TRANSITION NETWORKS

SFMFFxxxx-2xx User's Guide

- Stand-Alone Media Converter
- Fast Ethernet, ATM, SONET, or Gigabit

Transition Networks SFMFFxxxx-2xx series media converters extend both multimode and single mode interfaces to single mode fiber optic cable over Fast Ethernet, ATM, SONET, and Gigabit networks.

1.25 Gb/s cable speed:

The models with the -22x extensions are for cable speeds of 1.25 Gb/s and can extend gigabit Ethernet over a single mode fiber up to 125 km.

Part Number	Port One - Fiber-Optic	Port Two - Fiber-Optic
SFMFF1313-220	SC, 850 nm multimode 220 m *(721 ft)***	SC, 850 nm multimode 220 m *(721 ft)***
SFMFF1314-220	SC, 850 nm multimode 220 m *(721 ft)***	SC, 1310 nm single mode 10 km *(6.2 miles)**
SFMFF1315-220	SC, 850 nm multimode 220 m *(721 ft)***	*SC, 1310 nm single mode* *25 km (15.5 miles)**
SFMFF1317-220	SC, 850 nm multimode 220 m *(721 ft)***	SC, 1550 nm single mode 65 km *(40.3 miles)**
SFMFF1324-220	SC, 850 nm multimode 220 m *(721 ft)***	SC, 1310 nm extended multimode up to 2 km *(1.2 miles)** *(62.5 / 125 fiber only)*
SFMFF1335-220	SC, 850 nm multimode 220 m *(721 ft)***	SC, 1550 nm single mode 125 km *(77.5 miles)**
SFMFF1414-220	SC, 1310 nm, single mode 10km *(6.2 miles)*	SC, 1310 nm, single mode 10km *(6.2 miles)*
SFMFF1424-220	SC, 1310 nm, single mode 10km *(6.2 miles)*	SC, 1310 nm extended multimode up to 2 km *(1.2 miles)** *(62.5 / 125 fiber only)*

*Typical maximum cable distance. The actual distance is dependent upon the physical characteristics of the network installation. TX = transmit, RX = receive.

**Minimum cable distance: 2 meters, typical maximum cable distance:

220 meters for 160/500MHz•Km

270 meters for 200/500MHz•Km

1.25 Gb/s cable speed -- continued

The models with the -22x extensions are for cable speeds of 1.2Gb/s and can extend gigabit Ethernet over a single mode fiber up to 125 km.

SFMFF1329-220	SC, 850 nm, multimode 220 m *(721 ft)***	SC, 1310 nm (TX) / 1550 nm (RX) SM single fiber, 20 km *(12.4 miles)**
SFMFF1329-221	SC, 850 nm, multimode 220 m *(721 ft)***	SC, 1550 nm (TX) / 1310 nm (RX) SM single fiber, 20 km *(12.4 miles)**
SFMFF1329-222	SC, 850 nm, multimode 220 m *(721 ft)***	SC, 1310 nm (TX) / 1550 nm (RX) SM single fiber, 40 km *(24.8 miles)**
SFMFF1329-223	SC, 850 nm, multimode 220 m *(721 ft)***	SC, 1550 nm (TX) / 1310 nm (RX) SM single fiber, 40 km *(24.8 miles)**

Note: -220 thru -223 are designed to be installed in the same network where one is the local converter and the other is the remote converter.

155 Mb/s cable speed:

The models with the -20x extension are for cable speeds of 155 Mb/s and extend ATM or Fast Ethernet over single mode fiber up to 40 km.

Part Number	Port One - Fiber Optic	Port Two - Fiber-Optic
SFMFF1313-200	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*
SFMFF1329-200	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*	SC, 1310 nm (TX)/1550 nm (RX) SM single fiber, 20 km *(12.4 mi)*
SFMFF1329-201	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*	SC, 1550 nm (TX)/1310 nm (RX) SM single fiber, 20 km *(12.4 mi)*
	Note: -200 and -201 are designed to be installed in the same network where one is the local converter and the other is the remote converter.	
SFMFF1329-202	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*	SC, 1310 nm (TX)/1550 nm (RX) SM single fiber, 40 km *(24.8 mi)*
SFMFF1329-203	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*	SC, 1550 nm (TX)/1310 nm (RX) SM single fiber, 40 km *(24.8 mi)*
SFMFF1329-204	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*	SC, 1310 nm (TX)/1550 nm (RX) MM single fiber, 60 km *(37.3 mi)*
SFMFF1329-205	SC, 1300 nm multimode duplex, 2 km *(1.2 mi)*	SC, 1550 nm (TX)/1310 nm (RX) MM single fiber, 60 km *(37.3 mi)*
	Note: -202 thru -205 are designed to be installed in sequential pairs in the same network where one is the local converter and the other is the remote converter.	

