

# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

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FO converter with integrated optical diagnosis, alarm contact, for RS-485 2-wire bus systems (SUCONET K, Modbus ...) up to 500 kbps, NRZ coding, T-coupler with two FO interfaces (BFOC), 850 nm, for HCS/fiber glass cable

## Product Features

- Supply voltage and data signals routed through via DIN rail connectors
- 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
- 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 (RS-485 // fiber optic ports // power supply // DIN rail connector)
- 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 data rates up to 500 kbps



## Key commercial data

package_quantity	1
GTIN	4017918974022

## 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	105 mm

## Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	30 % ... 95 % (no condensation)

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## Technical data

### Ambient conditions

<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>	RS-485 interface, 2-wire
<b>Operating mode</b>	Semi-duplex
<b>Connection method</b>	Pluggable screw connection
<b>File format/coding</b>	UART (11/10 bit switchable; NRZ), slip-tolerant
<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 data cable)
<b>Termination resistor</b>	390 Ω
<b>Termination resistor</b>	220 Ω
<b>Termination resistor</b>	390 Ω (Can be connected)
<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>	4,8/ 9,6/ 19,2/ 38,4/ 57,6/ 75/ 93,75/ 115,2/ 136/ 187,5/ 375/ 500

### Optical interface FO

<b>Transmit capacity, minimum</b>	-4 dBm (200/230 μm)
<b>Transmit capacity, minimum</b>	-17.6 dBm (50/125 μm)
<b>Transmit capacity, minimum</b>	-14 dBm (62,5/125 μm)
<b>Minimum receiver sensitivity</b>	-32.5 dBm (50/125 μm)
<b>Minimum receiver sensitivity</b>	-32.5 dBm (62,5/125 μm)
<b>Minimum receiver sensitivity</b>	-32.1 dBm (200/230 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>	2800 m (with F-K 200/230 8 dB/km with quick mounting connector)
<b>Transmission length incl. 3 dB system reserve</b>	4200 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 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
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# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

## Technical data

### Fault warning output

Maximum switching voltage	42 V AC
Limiting continuous current	0.46 A

### Power supply

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	200 g
Housing material	PA 6.6-FR
Color	green
MTBF	159 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
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# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

## classifications

### ETIM

<b>ETIM 3.0</b>	EC001423
<b>ETIM 4.0</b>	EC001423
<b>ETIM 5.0</b>	EC001423

### 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 / cULus Listed / UL Recognized / cUL Recognized / cULus Recognized /

### Approval details

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

UL Listed
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cUL Listed
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cULus Listed
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UL Recognized
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# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

approvals

cUL Recognized 

cULus Recognized 

accessories

## Connector set

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



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## Data cable by the meter

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



PSM-LWL-HCSO-200/230 - 2799445



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



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### accessories

PSM-LWL-GDO- 50/125 - 2799432



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PSM-CABLE-PROFIB/FC - 2744652



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### Power supply

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



## FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

accessories

### Measuring tools

PSM-FO-POWERMETER - 2799539



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### Adapter

PSM-SET-BFOC-LINK/2 - 2799429



PSM PTK - 2760623



PSM PTK-4 - 2799364



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### Screwdriver tools

SZS 0,4X2,5 VDE - 1205037



## FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

accessories

### Stripping tool

PSM-STRIP-FC/PROFIB - 2744623



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### Interface converter

PSI-REP-RS485W2 - 2313096



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PSM-ME-RS485/RS485-P - 2744429



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### Data plug

SUBCON-PLUS M1 - 2761826



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SUBCON-PLUS F1 - 2744267





## FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

### accessories

SUBCON-PLUS M2 - 2761839



SUBCON-PLUS F2 - 2799490



SUBCON-PLUS F5 - 2744102



SUBCON-PLUS 9/M - 2744018



SUBCON-PLUS 9/F - 2744241



**Data cable preassembled**

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### accessories

FL MM PATCH 1,0 LC-ST - 2989174



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



## FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

### accessories

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FL MM PATCH 2,0 ST-ST - 2901816



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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

## FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

### accessories

PSI-TERMINATOR-PB - 2313944



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### Media converter

PSI-MOS-RS485W2/FO 850 E - 2708339



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### accessories

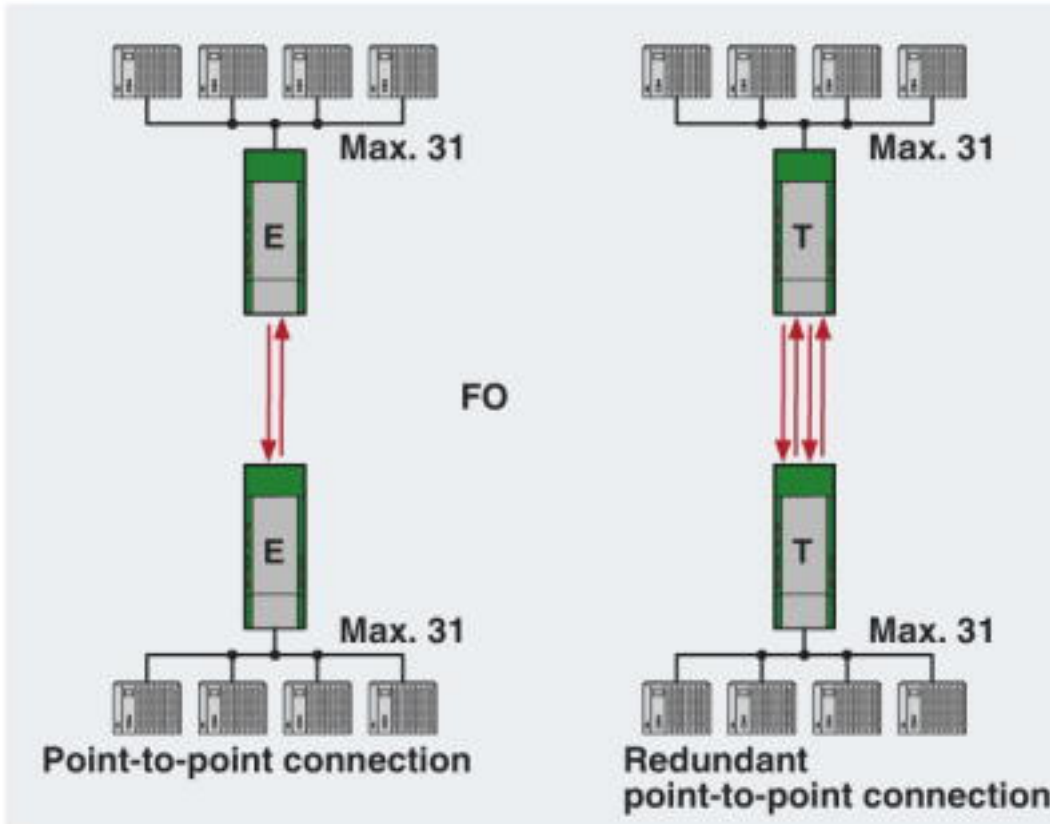
ME 17,5 TBUS 1,5/PP000-3,81 BK - 2890014

