



# *EtherNodePlus* Model OTEN-WC-01 Media and Wavelength Converter, SFP-SFP



## OPERATING MANUAL

24926 Highway 108  
Sierra Village, CA 95346  
Phone: (800) 545-1022  
Fax: (209) 586-1022

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**Typical Mating SFP Module**



**Typical AC Power Supply (Ships with Unit)**

# SAFETY

## Safety Precautions

The optical emissions from the units are laser-based and may present eye hazards if improperly used. **NEVER USE ANY KIND OF OPTICAL INSTRUMENT TO VIEW THE OPTICAL OUTPUT OF THE UNIT.** Be careful when working with optical fibers. Fibers can cause painful injury if they penetrate the skin.

## Laser Safety Procedure

**ALWAYS** read the product data sheet and the laser safety label before powering the product. Note the operation wavelength, optical output power and safety classifications.

If safety goggles or other eye protection are used, be certain that the protection is effective at the wavelength emitted by the device under test **BEFORE** applying power.

**ALWAYS** connect a fiber to the output of the device **BEFORE** power is applied. Power should never be applied without an attached fiber. If the device has a connector output, a connector should be attached that is connected to a fiber. This will ensure that all light is confined within the fiber waveguide, virtually eliminating all potential hazard.

**NEVER** look at the end of the fiber to see if light is coming out. **NEVER!** Most fiber optic laser wavelengths (1310nm and 1550nm) are totally invisible to the unaided eye and will cause permanent damage. Shorter wavelength lasers (e.g., 780nm) are visible and are very damaging. Always use instruments, such as an optical power meter, to verify light output.

**NEVER, NEVER, NEVER** look into the end of a fiber on a powered device with **ANY** sort of magnifying device. This includes microscopes, eye loupes and magnifying glasses. This **WILL** cause a permanent and irreversible burn on your retina. Always double check that power is disconnected before using such devices. If possible, completely disconnect the unit from any power source.

If you have questions about laser safety procedures, please call Olson Technology before powering your product.

## INTRODUCTION

The OLSON TECHNOLOGY, INC. Model OTEN-WC-01 *EtherNodePlus* Media and Wavelength Converter allows network operators to incorporate multiple fiber types within a network. The converter provides the ability to accomplish this by working with existing equipment, eliminating replacement costs. The units convert between single-mode, multi-mode, and CWDM transmission wavelengths, or it can be used to boost digital signals at an intermediate point in a fiber path. This flexibility allows operators to easily extend network range to reach more remote locations.

The OTEN-WC-01 includes two SFP ports. Operation is protocol independent, and the modules easily convert between dissimilar fiber modes and wavelengths. The small form factor is hot swappable. The unit offers a very compact size and multiple mounting options.

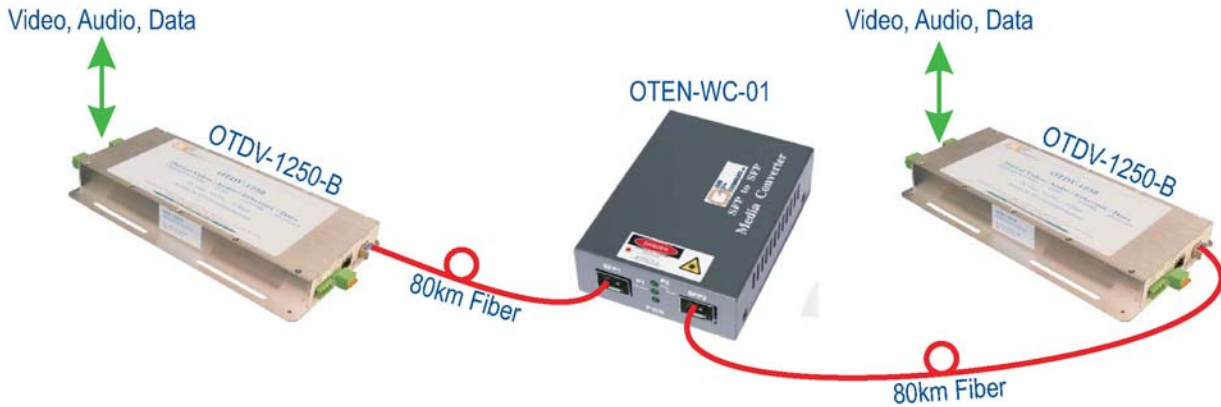


Figure 1 — Typical Application of an OTEN-WC-01 as a Digital Signal Booster

## PANEL LAYOUT

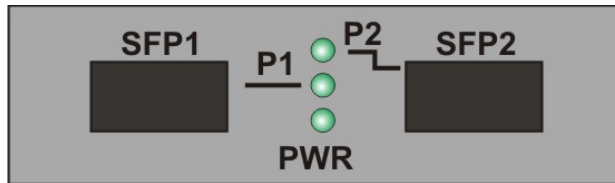


Figure 2 — Converter Front Panel

The table below describes the LED indicator functions.

Designation	Meaning
P1	Lit when the SFP1 connection is good.
P2	Lit when the SFP2 connection is good.
PWR	Lit when the unit is receiving power.

## TECHNICAL SPECIFICATIONS

Parameter	Specification
SFP Ports	2
Cables	Optical Fiber, UTP
Compliance	SFP-MSA SFP standard, SFF-8472-DDMI Standard (Can use all MSA compliant SFP devices.)

Parameter	Specification
Data Rate	10Mb/s to 2.5Gb/s. Both SFP modules used in the converter must support the same data rate.
Standards	Supports OC3, OC12, and OC48
Converter Power Requirement	+5 Volts DC, 290mA (typical) using the OTOLS-1312-30 SFP module.
Power Supply Voltage	100-240 Volts AC, 50-60Hz
Operating Temperature Range	0 to +50°C
Humidity	5-90%, RH Non-condensing
Weight	5.8oz. (160g)
Weight with two (2) SFP Modules	6.9oz. (195g)
Dimensions (L x w x H)	1.02" x 2.79" x 3.66" (26mm x 71mm x 93mm)

## INSTALLATION

1. Attach a fiber cable from the converter to the fiber network. The fiber connections must match: transmit socket to receive socket.
2. Attach a UTP cable from the TP network device to the RJ45 port on the converter.
3. Connect the power cord to the converter and check that the Power LED lights up. The TP Act and FX Act LEDs will light when all the cable connections are satisfactory.

## NOTES ON THE CONVERTER

### Features

- Interchangeable SFP modules allow for multiple fiber mode/type conversion options (single mode, multi-mode, long-haul, short-haul, etc.)
- Compact size conserves space
- AC or DC power options
- Converts between dissimilar fiber modes and wavelengths
- Can use all standard MSA compliant SFP devices

### Protocol-Independent

- Supports a full range of SFP modules offering various transmission speeds, from 10Mbps to 2.5Gbps
- Supports OC3, OC12, OC48

### Maximizes Network Uptime

- SFP Modules are hot-Swappable; no need to power-down chassis when upgrading or troubleshooting
- Troubleshooting features include diagnostic LED's (Both SFP's used in the Mode Converter must support the same data rate.)
- Hot-swappable architecture Small Form Factor