The distances listed are the typical maximum cable distance. The actual maximum cable distances are dependent upon the physical characteristics of the network installation. SM = single mode, TX = transmit, RX = receive.

155 Mb/s cable speed -- continued

Part Number	Port One - Fiber Optic	Port Two - Fiber-Optic
SFMFF1414-200	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*
SFMFF1415-200	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*	SC, 1310 nm single mode duplex, 40 km *(24.8 mi)*
SFMFF1417-200	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*	SC, 1310 nm single mode duplex, 80 km *(49.7 mi)*
SFMFF1429-200	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*	SC, 1310 nm (TX)/1550 nm (RX) SM single fiber, 20 km *(12.4 mi)*
SFMFF1429-201	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*	SC, 1550 nm (TX)/1310 nm (RX) SM single fiber, 20 km *(12.4 mi)*
	Note: -200 and 201 are designed to be installed as a pair in the same network where one is the local converter and the other is the remote converter.	
SFMFF1429-202	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*	SC, 1310 nm (TX)/1550 nm (RX) SM single fiber, 40 km *(24.8 mi)*
SFMFF1429-203	SC, 1310 nm single mode duplex, 20 km *(12.4 mi)*	SC, 1550 nm (TX)/1310 nm (RX) SM single fiber, 40 km *(24.8 mi)*
	Note: -202 and -203 are designed to be installed in sequential pairs in the same network where one is the local converter and the other is the remote converter.	

The distances listed are the typical maximum cable distances. The actual maximum cable distance are dependent upon the physical characteristics of the network installation. SM = single mode, TX = transmit, RX = receive.

622 Mb/s cable speed:

The models with the -210 extension are for cable speeds of 622 Mb/s and extend ATM or SONET over single mode fiber up to 60 km.

Part Number	Port One - Fiber Optic	Port Two - Fiber-Optic
SFMFF1314-210	SC, 1300 nm multimode 2km *(1.2miles)*	SC, 1310 nm single mode 20km *(12.4miles)*
SFMFF1316-210	SC, 1300 nm multimode 2 km *(1.2 miles)*	SC, 1310 nm single mode 40 km *(24.8 miles)*
SFMFF1317-210	SC, 1300 nm multimode 2 km *(1.2 miles)*	SC, 1550 nm single mode 60 km *(37.2 miles)*
SFMFF1329-210	SC, 1300 nm multimode duplex, 2 km *(1.2 miles)*	SC, 1310 nm (TX)/1550 nm (RX) SM single fiber, 20 km *(12.4 mi)*
SFMFF1329-211	SC, 1300 nm multimode duplex, 2 km *(1.2 miles)*	SC, 1550 nm (TX)/1310 nm (RX) SM single fiber, 20 km *(12.4 mi)*

The distances listed are the typical maximum cable distance. The actual maximum cable distances are dependent upon the physical characteristics of the network installation.

Optional accessories:

These optional accessories for the SFMFFxxxx-2xx media converter are sold separately

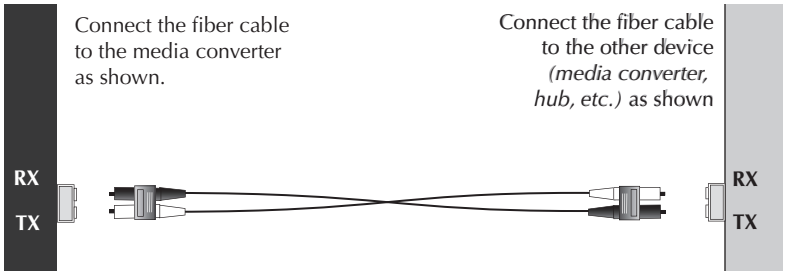
Part N	Description
SPS-1872-SA	Optional External Power Supply; 18-72VDC Stand-Alone Output: 12.6VDC, 1.0 A
SPS-1872-PS	Optional External Power Supply; 18-72VDC Piggy-back; Output: 12.6VDC, 1.0 A
E-MCR-05	12-Slot Media Converter Rack *(includes universal internal power supply)* 17 x 15 x 5 in. *(432 x 381 x 127 mm)*
WMBL	Optional Wall Mount Brackets Length: 4.0 in. *(102 mm),* Fits converter length: 4.7 in. *(119 mm)*
WMBV	Optional Vertical Mount Bracket; Length: 5.0 in. *(127 mm)*
WMBD	Optional DIN Rail Mount Bracket; Length: 5.0 in. *(127 mm)*
WMBD-F	Optional DIN Rail Mount Bracket *(flat)*; Length: 3.3in. *(84 mm)*

