CM-4GPT-DSFP Fiber Mode Converter Module

perle.com/products/sfp-to-sfp-managed-media-converter-module.shtml

Dual SFP slot Managed Media Converter

- For use in high density applications with Perle Media Converter Chassis
- Easy Fiber to Fiber network extension to remote locations
- Provide wavelength conversion for CWDM and DWDM transponder applications
- Protocol-transparency support for all network protocols
- Support for SFP transceivers with data rates up to 4.25 Gbps
- Reliable operation with advanced features like Smart Link Pass-Through and Fiber Fault Alert
- Manage via SNMP, CLI - Telnet/SSH, Internet Browser, or PerleVIEW Centralized Management Package

Installed in a high density Perle Media Converter Chassis, Perle's feature rich **SFP to SFP protocol and rate-transparent media converters** enable network administrators to incorporate multiple fiber types and wavelengths in, or between, networks through **fiber to fiber mode conversion**. Using this technology will result in significant cost savings when compared to replacing an optical blade on network equipment. Easily extend a network to remote locations by converting:

- Multimode to Multimode
- Multimode to Single Mode
- Single Mode to Single Mode
- Dual to single fiber (Duplex to Simplex BiDi)

When used with a MCR-MGT Media Converter Management Module in the chassis, support is enabled for all authentication, authorization and accounting (AAA) security services used in corporate networks, including TACACS+, RADIUS, LDAP, Kerberos, NIS and RSA. To further protect ID's and passwords from someone 'snooping' on the network, Perle Managed Media Converters provide secure management sessions by supporting **SSH, SNMPv3, Telnet and HTTPS**. These types of features are used when managing your corporate firewalls, switches and routers. This is why Perle makes them available in the **CM-4GPT Managed Media Converter**. The SFP to SFP Media Converter Module is also available for unmanaged applications.

SFP to SFP Conversion

The **CM-4GPT-DSFP Managed Fiber Mode Converter Module** comes with two empty SFP slots. This allows for flexible network configurations using SFP fiber transceivers supplied by Perle, Cisco or other manufacturers of MSA compliant SFPs. Adapting to different fiber types, distances and wavelengths is made simple by **mixing and matching SFP's as needed** for maximum flexibility across a variety of topologies and network architectures. The hot-swappable nature of SFPs allow for easy configuration and future upgrades as network demands evolve by simply upgrading a single SFP instead of replacing the entire fiber mode converter.

Convert different wavelengths (WDM Transponders)

SFP transceivers also enable the **C-4GPT-DSFP Fiber Mode Converter Module** to operate as a **Wave Division Multiplexing (WDM) transponder**. Also referred to as Bi-Directional (BiDi) or Simplex, WDM Transponders help network administrators take advantage of the cost savings in both material and labour associated with Single Strand Fiber. WDM uses separate transmit and receive frequencies to **communicate on a single fiber strand**. WDM technology relies on the fact that optical fibers can carry many wavelengths of light simultaneously without interaction between each wavelength. Thus, a single fiber can carry many separate wavelength signals or channels simultaneously. WDM systems are divided into different wavelength patterns, conventional/coarse (**CWDM**) and dense (**DWDM**).

CM-4GPT-DSFP Managed Fiber Mode Converter Module Features

Network Administrators can "see-everything" with Perle's advanced features such as Smart Link Pass-Through and Fiber Fault Alert. This allows for more efficient troubleshooting and less on-site maintenance. These cost and time saving features, along with a **lifetime warranty and free worldwide technical support**, make the **CM-4GPT-DSFP Fiber Mode Converter Module** the smart choice for IT professionals.

Protocol Transparency	Transparent to all protocols (including but not limited to) • Ethernet : 10Base-FL • Fast Ethernet : 100Base-X • Gigabit Ethernet (1.25G , 2.5G) : 1000Base-X • GR-253-CORE : ATM/SONET (OC-3, OC-12, OC-48) • G.957 : SDH (STM-1, STM-4, STM-16) • Fibre Channel: (FC-1, FC-2, FC-4) • FDDI, IBM protocols ESCON and FICON • Video protocols (DVB, SDI, HD-SDI, SMTPE)
Rate Transparency	Supports SFP data rates up to 4.25Gbps.
Smart Link Pass-Through	Smart Link Pass-Through when enabled ensures that the link state on a fiber connection is directly reflected through the media converter to the other connection. If link is lost on one of the connections, then the other link will be brought down by the media converter. This feature applies when both SFP slots are occupied. If set in Standard Mode, the link is kept active. The unit will transmit a 25Mhz keep-alive signal to artificially keep the link up.
Fiber Fault Alert	If the media converter module detects a loss of fiber, it will immediately notify the fiber link partner that an error condition exists.

