OmniConverter®

POWER OVER ETHERNET

OmniConverter® GPoE/SE and GPoE+/SE
Cost-Effective 10/100/1000 Media Converter with Power over Ethernet (PoE or PoE+)

The OmniConverter GPoE/SE and GPoE+/SE are cost-effective, multi-port media converters that convert 10/100/1000BASE-T copper to 1000BASE-X fiber and support Power-over-Ethernet (PoE and PoE+). Classified as Power Sourcing Equipment (PSE), they can provide power to one or two Powered Devices (PDs) using standard UTP cables that carry the Ethernet data. The OmniConverter functions as a PoE mini-switch, and supports single or dual RJ-45 ports.

OmniConverter PoE media converters provide network distance extension with fiber optic cabling, and function as PoE injectors that enable powering devices such as IP-phones, surveillance cameras and wireless access points with Power over Ethernet (PoE).

The OmniConverter GPoE/SE and GPoE+/SE support frame sizes up to 10,240 bytes. The GPoE/SE provides up to 15.40W PoE (IEEE 802.3af) per RJ-45 port. The GPoE+/SE provides up to 30W PoE+ (IEEE 802.3at) per RJ-45 port for more demanding PDs such as video conferencing equipment, PTZ (pan-tilt-zoom) cameras and multi-stream 802.11x wireless access points.

The OmniConverter PoE media converters are available with fixed fiber ST and SC connectors or Small Form Pluggable (SFP) transceiver receptacles. Fiber ports support multimode or single-mode and dual fiber or single-fiber. SFP models support 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 power via terminal connectors or external 100 to 240V AC power adapters.
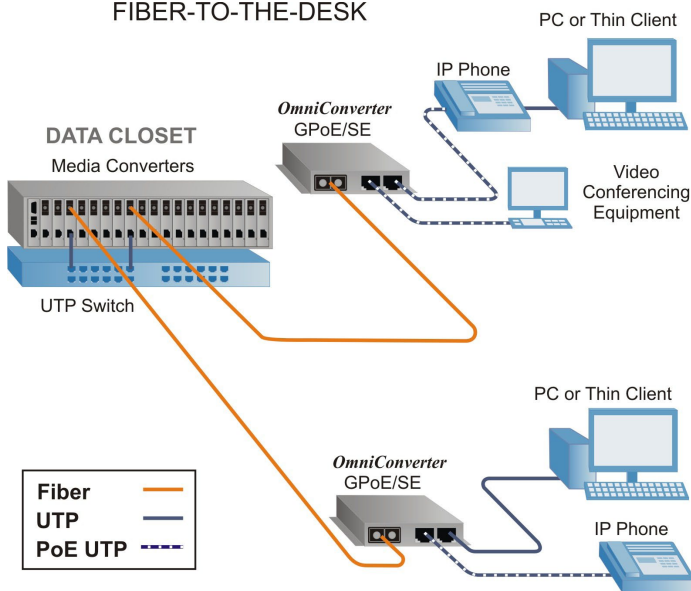
SFPs not included

KEY FEATURES

■ Multi-port media converter and PoE Power Sourcing Equipment

■ 10/100/1000BASE-T copper to 1000BASE-X fiber media converter

■ Supports 1000BASE-X fixed-fiber and 1000BASE-X standard, CWDM and DWDM SFP transceivers

■ Supports frame sizes up to 10,240 bytes

■ The GPoE/SE supports IEEE 802.3af PoE on one or two RJ-45 copper ports

■ The GPoE+/SE supports IEEE 802.3at PoE+ on one or two RJ-45 copper ports

■ Multiple port configurations:

  • 2 Port Device: 1 Fiber + 1 RJ-45
  • 3 Port Device: 1 Fiber + 2 RJ-45

■ Plug and Play

■ Available in AC and DC models

■ Integrated wall mount brackets

■ Commercial (0º to 50ºC) and wide (-40º to 60ºC) operating temperature ranges

■ Made in the USA

■ Lifetime Warranty and free 24/7 Technical Support

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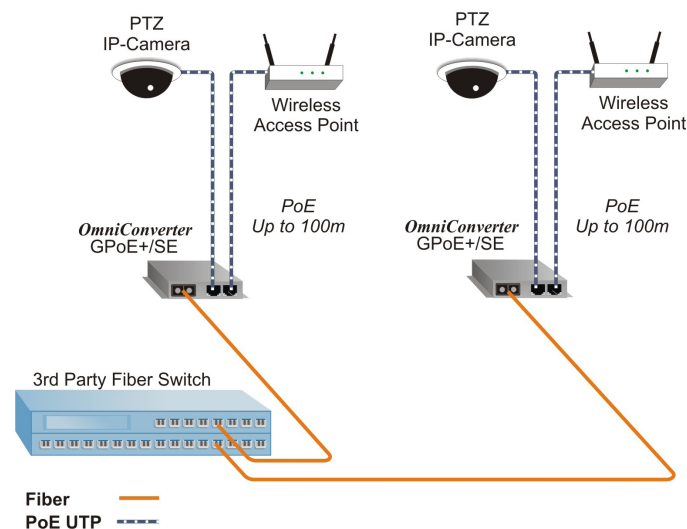
APPLICATIONS

FIBER-TO-THE-DESK

In this application example, a fiber-to-the-desk network is deployed to leverage the security and distance benefits of fiber.

In the main data closet, iConverter, miConverter or FlexPoint media converters can be installed in high-density rack-mount chassis to provide reliable and cost-effective fiber distribution from existing copper network equipment.

Fiber optic cables run to each office, where they are terminated by OmniConverter GPoE/SE media converters. The OmniConverter media converters convert fiber to copper and, provide data and power to the IP phones and video conferencing equipment. They automatically disable PoE power to non-PoE desktop devices such as PCs and laptops.

SECURITY AND WIRELESS

In this point-to-point application example, PoE+ IP surveillance cameras and Wireless Access Points are installed throughout a large facility. A network switch with fiber ports can be used to distribute fiber links from a control room to OmniConverter media converters.

OmniConverter GPoE+/SE media converters provide up to 30 watts of 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 100m from the media converter.

Power / Voltage Requirements and Specifications per IEEE

Description	IEEE 802.3af PoE	IEEE 802.3at PoE+
Power Supply Voltage Range	46.0 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
Maximum Power from PoE/PSE port	15.4 watts	30 watts
Minimum Voltage at PoE/PD port input*	37.0 VDC	42.5 VDC
Minimum Power at PoE/PD port*	12.95 watts	25.5 watts
* at 100 meters using Cat5		

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SPECIFICATIONS

Description	OmniConverter GPoE/SE 10/100/1000BASE-T to 1000BASE-X Fiber Media Converter with PoE		OmniConverter GPoE+/SE 10/100/1000BASE-T to 1000BASE-X Fiber Media Converter with PoE+	
Standard Compliances	IEEE 802.3, IEEE 802.3af (15.40 watts max)		IEEE 802.3, IEEE 802.3af (15.40 watts max), IEEE 802.3at (30 watts max)	
PoE Supported Modes	IEEE Alternate B (Alt B)			

Regulatory Compliances (*Pending)	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
	EMI: FCC Class A,
	            CE Class A
	EMS: CE
	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: 1000BASE-X (ST, SC, 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/47 to 63Hz 0.21A @ 120VAC (typical)		1 RJ-45 Port 100 - 240VAC/47 to 63Hz 0.37A @ 120VAC (typical)	
	2 RJ-45 Ports 100 - 240VAC/50 - 60Hz 0.39A @ 120VAC (typical)		2 RJ-45 Ports 100 - 240VAC/50 - 60Hz 0.70A @ 120VAC (typical)	
DC Power Requirements (Models with DC Terminals)	1 RJ-45 Port +/-46 to +/-57VDC; 0.34A @ 48VDC 2 Pin Terminal (non-isolated)	1 RJ-45 Port +/-46 to +/-57VDC; 0.34A @ 48VDC 3 Pin Terminal (isolated)	1 RJ-45 Port +/-48 to +/-57VDC; 0.60A @ 48VDC 2 Pin Terminal (non-isolated)	1 RJ-45 Port +/-48 to +/-57VDC; 0.60A @ 48VDC 3 Pin Terminal (isolated)
	2 RJ-45 Ports +/-46 to +/-57VDC; 0.63A @ 48VDC 2 Pin Terminal (non-isolated)	2 RJ-45 Ports +/-46 to +/-57VDC; 0.63A @ 48VDC 3 Pin Terminal (isolated)	2 RJ-45 Ports +/-48 to +/-57VDC; 1.15A @ 48VDC 2 Pin Terminal (non-isolated)	2 RJ-45 Ports +/-48 to +/-57VDC; 1.15A @ 48VDC 3 Pin Terminal (isolated)
	A minimum of 50VDC is required to guarantee 25.5 watts at 100 meters on Cat 5 cable or better.			
Dimensions (W x D x H)	3.8" x 4.8" x 1.0" (96.5 mm x 121.9 mm x 25.4 mm)			
Weight	Module Only: 1.1 lbs.; 498.9 grams Module w/ Adapter: 1.6 lbs.; 725.7 grams		Module Only: 1.1 lbs.; 498.9 grams Module w/ Adapter: 2.3 lbs.; 1043.3 grams	
Operating Temperature (See Temperature Derating Table)	Commercial: 0 to 50°C Wide: -40 to 60°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: 910,000 AC/DC Adapter: 100,000		Module Only: 780,000 AC/DC Adapter: 100,000	
Warranty	Lifetime warranty with 24/7/365 free Technical Support			