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### Drawings

# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

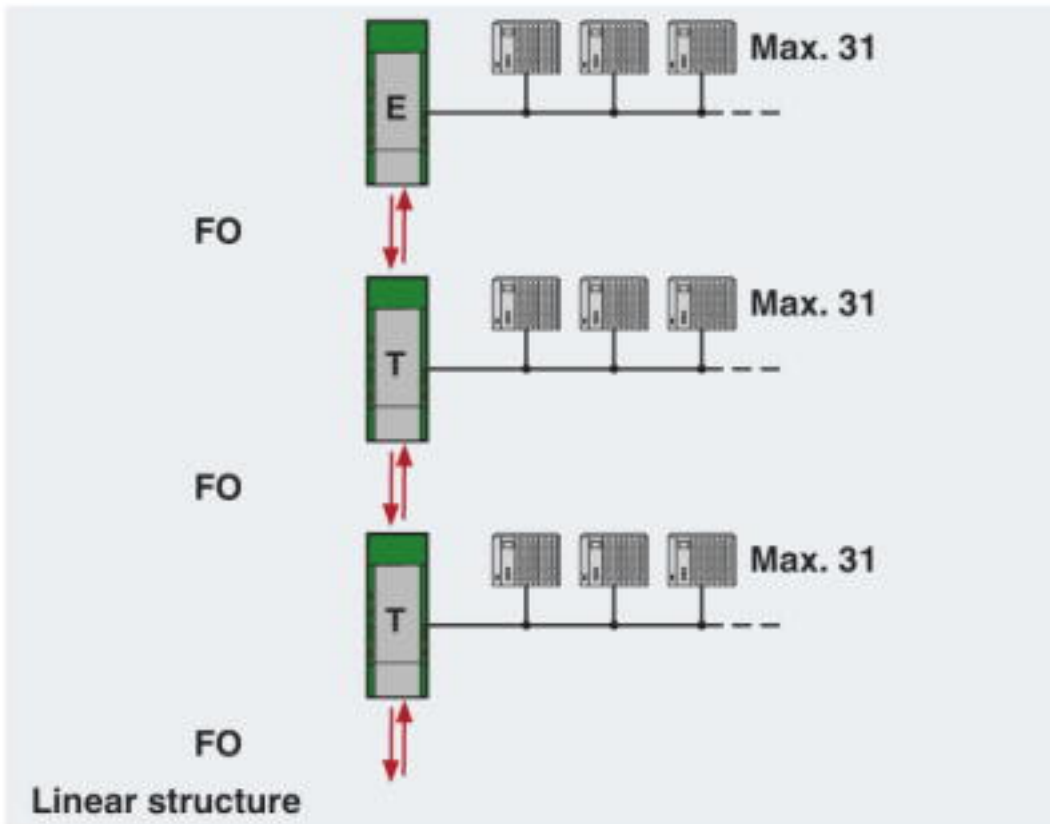
Application drawing



Redundant point-to-point connection

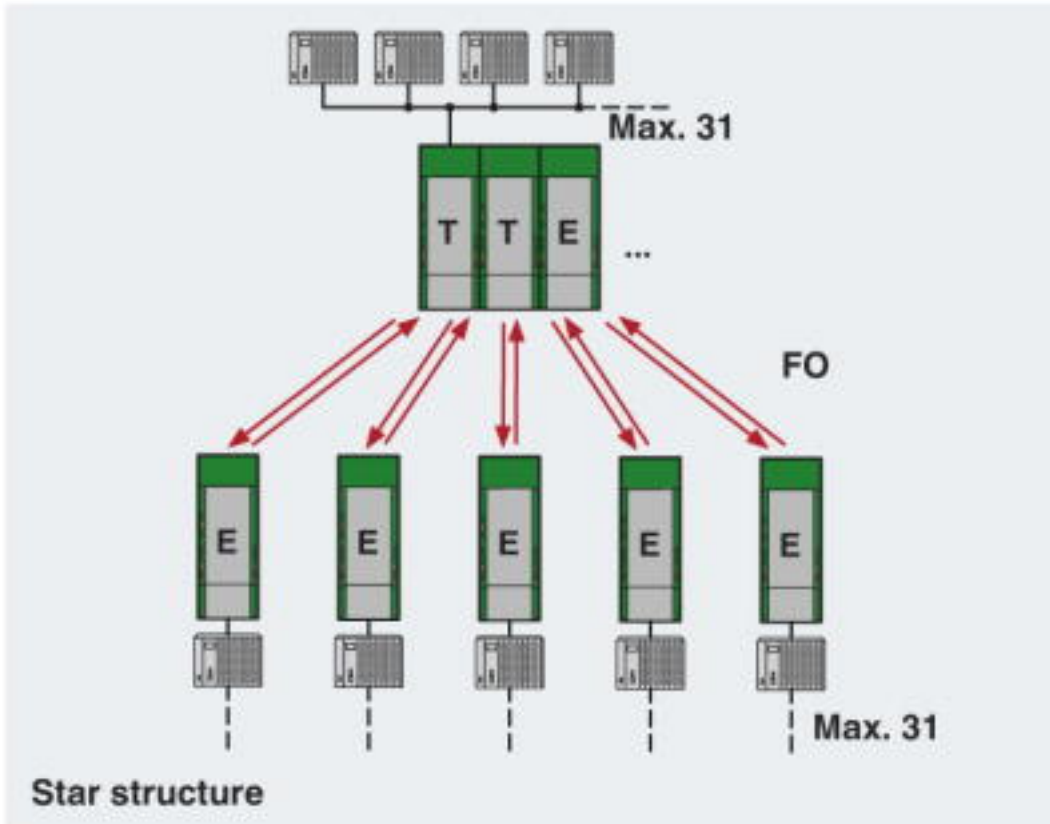
# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