Additional features available when installed along with a Media Converter Management Module in a Perle Media Converter Chassis.

Configuration Mode selection	Select whether the module is to use the on-board DIP switches or enable the management module in the chassis to manage

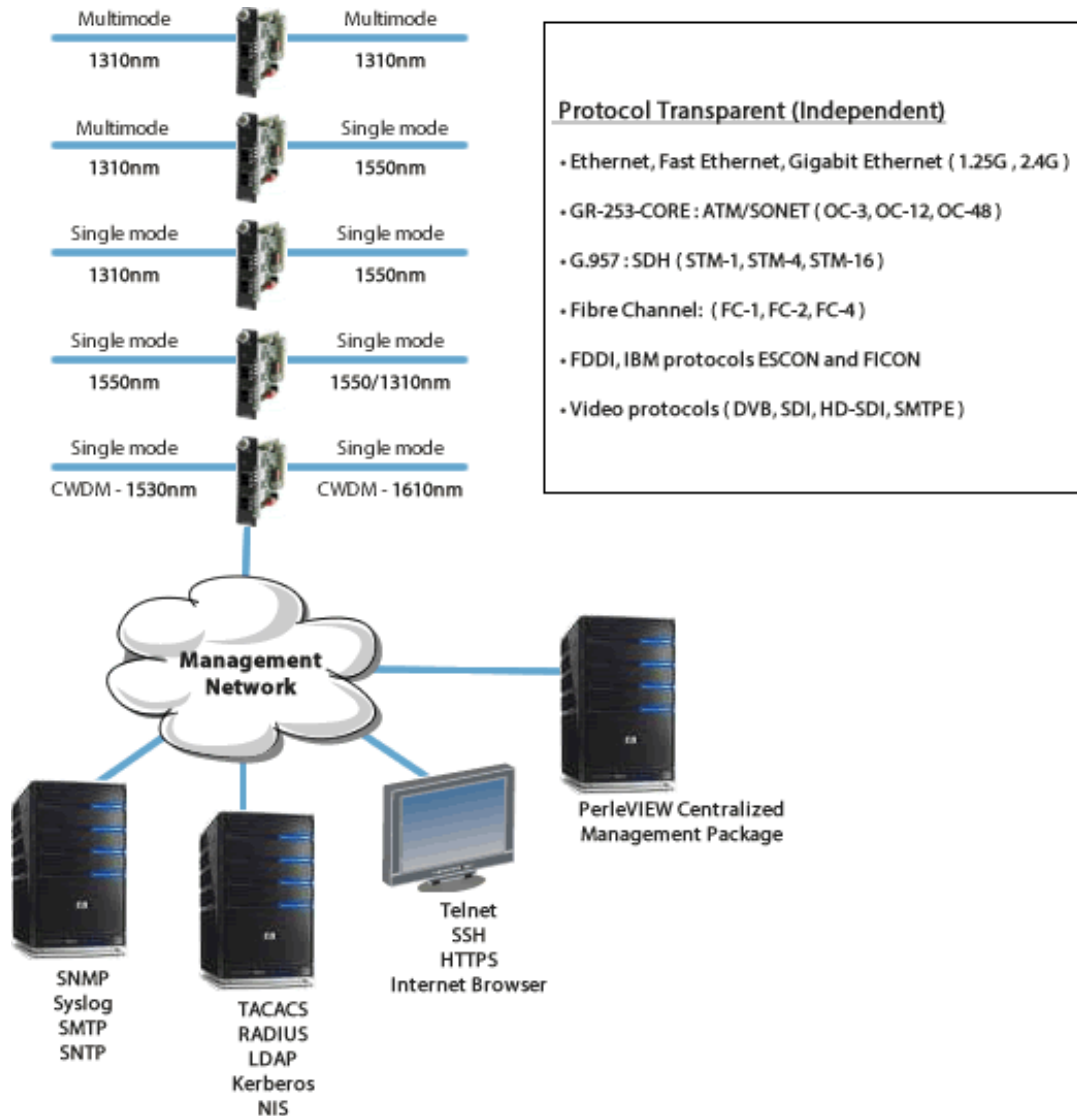|	
Module Information	- Chassis Slot number that the module is in - Media converter model and serial - User configurable module name - User configurable fiber port name - User configurable copper port name - Hardware revision number - Firmware version number
Module DIP switch settings	View hardware DIP switch settings
Rate Select	Specify SFP rate select (used with rate selectable SFP's with line rates up to 4.25G) - High Speed (default) - Low Speed
Port Control	Enable or disable individual SFP ports on the module
SFP Status	- DOM / DMI Optical monitoring of: - SFP temperature - TX supply voltage - TX bias current - TX output power - RX received optical power - Port Enabled (Yes/No) - Link Status (Up/Down) - Far End Fault (OK, Failed)
Module Control	- Reset card - Reset to factory default - Update firmware - Upload/download configuration
Backup and Restore	Provides fast and easy module replacement. Management module will always save a copy of the media converter configuration and will restore this configuration automatically to the media module when it is detected in the slot.
Power	
Power Consumption	3.0 watts
Indicators	
Power	This green LED is turned on when power is applied to the media converter. This LED is off when there is no power supplied. A Blinking LED will indicate that a hardware error has been detected.