Installation

Install the fiber cable

CAUTION: Both connections *(Port 1 and Port 2)* to the SFMFFxxxx-2xx media converter must be of the same network speed and network protocol. Failure to observe this caution will cause data transfer to fail.

1. Locate or build IEEE 802.3™ compliant fiber cable with male, two-stranded TX to RX connectors installed at both ends.
2. Connect the fiber cables to the SFMFFxxxx-2xx media converter as described:
   - Connect the male TX cable connector to the female TX port.
   - Connect the male RX cable connector to the female RX port.
3. Connect the fiber cables to the other device *(another media converter, hub, etc.)* as described:
   - Connect the male TX cable connector to the female RX port.
   - Connect the male RX cable connector to the female TX port.



Power the Media Converter

AC:

1. Install the power adapter cord to the back of the media converter.
2. Connect the power adapter plug to AC power.
3. Verify that the media converter is powered by observing the illuminated LED power indicator light.

DC:
Consult the user's guide for the Transition Networks SPS1872-xx DC external power supply for powering the media converter.

Operation

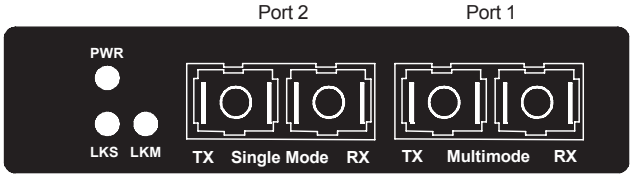
Status LEDs

Use the status LEDs to monitor media converter operation in the network.

PWR: On = Connection to external power.

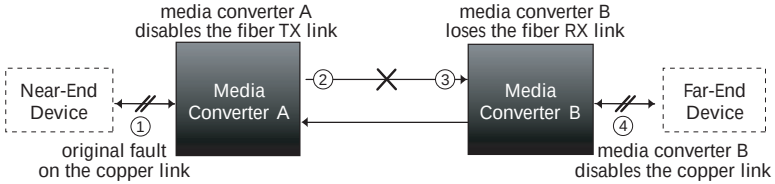
LKS: On = Single mode fiber link is up.

LKM: On = Multimode fiber link is up.



Link Pass-Through

The Link Pass-Through feature allows the media converter to monitor RX *(receive)* ports for loss of signal. In the event of a loss of an RX signal on one media port, the media converter will automatically disable the TX *(transmit)* signal of the other media port, thus "passing through" the link loss.



Delay times

Network worst-case delay through the SFMFFxxxx-2xx media converter:

623 Mbps - 1 Gbps	1 nsec
156 Mbps - 622 Mbps	2 nsec
125-155 Mbps	3 nsec
<125 Mbps	7 nsec

For example in Ethernet environments, ensure that the network conforms to the 512-bit Rule by using the above numbers to determine the bit-time delay:

$$\text{125 Mbps Ethernet: } \frac{3 \text{ nsec}}{(1/125\text{Mbps})} = \frac{3 \text{ nsec}}{8 \text{ nsec}} = \text{-0.4 bit times}$$

Cable Specifications

The physical characteristics must meet or exceed IEEE 802.3™ specifications.

Single mode fiber *(recommended)*:	9 µm
Multimode fiber *(recommended)*:	62.5/125 µm
Multimode fiber *(optional)*:	100/140, 85/140, 50/125 µm

155 Mb/s fiber specifications

Bit Error Rate:	<10-9	
SFMFF1313-200 ports 1 & 2	1310 nm single mode	
Fiber Optic Transmitter Power:	min: -19.0 dBm	max: -14.0 dBm
Fiber Optic Receiver Sensitivity:	min: -30.0 dBm	max: -14.0 dBm
Link Budget:	11.0 dB	

Part Numbers SFMFF1329-20x:

