OmniConverter® FPoE/SL, FPoE/S and FPoE+/S

10/100 Media Converter with Power over Ethernet (PoE or PoE+)

The OmniConverter FPoE/SL, FPoE/S and FPoE+/S are multi-port PoE/PoE+ Ethernet media converters that feature one or two fiber ports and one or two 10/100 RJ-45 copper Power-over-Ethernet ports.

The OmniConverter FPoE/SL is a cost-effective media converter that provides up to 15.40W PoE (IEEE 802.3af) per RJ-45 port and supports frame sizes up to 2,000 bytes.

The OmniConverter FPoE/S provides up to 15.40W PoE (IEEE 802.3af) per RJ-45 port and supports frame sizes up to 10,240 bytes.

The OmniConverter FPoE+/S provides up to 30W PoE+ (IEEE 802.3at) per RJ-45 port and supports frame sizes up to 10,240 bytes. The FPoE+/S powers the more demanding PDs such as outdoor PTZ (pan-tilt-zoom) cameras and multi-band, multi-stream wireless access points.

Models with two fiber ports support redundant fiber optic uplinks for critical applications that require protection and sub 50ms restoration in the event of a fiber failure. The second fiber port may also be used to cascade multiple media converters, or it may be used 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. When a problem with a PD is identified, the fiber port on a managed switch can be shut down or disconnected, enabling 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, eliminating the need for costly truck rolls to remote PD sites.

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 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 100Mbps 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 input 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
- 10/100BASE-T copper to 100BASE-X fiber media converter
- Supports 100BASE-X fixed-fiber and 100BASE-X standard, CWDM and DWDM SFP transceivers
- The FPoE/SL supports IEEE 802.3af PoE on one or two RJ-45 copper ports, and up to 2,000 byte frames
- The FPoE/S supports IEEE 802.3af PoE on one or two RJ-45 copper ports, and up to 10,240 byte frames
- The FPoE+/S supports IEEE 802.3at PoE+ on one or two RJ-45 copper ports, and up to 10,240 byte frames
- Multiple port configurations are available:
  - 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
- Redundant protected fiber link option (using dual SFP transceivers)
- Compatible with legacy pre-IEEE standard powered devices
- Configurable PoE power reset
- Available in AC and DC models
- Integrated wall mount brackets
- Commercial (0 to 50ºC), wide (-40º to 60ºC) and extended (-40 to 75ºC) operating temperature ranges
- Made in the USA
- Lifetime Warranty and free 24/7 Technical Support

APPLICATIONS

This example shows a combined security and fiber-to-desk application.