Application drawing



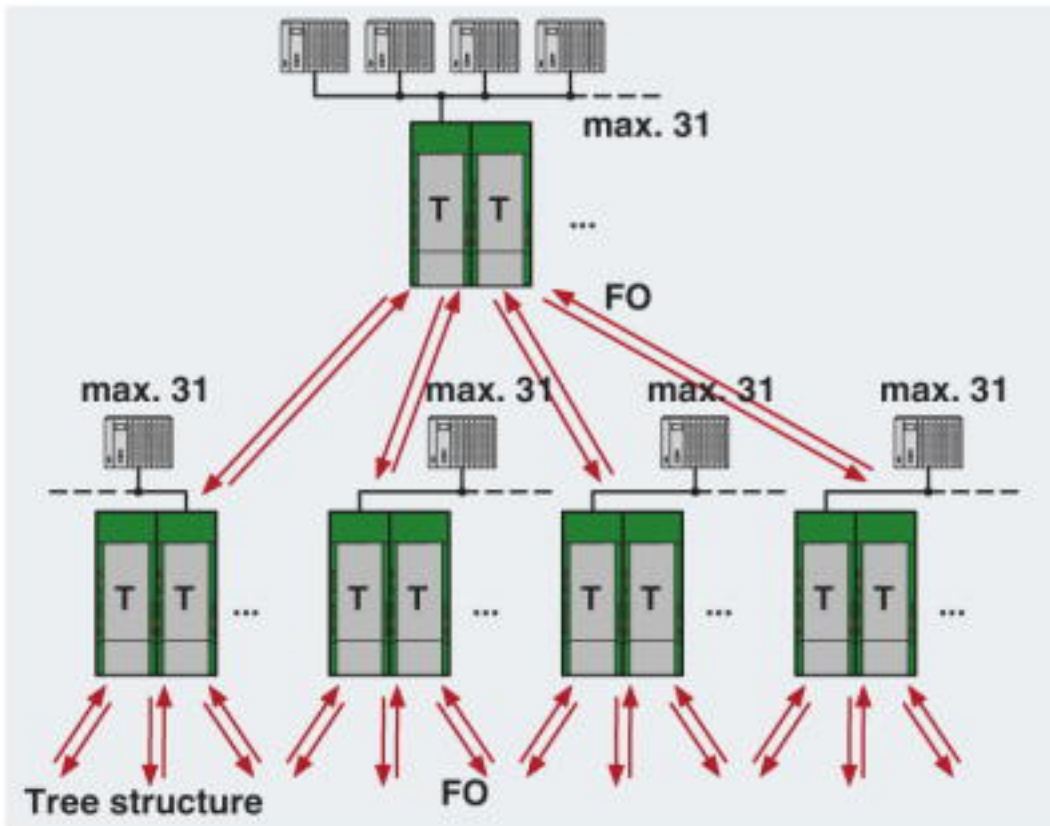
# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

