

# FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

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FO converter with integrated optical diagnosis, alarm contact, for PROFIBUS up to 12 Mbps, T-coupler with two FO interfaces (BFOC), 850 nm, for fiber glass cable

## Product Features

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



## Key commercial data

package_quantity	1
GTIN	4017918973964

## Technical data

Note:

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### 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

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## Technical data

### Ambient conditions

<b>Permissible humidity (operation)</b>	30 % ... 95 % (no condensation)
<b>Altitude</b>	5000 m (For restrictions see manufacturer's declaration)
<b>Degree of protection</b>	IP20
<b>Noise immunity</b>	EN 61000-6-2:2005

### Serial interface

<b>Interface 1</b>	PROFIBUS acc. to IEC 61158, RS-485 2-wire, half duplex, automatic control
<b>Operating mode</b>	Semi-duplex
<b>Connection method</b>	D-SUB-9 female connector
<b>File format/coding</b>	UART (11 Bit, NRZ)
<b>Data direction switching</b>	Automatic control
<b>Transmission medium</b>	Copper
<b>Transmission length</b>	≤ 1200 m (depending on the data rate, with shielded, twisted pair data cable)
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	14
<b>Serial transmission speed</b>	≤ 12 Mbps

### Optical interface FO

<b>Transmit capacity, minimum</b>	-4.2 dBm (200/230 μm)
<b>Transmit capacity, minimum</b>	-17.8 dBm (50/125 μm)
<b>Transmit capacity, minimum</b>	-14.6 dBm (62,5/125 μm)
<b>Minimum receiver sensitivity</b>	-30 dBm (50/125 μm)
<b>Maximum receiver sensitivity</b>	-3 dBm (200/230 μm)
<b>Wavelength</b>	850 nm
<b>Transmission length incl. 3 dB system reserve</b>	2600 m (with F-G 50/125 2.5 dB/km)
<b>Transmission length incl. 3 dB system reserve</b>	3300 m (with F-G 62,5/125 3.0 dB/km)
<b>Transmission length incl. 3 dB system reserve</b>	800 m (With F-K 200/230 10 dB/km with quick mounting connector)
<b>Transmission medium</b>	HCS fiber
<b>Transmission medium</b>	Multi-mode fiberglass
<b>Transmission protocol</b>	Protocol-transparent to the RS-485 interface
<b>Connection method</b>	B-FOC (ST <sup>®</sup> )

### Fault warning output

<b>Maximum switching voltage</b>	60 V DC
<b>Maximum switching voltage</b>	42 V AC
<b>Limiting continuous current</b>	0.46 A

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## 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	120 mA (24 V DC)
Connection method	COMBICON plug-in screw terminal block

### 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	207 g
Housing material	PA 6.6-FR
Color	green
MTBF	149 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
MTBF	24 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
Conformance	CE-compliant
ATEX	# II 3 G Ex nAC IIC T4 X
ATEX	# II (2) GD [Ex op is] IIC (PTB 06 ATEX 2042 U)
UL, USA / Canada	Class I, Zone 2, AEx nc IIC T5
UL, USA / Canada	Class I, zone 2, Ex nC nL IIC T5 X
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D

## 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	27230207

### ETIM

ETIM 2.0	EC001423
ETIM 3.0	EC001423
ETIM 4.0	EC001423

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## classifications

### ETIM

<b>ETIM 5.0</b>	EC001423
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### UNSPSC

<b>UNSPSC 6.01</b>	30211506
<b>UNSPSC 7.0901</b>	39121008
<b>UNSPSC 11</b>	39121008
<b>UNSPSC 12.01</b>	39121008
<b>UNSPSC 13.2</b>	43201553

## approvals

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

### Approval details

<b>ATEX</b>	
Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

<b>UL Listed</b>
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<b>cUL Listed</b>
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Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

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approvals



accessories

## Connector set

PSM-SET-B-FOC/4-HCS - 2708481



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Data cable by the meter

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accessories

PSM-LWL-HCS-RUGGED-200/230 - 2799885



PSM-LWL-HCSO-200/230 - 2799445



PSM-LWL-GDM-RUGGED- 50/125 - 2799322



PSM-LWL-GDO- 50/125 - 2799432



PSM-CABLE-PROFIB/FC - 2744652



**Power supply**

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### accessories

MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



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### DIN rail connector

ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



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### Assembly tool

PSM-HCS-KONFTOOL/B-FOC - 2708465



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### Measuring tools

PSM-FO-POWERMETER - 2799539



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### Adapter

PSM-SET-BFOC-LINK/2 - 2799429



## FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

### accessories

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PSM PTK - 2760623



PSM PTK-4 - 2799364



### Data plug

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SUBCON-PLUS-PROFIB/SC2 - 2708232



