

FO converters - PSI-MOS-PROFIB/FO 660 T - 2708287

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FO converter with integrated optical diagnostics, alarm contact, for PROFIBUS up to 12 Mbps, T-coupler with two FO interfaces (FSMA), 660 nm, for polymer/HCS fiber cable

Product Features

- ✓ Can be combined with the PSI copper repeater in a modular way using DIN rail connectors
- ✓ Supply voltage and data signals routed through via DIN rail connectors
- ✓ Connections can be plugged in using a COMBICON screw terminal block
- ✓ Automatic data rate detection or fixed data rate setting via DIP switches
- ✓ Redundant power supply possible by means of optional system power supply unit
- ✓ High-quality electrical isolation between all interfaces (PROFIBUS // fiber optic ports // power supply // DIN rail connector)
- ✓ Approved for use in zone 2
- ✓ Integrated optical diagnostics for continuous monitoring of fiber optic paths
- ✓ Floating switch contact for leading alarm generation in relation to critical fiber optic paths
- ✓ Intrinsically safe fiber optic interface (Ex op is) for direct connection to devices in zone 1
- ✓ Suitable for all data rates up to 12 Mbps
- ✓ Bit retiming for any cascading depth



Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	234.2 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	99 mm
Depth	106 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 61000-6-2:2005

General

Bit delay	≤ 1 Bit
Bit distortion, input	± 35 % (permitted)
Bit distortion, output	< 6.25 %
Electrical isolation	VCC // RS-485
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	191 g
Housing material	PA 6.6-FR
Color	green
MTBF	201 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day)) 42 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
MTTF	213 Years (SN 29500 standard, temperature 25°C, operating cycle 21 % (5 days a week, 8 hours a day)) 150 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day)) 86 Years (SN 29500 standard, temperature 40°C, operating cycle 100 % (7 days a week, 24 hours a day))
Conformance	CE-compliant
ATEX	# II 3 G Ex nAC IIC T4 X (Please follow the special installation instructions in the documentation!) # II (2) GD [Ex op is] IIC (PTB 06 ATEX 2042 U) (Please follow the special installation instructions in the documentation!)
UL, USA / Canada	Class I, Zone 2, AEx nc IIC T5 Class I, zone 2, Ex nC nL IIC T5 X Class I, Div. 2, Groups A, B, C, D

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Power supply

Nominal supply voltage	24 V DC
Supply voltage range	18 V DC ... 30 V DC
Max. current consumption	130 mA
Typical current consumption	100 mA (24 V DC)
Connection method	COMBICON plug-in screw terminal block

Serial interface

Interface 1	PROFIBUS acc. to IEC 61158, RS-485 2-wire, half duplex, automatic control
Interface	PROFIBUS
Operating mode	Semi-duplex
Connection method	D-SUB-9 female connector
File format/coding	UART (11 Bit, NRZ)
Data direction switching	Automatic control
Transmission medium	Copper
Transmission length	≤ 1200 m (depending on the data rate, with shielded, twisted pair data cable)
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
Serial transmission speed	≤ 12 Mbps

Optical interface FO

Transmit capacity, minimum	-3 dBm (980/1000 μm)
	-15.4 dBm (200/230 μm)
Minimum receiver sensitivity	-30 dBm
Overrange receiver	-3 dBm (980/1000 μm)
Wavelength	660 nm
Transmission length incl. 3 dB system reserve	70 m (With F-P 980/1000 230 dB/km with quick mounting connector)
	400 m (With F-K 200/230 10 dB/km with quick mounting connector)
Transmission medium	Polymer fiber
	HCS fiber
Transmission protocol	Protocol-transparent to the RS-485 interface
Connection method	F-SMA

Digital outputs

Output name	Relay output
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Technical data

Digital outputs

Output description	Alarm output
Number of outputs	1
Maximum switching voltage	60 V DC
	42 V AC
Limiting continuous current	0.46 A

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 2.0	EC001423
ETIM 3.0	EC001423
ETIM 4.0	EC001423
ETIM 5.0	EC001423

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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UL Recognized / cUL Recognized / UL Recognized / cUL Recognized / DNV / cULus Recognized

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Approvals

Ex Approvals

ATEX / UL Listed / cUL Listed / ATEX / UL Listed / cUL Listed / cULus Listed


Approvals submitted

Approval details


UL Recognized 

cUL Recognized 

UL Recognized 

cUL Recognized 

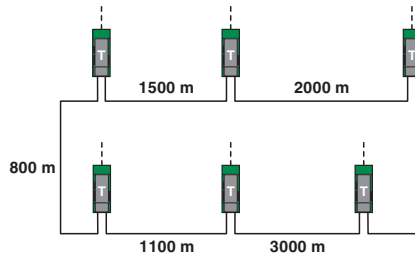
DNV

cULus Recognized 

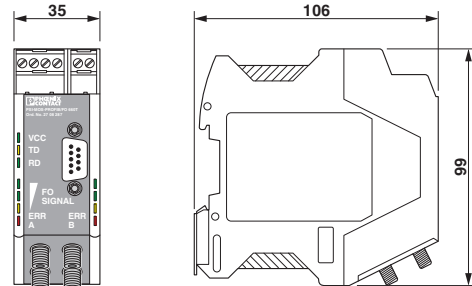
Drawings

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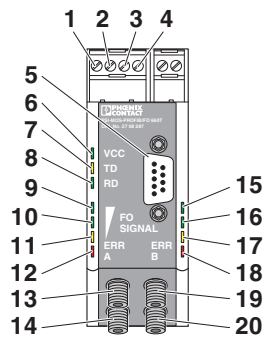
Application drawing



