OmniConverter® GHPoE/S

10/100/1000 Media Converter with Power over Ethernet (60W PoE)

The OmniConverter GHPoEBT/S replaces the GHPoE/S and is recommended for all new designs.

The OmniConverter GHPoE/S is a multi-port High-Power PoE Ethernet media converters that feature one or two fiber ports and one or two 10/100/000 RJ-45 copper Power-over -Ethernet ports.

The GHPoE/S is a pre-IEEE 802.3bt media converter featuring up to 60 watts per RJ-45 port. The GHPoE/S is ideal for outdoor PTZ (pan-tilt-zoom) cameras with heaters and blowers, multi-stream wireless access points and small cells installations. All OmniConverter models support frame sizes up to 10,240 bytes.

OmniConverter PoE media converters provide network distance extension with fiber optic cabling, and function as a PoE injectors.

Models with two Small Form Pluggable (SFP) fiber receptacles support redundant fiber uplinks for critical applications that require protection and sub 50ms restoration in the event of a fiber failure. The second fiber port can also be used to cascade multiple media converters, or as another switch port.

Configurable features include link modes and a PoE power reset function that enables a PD device to be re-initialized remotely, eliminating the need for costly truck rolls to remote PD sites. When a problem with a PD is identified, the fiber port on a managed switch can be shut down or disconnected, triggering the PoE power reset function on the OmniConverter. The PoE power to the PD is disabled for 2 seconds when a loss of receive fiber link is detected by the OmniConverter.

Link modes can be configured to propagate loss-of-link faults to managed devices, immediately notifying administrators of network outages.

The OmniConverter PoE media converters are available with fixed fiber ST, SC, and LC connectors or Small Form Pluggable (SFP) transceiver receptacles. Fiber ports support multimode or single-mode and dual fiber or single-fiber. SFP models support 100Mbps and 1000Mbps standard, CWDM and DWDM transceivers in a variety of distances and fiber types.

The compact standalone OmniConverter media converters can be tabletop mounted, wall mounted, or DIN-rail mounted using an optional DIN-rail mounting kit. They can also be mounted on a 1U 19” rack-mount shelf. They are available with DC input power via terminal connectors or external 100 to 240V AC power adapters.

Not recommended for new designs

SFPs not included

KEY FEATURES

- IEEE 802.3af/at media converter with 60W support
- The GHPoE/S supports 60W Pre-BT HPoE on one or two RJ-45 copper ports
- 10/100/1000BASE-T copper to 1000BASE-X or 100BASE-X fiber media converter
- Supports 100BASE-X or 1000BASE-X standard, CWDM and DWDM SFP transceivers
- Supports frame sizes up to 10,240 bytes
- Multiple port configurations:
  - 2 Port Device: 1 Fiber + 1 RJ-45
  - 3 Port Device: 2 Fiber + 1 RJ-45
  - 3 Port Device: 1 Fiber + 2 RJ-45
  - 4 Port Device: 2 Fiber + 2 RJ-45
- Dual fiber models support redundant fiber link protection
- Configurable PoE power reset
- Available in AC and DC models
- Integrated wall mount brackets
- Commercial (0º to 50ºC), wide (-40º to 60ºC) and extended (-40º to 75ºC) operating temperature ranges
- Made in the USA
- Lifetime Warranty and free 24/7 Technical Support

