

2708096

<https://www.phoenixcontact.com/pc/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
Product Key	DNC213
Catalog Page	Page 433 (C-6-2019)
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

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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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
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 method	Pluggable COMBICON screw terminal block through basic module

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)

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	-5.1 dBm (200/230 µm)
Transmission length incl. 3 dB system reserve	2800 m (With 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

Material	PA 6.6-FR (Housing)
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Cable / line

FO cable

Fiber types	200/230 µm
	50/125 µm
	62.5/125 µm
	PCF fiber
	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)

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Approval data

CE

Certificate	CE-compliant
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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!

ATEX, FO interface

Identification	<input type="checkbox"/> II (2) G [Ex op is Gb] IIC <input type="checkbox"/> 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 emission	EN 55011
Noise immunity	EN 61000-6-2:2005

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)
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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

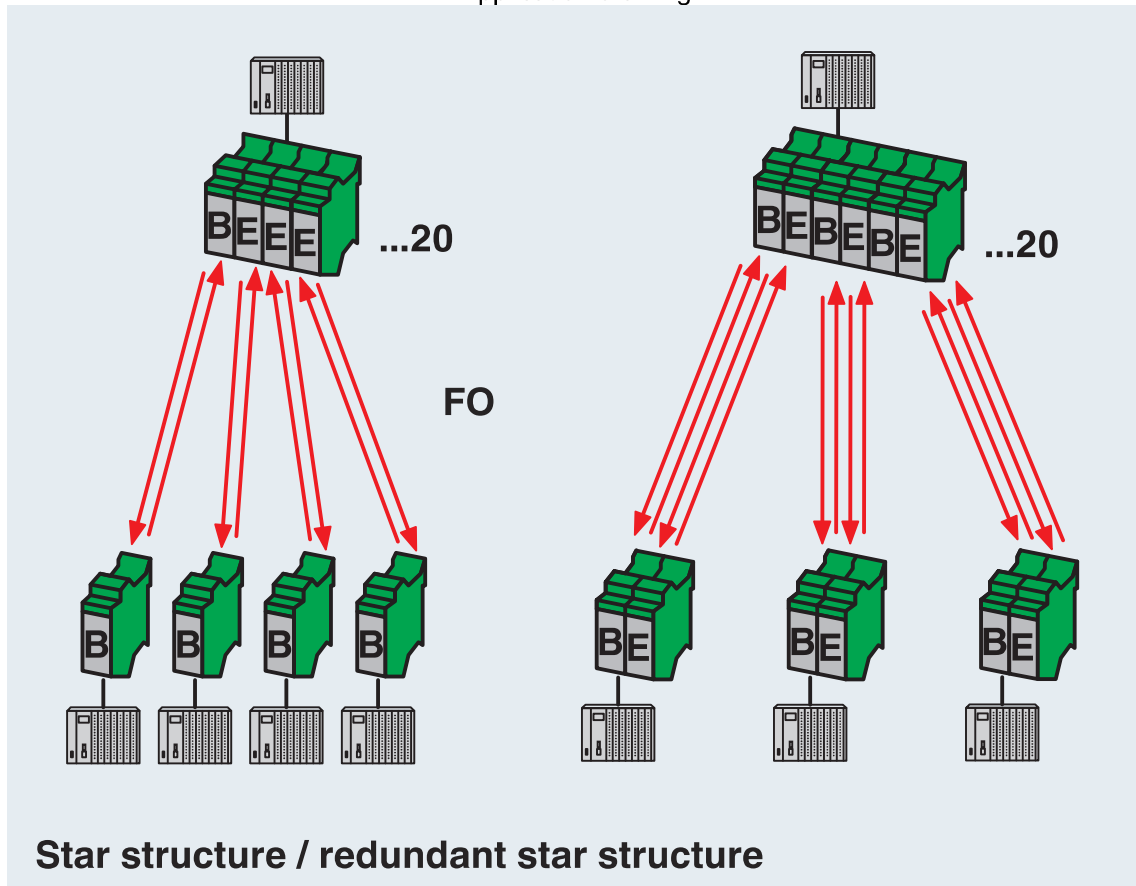
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Mounting

