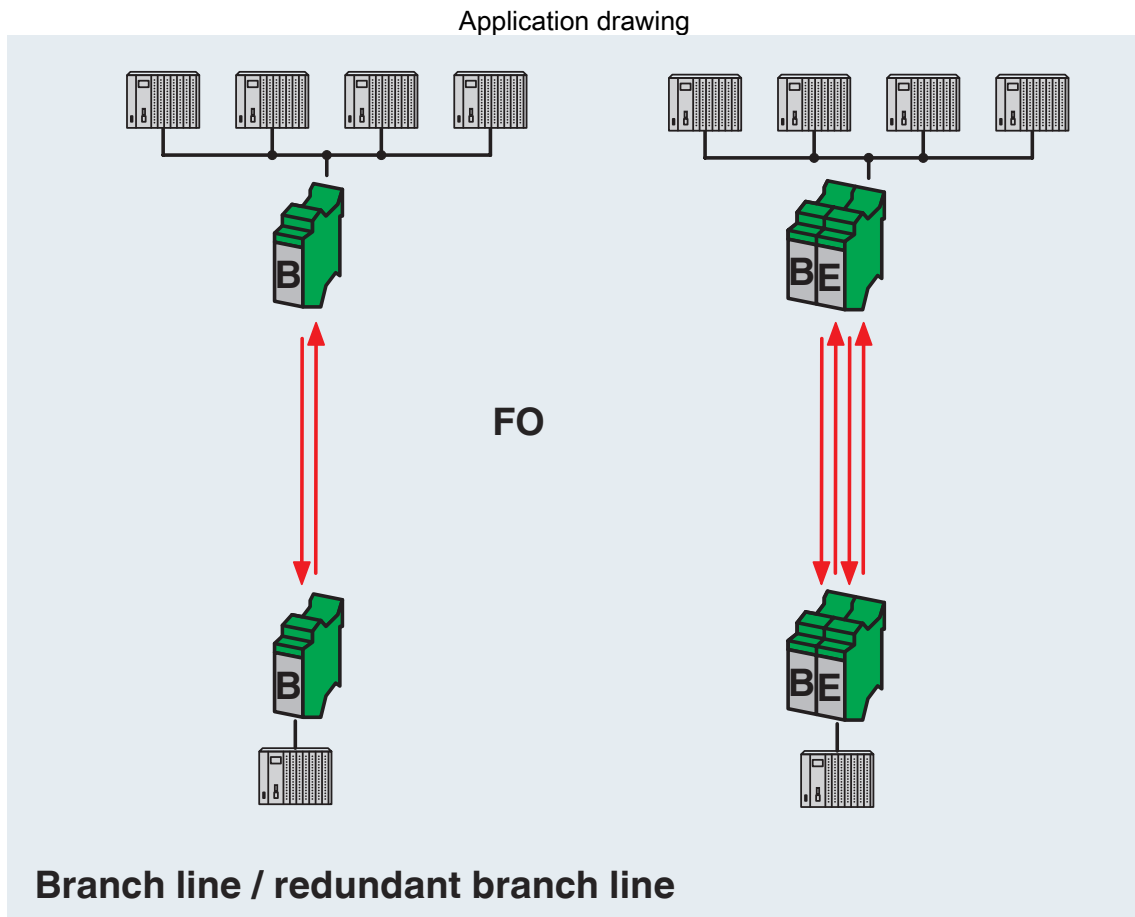
## Criteria

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
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## Drawings

