

OmniConverter® 10GPoE+/S and 10GPoEBT/S Multi-Gigabit/Multi-Rate 10M, 100M, 1G, 2.5G, 5G, 10G PoE Media Converters

The OmniConverter 10GPoE+/S and 10GPoEBT/S are unmanaged 10G Ethernet media converters featuring one 1/10G SFP/SFP+ uplink port and one or two multi-gigabit/multi-rate RJ-45 Power-over-Ethernet user ports. They support PoE, PoE+ and PoE++ up to 100 watts depending on the model.

The RJ-45 user ports support multi-gigabit/multi-rate speeds of 10Mbps, 100Mbps, 1Gbps, 2.5Gbps, 5Gbps and 10Gbps, supporting frame sizes up to 10,240 bytes.

The 10GPoE+/S supports IEEE 802.3at (15 and 30W) and the 10GPoEBT/S supports IEEE 802.3bt (60 and 100W) per user port depending on the model.

The two RJ-45 port models support Directed Switch mode, which directs multicast traffic (such as video) only to the appropriate uplink port, preventing the multicast video traffic from flooding other network ports.

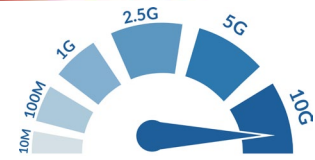
The modules support a PoE power reset function that enables the attached PD device, such as a camera or access point, to be re-initialized remotely, eliminating the need for costly truck rolls to remote PD sites. When a problem with a PD is detected, the fiber port on the module can be disconnected, triggering the PoE power reset function.

The media converters feature a Small Form Pluggable (SFP) transceiver receptacle port supporting a variety of copper and fiber transceivers. It supports 10/100/1000BASE-T, 1000BASE-T, 100M/1G/2.5G/5G/10GBASE-T multi-gigabit copper transceivers and 1G and 10G multimode or single-mode fiber, dual or single-fiber transceivers in standard, CWDM and DWDM wavelengths.

The media converters are well suited for the power and bandwidth demands imposed by IP cameras, access points and small cell devices on the market today. They automatically negotiate and deliver the power level required by a Powered Device (PD) partner, delivering up to 100 watts of power per port.

OmniConverter 10G media converters provide high-speed network distance extension with fiber optic cabling, and function as PoE injectors.

The modules can be tabletop mounted, wall mounted, or DIN-rail mounted using an optional DIN-rail mounting clip (8251-0). 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 240VAC power adapter.



KEY FEATURES

- Unmanaged 10G multi-gigabit/multi-rate PoE media converters
- Models support IEEE 802.3af, IEEE 802.3at and IEEE 802.3bt (60W and 100W)
- Directed Switch mode prevents flooding of multicast video traffic
- Configurable PoE power reset
- One 1/10G SFP/SFP+ standard/CWDM/DWDM transceiver uplink port
- Uplink port supports copper and fiber SFP/SFP+ transceivers
- RJ-45 multi-gigabit/multi-rate ports support speeds of 10Mbps, 100Mbps, 1Gbps, 2.5Gbps, 5Gbps and 10Gbps
- Multiple port configurations:
 - 2 Port Device: 1 SFP/SFP+ + 1 RJ-45
 - 3 Port Device: 1 SFP/SFP+ + 2 RJ-45
- AC to DC Power Adapter or 2-Pin DC terminal
- Wall, Rack and DIN-rail mountable
- Commercial (0° to 50°C) and wide (-40° to 60°C) operating temperature ranges
- TAA, BAA and NDAA, and Made in the USA
- Lifetime warranty and free 24/7/365 Technical Support