LK1	LED is ON when a signal is detected on LK1. LED is OFF when there is no signal.
LK2	LED is ON when a signal is detected on LK2. LED is OFF when there is no signal.

Switches

Link Mode	Smart Link Pass-Through when enabled (Default) ensures that the link state on a fiber connection is directly reflected through the media converter to the other connection. If link is lost on one of the connections, then the other link will be brought down by the media converter. This feature applies when both SFP slots are occupied. If set in Standard Mode, the link is kept active. The unit will transmit a 25Mhz keep-alive signal to artificially keep the link up.
Fiber Fault Alert	If the media converter module detects a loss of fiber, it will immediately notify the fiber link partner that an error condition exists. *Disabled (Default).* The Media Converter will not monitor for fiber fault.
Multi-speed SFP	When enabled, identifies that the SFPs inserted are MSA complaint SFPs that have a multi-rate capability SFF-8074 and SFF-8472. When disable (Default), no action is performed in this context.
Rate Select	This enables rate selection when using dual-rate capable SFPs. If the "Multi-Speed SFP" select switch is in the "Disabled" position, this switch is ignored. High Speed - UP (default) Low Speed – DOWN

2 x SFP Slots

SFPs	SFP line rates up to 4.25Gbps are supported. The SFPs occupying each slot in the media converter however must be operating at the same speed. SFP power level 1 and 2 are supported.

Environmental Specifications

Operating Temperature	0° C to 50° C (32° F to 122° F)
Storage Temperature	minimum range of -25° C to 70° C (-13° F to 158° F).
Operating Humidity	5% to 90% non-condensing

Storage Humidity	5% to 95% non-condensing
Operating Altitude	Up to 3,048 meters (10,000 feet)
Heat Output (BTU/HR)	13.65
MTBF (Hours)	861,306 (Calculation model based on MIL-HDBK-217-FN2 @ 30 °C)
Packaging	
Shipping Weight	.25 Kg, 0.6 lbs
Shipping Dimensions	150 x 210 x 40 mm, 5.9 x 8.3 x 1.6 inches
Regulatory Approvals	
	FCC Part 15 Class A, EN55022 Class A
	CISPR 22 Class A CISPR 32:2015/EN 55032:2015 (Class A) CISPR 24:2010/EN 55024:2010
Emissions	EN61000-3-2
Immunity	EN55024
	UL/EN/IEC 62368-1 CAN/CSA C22.2 No. 62368-1
	UL 60950-1 IEC 60950-1(ed 2); am1, am2 EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013
Electrical Safety	CE
Laser Safety	Dependent on SFPs used. SFPs that meet Class 1 Laser safety requirements per IEC-60825 FDA/CDRH standards and comply with 21CFR1040.10 and 21CFR1040.11 are recommended for use with this product.
Environmental	Reach, RoHS and WEEE Compliant
	ECCN: 5A991
	HTSUS Number: 8517.62.0020
Other	Perle Limited Lifetime Warranty

Fiber to Fiber Mode Conversion

Interconnect Multiple Fiber Types and Wavelengths

Managed SFP to SFP protocol-transparent fiber mode converters enable network administrators to incorporate multiple fiber types and wavelengths within or between networks. See below some examples. The fiber link on the managed standalone unit can provide vital information and status to network management tools such as SNMP.

Protocol Transparent (Independent)

• Ethernet, Fast Ethernet, Gigabit Ethernet (1.25G , 2.4G)

• GR-253-CORE : ATM/SONET (OC-3, OC-12, OC-48)

• G.957 : SDH (STM-1, STM-4, STM-16)

• Fibre Channel: (FC-1, FC-2, FC-4)

• FDDI, IBM protocols ESCON and FICON

• Video protocols (DVB, SDI, HD-SDI, SMTPE)