Mounting type	DIN rail mounting
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Drawings

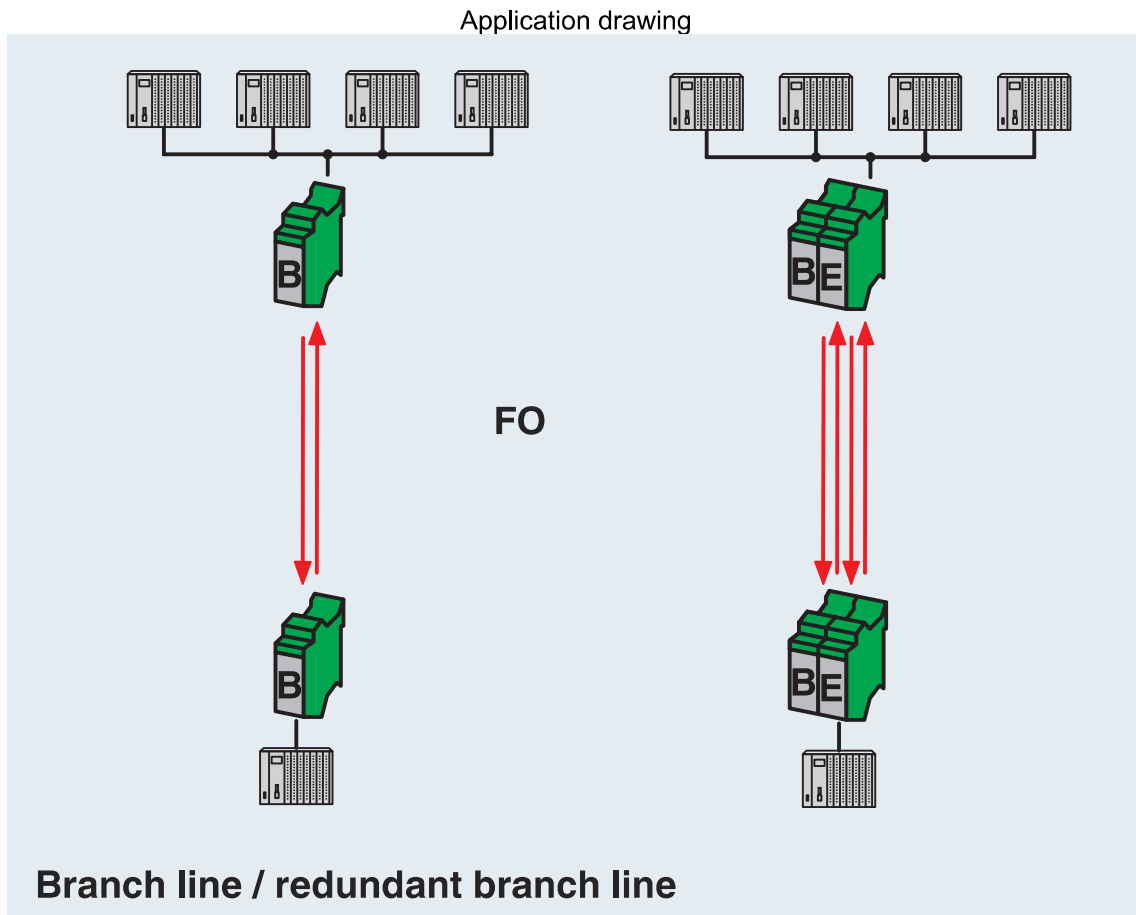
Application drawing



