

## 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 <sub>rms</sub> (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

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

### Technical data

#### 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 <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
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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## FO converters - PSI-MOS-PROFIB/FO 660 T - 2708287

### 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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#### Approvals

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


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Approvals submitted


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## Approval details


UL Recognized 

cUL Recognized 

UL Recognized 

cUL Recognized 

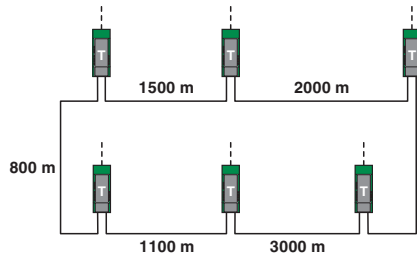
DNV

cULus Recognized 

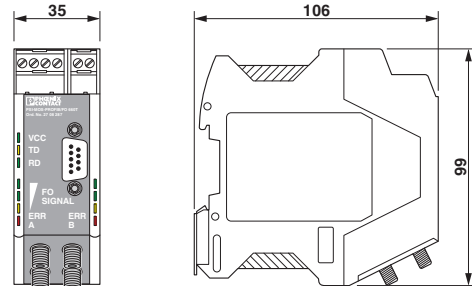
## Drawings

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

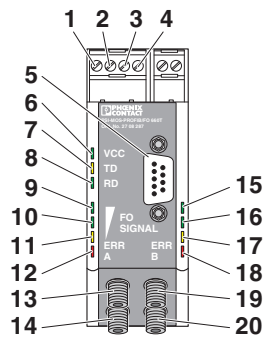
Application drawing



Dimensioned drawing

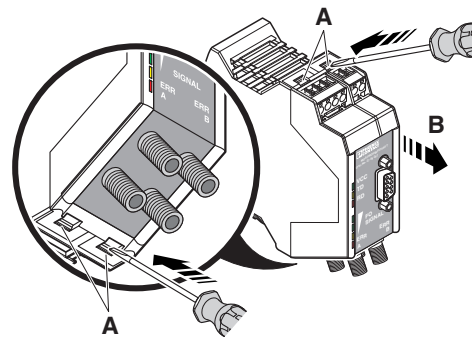


Schematic diagram



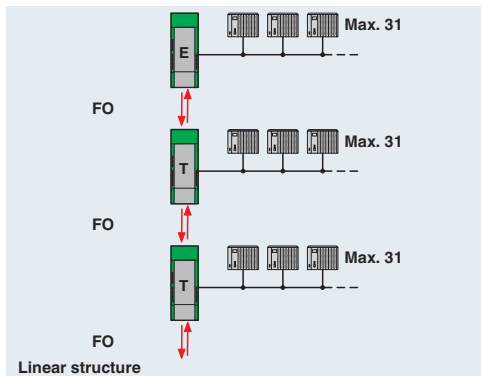
Front view

Schematic diagram



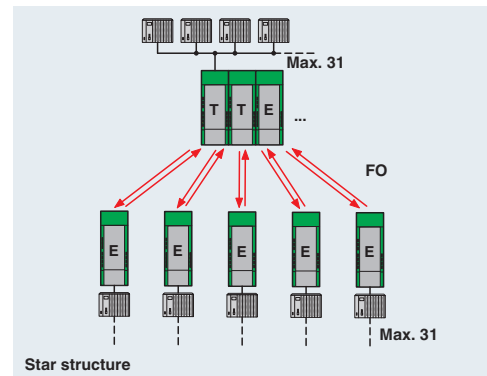
Opening the housing

Application drawing



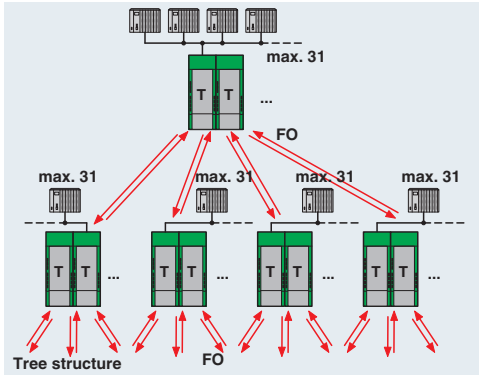
Tree structure

Application drawing

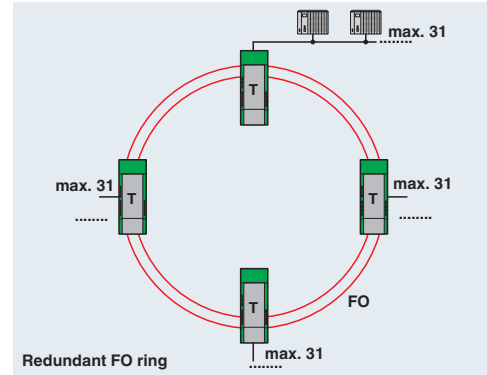


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Application drawing

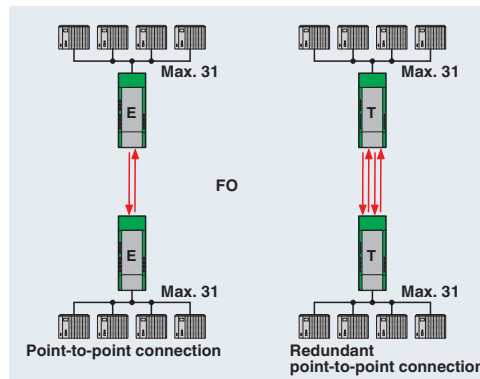


Application drawing

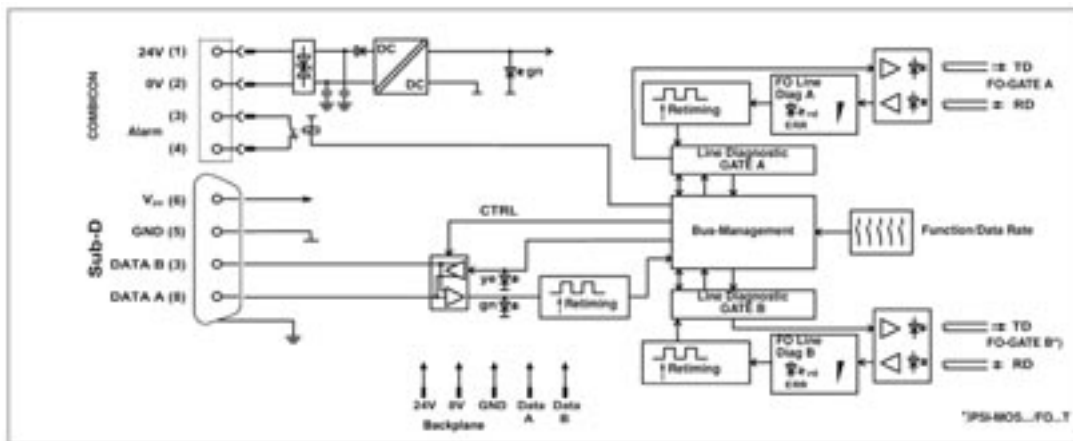


Redundant FO ring

Application drawing



Block diagram



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





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