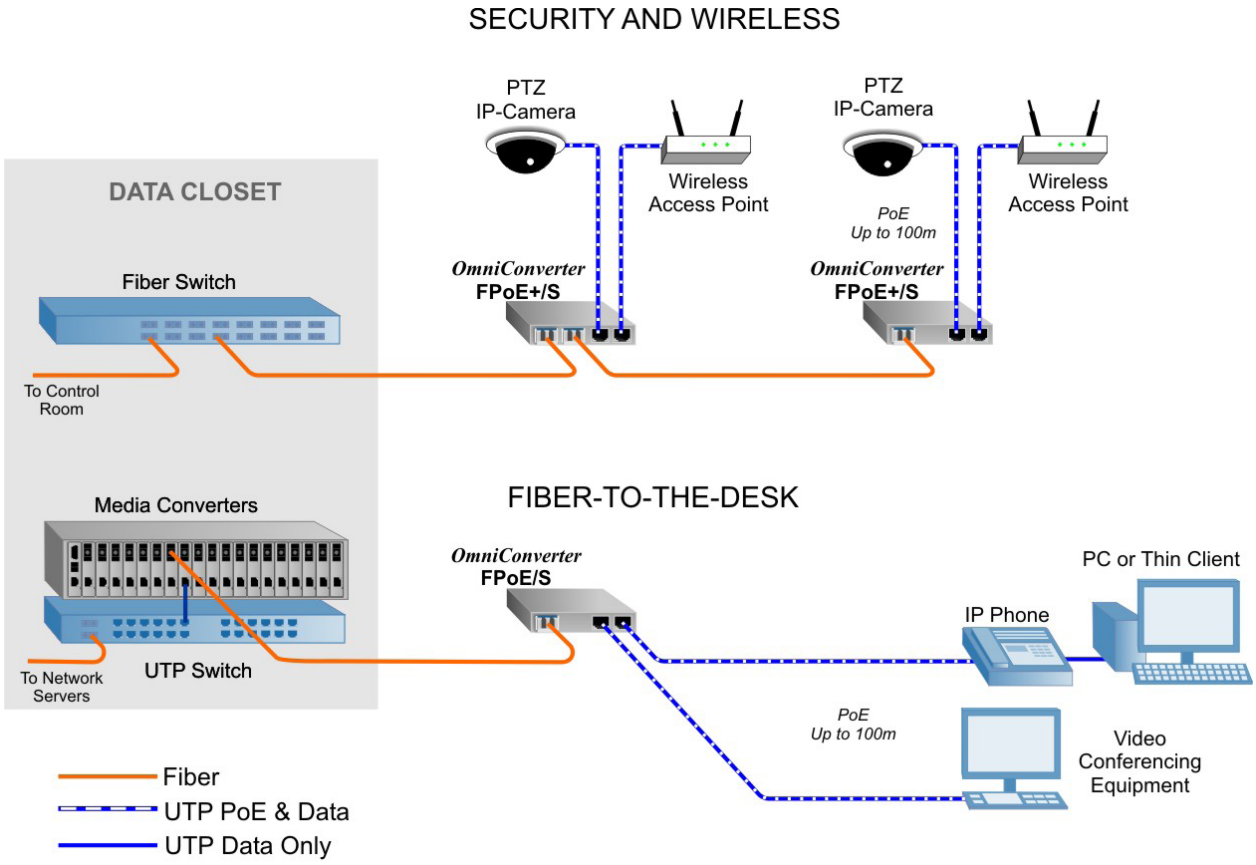
PoE and PoE+ IP surveillance cameras and Wireless Access Points are installed throughout a large facility. A Network switch with fiber ports is used to distribute a fiber link from a control room to a OmniConverter media converter with dual fiber ports. The second fiber port on the OmniConverter is used to cascade 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 100m from the media converter.

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 media converters. The OmniConverter media converters convert fiber to copper and, provide data and power to desktop devices such as IP phones and video conferencing equipment. They automatically disable PoE power to non-PoE desktop devices such as PCs and laptops.