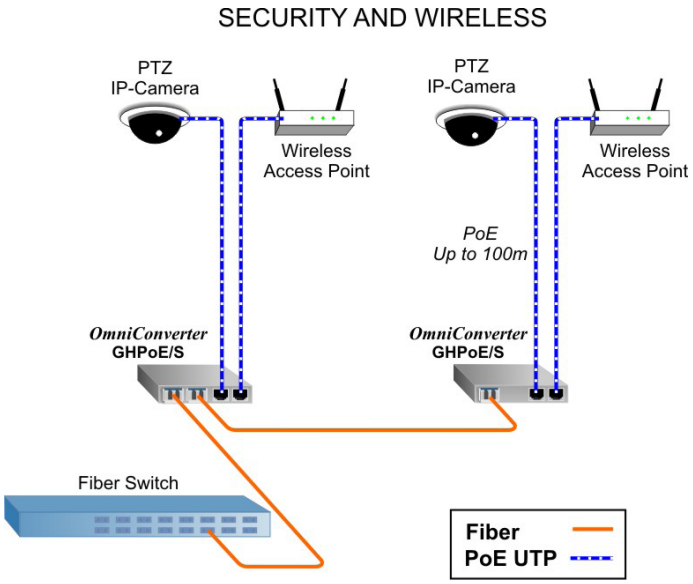
APPLICATIONS

Security and Wireless

In this application example, outdoor IP surveillance cameras and Wireless Access Points are installed throughout a large facility. A network switch with fiber ports is used to distribute a fiber link from a control room to a OmniConverter media converter with dual fiber ports. The second fiber port on the OmniConverter is used to daisy-chain the fiber to the next location, where an OmniConverter media converter with one fiber port terminates the fiber.

The OmniConverter media converters provide Power over Ethernet (PoE) over UTP cables to an IP camera and Wireless Access Point at each location, each of which can be located up to 100 meters from the media converter.

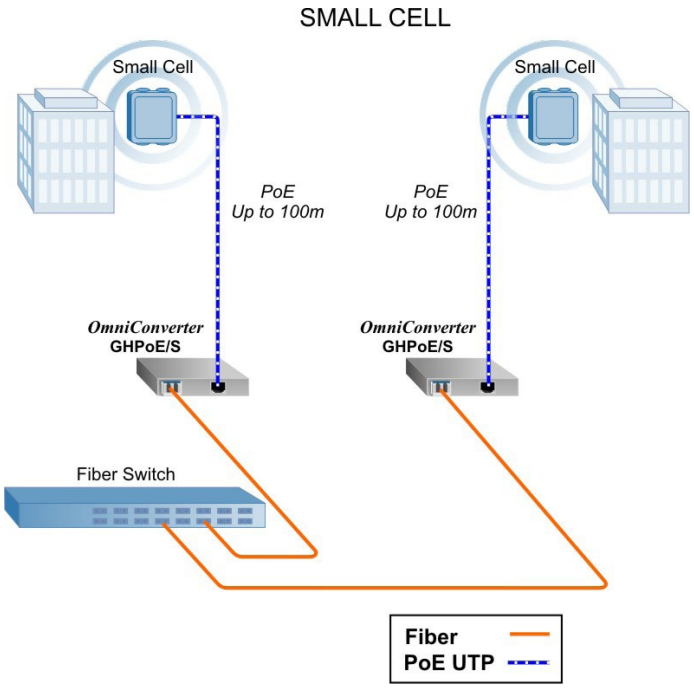
For 60W PoE devices, such as cameras with heaters/ blowers or pan/tilt/zoom motors, the GHPoE/S can be used for devices that require up to 60W.



Small Cell

In this application example, High-Power small cell devices are deployed inside several buildings. A network switch with fiber ports is used to distribute a fiber link to OmniConverter media converters.

The OmniConverter GHPoE/S media converters are capable of providing up to 60 watts on the RJ-45 ports.



Power / Voltage Requirements and Specifications per IEEE

Description	IEEE 802.3af 15W PoE	IEEE 802.3at 30W PoE+	60W PoE
Power Supply Voltage Range	46.0 to 57.0 VDC	51.0 to 57.0 VDC	51.0 to 57.0 VDC
Voltage Range at PSE port Output	44.0 to 56.0 VDC	50.0 to 56.0 VDC	50.0 to 56.0 VDC
Maximum Power from PoE/PSE port	15.4 watts	30 watts	60 watts
Minimum Voltage at PoE/PD port input*	37.0 VDC	42.5 VDC	42.5 VDC
Minimum Power at PoE/PD port*	12.95 watts	25.5 watts	51 watts
* at 100 meters using Cat5			