Application drawing



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Application drawing

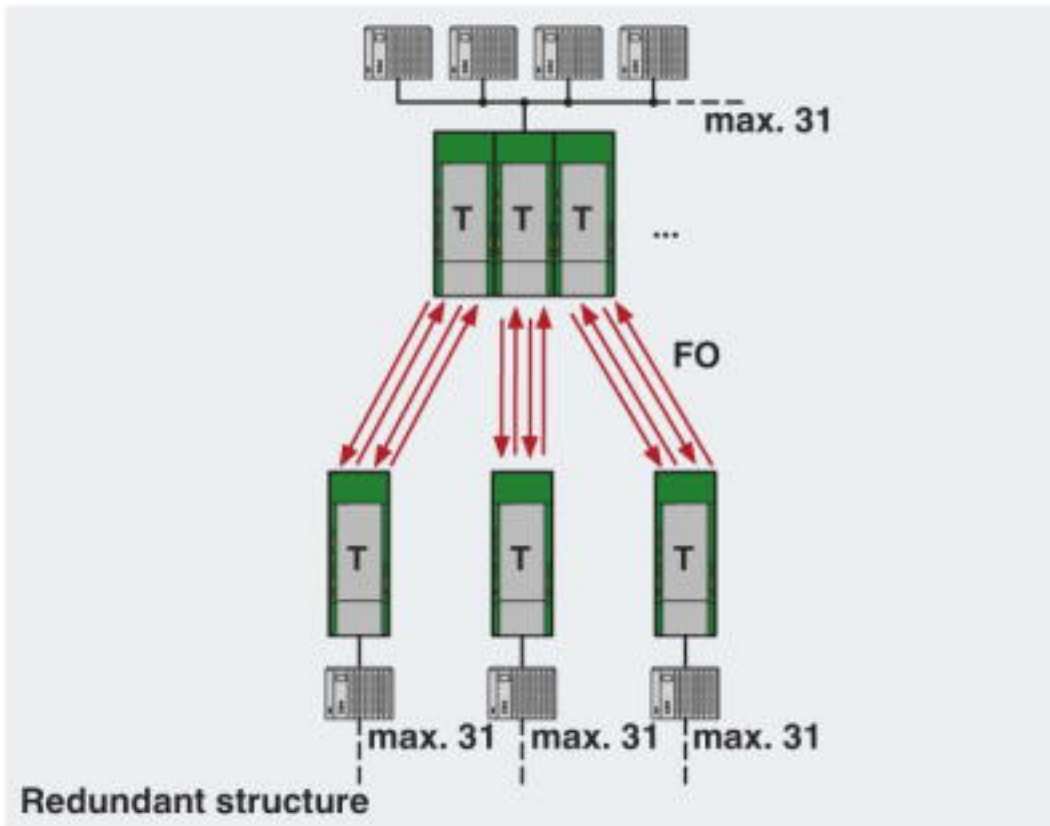


Redundant structure



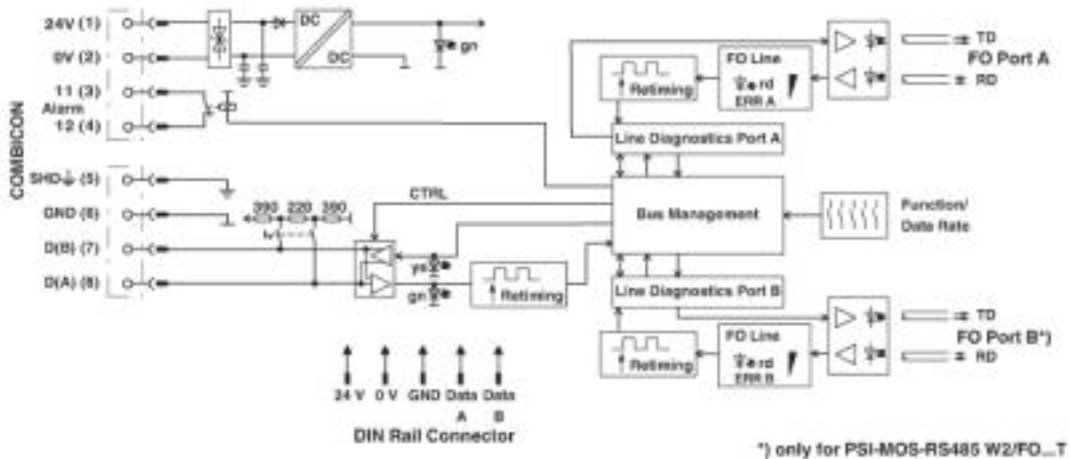
# FO converters - PSI-MOS-RS485W2/FO 850 T - 2708326

Application drawing



Tree structure

Block diagram



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