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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	SFP							
MM/DF	220/550m[1]	9460-0-ypt	9462-0-ypt	-	850 / 850	-10	-4	-17	-3	-	7
SM/DF	12km	9461-1-ypt	9463-1-ypt	-	1310 / 1310	-9.5	-3	-19.5	-3	-	10
SM/DF	34km	9461-2-ypt	9463-2-ypt	-	1310 / 1310	-5	0	-23	-3	3	18
SM/DF	80km	-	9463-3-ypt	-	1550 / 1550	-5	0	-23	-3	3	18
SM/DF	110km	-	9463-4-ypt	-	1550 / 1550	0	5	-24	-3	8	24
SM/DF	140km	-	9463-5-ypt	-	1550 / 1550	2	5	-28	-8	13	30
MM/SF[2]	550m	-	9470-0-ypt	-	1310 / 1550	-9	-3	-18	-3	-	9
MM/SF[2]	550m	-	9471-0-ypt	-	1550 / 1310	-9	-3	-18	-3	-	9
SM/SF[2]	20km	-	9470-1-ypt	-	1310 / 1550	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	20km	-	9471-1-ypt	-	1550 / 1310	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	40km	-	9470-2-ypt	-	1310 / 1550	-3	0	-20	-3	3	17
SM/SF[2]	40km	-	9471-2-ypt	-	1550 / 1310	-3	0	-20	-3	3	17
SFP	-	-	-	9479-0-ypt	-	-	-	-	-	-	-

OmniConverter GPoE/SE IEEE 802.3af 15W Models

[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: 94xx-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	**9** = Direct DC 2 pin terminal connector, no AC/DC power adapter
2 = External AC/DC Adapter, 100 - 240 VAC included, No Power Cord	**F** = Direct DC 3 pin terminal connector, no AC/DC power adapter
8 = External AC/DC Adapter, 100 - 240 VAC included, with Japanese Power Cord	
Operating Temperature Options (t):	
<leave blank> = Commercial temperature (0 to 50°C)	**W** = Wide temperature (-40 to 60°C)
Contact Omnitron for other fiber options. Order the appropriate SFPs separately. Visit the Omnitron Optical Transceivers web page.	

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

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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	SFP							
MM/DF	220/550m[1]	9480-0-ypt	9482-0-ypt	-	850 / 850	-10	-4	-17	-3	-	7
SM/DF	12km	9481-1-ypt	9483-1-ypt	-	1310 / 1310	-9.5	-3	-19.5	-3	-	10
SM/DF	34km	9481-2-ypt	9483-2-ypt	-	1310 / 1310	-5	0	-23	-3	3	18
SM/DF	80km	-	9483-3-ypt	-	1550 / 1550	-5	0	-23	-3	3	18
SM/DF	110km	-	9483-4-ypt	-	1550 / 1550	0	5	-24	-3	8	24
SM/DF	140km	-	9483-5-ypt	-	1550 / 1550	2	5	-28	-8	13	30
MM/SF[2]	550m	-	9490-0-ypt	-	1310 / 1550	-9	-3	-18	-3	-	9
MM/SF[2]	550m	-	9491-0-ypt	-	1550 / 1310	-9	-3	-18	-3	-	9
SM/SF[2]	20km	-	9490-1-ypt	-	1310 / 1550	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	20km	-	9491-1-ypt	-	1550 / 1310	-9.5	-3	-20	-3	-	10.5
SM/SF[2]	40km	-	9490-2-ypt	-	1310 / 1550	-3	0	-20	-3	3	17
SM/SF[2]	40km	-	9491-2-ypt	-	1550 / 1310	-3	0	-20	-3	3	17
SFP	-	-	-	9499-0-ypt	-	-	-	-	-	-	-

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Operating Temperature Options (t):

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

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800-675-8410 • 949-250-6510 • **www.omnitron-systems.com** • **info@omnitron-systems.com** • **38 Tesla, Irvine, CA USA 92618**

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