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		

SPECIFICATIONS

Description	**OmniConverter FPoE/SL** 10/100BASE-T to 100BASE-X Fiber Media Converter with PoE	**OmniConverter FPoE/S** 10/100BASE-T to 100BASE-X Fiber Media Converter with PoE	**OmniConverter FPoE+/S** 10/100BASE-T to 100BASE-X Fiber Media Converter with PoE+
Standard Compliances	IEEE 802.3, IEEE 802.3af (15.40 watts)		IEEE 802.3, IEEE 802.3af (15.40 watts), IEEE 802.3at (30 watts)
PoE Supported Modes	IEEE Alternate A (Alt A) and B (Alt B) Cisco Legacy and High Cap (Alt B, Legacy & High Cap requires 9143-6 cable)	IEEE Alternate A (Alt A) and B (Alt B) Cisco Legacy and High Cap	
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 EMC: EN 55032/EN 55024 CE Emissions/Immunity EMI: CISPR 32, FCC 47 Part 15 Subpart B Class A EMS compliances are only available on the /S models EMS: IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 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: 3 V, IEC 61000-4-8 (Magnetic Field) 30A/m, IEC 61000-4-11 (Voltage Dips, interrupts) IP Rating: IP20 Protection		
Environmental	REACH, RoHS and WEEE		
Frame Size	Up to 2,000 bytes	Up to 10,240 bytes	
Port Types	Copper: 10/100BASE-T (RJ-45) Fiber: 100BASE-X (ST, SC, SFP) 100BASE-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 0.17A @ 120VAC (typical)	1 RJ-45 Port: 100 - 240VAC/47 to 63Hz 0.21A @ 120VAC (typical)	1 RJ-45 Port: 100 - 240VAC/47 to 63Hz 0.34A @ 120VAC (typical)
	2 RJ-45 Ports: 100 - 240VAC/50 - 60Hz 0.32A @ 120VAC (typical)	2 RJ-45 Ports: 100 - 240VAC/50 - 60Hz 0.36A @ 120VAC (typical)	2 RJ-45 Ports: 100 - 240VAC/50 - 60Hz 0.63A @ 120VAC (typical)
DC Power Requirements **(Models with DC Terminals)**	1 RJ-45 Port: +46 to +57VDC; 0.39A @ 48VDC 2 Pin Terminal (non-isolated)	1 RJ-45 Port: +/-46 to +/-57VDC; 0.46A @ 48VDC 3 Pin Terminal (isolated)	1 RJ-45 Port: +/-48 to +/-57VDC; 0.74A @ 48VDC 3 Pin Terminal (isolated)
	2 RJ-45 Ports: +46 to +57VDC; 0.72A @ 48VDC 2 Pin Terminal (non-isolated)	2 RJ-45 Ports: +/-46 to +/-57VDC; 0.79A @ 48VDC 3 Pin Terminal (isolated)	2 RJ-45 Ports: +/-48 to +/-57VDC; 1.37A @ 48VDC 3 Pin Terminal (isolated)
	A minimum DC input voltage of 50VDC is required to guarantee 25.5 watts (802.3at) at the end of 100 meters of Cat 5 or better		
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: 1.1 lbs. (498.9 grams) With AC/DC Adapter: 1.6 lbs. (725.7 grams)		Module: 1.1 lbs. (498.9 grams) With AC/DC 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) 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 (hrs)	Module: 430,000 AC/DC Adapter: 100,000	Module: 474,000 AC/DC Adapter: 100,000	Module: 474,000 AC/DC Adapter: 100,000
Warranty	Lifetime warranty with 24/7/365 free Technical Support		

ORDERING INFORMATION

OmniConverter FPoE/SL IEEE 802.3af 15W Models											
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	5km	9340-0-ypt	9342-0-ypt	-	1310 / 1310	-24	-14	-31	-14	-	7
SM	30km	9341-1-ypt	9343-1-ypt	-	1310 / 1310	-15	-8	-31	-8	-	16
SM	60km	9341-2-ypt	9343-2-ypt	-	1310 / 1310	-5	0	-31	-3	3	26
SM	120km	-	9343-3-ypt	-	1550 / 1550	-5	0	-31	-3	3	26
MM-SF[1]	5km	-	9350-0-ypt	-	1310 / 1550	-8	0	-28	0	-	20
MM-SF[1]	5km	-	9351-0-ypt	-	1550 / 1310	-8	0	-28	0	-	20
SM-SF[1]	20km	-	9350-1-ypt	-	1310 / 1550	-15	-5	-30	-3	-	15
SM-SF[1]	20km	-	9351-1-ypt	-	1550 / 1310	-15	-5	-30	-3	-	15
SM-SF[1]	40km	-	9350-2-ypt	-	1310 / 1550	-8	0	-30	-3	3	22
SM-SF[1]	40km	-	9351-2-ypt	-	1550 / 1310	-8	0	-30	-3	3	22
SFP (x1)	-	-	-	9359-0-ypt	-	-	-	-	-	-	-
SFP (x2)	-	-	-	9359-1-ypt	-	-	-	-	-	-	-

[1] 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: 93xx-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 2 pin terminal connector, no AC/DC power adapter

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 Derating Total Available Wattage to RJ-45 Ports							
Model	RJ-45 Ports	Watts Required	40°C	50°C	60°C	70°C	75°C
FPoE/SL	1	15 watts	Full Power	Full Power	Full Power	Full Power	Full Power
	2	30 watts	Full Power	Full Power	Full Power	Full Power	Full Power