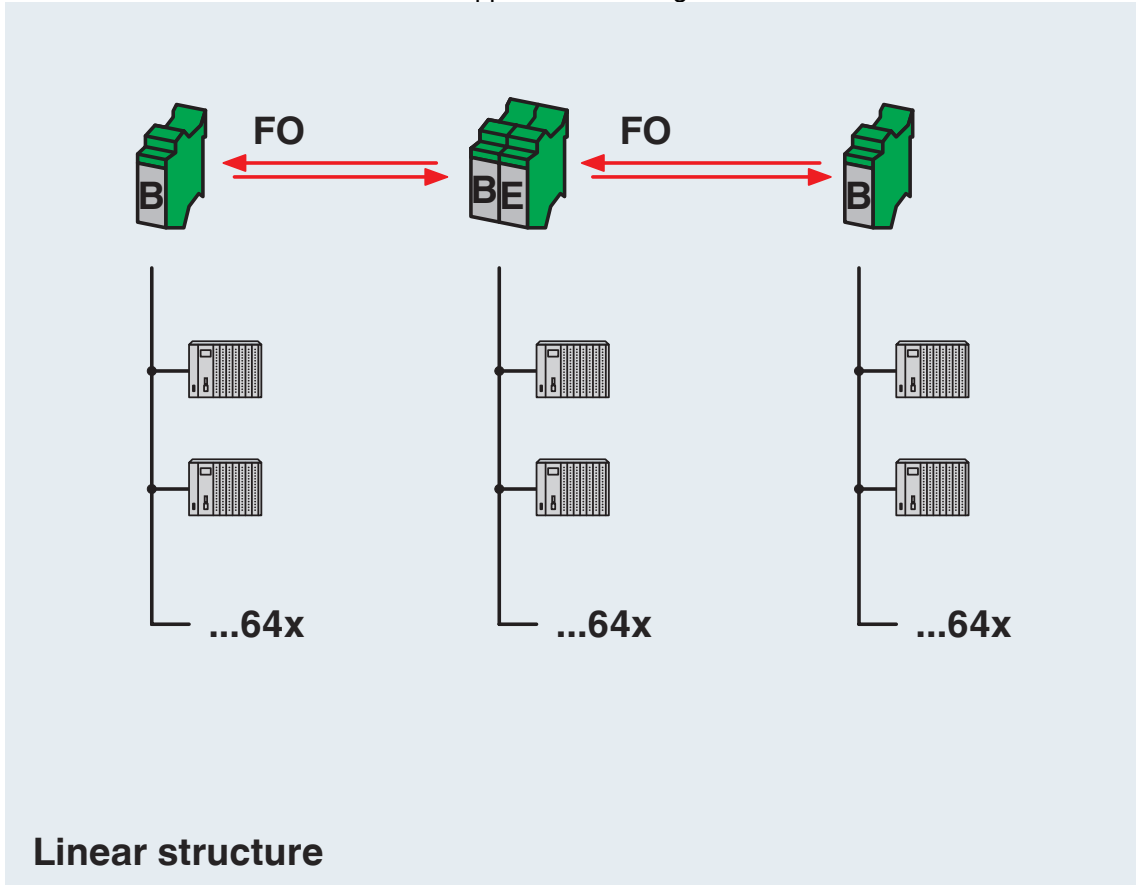


Branch line / redundant branch line

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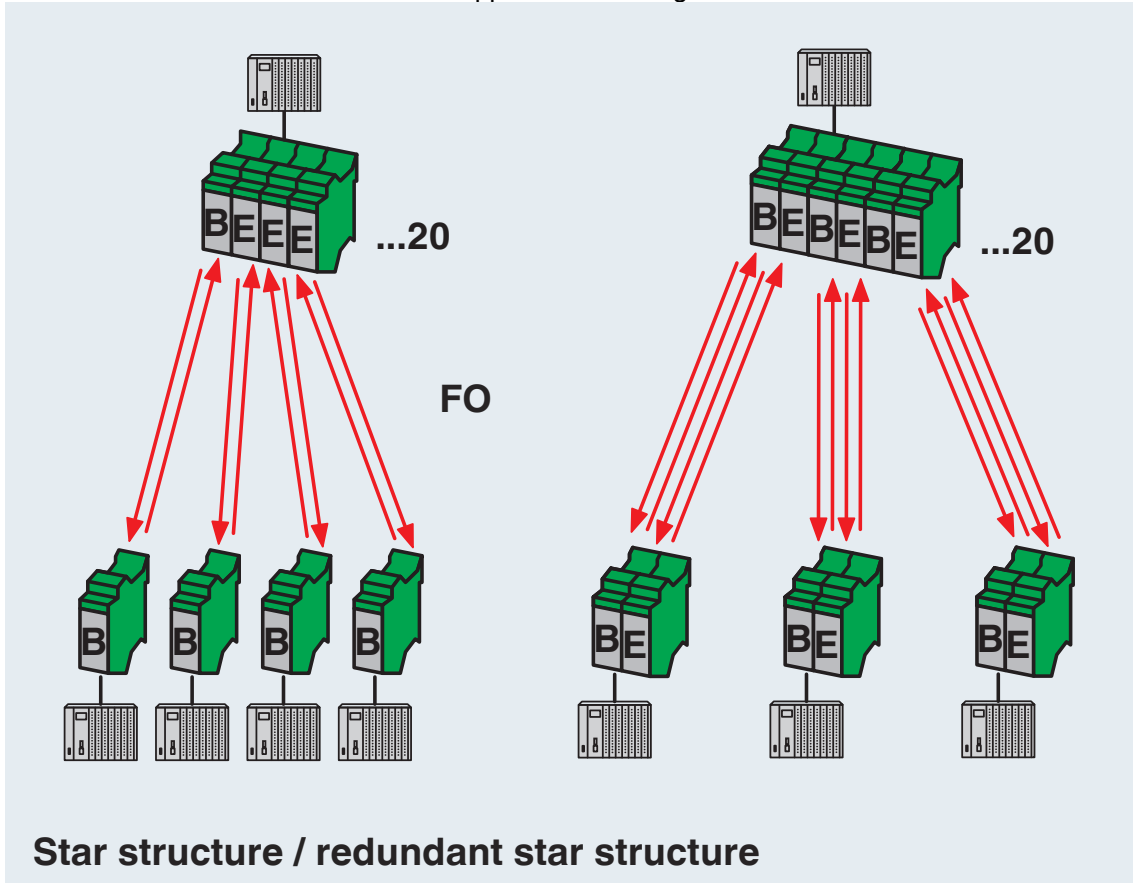
<https://www.phoenixcontact.com/us/products/2708083>