Dimensioned drawing

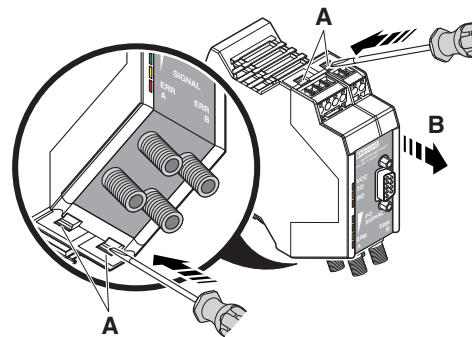


Schematic diagram



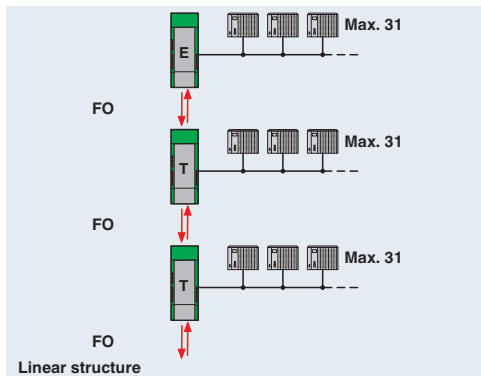
Front view

Schematic diagram



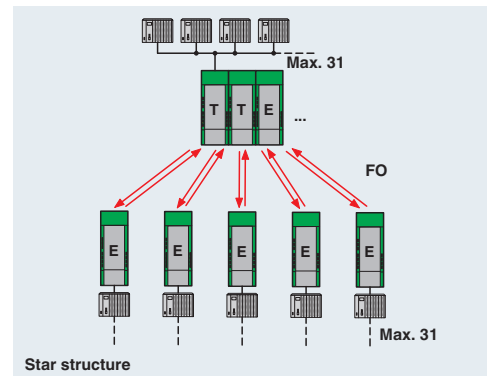
Opening the housing

Application drawing



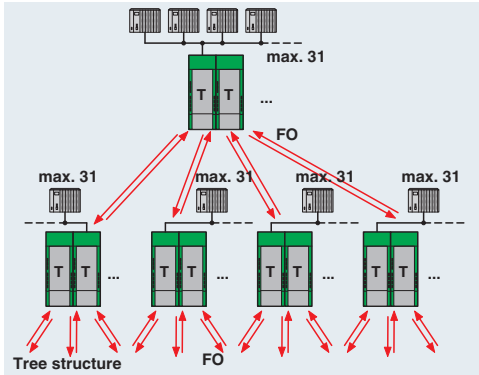
Tree structure

Application drawing

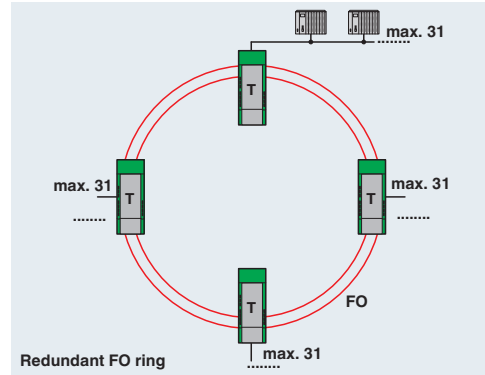


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Application drawing

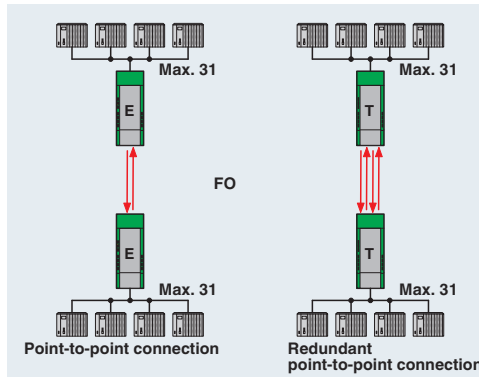


Application drawing

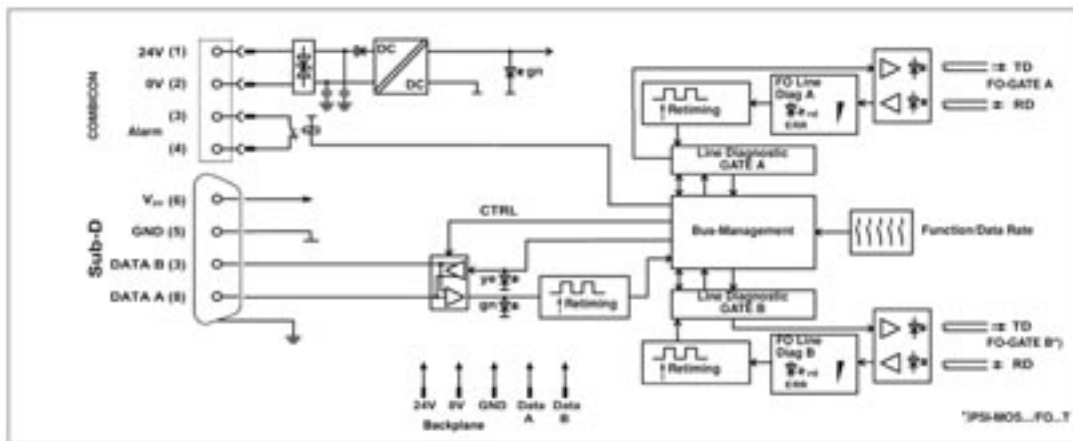


Redundant FO ring

Application drawing



Block diagram



*) only with PSI-MOS.../FO...T