Port 1:	1300 nm multimode	
Fiber Optic Transmitter Power:	min: -19.0 dBm	max: -14.0 dBm
Fiber Optic Receiver Sensitivity:	min: -30.0 dBm	max: -14.0 dBm
Link Budget:	11.0 dB	
Port 2:		
SFMFF1329-200	1310 nm (TX) / 1550 nm (RX) single mode	
SFMFF1329-201	1550 nm (TX) / 1310 nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -13.0 dBm	max: -6.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.0 dBm	max: -3.0 dBm
Link Budget:	19.0 dB	
SFMFF1329-202	1310 nm (TX) / 1550 nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -8.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.0 dBm	max: -3.0 dBm
Link Budget:	25.0 dB	
SFMFF1329-203	1550 nm (TX) / 1310 nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -8.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.0 dBm	max: -3.0 dBm
Link Budget:	25.0 dB	
SFMFF1329-204	1310 nm (TX) / 1550 nm (RX) MM/SM	
Fiber-optic Transmitter Power:	min: -19.0 dBm	max: -14.0 dBm
Fiber-optic Receiver Sensitivity:	min: -30.0 dBm	max: -14.0 dBm
Link Budget:	11.0 dB	
SFMFF1329-205	1550 nm (TX) / 1310 nm (RX) MM/SM	
Fiber-optic Transmitter Power:	min: -5.0 dBm	max: 0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm	max: -3.0 dBm
Link Budget:	29.0 dB	

Cable Specifications -- continued

Part Numbers SFMFF1429-20x:

Bit it Error Rate:	<10-9	
Ports 1 & 2		
SFMFF1414-200	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -15.0 dBm	max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -31.0 dBm	max: -8.0 dBm
Link Budget:	16.0 dB	
Port 1:	1310 nm single mode	
Fiber Optic Transmitter Power:	min: -15.0 dBm	max: -8.0 dBm
Fiber Optic Receiver Sensitivity:	min: -31.0 dBm	max: -8.0 dBm
Link Budget:	16.0 dB	
Port 2:		
SFMFF1415-200	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -8.0 dBm	max: -2.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm	max: -7.0 dBm
Link Budget:	26.0 dB	
SFMFF1417-200	1550 nm single mode	
Fiber-optic Transmitter Power:	min: -5.0 dBm	max: -0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm	max: -7.0 dBm
Link Budget:	29.0 dB	
SFMFF1429-200	1310 nm (TX) / 1550 nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -13.0 dBm	max: -6.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.0 dBm	max: -6.0 dBm
Link Budget:	19.0 dB	
SFMFF1429-201	1550 nm (TX) / 1310 nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -13.0 dBm	max: -6.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.0 dBm	max: -3.0 dBm
Link Budget:	19.0 dB	
SFMFF1429-202	1310 nm (TX) / 1550 nm (RX) single mode	
SFMFF1429-203	1550 nm (TX) / 1310 nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -8.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.0 dBm	max: -3.0 dBm
Link Budget:	25.0 dB	

Cable Specifications -- continued

622 Mb/s Fiber Specifications

Bit Error Rate:	<10-9	
Port 1:	1300 nm multimode	
Fiber-optic Transmitter Power:	min: -19.0 dBm	max: -14.0 dBm
Fiber-optic Receiver Sensitivity:	min: -31.0 dBm	max: -8.0 dBm
Link Budget	12.0 dB	
Port 2:		
SFMFF1314-210	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -15.0 dBm	max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -26.0 dBm	max: -14.0 dBm
Link Budget:	11.0 dB	
SFMFF1316-210	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -3.0 dBm	max: +2.0 dBm
Fiber-optic Receiver Sensitivity:	min: -28.0 dBm	max: -7.0 dBm
Link Budget:	25.0 dB	
SFMFF1317-210	1550 nm multimode	
Fiber-optic Transmitter Power:	min: -3.0 dBm	max: +2.0 dBm
Fiber-optic Receiver Sensitivity:	min: -28.0 dBm	max: -7.0 dBm
Link Budget:	25.0 dB	
SFMFF1329-210	1310 nm (TX) / 1550 nm (RX) single mode	
SFMFF1329-211	1550 nm (TX) / 1310 nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -14.0 dBm	max: +8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -28.0 dBm	max: -8.0 dBm
Link Budget:	14.0 dB	

