

# FO converters - FL MC EF 1300 MM ST - 2902854

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



FO converter with B-FOC (ST<sup>®</sup>) fiber optic connection (1300 nm), for converting 10/100Base-T(X) to multi-mode fiberglass (50/125 μm). Auto negotiation and auto MDI(X) function. Comprehensive link diagnostics. DIN-rail mountable, 18 ... 30 V DC supply.

## Product Features

- Transmission ranges up to 10 km
- Auto negotiation
- Auto MDI/MDI-X switch-over
- Link fault pass through (LFP) and far end fault (FEF) functions for easy connection monitoring
- Data rates 10/100 Mbps

Ethernet



## Key commercial data

package_quantity	1
GTIN	4046356689243

## Technical data

Note:

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

### Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 65 °C
Ambient temperature (operation)	-25 °C ... 55 °C (With UL approval)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	30 % ... 95 % (no condensation)
Permissible humidity (storage/transport)	30 % ... 95 % (no condensation)
Altitude	5000 m (For restrictions see manufacturer's declaration)
Altitude	2000 m (With UL approval)
Degree of protection	IP20

### General

# FO converters - FL MC EF 1300 MM ST - 2902854

## Technical data

### General

<b>Electrical isolation</b>	according to IEEE 802.3
<b>Electrical isolation</b>	(VCC // FE // Ethernet)
<b>Test voltage data interface/power supply</b>	1.5 kV <sub>rms</sub> (50 Hz, 1 min.)
<b>Standards/regulations</b>	EN 60950-1
<b>Electromagnetic compatibility</b>	Conformance with EMC Directive 2004/108/EC
<b>Net weight</b>	120 g
<b>Housing material</b>	PA 6.6-FR
<b>Color</b>	green
<b>MTBF</b>	492 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
<b>MTBF</b>	132 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
<b>MTTF</b>	1400 Years (SN 29500 standard, temperature 25°C, operating cycle 21% (5 days a week, 8 hours a day))
<b>MTTF</b>	599 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25% (5 days a week, 12 hours a day))
<b>MTTF</b>	101 Years (SN 29500 standard, temperature 40°C, operating cycle 100% (7 days a week, 24 hours a day))
<b>Conformance</b>	CE-compliant
<b>ATEX</b>	# II 3 G Ex nA IIC T4 Gc X
<b>ATEX</b>	# II (2) D [Ex op is Db] IIIC (PTB 06 ATEX 2042 U)
<b>ATEX</b>	# II (2) G [Ex op is Gb] IIC (PTB 06 ATEX 2042 U)
<b>UL, USA / Canada</b>	Class I, Zone 2, AEx nA IIC T4
<b>UL, USA / Canada</b>	Class I, Zone 2, Ex nA IIC T4 Gc X

### Power supply

<b>Supply voltage range</b>	18 V DC ... 30 V DC (Screw connection)
<b>Supply voltage range</b>	18 V DC ... 30 V DC (as an alternative or redundant, via backplane bus contact and system current supply)
<b>Typical current consumption</b>	< 100 mA (24 V DC)
<b>Protective circuit</b>	Protection against polarity reversal
<b>Connection method</b>	Plug-in screw terminal block (COMBICON), redundancy possible
<b>Conductor cross section stranded max.</b>	2.50 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.20 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.50 mm <sup>2</sup>
<b>Conductor cross section solid min.</b>	0.20 mm <sup>2</sup>
<b>Max. AWG conductor cross section, stranded</b>	14
<b>Min. AWG conductor cross section, stranded</b>	24
<b>Conductor cross section AWG/kcmil max</b>	14
<b>Conductor cross section AWG/kcmil min.</b>	24

### Serial interface

<b>Interface 1</b>	Ethernet interface, 10/100BASE-T(X) in acc. with IEEE 802.3u
<b>Connection method</b>	RJ45 socket, shielded

# FO converters - FL MC EF 1300 MM ST - 2902854

## Technical data

### Serial interface

Transmission medium	Copper
Transmission length	100 m (twisted pair, shielded)
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
Auto-negotiation modes	Auto
Link through	Link fault pass through
Basic functions	Store-and-forward media converter
MDI-/MDI-X switchover	Auto-MDI(X)
Signal LEDs	Activity, link status, 10/100 Mbps