SPECIFICATIONS

Description	**OmniConverter GHPoE/S** 10/100/1000BASE-T to 1000BASE-X or 100BASE-X Fiber Media Converter with 60W PoE	
Standard Compliances	IEEE 802.3, IEEE 802.3af (15.40 watts max), IEEE 802.3at (30 watts max) High Power 60W PoE	
PoE Supported Modes	IEEE Alternate A (Alt A) and 4 Pair	
Regulatory Compliances	Safety: UL 62368-1, UL 60950-1, IEC 62368-1, IEC 60950-1, EN 62368-1, EN 60950-1, CAN/CSA C22.2 No. 62368-1-14, CAN/CSA C22.2 No. 60950-1, CE Mark EMC: EN 55032/24 CE Emissions/Immunity, IEC 61000-6-4 Industrial Emissions, IEC 61000-6-2 Industrial Immunity EMI: CISPR 32, FCC 47 Part 15 Subpart B Class A EMS: IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV (DC models), IEC 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV (AC models), IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV (DC models), IEC 61000-4-5 Surge: Power: 1 kV Line/Line; 2 kV Line/Gnd; Signal: 2 kV (AC models), IEC 61000-4-6 CS: Signal: 10 V, IEC 61000-4-8 (Magnetic Field) 30 A/m, IEC 61000-4-11 (Voltage Dips, interrupts) IP Rating: IP20 Protection	
Environmental	RoHS, WEEE, REACH	
Frame Size	Up to 10,240 bytes	
Port Types	Copper: 10/100/1000BASE-T (RJ-45) Fiber: 100BASE-X (SFP) 1000BASE-X (ST, SC, LC, SFP) 1000BASE-BX (SC, SFP)	
Cable Types	Copper: EIA/TIA 568A/B, Cat 5 UTP and higher Fiber: Multimode: 50/125, 62.5/125µm Single-mode: 9/125µm	
AC Power Requirements (Models with AC/DC Adapters)	1 RJ-45 Port 100 - 240VAC/50 - 60Hz 0.62A @ 120VAC (typical)	2 RJ-45 Ports 100 - 240VAC/50 - 60Hz 1.19A @ 120VAC (typical)
DC Power Requirements (Models with DC Terminals)	1 RJ-45 Port +/-44 to +/-57VDC; 1.16A @ 56VDC 3 Pin Terminal (isolated)	2 RJ-45 Ports +/-44 to +/-57VDC; 2.25A @ 56VDC 3 Pin Terminal (isolated)
Dimensions (W x D x H)	4.5” x 6.0” x 1.0” (114.3 mm x 152.4 mm x 25.4 mm)	
Weight	Module Only: 1.1 lbs.; (498.9 grams) Module w/ Adapter: 2.8 lbs.; (1256.4 grams)	
Operating Temperature (See AC/DC Adapter Temperature Table)	Commercial: 0 to 50°C Wide: -40 to 60°C (-20°C AC cold start) Extended: -40 to 75°C (-20°C AC cold start) Storage: -40 to 80°C	
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m	
MTBF (hours)	Module Only: 474,000 AC/DC Adapter: 100,000	
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