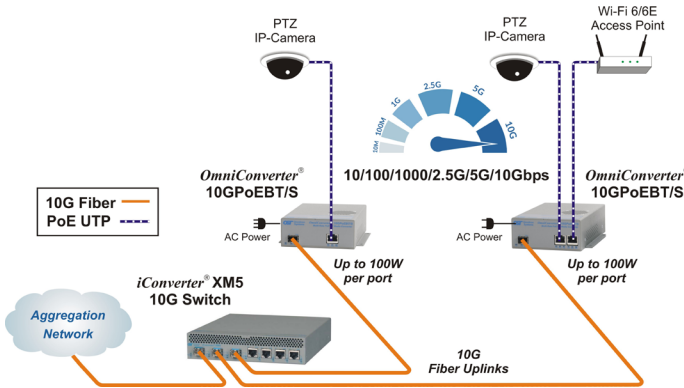
APPLICATIONS

Security and Wireless

In this application example, outdoor IP surveillance cameras and Wi-Fi 6/6E Access Points are installed throughout a large facility. An iConverter® XM5 aggregation fiber switch is used to distribute a fiber link from a control room to OmniConverter media converters with fiber ports.

The OmniConverter media converters provide up to 30W of Power-over-Ethernet (PoE) 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.

The camera and access point have full bandwidth capability utilizing the 10G fiber uplink port on each 10GPoE+/S media converter.

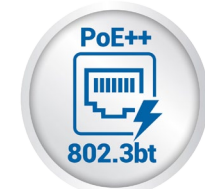
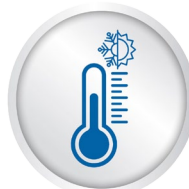
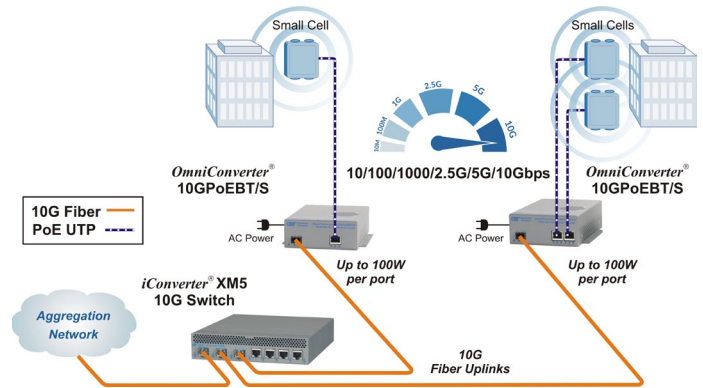


Small Cell

Small cell devices are increasing their demand on both power and bandwidth requirements. Speeds of 10Gbps and power of 100W is not uncommon with today's small cell devices.

In this application example, high-speed small cell devices requiring up to 10Gbps bandwidth are deployed inside several buildings. An iConverter® XM5 aggregation fiber switch is used to distribute a fiber link to each OmniConverter media converter.

The OmniConverter 10GPoEBT/S media converters provide up to 100 watts and speeds up to 10Gbps on the RJ-45 user ports.



| Power / Voltage Requirements and Specifications per IEEE | | | | |
|---|------------------|-------------------|-------------------------------|--------------------------------|
| Description | IEEE 802.3af PoE | IEEE 802.3at PoE+ | IEEE 802.3bt PoE (60W Type 3) | IEEE 802.3bt PoE (100W Type 4) |
| Power Supply Voltage Range | 46.0 to 57.0 VDC | 51.0 to 57.0 VDC | 51.0 to 57.0 VDC | 53.0 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 | 52.0 to 56.0 VDC |
| Maximum Power from PoE/PSE port | 15.4 watts | 30 watts | 60 watts | 100 watts |
| Minimum Voltage at PoE/PD port input (at 100 meters using Cat5 Cable) | 37.0 VDC | 42.5 VDC | 42.5 VDC | 41.1 VDC |
| Minimum Power at PoE/PD port (at 100 meters using Cat5 Cable) | 12.95 watts | 25.5 watts | 51 watts | 71 watts |