SUBCON-PLUS-PROFIB/PG/SC2 - 2708245



SUBCON-PLUS-PROFIB/AX/SC - 2744380



### Screwdriver tools

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## FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

### accessories

SZS 0,4X2,5 VDE - 1205037



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### Stripping tool

PSM-STRIP-FC/PROFIB - 2744623



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### Interface converter

PSI-REP-PROFIBUS/12MB - 2708863



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PSM-ME-RS485/RS485-P - 2744429



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### Data cable preassembled

FL MM PATCH 1,0 LC-ST - 2989174



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### accessories

FL MM PATCH 2,0 LC-ST - 2989271



FL MM PATCH 5,0 LC-ST - 2901801



FL MM PATCH 1,0 SC-ST - 2901809



FL MM PATCH 5,0 SC-ST - 2901811



FL MM PATCH 1,0 ST-ST - 2901815



FL MM PATCH 2,0 ST-ST - 2901816



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### accessories

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FL MM PATCH 5,0 ST-ST - 2901817



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FL MM PATCH 1,0 ST-SCRJ - 2901820



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FL MM PATCH 2,0 ST-SCRJ - 2901821



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FL MM PATCH 5,0 ST-SCRJ - 2901822



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### Terminal resistor

PSI-TERMINATOR-PB - 2313944



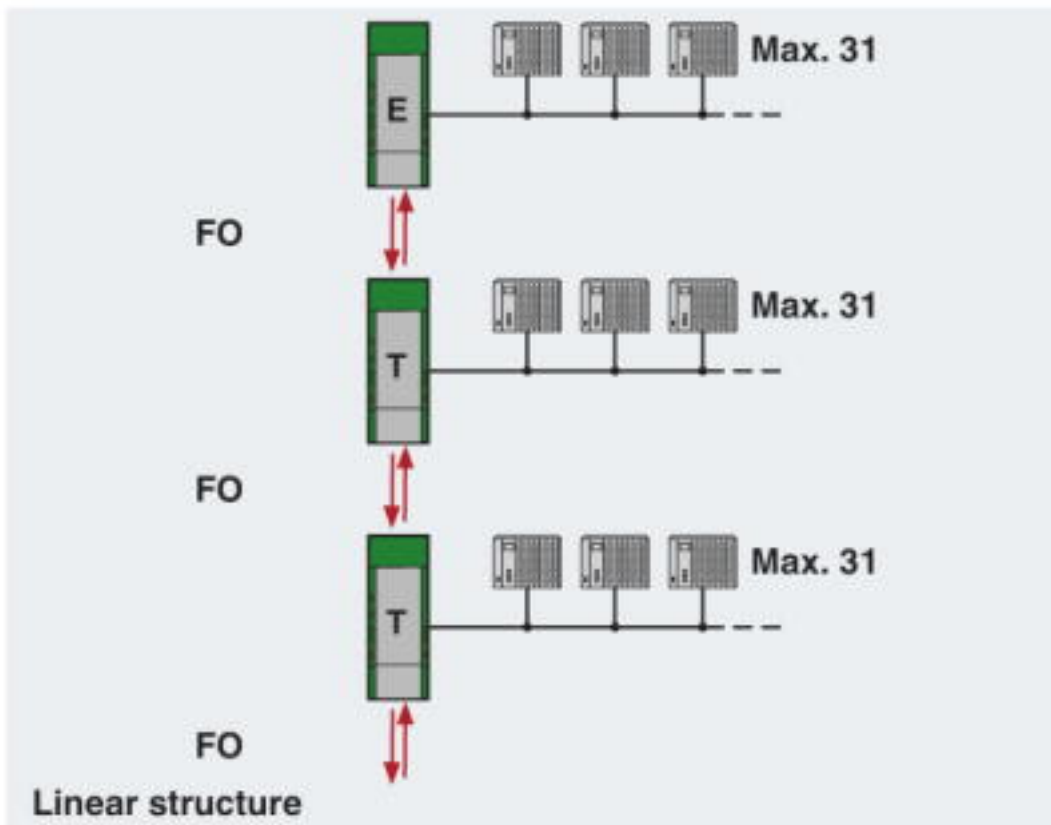
# FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