Cable Specifications - continued

622 Mb/s fber specifications -- continued

Bit Error Rate:	<10-9	
SFMFF1329-210	1310 nm (TX) / 1550 nm (RX) singlemode	
Fiber-optic Transmitter Power:	min: -14.0 dBm	max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -28.0 dBm	max: -8.0 dBm
Link Budget:	14.0 dB	
SFMFF1329-211	1550 nm (TX) / 1310 nm (RX) singlemode	
Fiber-optic Transmitter Power:	min: -14.0 dBm	max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -28.0 dBm	max: -8.0 dBm
Link Budget:	14.0 dB	

1.25 Gb/s fiber specifications

Bit error rate:	<10-12	
Port 1:	850 nm multimode	
Fiber-optic Transmitter Power:	min: -10.0 dBm	max: -4.0 dBm
Fiber-optic Receiver Sensitivity:	min: -17.0 dBm	max: 0.0 dBm
Link Budget:	7.0 dB	
Port 2:		
SFMFF1313-220	850 nm multimode	
Fiber-optic Transmitter Power:	min: -10.0 dBm	max: -4.0 dBm
Fiber-optic Receiver Sensitivity:	min: -17.0 dBm	max: 0.0 dBm
Link Budget:	7.0 dB	
SFMFF1314-220	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -13.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -20.0 dBm	max: -3.0 dBm
Link Budget:	7.0 dB	
SFMFF1315-220	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -5.0 dBm	max: 0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -20.0 dBm	max: -3.0 dBm
Link Budget	15.0 dB	
SFMFF1317-220	1550 nm single mode	
Fiber-optic Transmitter Power:	min: -3.0 dBm	max: +2.0 dBm
Fiber-optic Receiver Sensitivity:	min: - 23.0 dBm	max: -3.0 dBm
Link Budget	20.0 dB	
SFMFF1324-220	1300 nm multimode	
Fiber-optic Transmitter Power:	min: -10.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -17.0 dBm	max: -3.0 dBm
Link Budget:	7.0 db	
SFMFF1335-220	1550 nm single mode	
Fiber-optic Transmitter Power:	min: 0.0 dBm	max: +5.0 dBm
Fiber-optic Receiver Sensitivity:	min: -27.0 dBm	max: -3.0 dBm
Link Budget:	27.0 db	

1.25 Gb/s fiber specifications -- continued

SFMFF1414-220 **Ports 1 & 2**	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -9.5 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: - 20 dBm	max: -3.0 dBm
Link Budget	10.5 dB	
SFMFF1424-220 **Ports 1**	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -9.5 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: - 20 dBm	max: -3.0 dBm
Link Budget:	10.5 dB	
SFMFF1424-220 **Ports 2**	1310 nm multimode Ext	
Fiber-optic Transmitter Power:	min: -10 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: - 17 dBm	max: -3.0 dBm
Link Budget:	7 dB	
SFMFF1329-220	1310 nm (TX) / 1550 nm (RX) single mode	
SFMFF1329-221	1550 nm (TX) / 1310nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -8.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -21.0 dBm	max: -3.0 dBm
Link Budget:	13.0 db	
SFMFF1329-222	1310 nm (TX) / 1550 nm (RX) single mode	
SFMFF1329-223	1550 nm (TX) / 1310nm (RX) single mode	
Fiber-optic Transmitter Power:	min: -3.0 dBm	max: -2.0 dBm
Fiber-optic Receiver Sensitivity:	min: -23.0 dBm	max: -8.0 dBm
Link Budget:	20.0 db	

Technical Specifications

For use with Transition Networks Model SFMFFxxxx-2xx or equivalent

Standards	IEEE 802.3™ 1998 Fast Ethernet, ATM, OC-3, STM-1, HSTR, FDDI
Dimensions	3.25" x 1.0" x 4.7" *(83 mm x 25 mm x 119 mm)*
Weight	10 oz. *(283 g) (approximate)*
MTBF*	41,666 hours *(MIL217F2 V5.0) (MIL-HKBK-217F)* 114.580 hours *(Bellcore7 V5.0)*
Delay	623 Mbps - 1 Gbps: 1 nsec 156 Mbps - 622 Mbps: 2 nsec 125-155 Mbps: 3 nsec <125 Mbps: 7 nsec
Power	3.0 watts *(typical)*
Power Supply	12VDC, 0.5 A *(North America)* 12VDC, 0.41 A *(Europe, Japan, South America)* 12VDC, 1.25 A *(Australia, N. Z., South Africa, UK)*
Operating Temp:	0 to 50°C *(32 to 122°F)*
Storage Temp:	-20 to 85°C *(-4 to 185°F)*
Humidity:	10 to 90%, non condensing
Warranty	Lifetime

*Based on a 50,000 hour power supply.

