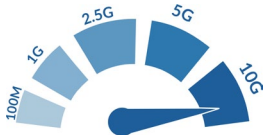
# OmniConverter®

POWER OVER ETHERNET

## *OmniConverter*® 10GMGPoE+/Sx and 10GMGPoEBT/Sx

**Unmanaged Multi-Gigabit/Multi-Rate 100M, 1G, 2.5G, 5G, 10G PoE Ethernet Switch**




The OmniConverter 10GMGPoE+/Sx and 10GMGPoEBT/Sx are unmanaged multi-gigabit Ethernet switches featuring one 1/10G SFP/SFP+ or multi-gigabit/multi-rate RJ-45 uplink port and two multi-gigabit/multi-rate RJ-45 and two 10/100/1000 RJ-45 Power-over-Ethernet user ports. They support PoE, PoE+ and PoEBT up to 100 watts depending on the model.

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

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

All models support Directed Switch mode, which directs multicast traffic (such as video) only to the appropriate uplink port, preventing multicast 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 OmniConverter switches 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 OmniConverter PoE switches are well suited for the power and bandwidth demands imposed by IP cameras, access points and small cell devices on the market today. OmniConverter 10G switches provide high-speed network distance extension with fiber optic cabling, and function as PoE injectors.

The switches 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 connector or an external 100 to 240VAC power adapter.


SFPs not included

## KEY FEATURES

- Unmanaged 10G multi-gigabit/multi-rate PoE Ethernet Switch
- 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 SFP/SFP+ transceiver uplink port or multi-gigabit/multi-rate copper port
- 1/10G SFP/SFP+ standard/CWDM/DWDM fiber transceiver uplink port
- Uplink port supports copper and fiber SFP/SFP+ transceivers
- Multi-gigabit/multi-rate ports supports speeds of 100Mbps, 1Gbps, 2.5Gbps, 5Gbps and 10Gbps
- Two multi-gigabit/multi-rate RJ-45 PoE and two 10/100/1000 RJ-45 PoE user ports
- AC to DC Power Adapter or 2-Pin DC terminal
- Wall, Rack and DIN-rail mountable
- Commercial (0º to 50ºC), wide (-40º to 60ºC) and extended (-40º to 75ºC) operating temperature ranges
- TAA, BAA and NDAA compliant, and Made in the USA
- Free 24/7/365 Technical Support

# APPLICATIONS

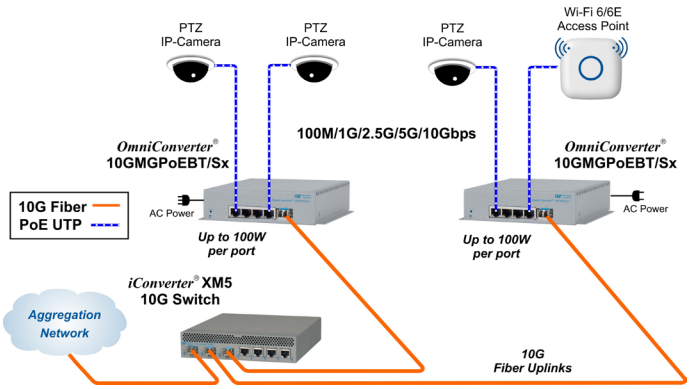
### Security and Wireless

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 switches with fiber SFP ports.

The OmniConverter 10GMGPoEBT/Sx provide up to 100W 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 switches.

When less power is required the OmniConverter 10GMGPoE+/Sx can be used to deliver 30 watt of power per port.

The camera and access point have full bandwidth capability utilizing the 10G fiber uplink port on each 10GMGPoEBT/Sx switch.