accessories

ME 17,5 TBUS 1,5/PP000-3,81 BK - 2890014

## Drawings

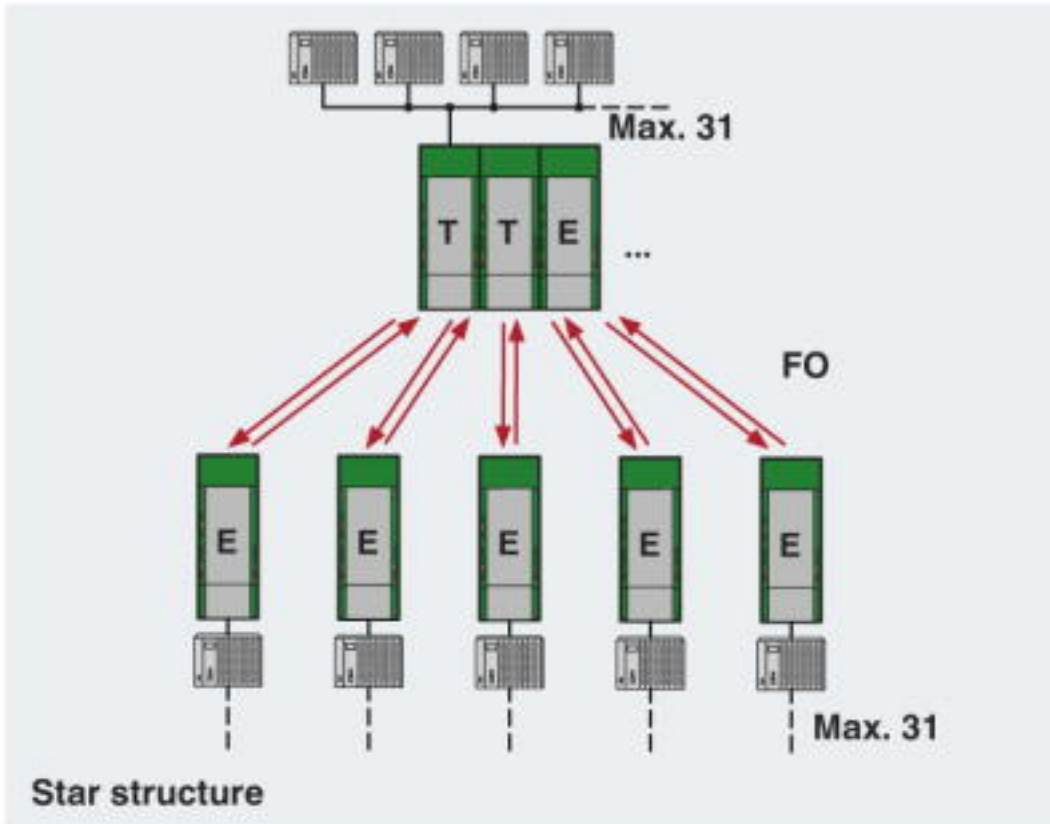
Application drawing



Tree structure

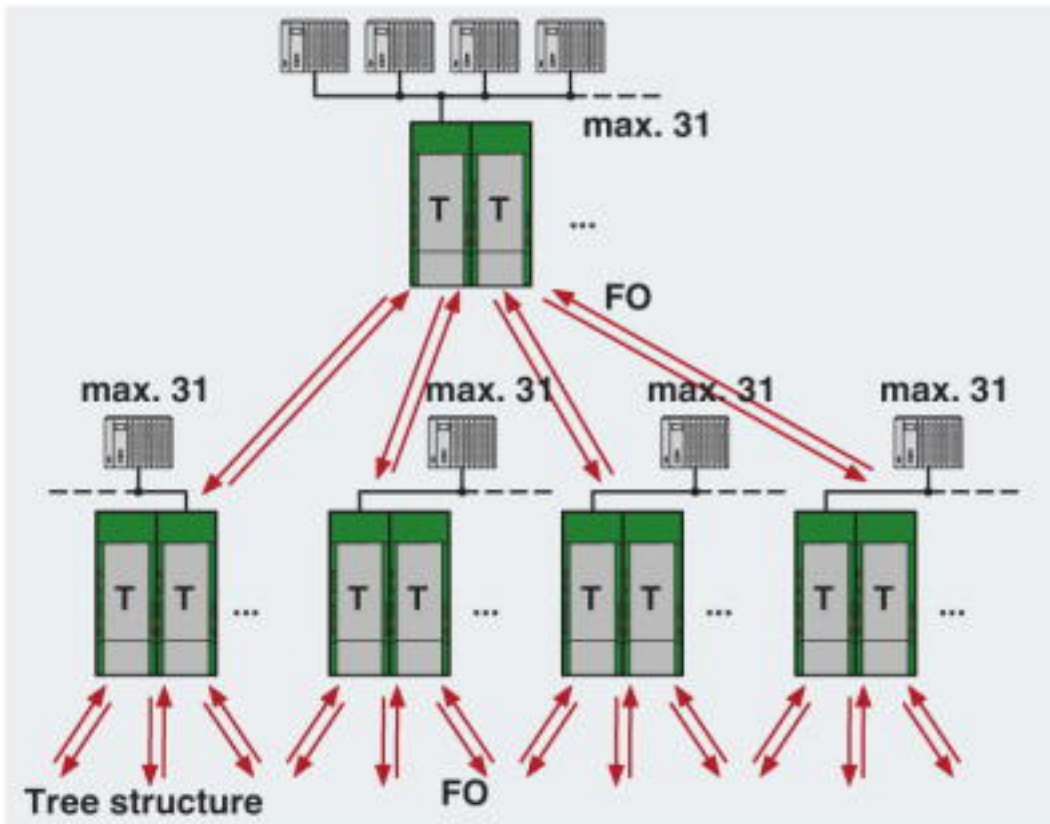
# FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

Application drawing



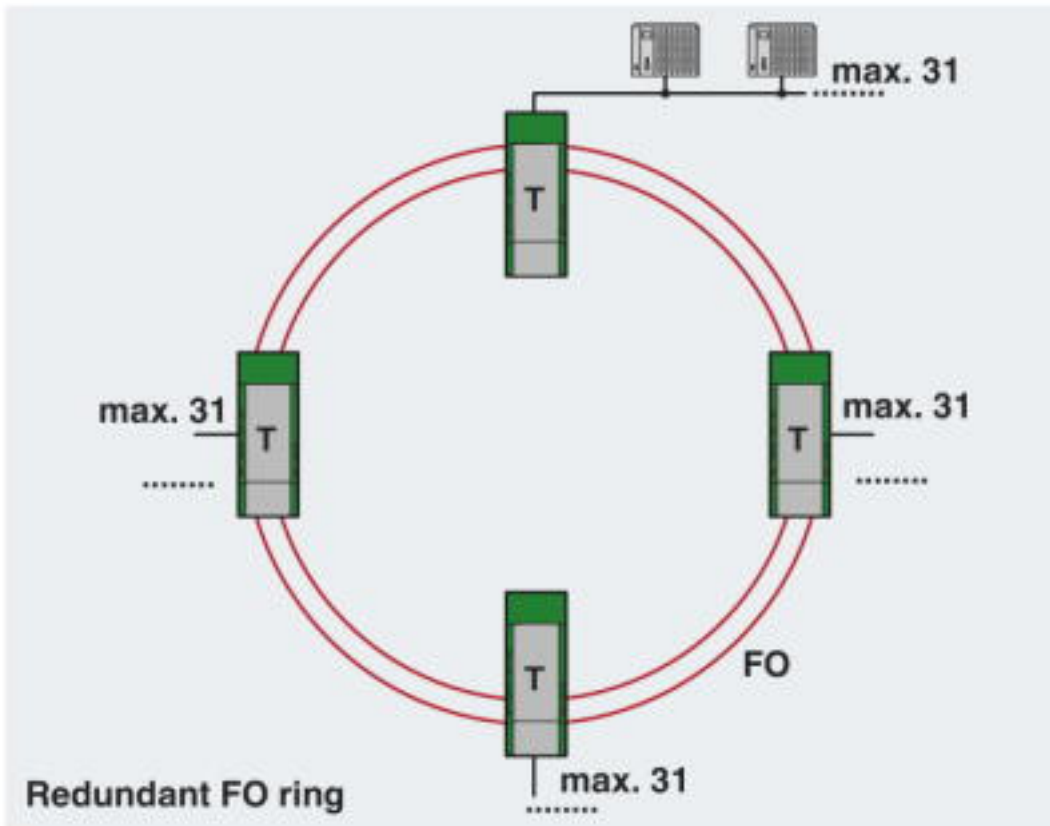
# FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

