# Optical Line Converter with SFP slots

## Point System™ Slide-In-Module Media Converters
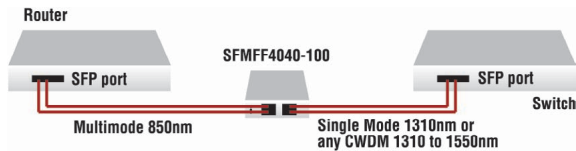
### CFMFF4040-100
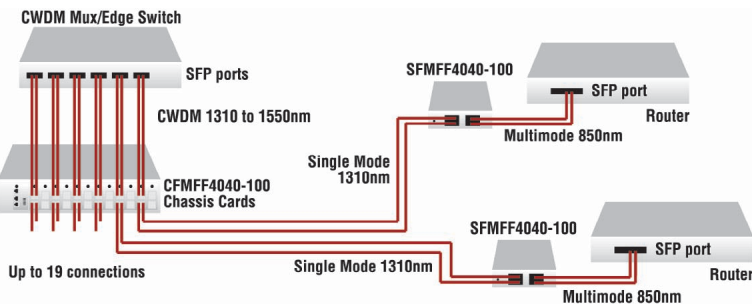
NEW

Optical Line Conversion

### ▶ Enterprise Application



### ▶ Service Provider Application



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The Optical Line Converter offers protocol transparent connectivity between fiber optical links with an added flexibility of Small Form Factor Pluggable (SFP) technology. xFMFF4040-100 is a universal platform to accommodate any optical conversion options available via SFP interfaces.

These converters offer an excellent upgrade path for the networks. Today's Fast Ethernet applications can be upgraded to Gigabit speeds tomorrow with a simple SFP swap. The converter remains installed, managed and fully operational at any of these speeds.

Two SFP module slots allow for seamless connectivity between different wavelengths or fiber modes for speeds up to 1Gbps. Protocol independence allows for use in broad range of applications including Fast and Gigabit Ethernet, FDDI, ESCON, SONET OC-3, OC-12, OC-24 and Fibre Channel.

Digital diagnostics provide vital information about the state of your optical connection.

### Features

▶ Two SFP Slots for SFP interfaces

▶ CWDM and DWDM SFP-ready platform

▶ Link Pass Through  *see next page*

▶ DMI, Digital diagnostics per SFF-8472

▶ Protocol Transparency

▶ Preconfigured bundles  with SFP modules installed.

▶ Automatic Link Restoration  *next page*

▶ Remote Firmware Upgrade  *next page*

▶ Can be used with any Point System™ Chassis

▶ Optical Intrusion Detection
Monitor the physical layer of optical networks for signal strength degradation. The user can specify the threshold for sudden signal strength deterioration. Such a change often indicates a physical intrusion or fiber damage.

## Ordering Info

| Product Number | Port One | Port Two |
|---|---|---|
| *Pre-configured bundles:* | | |
| **CFMFF4040-100** | SFP Slot (empty) | SFP Slot (empty) |
| **CFMFF1314-120** | Gigabit Ethernet/Fibre Channel 1000BASE-SX 850nm multimode (SC) **[62.5/125µm fiber: 220 m / 722 ft.]** **[50/125µm fiber: 550 m / 1804 ft.]** | Gigabit Ethernet/Fibre Channel 1000BASE-LX 1310nm single mode (SC) **[10 km / 6.2 miles]** |
| **CFMFF1314-110** | OC-12/STM-4 SFP 1300nm multimode (SC) **[1 km / 0.6 miles]** | OC-12/STM-4 SFP 1310nm single mode (SC) **[20 km / 12.4 miles]** |
| **CFMFF1314-100** | SFP 100BASE-FX/OC-3 1300nm multimode (SC) **[2 km / 1.2 miles]** | SFP 100BASE-FX/OC-3 1310nm single mode (SC) **[20 km / 12.4 miles]** |

| *Compatible Transition Networks SFP Modules:* | |
|---|---|
| Product Number | Description |
| **TN-SFP-OC3M** | SFP 100BASE-FX/OC-3 1300nm multimode (SC) **[2 km / 1.2 miles]** |
| **TN-SFP-OC3S** | SFP 100BASE-FX/OC-3 1310nm single mode (SC) **[20 km/12.4 miles]** |
| **TN-SFP-OC12M** | OC-12/STM-4 SFP 1300nm multimode (SC) **[1 km / 0.6 miles]** |
| **TN-SFP-OC12S** | OC-12/STM-4 SFP 1310nm single mode (SC) **[20 km / 12.4 miles]** |
| **TN-SFP-SX** | 1000BASE-SX/Fibre Channel 850nm multimode (LC) **[62.5/125µm fiber: 220 m / 722 ft.]** **[50/125µm fiber: 550 m / 1804 ft.]** |
| **TN-SFP-LX1** | 1000BASE-LX/Fibre Channel 1310nm single mode (LC) **[10 km/6.2 miles]** |
| **TN-SFP-LX3** | 1000BASE-LX/Fibre Channel 1310nm single mode (LC) **[30 km/18.6 miles]** |
| **TN-SFP-LX5** | 1000BASE-LX/Fibre Channel 1550nm single mode (LC) **[50 km/31.1 miles]** |
| **TN-SFP-LX8** | 1000BASE-LX/Fibre Channel 1550nm single mode (LC) **[80 km/49.7 miles]** |

CWDM wavelengths available upon request. Please contact Transition Networks.