Star structure / redundant star structure

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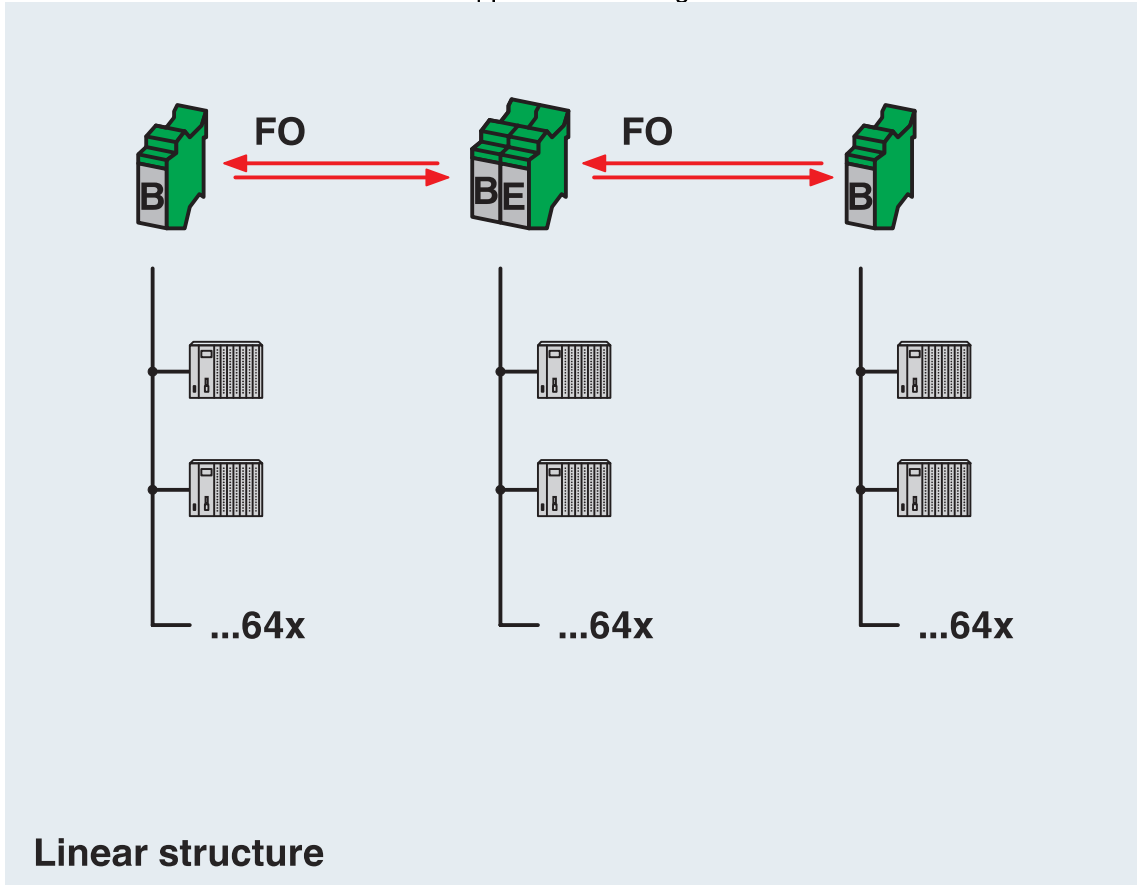