SPECIFICATIONS

| | | | |
|--|---|---|---|
| Description | OmniConverter 10GPoE+/S Multi-gigabit/multi-rate copper to 1/10G SFP Media Converter with IEEE 802.3at PoE+ | OmniConverter 10GPoEBT/S Multi-gigabit/multi-rate copper to 1/10G SFP Media Converter with IEEE 802.3bt PoE 60W or 100W | |
| Standard Compliances | IEEE 802.3, 802.3bz, IEEE 802.3af (15.4 watts max) IEEE 802.3at (30 watts max) | IEEE 802.3, 802.3bz, IEEE 802.3af (15.4 watts max), IEEE 802.3at (30 watts max) IEEE 802.3bt (60 watts or 100 watts max) | |
| PoE Supported Modes | IEEE Alternate A (Alt A) and 4 Pair | | |
| Regulatory Compliances *Pending | <p>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, UKCA</p> <p>EMC: EN 55032/24 CE Emissions/Immunity, UKCA</p> <p>EMI: CISPR 32, FCC 47 Part 15 Subpart B Class A</p> <p>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: 2 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 Vrms, IEC 61000-4-8 (Magnetic Field) 30 A/m, IEC 61000-4-11 (Voltage Dips, interrupts)</p> <p>IP Rating: IP20 Protection</p> <p>ACT: TAA, BAA, NDAA</p> | | |
| Environmental | RoHS, WEEE, REACH | | |
| Frame Size | Up to 10,240 bytes | | |
| Port Types | <p>Copper: 10/100/1000BASE-T, 2.5GBASE-T/5GBASE-T/10GBASE-T (RJ-45)</p> <p>SFP/SFP+: 10GBASE-X Fiber Transceivers, 10GBASE-T Copper Transceivers 1000BASE-X Fiber Transceivers, 1000BASE-T Copper Transceivers 10/100/1000BASE-T SGMII Copper Transceivers 10/100/1000/2.5G/5G/10GBASE-T Multi-rate Copper Transceivers</p> | | |
| Cable Types | <p>Copper: Twisted-pair cable up to 100 meters</p> <p>10BASE-T: 4-pair UTP Cat 3, 4, 5, 5e, 6, 6A</p> <p>100BASE-TX: 4-pair UTP Cat 5, 5e, 6, 6A</p> <p>1G/2.5G: 4-pair UTP Cat 5e, 6, 6A, 7</p> <p>5G: 4-pair UTP Cat 6, 6A, 7</p> <p>10G: 4-pair UTP Cat 6A, 7</p> <p>Fiber: Multimode: 50/125, 62.5/125µm Single-mode: 9/125µm</p> | | |
| AC Power Requirements (Models with AC/DC Adapter) | 1 RJ-45 Port 100 - 240VAC/50 - 60Hz 0.40A @ 120VAC (typical) 2.1 mm Barrel Connector | 60W Model - 1 RJ-45 Port 100 - 240VAC/50 - 60Hz 0.69A @ 120VAC (typical) 2.1 mm Barrel Connector | 100W Model - 1 RJ-45 Port 100 - 240VAC/50 - 60Hz 1.08A @ 120VAC (typical) DIN-6 Connector |
| | 2 RJ-45 Ports 100 - 240VAC/50 - 60Hz 0.72A @ 120VAC (typical) 2.1 mm Barrel Connector | 60W Model - 2 RJ-45 Ports 100 - 240VAC/50 - 60Hz 1.30A @ 120VAC (typical) DIN-6 Connector | 100W Model - 2 RJ-45 Ports 100 - 240VAC/50 - 60Hz 2.08A @ 120VAC (typical) DIN-6 Connector |
| DC Power Requirements (Models with DC Terminal) | 1 RJ-45 Port +46 to +57VDC; 0.74A @ 56VDC 2 Pin Terminal | 60W Model - 1 RJ-45 Port +46 to +57VDC; 1.28A @ 56VDC 2 Pin Terminal | 100W Model - 1 RJ-45 Port +46 to +57VDC; 2.00A @ 56VDC 2 Pin Terminal |
| | 2 RJ-45 Ports +46 to +57VDC; 1.34A @ 56VDC 2 Pin Terminal | 60W Model - 2 RJ-45 Ports +46 to +57VDC; 2.43A @ 56VDC 2 Pin Terminal | 100W Model - 2 RJ-45 Ports +46 to +57VDC; 3.87A @ 56VDC 2 Pin Terminal |
| Dimensions (W x D x H) | 4.8" x 6.0" x 1.75" (121.92 mm x 152.4 mm x 44.45 mm) | | |
| Weight | Module Only: 1.1 lbs. (499 grams) w/ Adapter: 3.2 lbs. (1452 grams) | Module Only: 1.1 lbs. (499 grams) w/ Adapter: 3.2 lbs. (1452 grams) | Module Only: 1.1 lbs. (499 grams) w/ Adapter: 3.7 lbs. (1678 grams) |
| Operating Temperature | <p>Commercial: 0 to 50°C</p> <p>Wide: -40 to 60°C (-20°C AC cold start)</p> <p>Storage: -40 to 80°C</p> | | |
| Humidity | 5 to 95% (non-condensing) | | |
| Altitude | -100m to 4,000m | | |
| MTBF (hours) | Module Only: 265,000 AC/DC Adapter: 100,000 | Module Only: 263,000 AC/DC Adapter: 100,000 | |
| Warranty | Lifetime warranty with registration and 24/7/365 free Technical Support | | |