The information in this user's guide is subject to change. For the most up-to-date information on the SFMFFxxxx-2xx media converter, view the user's guide on-line at: www.transition.com

Note: The chassis version of this media converter is CFMFFxxxx-2xx. For moreinformation, see the user's guide on-line at: www.transition.com.

The fiber optic transmitters on this device meet Class I Laser safety requirements per IEC-825/CDRH standards and complies with 21 CFR1040.10 and 21CFR1040.11.

Technical Specifications -- continued

Product is certified by the manufacturer to comply with DHHS Rule 21/CFR, Subchapter J applicable at the date of manufacture.

CAUTION: Visible and Invisible Laser Radiation When Open. Do Not Stare Into Beam Or View Directly With Optical Instruments.

CAUTION: Use of controls, adjustments or the performance of procedures otherthan those specified herein may result in hazardous radiation exposure.

Troubleshooting

If the media converter fails, isolate and correct the fault by determining the answers to the following questions and then taking the indicated action:

1. Is the PWR *(power)* LED on the media converter illuminated?
   NO
   - Is the power adapter the proper type of voltage and cycle frequency for the AC outlet?
   - Is the power adapter properly installed in the media converter and in the outlet?
   - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

   YES
   - Proceed to step 2.

2. Is the LKS *(link single mode)* LED illuminated?
   NO
   - Check the single mode fiber cables for proper connection.
   - Verify that the TX and RX cables on the media converter are connected to the RX and TX ports, respectively, on the other device.
   - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

   YES
   - Proceed to step 3.

3. Is the LKM *(link multimode)* LED illuminated?
   NO
   - Check the multimode fiber cables for proper connection.
   - Verify that the TX and RX cables on the media converter are connected to the RX and TX ports, respectively, on the other device.
   - Restart the workstation to restart the initialization process.
   - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

   YES
   - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

Contact Us

Technical support

Technical support is available 24 hours a day.
US and Canada: 1-800-260-1312
International: 00-1-952-941-7600

Transition now

Chat live via the Web with Transition Networks Technical Support. Log onto www.transition.com and click the Transition Now link.

Web-based seminars

Transition Networks provides seminars via live web-based training. Log onto www.transition.com and click the Learning Center link.

E-Mail

Ask a question anytime by sending an e-mail to our technical support staff.
techsupport@transition.com

Address

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Minnetonka, MN 55343, U.S.A.

telephone: 952-941-7600
toll free: 800-526-9267
fax: 952-941-2322

TRANSITION NETWORKS

Declaration of Conformity

Name of Mfg:	Transition Networks 10900 Red Circle Drive, Minnetonka, MN 55343 U.S.A.
Model:	SFMFFxxxx-2xx Series Media Converters
Part Number(s):	SFMFF1313-200, SFMFF1329-200, SFMFF1329-201, SFMFF1329-202, SFMFF1329-203, SFMFF1329-204, SFMFF1329-205, SFMFF1329-210, SFMFF1329-211, SFMFF1329-222, SFMFF1329-223 SFMFF1414-200, SFMFF1415-200, SFMFF1417-200, SFMFF1429-200, SFMFF1429-201, SFMFF1429-202, SFMFF1429-203, SFMFF1316-210, SFMFF1317-210, SFMFF1313-220, SFMFF1314-220, SFMFF1315-220, SFMFF1317-220, SFMFF1324-220, SFMFF1335-220, SFMFF1414-220, SFMFF1424-220, SFMFF1329-220, SFMFF1329-221 ,SFMFF1329-222, SFMFF1329-221
Regulation:	EMC Directive 89/336/EEC
Purpose:	To declare that the SFMFFxxxx-2xx to which this declaration refers is in conformity with the following standards. EN 55022:1994 + A1:1995 + A2:1997: EN 55024:1998 + A1-2000

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Stephen Anderson, Vice-President of Engineering — September, 2010 Date

Compliance Information

CE Mark

FCC regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.
Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European regulations

Warning This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
Achtung! Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fäll ist der Benutzer für Gegenmaßnahmen verantwortlich.
Attention! Ceci est un produit de Classe A. Dans un environment domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilsateur de prende les measures spécifiques appropriées.

In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Transition Networks will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.

CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentlickes Telekommunikationsnetz in den EG-Mitgliedstaaten verstösst gegen die jeweligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

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