ORDERING INFORMATION

Fiber Type	Distance	Connector Type				Tx / Rx Lambda (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Power (dBm)	Max. Rx Power (dBm)	Min Attenuation (dB)	Link Budget (dB)
		ST	SC	LC	SFP							
MM/DF	220/550m[1]	9500-0-ypt	9502-0-ypt	9506-0-ypt	-	850 / 850	-10	-4	-17	-3	-	7
MM/DF (x2)	220/550m[1]	-	-	9506D-0-ypt	-	850 / 850	-10	-4	-17	-3	-	7
SM/DF	12km	9501-1-ypt	9503-1-ypt	9507-1-ypt	-	1310 / 1310	-9.5	-3	-19.5	-3	-	10
SM/DF (x2)	12km	-	-	9507D-1-ypt	-	1310 / 1310	-9.5	-3	-19.5	-3	-	10
SM/DF	34km	9501-2-ypt	9503-2-ypt	-	-	1310 / 1310	-5	0	-23	-3	3	18
SM/DF	80km	-	9503-3-ypt	-	-	1550 / 1550	-5	0	-23	-3	3	18
SM/DF	110km	-	9503-4-ypt	-	-	1550 / 1550	0	5	-24	-3	8	24
SM/DF	140km	-	9503-5-ypt	-	-	1550 / 1550	2	5	-28	-8	13	30
MM/SF[2]	550m	-	9510-0-ypt	-	-	1310 / 1550	-9	-3	-18	-3	-	9
MM/SF[2]	550m	-	9511-0-ypt	-	-	1550 / 1310	-9	-3	-18	-3	-	9
SM/SF[2]	20km	-	9510-1-ypt	-	-	1310 / 1550	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	20km	-	9511-1-ypt	-	-	1550 / 1310	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	40km	-	9510-2-ypt	-	-	1310 / 1550	-3	0	-20	-3	3	17
SM/SF[2]	40km	-	9511-2-ypt	-	-	1550 / 1310	-3	0	-20	-3	3	17
SFP (x1)	-	-	-	-	9519-0-ypt	-	-	-	-	-	-	-
SFP (x2)	-	-	-	-	9519-1-ypt	-	-	-	-	-	-	-

[1] 62.5/125µm, 100/140µm multimode fiber up to 220m. 50/125µm multimode fiber up to 550m.
[2] When using single-fiber (SF) models, the Tx wavelength on one end has to match the Rx wavelength on the other.
MM = Multimode, SM = Single-mode, DF = Dual Fiber, SF = Single-fiber

Base Model Number: 95xx-x-ypt

Select the model from ordering table above.

Add # of RJ-45 ports (**y**), power option (**p**) and operating temperature range (**t**) to the model type selected.

Number of RJ-45 Ports (y):

1 = One RJ-45 Ports | **2** = Two RJ-45 Ports

Power Options (p):

1 = External AC/DC Adapter, 100 - 240 VAC included, with US Power Cord | **8** = External AC/DC Adapter, 100 - 240 VAC included, with Japanese Power Cord

2 = External AC/DC Adapter, 100 - 240 VAC included, No Power Cord | **9** = Direct DC 3 pin terminal connector, no AC/DC power adapter

See AC/DC Adapter Temperature table below when ordering AC Powered models (power option 1, 2 or 8)

The Direct DC input models (power option 9) will provide full PoE power over the operating temperature range of the module as long as the DC input voltage meets the requirements stated in the specification table. See specification table on page 3

Operating Temperature Options (t):

<leave blank> = Commercial temperature (0 to 50°C) | **W** = Wide temperature (-40 to 60°C)

Z = Extended temperature (-40 to 75°C)

Contact Omnitron for other fiber options. Order the appropriate SFPs separately. Visit the Omnitron Optical Transceivers web page.

AC/DC Adapter Temperature - Total Available Wattage to RJ-45 Ports							
Model	RJ-45 Ports	Watts Required	40°C	50°C	60°C	70°C	75°C
GHPoE/S 60 watts	1	60 watts	Full Power	Full Power	Full Power	Full Power	50 watts
	2	120 watts	Full Power	100 watts	80 watts	60 watts	50 watts

The AC/DC Adapter Temperature table is not applicable to models with DC Terminal (see Ordering table for Direct DC power option 9). The DC Terminal models will provide full PoE power over the operating temperature range of the module as long as the DC input voltage meets the requirements stated in the specification table.

Accessories	
Model Number	**Description**
8250-0	DIN Rail Mounting Kit
8251-0	DIN Rail Mounting Clip
8260-0	1U Rack Mount Shelf