Application drawing



Line structure

Application drawing

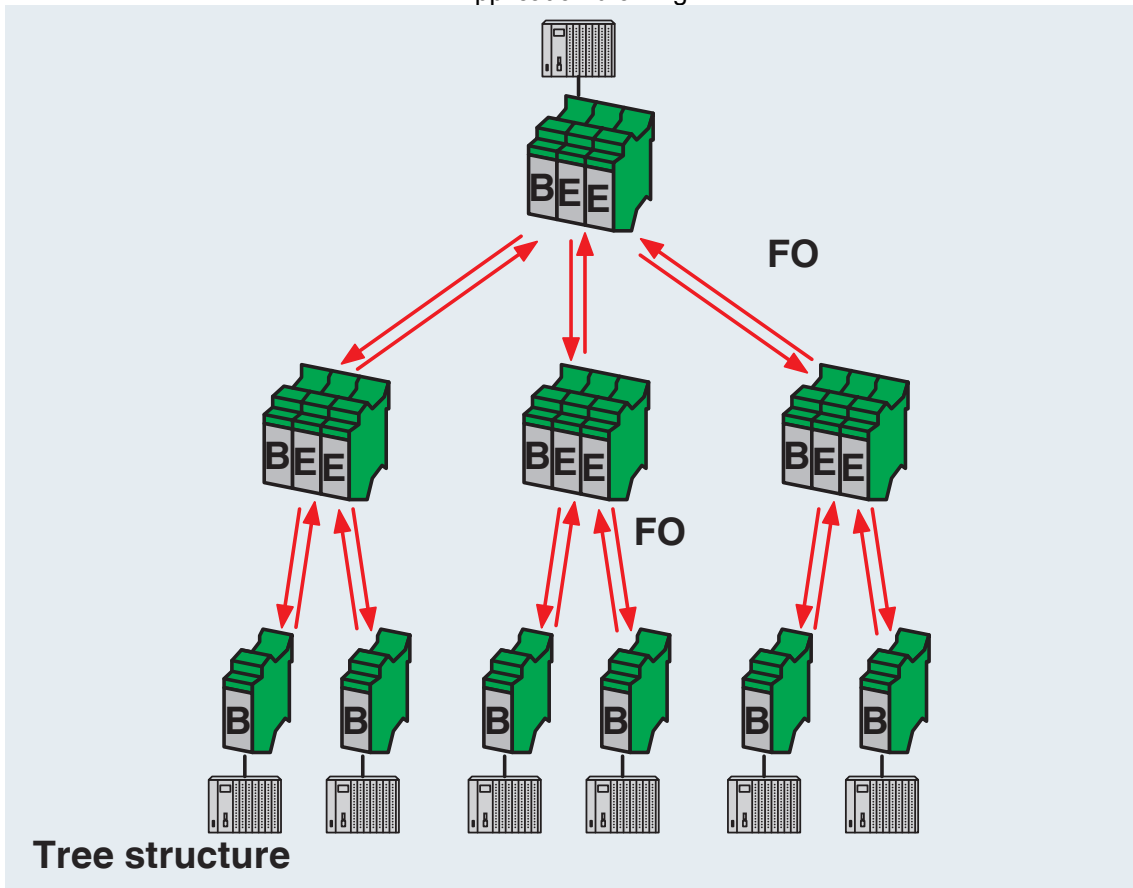


Star structure / redundant star structure

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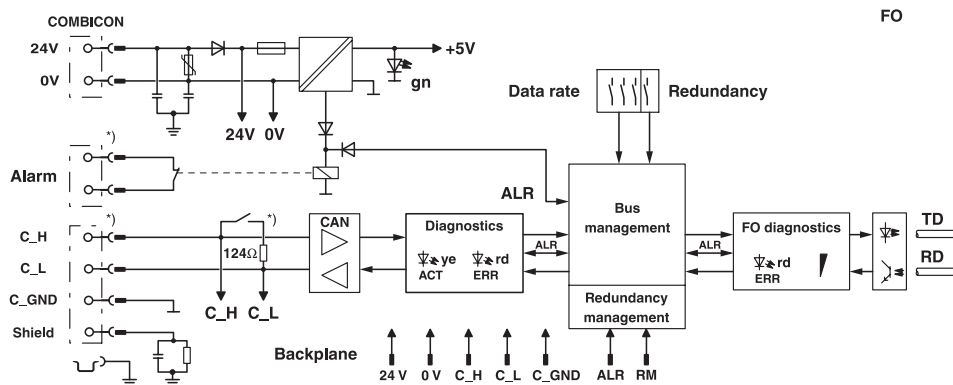
<https://www.phoenixcontact.com/us/products/2708083>

Application drawing



Tree structure

Block diagram



\*) Only for basic module

\*) Only in the basic module

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2708083>



**cULus Recognized**  
Approval ID: E238705



**UL Listed**  
Approval ID: E199827

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## Classifications

### ECLASS

ECLASS-13.0	19170411
ECLASS-15.0	19170411

### ETIM

ETIM 10.0	EC001467
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### UNSPSC

UNSPSC 21.0	43223323
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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	ecade925-421c-43c8-a7af-c1ab25e073ae

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