Branch line / redundant branch line

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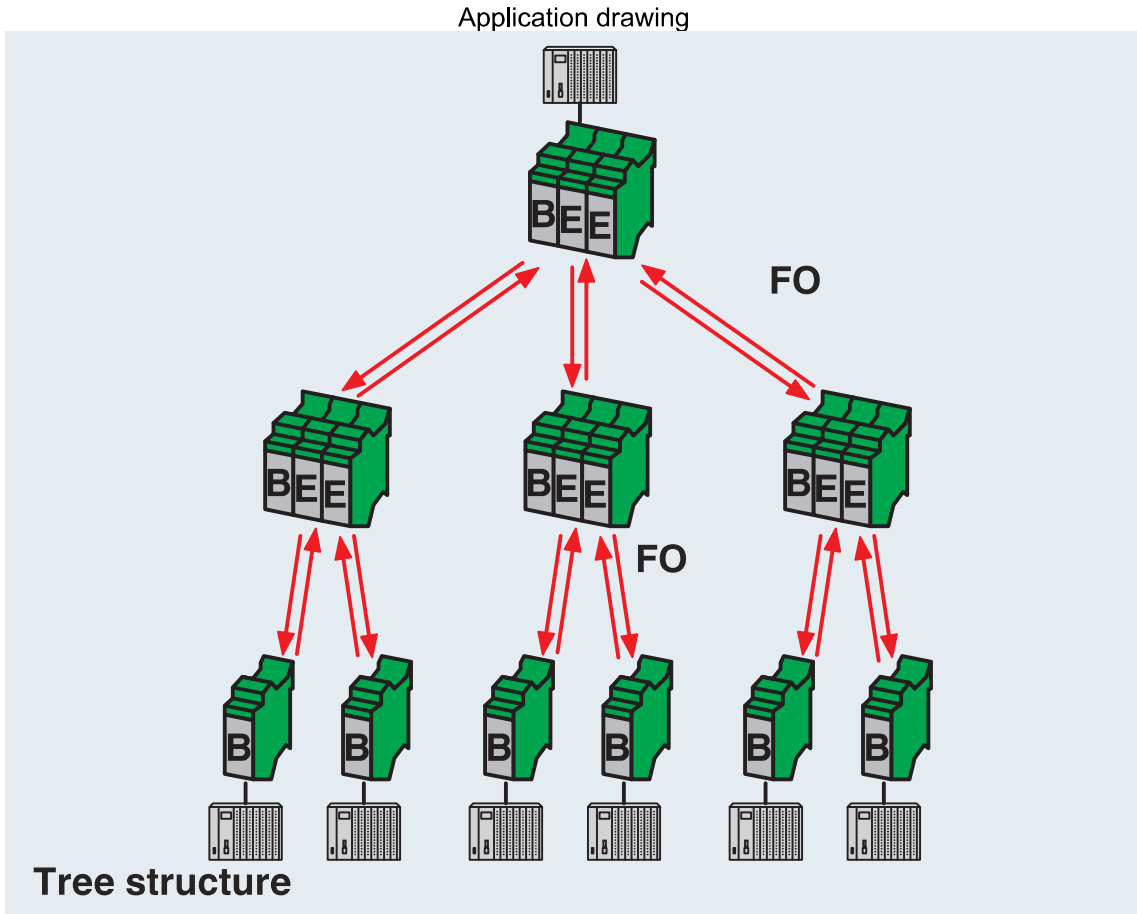
Application drawing



Line structure

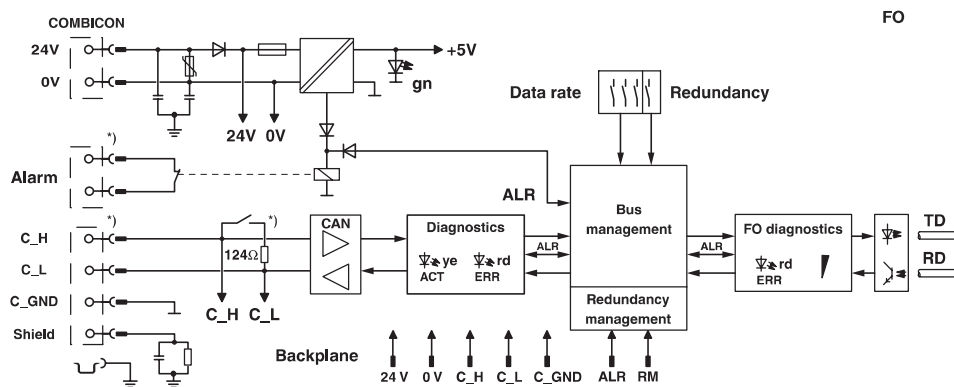
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Tree structure

Block diagram




*) Only for basic module


*) Only in the basic module

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Approvals


 **cUL Recognized**
Approval ID: FILE E 238705

 **UL Recognized**
Approval ID: FILE E 238705

 **ATEX**
Approval ID: PTB 06 ATEX 2042U

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
			-	-

 **ATEX**
Approval ID: PxCIF06ATEX2708261X

 **UL Listed**
Approval ID: FILE E 199827

cULus Recognized

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC001467
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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"