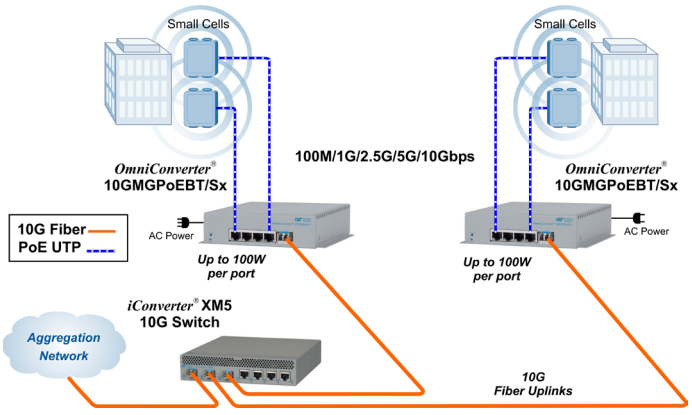


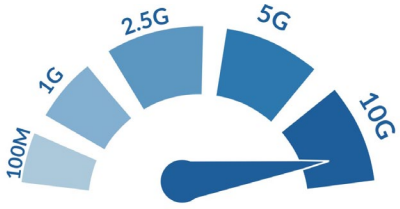

### Small Cell

Small cell devices are increasing their demand on both power and bandwidth requirements. Speeds of 10Gbps and 100W is common 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 switch.

The OmniConverter 10GMGPoEBT/Sx switches provide up to 100 watts and speeds up to 10Gbps on the RJ-45 user ports.




**100M/1G/2.5G/5G/10Gbps**

### Power / Voltage Requirements and Specifications per IEEE

| Description | IEEE 802.3af 15W PoE | IEEE 802.3at 30W PoE+ | IEEE 802.3.bt 60W PoE (Type 3) | IEEE 802.3bt 100W PoE (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* | 37.0 VDC | 42.5 VDC | 42.5 VDC | 41.1 VDC |
| Minimum Power at PoE/PD port* | 12.95 watts | 25.5 watts | 51 watts | 71 watts |
| * at 100 meters using Cat5 | | | | |