ORDERING INFORMATION

| OmniConverter 10GPoE+/S Models | |
|--|--|
| Model Number | Description |
| 9191-0-11-pt | OmniConverter 10GPoE+/S 1 x SFP/SFP+ uplink port and 1 x RJ-45 IEEE 802.3at user ports |
| 9191-0-12-pt | OmniConverter 10GPoE+/S 1 x SFP/SFP+ uplink port and 2 x RJ-45 IEEE 802.3at user 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) |
| 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 |
| 10GPoE+/S | 1 | 30 watts | Full Power | Full Power | Full Power |
| | 2 | 60 watts | Full Power | Full Power | Full Power |

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.

| OmniConverter 10GPoEBT/S Models | |
|--|--|
| Model Number | Description |
| 9192B-0-11-pt | OmniConverter 10GPoEBT/S 1 x SFP/SFP+ uplink port and 1 x RJ-45 IEEE 802.3bt 60W user ports |
| 9192B-0-12-pt | OmniConverter 10GPoEBT/S 1 x SFP/SFP+ uplink port and 2 x RJ-45 IEEE 802.3bt 60W user ports |
| 9194B-0-11-pt | OmniConverter 10GPoEBT/S 1 x SFP/SFP+ uplink port and 1 x RJ-45 IEEE 802.3bt 100W user ports |
| 9194B-0-12-pt | OmniConverter 10GPoEBT/S 1 x SFP/SFP+ uplink port and 2 x RJ-45 IEEE 802.3bt 100W user 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) |
| 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 |
| 10GPoEBT/S 60 watts | 1 | 60 watts | Full Power | Full Power | Full Power |
| | 2 | 120 watts | Full Power | Full Power | 115 watts |
| 10GPoEBT/S 100 watts | 1 | 100 watts | Full Power | Full Power | Full Power |
| | 2 | 200 watts | Full Power | 178 watts | 115 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.

For non-PoE applications, see the [OmniConverter 10G/S Multi-Gigabit/Multi-Rate 10M, 100M, 1G, 2.5G, 5G, 10G Media Converters](#).

| Accessories | | | |
|--------------|------------------------|--------------|---|
| Model Number | Description | Model Number | Description |
| 8251-0 | DIN-Rail Mounting Clip | 8260-0 | 19" rack mount shelf (up to 2 switches) |

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