### Optical interface FO

Transmit capacity, minimum	≥ -23.5 dBm ((50/125 μm) dynamic in link mode (average))
Transmit capacity, minimum	≥ -20 dBm ((62,5/125 μm) dynamic in link mode (average))
Transmit capacity, maximum	≤ -14 dBm ((50/125 μm) dynamic in link mode (average))
Transmit capacity, maximum	≤ -14 dBm ((62,5/125 μm) dynamic in link mode (average))
Minimum receiver sensitivity	min. -31 dBm (dynamic in link mode (average))
Maximum receiver sensitivity	-14 dBm (dynamic in link mode (average))
Wavelength	1300 nm
Transmission length incl. 3 dB system reserve	6.4 km (with F-G 50/125 0,7 dB/km F 1000)
Transmission length incl. 3 dB system reserve	2.8 km (with F-G 50/125 1,6 dB/km F 800)
Transmission length incl. 3 dB system reserve	10 km (with F-G 62,5/125 0,7 dB/km F 1000)
Transmission length incl. 3 dB system reserve	3 km (with F-G 62.5/125 2.6 dB/km F 600)
Transmission length incl. 3 dB system reserve	2 km (with 2GK200/230 GI-HCS)
Transmission medium	Multi-mode fiberglass
Transmission medium	GI-HCS fiber
Connection method	B-FOC (ST <sup>®</sup> )

## 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

# FO converters - FL MC EF 1300 MM ST - 2902854

## classifications

### ETIM

<b>ETIM 3.0</b>	EC000310
<b>ETIM 4.0</b>	EC000310
<b>ETIM 5.0</b>	EC001467

### 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>	39121008

## approvals

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

### Approval details

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

UL Listed
-----------

cUL Listed
------------

cULus Listed
--------------

--

## FO converters - FL MC EF 1300 MM ST - 2902854

approvals



accessories

### Connector set

FL PLUG RJ45 GR/2 - 2744856



FL PLUG RJ45 GN/2 - 2744571



PSM-SET-B-FOC/4-HCS/PN - 2313782



### Data cable by the meter

FL CAT5 HEAVY - 2744814



## FO converters - FL MC EF 1300 MM ST - 2902854

### accessories

FL CAT5 FLEX - 2744830



---

FL FOC PN-C-HCS-GI-200/230 - 2313410



---

### Universal tools

FL CRIMPTOOL - 2744869



---

### DIN rail connector

ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - 2707437



---

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



---

### Power supply

## FO converters - FL MC EF 1300 MM ST - 2902854

accessories

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



---

### Data cable preassembled

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



## FO converters - FL MC EF 1300 MM ST - 2902854

### accessories

FL MM PATCH 2,0 SC-ST - 2901810



---

FL MM PATCH 5,0 SC-ST - 2901811



---

FL MM PATCH 1,0 ST-ST - 2901815



---

FL MM PATCH 2,0 ST-ST - 2901816



---

FL MM PATCH 5,0 ST-ST - 2901817



---

**Data plug**



# FO converters - FL MC EF 1300 MM ST - 2902854

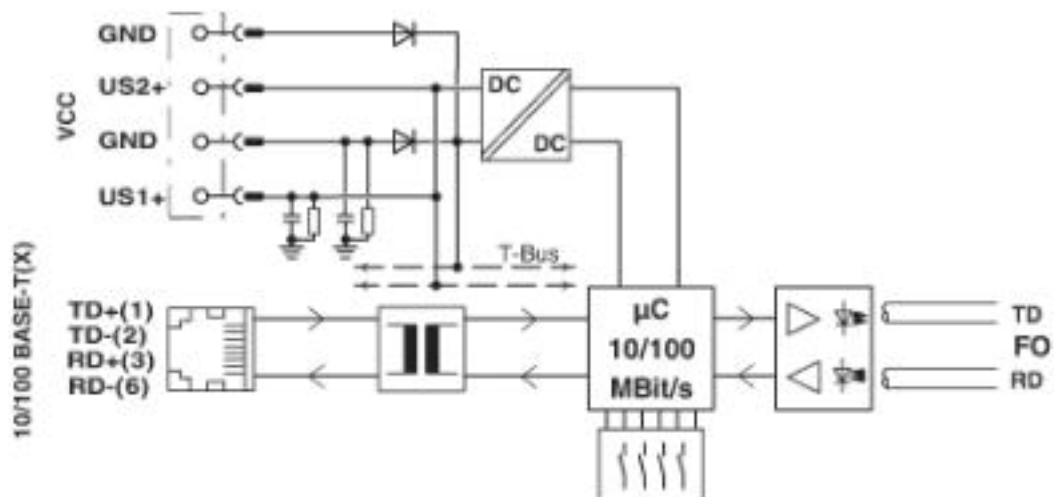
accessories

VS-08-RJ45-5-Q/IP20 - 1656725



## Drawings

Block diagram



© Phoenix Contact 2013 - all rights reserved  
<http://www.phoenixcontact.com>