# SPECIFICATIONS

| | | |
|---|---|---|
| **Description** | **OmniConverter® 10GMGPoE+/Sx**<br>Unmanaged IEEE 802.3at 10Gigabit Multi-Gigabit/Multi-Rate Ethernet Switch | **OmniConverter® 10GMGPoEBT/Sx**<br>Unmanaged IEEE 802.3bt 10Gigabit Multi-Gigabit/Multi-Rate Ethernet Switch |
| **Standard Compliances** | IEEE 802.3, 802.3bz,<br>IEEE 802.3af (15.4 watts max)<br>IEEE 802.3at (30 watts max) | IEEE 802.3, 802.3bz,<br>IEEE 802.3af (15.4 watts max), IEEE 802.3at (30 watts max)<br>IEEE 802.3bt (60 watts or 100 watts max) |
| **Regulatory Compliances (Pending)** | Safety: UL 62368-1, UL 60950-1,<br>IEC 62368-1, IEC 60950-1,<br>EN 62368-1, EN 60950-1,<br>CAN/CSA C22.2 No. 62368-1-14, CAN/CSA C22.2 No. 60950-1,<br>CE Mark, UKCA<br>EMC: EN 55032/24 CE Emissions/Immunity,<br>IEC 61000-6-4 Industrial Emissions, IEC 61000-6-2 Industrial Immunity<br>EMI: CISPR 32,<br>FCC 47 Part 15 Subpart B Class A<br>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,<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV (DC models),<br>IEC 61000-4-4 EFT: Power: 1 kV; Signal: 1 kV (AC models),<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV (DC models),<br>IEC 61000-4-5 Surge: Power: 1 kV Line/Line; 2 kV Line/Gnd; Signal: 2 kV (AC models),<br>IEC 61000-4-6 CS: Signal: 10 V, IEC 61000-4-8 (Magnetic Field) 30A/m, IEC 61000-4-11 (Voltage Dips, interrupts)<br>IP Rating: IP20 Protection<br>ACT: TAA, BAA, NDAA | |
| **Environmental** | REACH, RoHS and WEEE | |
| **PoE Modes** | IEEE Alternate A (Alt A) | |
| **Frame Size** | Up to 10,240 bytes | |
| **Port Types** | Copper: 100/1000BASE-T, 2.5GBASE-T/5GBASE-T/10GBASE-T (RJ-45)<br>10/100/1000BASE-T (RJ-45)<br>SFP/SFP+: 10GBASE-X Fiber Transceivers, 10GBASE-T Copper Transceivers<br>1000BASE-X Fiber Transceivers, 1000BASE-T Copper Transceivers<br>10/100/1000BASE-T SGMII Copper Transceivers<br>100/1000/2.5G/5G/10GBASE-T Multi-rate Copper Transceivers | |
| **Cable Types** | Copper: Twisted-pair cable up to 100 meters<br>10BASE-T: 4-pair UTP Cat 3, 4, 5, 5e, 6, 6A<br>100BASE-TX: 4-pair UTP Cat 5, 5e, 6, 6A<br>1G/2.5G: 4-pair UTP Cat 5e, 6, 6A, 7<br>5G: 4-pair UTP Cat 6, 6A, 7<br>10G: 4-pair UTP Cat 6A, 7<br>Fiber: Multimode: 50/125, 62.5/125µm<br>Single-mode: 9/125µm | |
| **AC Power Requirements (Models with AC/DC Adapters)** | 100 - 240VAC/50 - 60Hz<br>3.5A max at 115VAC<br>2.5A max at 230VAC<br>Supplied adapter provides 250W | 100 - 240VAC/50 - 60Hz<br>3.5A max at 115VAC<br>2.5A max at 230VAC<br>Supplied adapter provides 250W |
| **DC Power Requirements (Models with DC Terminals)** | +46 to +57VDC;<br>2.34A @ 56VDC<br>2 Pin Terminal (isolated) | 60 watt Models:<br>+46 to +57VDC;<br>4.49A @ 56VDC<br>2 Pin Terminal (isolated)<br>100 watt Models:<br>+46 to +57VDC;<br>7.38A @ 56VDC<br>2 Pin Terminal (isolated) |
| **Dimensions (W x D x H)** | 6.28" x 5.2" x 1.5" (159.5 mm x 132.1 mm x 38.1 mm) | |
| **Weight** | Module Only: 1.5 lbs. (680 grams)<br>Module with AC/DC Adapter: 3.6 lbs. (1.63 kg) | Module Only: 1.6 lbs. (726 grams)<br>Module with AC/DC Adapter: 3.7 lbs. (1.68 kg) |
| **Operating Temperature (See Temperature Derating Table)** | Commercial: 0 to 50°C<br>Wide: -40 to 60°C (-20°C AC cold start)<br>Extended: -40 to 75°C - not available for models with AC/DC power adapter<br>Storage: -40 to 80°C | |
| **Humidity** | 5 to 95% (non-condensing) | |
| **Altitude** | -100m to 4,000m (operational) | |
| **MTBF (hours)** | Module Only: 247,000<br>AC/DC Adapter: 100,000 | |
| **Warranty** | 5 year product warranty with 24/7/365 free Technical Support and 2 year AC power adapter warranty | |

# ORDERING INFORMATION

### Step 1: Choose the Base Part Number (xxxx-x-xx-pt)

| OmniConverter 10GMGPoE+/Sx Models | |
|---|---|
| **Model Number** | **Description** |
| 9651-0-14-pt | 10GMGPoE+/Sx - 1 x SFP+ + 2 x 100/1G/2.5G/5G/10G RJ-45 30W per port + 2 x 10/100/1000 RJ-45 30W per port, |
| 9651-1-14-pt | 10GMGPoE+/Sx - 1 x 100/1G/2.5G/5G/10G RJ-45 + 2 x 100/1G/2.5G/5G/10G RJ-45 30W per port + 2 x 10/100/1000 RJ-45 30W per port |
| Contact Omnitron for other fiber options. Order the appropriate SFPs separately. Visit the Omnitron Optical Transceivers web page. | |