Application drawing



# FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

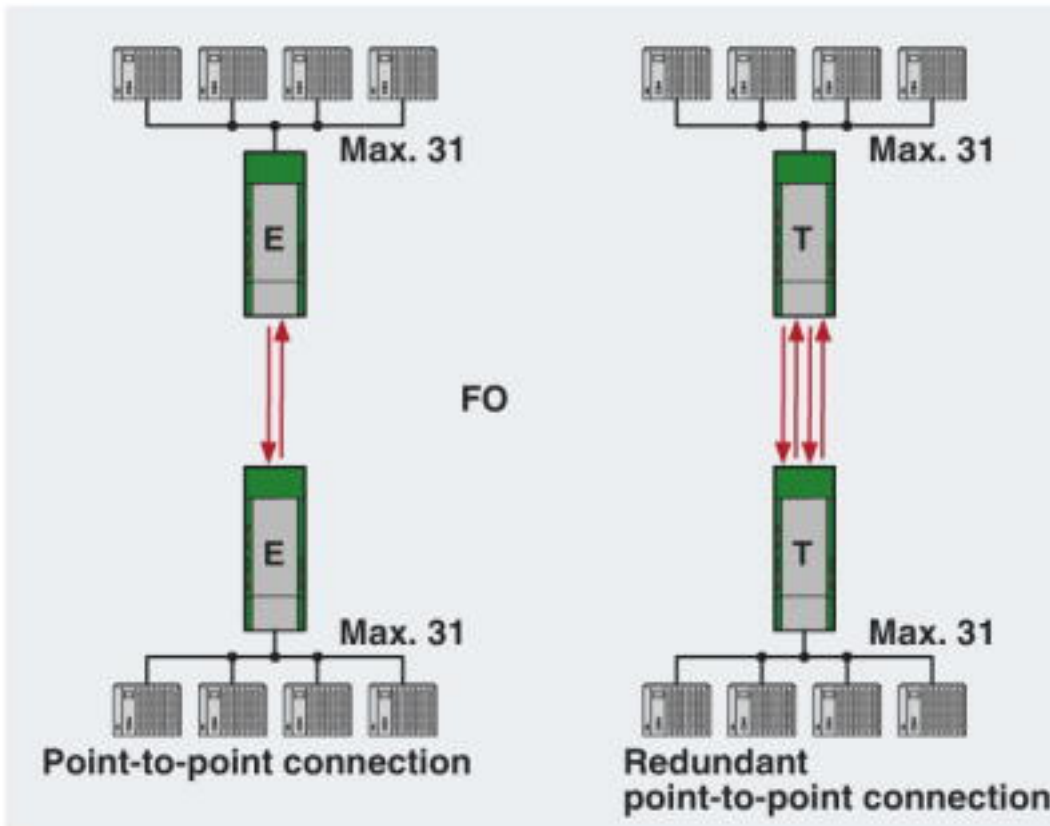
Application drawing



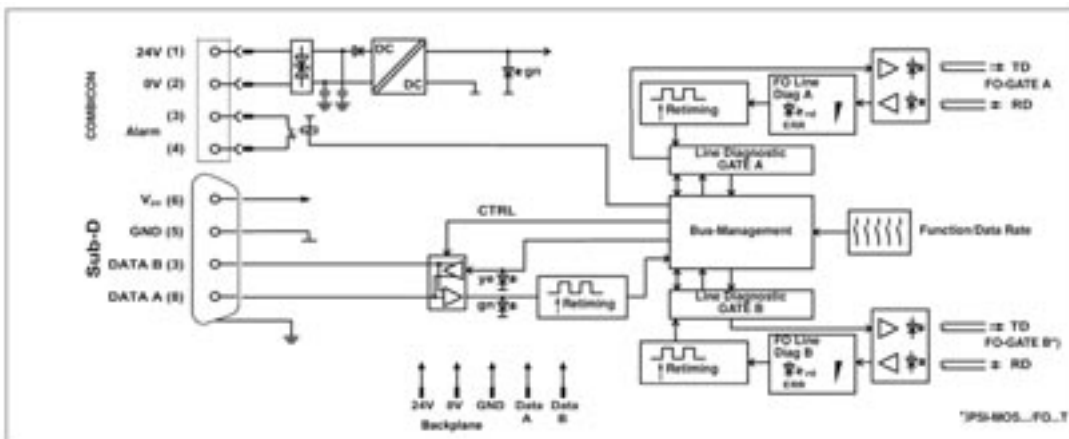
Redundant FO ring

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Application drawing



Block diagram



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

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