The AC/DC Adapter Temperature derating 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
9143-6	Crossover cable

ORDERING INFORMATION

OmniConverter FPoE/S IEEE 802.3af 15W Models											
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	5km	9300-0-ypt	9302-0-ypt	-	1310 / 1310	-24	-14	-31	-14	-	7
SM/DF	30km	9301-1-ypt	9303-1-ypt	-	1310 / 1310	-15	-8	-31	-8	-	16
SM/DF	60km	9301-2-ypt	9303-2-ypt	-	1310 / 1310	-5	0	-31	-3	3	26
SM/DF	120km	-	9303-3-ypt	-	1550 / 1550	-5	0	-31	-3	3	26
MM/SF[1]	5km	-	9310-0-ypt	-	1310 / 1550	-8	0	-28	0	-	20
MM/SF[1]	5km	-	9311-0-ypt	-	1550 / 1310	-8	0	-28	0	-	20
SM/SF[1]	20km	-	9310-1-ypt	-	1310 / 1550	-15	-5	-30	-3	-	15
SM/SF[1]	20km	-	9311-1-ypt	-	1550 / 1310	-15	-5	-30	-3	-	15
SM/SF[1]	40km	-	9310-2-ypt	-	1310 / 1550	-8	0	-30	-3	3	22
SM/SF[1]	40km	-	9311-2-ypt	-	1550 / 1310	-8	0	-30	-3	3	22
SFP (x1)	-	-	-	9319-0-ypt	-	-	-	-	-	-	-
SFP (x2)	-	-	-	9319-1-ypt	-	-	-	-	-	-	-

[1] 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: 93xx-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

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 Derating Total Available Wattage to RJ-45 Ports							
Model	RJ-45 Ports	Watts Required	40°C	50°C	60°C	70°C	75°C
FPoE/S	1	15 watts	Full Power	Full Power	Full Power	Full Power	Full Power
	2	30 watts	Full Power	Full Power	Full Power	Full Power	Full Power

The AC/DC Adapter Temperature derating 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

ORDERING INFORMATION

OmniConverter FPoE+/S IEEE 802.3at 30W Models											
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	5km	9320-0-ypt	9322-0-ypt	-	1310 / 1310	-24	-14	-31	-14	-	7
SM/DF	30km	9321-1-ypt	9323-1-ypt	-	1310 / 1310	-15	-8	-31	-8	-	16
SM/DF	60km	9321-2-ypt	9323-2-ypt	-	1310 / 1310	-5	0	-31	-3	3	26
SM/DF	120km	-	9323-3-ypt	-	1550 / 1550	-5	0	-31	-3	3	26
MM/SF[1]	5km	-	9330-0-ypt	-	1310 / 1550	-8	0	-28	0	-	20
MM/SF[1]	5km	-	9331-0-ypt	-	1550 / 1310	-8	0	-28	0	-	20
SM/SF[1]	20km	-	9330-1-ypt	-	1310 / 1550	-15	-5	-30	-3	-	15
SM/SF[1]	20km	-	9331-1-ypt	-	1550 / 1310	-15	-5	-30	-3	-	15
SM/SF[1]	40km	-	9330-2-ypt	-	1310 / 1550	-8	0	-30	-3	3	22
SM/SF[1]	40km	-	9331-2-ypt	-	1550 / 1310	-8	0	-30	-3	3	22
SFP (x1)	-	-	-	9339-0-ypt	-	-	-	-	-	-	-
SFP (x2)	-	-	-	9339-1-ypt	-	-	-	-	-	-	-

[1] 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: 93xx-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 Derating table below when ordering two port RJ-45 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 Derating Total Available Wattage to RJ-45 Ports							
Model	RJ-45 Ports	Watts Required	40°C	50°C	60°C	70°C	75°C
FPoE+/S	1	30 watts	Full Power	Full Power	Full Power	Full Power	Full Power
	2	60 watts	Full Power	Full Power	Full Power	Full Power	50 watts

The AC/DC Adapter Temperature derating 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

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