### Step 2: Choose the Power Option (xxxx-x-xx-pt)

| |
|---|
| **1** = External AC/DC Adapter, 100 - 240 VAC included, with US Power Cord |
| **2** = External AC/DC Adapter, 100 - 240 VAC included, No Power Cord |
| **8** = External AC/DC Adapter, 100 - 240 VAC included, PS JET/PSE Certified, with Japanese Power Cord |
| **9** = Direct DC 2 pin terminal connector, no AC/DC power adapter |

### Step 3: Choose the Operating Temperature Range Option (xxxx-x-xx-pt)

| |
|---|
| **<leave blank>** = Commercial temperature (0 to 50°C) |
| **W** = Wide temperature (-40 to 60°C) |
| **Z** = Extended temperature (-40 to 75°C) **- not available for models with AC/DC power adapter** |

| AC/DC Adapter Temperature Derating - Total Available Wattage to RJ-45 Ports | | | | |
|---|---|---|---|---|
| Model | Watts Required | Watts Available @ 40°C | Watts Available @ 50°C | Watts Available @ 60°C |
| 10GMGPoE+/Sx | 120 watts | Full Power | Full Power | 110 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 tables. | | | | |

# ACCESSORIES

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

# ORDERING INFORMATION

### Step 1: Choose the Base Part Number (xxxx-x-xx-pt)

| OmniConverter 10GMGPoEBT/Sx Models | |
|---|---|
| **Model Number** | **Description** |
| 9652-0-14-pt | 10GMGPoEBT/Sx 60W - 1 x SFP+ + 2 x 100/1G/2.5G/5G/10G RJ-45 60W per port + 2 x 10/100/1000 RJ-45 60W per port, |
| 9652-1-14-pt | 10GMGPoEBT/Sx 60W - 1 x 100/1G/2.5G/5G/10G RJ-45 + 2 x 100/1G/2.5G/5G/10G RJ-45 60W per port + 2 x 10/100/1000 RJ-45 60W per port |
| 9653-0-14-pt | 10GMGPoEBT/Sx 100W - 1 x SFP+ + 2 x 100/1G/2.5G/5G/10G RJ-45 100W per port + 2 x 10/100/1000 RJ-45 100W per port, |
| 9653-1-14-pt | 10GMGPoEBT/Sx 100W - 1 x 100/1G/2.5G/5G/10G RJ-45 + 2 x 100/1G/2.5G/5G/10G RJ-45 100W per port + 2 x 10/100/1000 RJ-45 100W per port |
| Contact Omnitron for other fiber options. Order the appropriate SFPs separately. Visit the Omnitron Optical Transceivers web page. | |

### Step 2: Choose the Power Option (xxxx-x-xx-pt)

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|---|
| **1** = External AC/DC Adapter, 100 - 240 VAC included, with US Power Cord |
| **2** = External AC/DC Adapter, 100 - 240 VAC included, No Power Cord |
| **8** = External AC/DC Adapter, 100 - 240 VAC included, PS JET/PSE Certified, with Japanese Power Cord |
| **9** = Direct DC 2 pin terminal connector, no AC/DC power adapter |

### Step 3: Choose the Operating Temperature Range Option (xxxx-x-xx-pt)

| |
|---|
| **<leave blank>** = Commercial temperature (0 to 50°C) |
| **W** = Wide temperature (-40 to 60°C) |
| **Z** = Extended temperature (-40 to 75°C) **- not available for models with AC/DC power adapter** |

| AC/DC Adapter Temperature Derating - Total Available Wattage to RJ-45 Ports | | | | |
|---|---|---|---|---|
| Model | Watts Required | Watts Available @ 40°C | Watts Available @ 50°C | Watts Available @ 60°C |
| 10GMGPoEBT/Sx 60W | 240 watts | 235 watts | 170 watts | 110 watts |
| 10GMGPoEBT/Sx 100W | 400 watts | 235 watts | 170 watts | 110 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 tables. | | | | |

# ACCESSORIES

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