## Specifications

| | |
|---|---|
| Standards | Multi-Source Agreement (MSA); Small Form Factor Pluggable (SFP) Status |
| LEDs | LK1: Link on Port 1 LK2: Link on Port 2 PWR: Power |
| Dimensions | Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm] |
| Power Consumption | 2 watts with TN-SFP-xx modules installed |
| Environment | See chassis specifications |
| Compliance | UL Listed; FCC Class A; EN55024 (CISPR 22) Class A; ICES-003; CISPRB; CE Mark |
| Warranty | Lifetime |

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6475 City West Parkway
Minneapolis, MN  55344 USA
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The Conversion Technology Experts

tel 952.941.7600 or 800.526.9267
fax 952.941.2322
info@transition.com
http://www.transition.com

# ADVANCED PRODUCT FEATURES

## ▸ Link Pass Through

Link Pass Through is a troubleshooting feature that allows the media converter to monitor both the fiber and copper RX ports for loss of signal. In the event of a loss of RX signal on one media port, the converter will automatically disable the TX signal of the other media port, thus "passing through" the link loss.
(see diagram below)

▸ End device automatically notified of link loss

▸ Prevents loss of valuable data unknowingly transmitted over invalid link
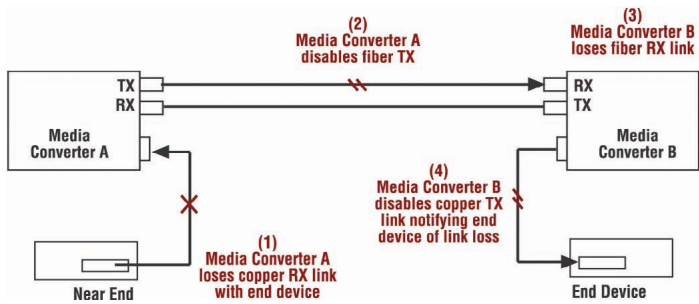


## ▸ Automatic Link Restoration

Transition Networks's converters will automatically re-establish link in all network conditions.

▸ No need to reset devices

Transition Networks's converters will automatically re-establish link when connected to switches if link was lost. With other manufacturers' converters the user must reset the converter to re-establish the link.

▸ Auto-Negotiation Enabled

Automatic Link Restoration allows the users to continue using Auto-Negotiation with Link Loss Notification features. With other manufacturers' converters the user must disable Auto-Negotiation and hard set the link.

▸ Link Pass Through Activated in both directions

Automatic Link Restoration on Transition Networks's products allows users to continue using Link Loss Notification feature activated in both directions. Many competitive solutions allow for Link Loss Notification activation only in one direction. If Link Loss feature is activated in both directions, competitive products are put in a "deadly embrace" and they cannot restore the link without resetting the converters.
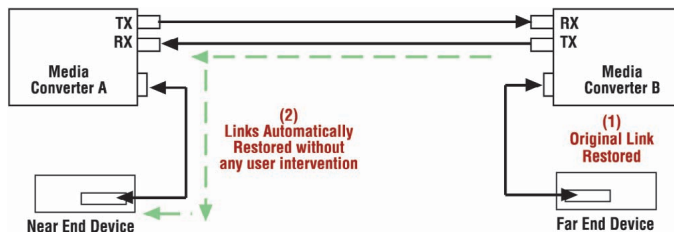


If someone tells you media conversion is a commodity product that anyone can bring to market, they probably haven't looked at the extensive product suite offered by Transition Networks. With the industry's most comprehensive offering of full-featured products, Transition's media converters stand out as "the choice" among industry IT professionals.

Generally, media converters are low-level OSI model devices with no IP or MAC addresses and therefore are transparent to the network. This "transparency" makes them very inexpensive and easy to use, but also can make troubleshooting the network very difficult. In an effort to overcome this difficulty and to make media converters "visible" to network managers, Transition has designed their full-featured products to include the most advanced features on the market today.

## ▸ Remote Firmware Upgrade

New product features are continuously being added to Transition Networks's products. These improvements are also available for many products already installed in the field. Management modules and many media converters can be updated remotely via firmware upgrade. The remote upgrade feature eliminates the need to ship the products back to the manufacturer. The firmware upgrades can be performed by a user either locally via a Console port or remotely via TFTP.

The upgrades do not require the reconfiguration of the SNMP management or converter feature settings.