

# S-1110HP-SFP Hi-PoE Media Converters

## IEEE 802.3bt Compliant PoE & Fiber Media Conversion



- 10/100/1000Base-T to 100/1000Base-X Fiber
- 1 or 2 empty slots for **Cisco** and other **industry standard SFPs**
- Supplies IEEE 802.3bt Hi-PoE PSE (up to 100W) power
- Compatible with IEEE 802.3af PoE and IEEE 802.3at PoE+ PoE devices
- Dual or Single 10/100/1000Base-T PoE ports
- Advanced features: PD Reset, Fiber redundancy, Smart Link Pass-Through, Fiber Fault Alert, Auto-MDIX and Loopback

Perle S-1110HP-SFP Fiber Media Converters transparently connect copper to fiber while providing up to 100 Watts of IEEE 802.3bt compliant Hi-PoE PSE power to standards-based compliant devices such as pan-tilt-zoom (PTZ) security cameras with heaters, LED lighting in building management, and 802.11ax/ac wireless access points.

Perle Hi-PoE Media Converters are classified as Power Sourcing Equipment (PSE). While using standard UTP cables that carry Ethernet data, Perle Hi-PoE media converters provide power to Powered Devices (PDs) that support the IEEE 802.3bt PoE standard (up to 100W of power) or pre-standard solutions including UPoE, 4PPoE, PoE++, UltraPoE, 4 Pair PoE, etc. As this standard is fully backwards compatible with the existing IEEE 802.3af PoE and IEEE 802.3at PoE+ standards, all of those PD's are also supported. The S-1110HP-SFP Fiber Media Converter features single or dual 10/100/1000Base-T RJ45 ports to power one or two PD's per converter. **Learn more about PoE**

And, with one or two empty transceiver ports on the S-1110HP-SFP Fiber Media Converter, flexible network configurations requirements can be met using a variety of **transceivers supplied by Perle, Cisco**, or other manufacturers of MSA compliant SFPs.

- extend the life of non-fiber based equipment by enabling data transmission from 10/100/1000Base-T devices over 100/1000Base-X fiber
- extend the distance of an existing network by linking CAT5/6/7 cabling to multimode or single mode fiber
- protect Ethernet data from EMI noise and interference by inter-connecting your copper-Ethernet devices over fiber.

Network Administrators can "see-everything" with Perle's advanced features such as Auto-Negotiation, Auto-MDIX, Link Pass-Through, Fiber Fault Alert, and Loopback. This allows for more efficient troubleshooting and less on-site maintenance. These cost and time saving features, along with a lifetime warranty and free worldwide technical support, make Perle S-1110HP-SFP PoE Media Converters the smart choice for IT professionals.

**S-1110HP-SFP-XT PoE Media Converters** are also available with support for -40C to +75C (-40F to +167F) extended operating temperature ranges

# S-1110HP-SFP Hi-PoE Media Converter Features

## Power Over Ethernet (PSE)

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- Fully Compliant with IEEE 802.3bt Type 3 and 4 PSE
  - Performs the Power Sourcing Equipment (PSE) function on 1 or 2 UTP ports for IEEE 802.3bt compliant devices.
  - All models support Type 1 (PoE), Type 2 (PoE+), Type 3 (Hi-PoE) and Type 4 (Hi-PoE) PD gear
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## Advanced Power Management

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- Enable/Disable PSE power by UTP port
  - Single or Dual PD signature detection
  - Over-Current Protection
  - PD power classification detection (Class 0)
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## PD Power Reset

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Ideal for remotely resetting equipment, this configurable function performs a momentary power reset to the attached Powered Device (PD). When enabled, the media converter will, upon loss of fiber RX, turn off PSE output power supplied to the PD device for 2 seconds then turn the power back on and leave it on until such time that another fiber RX link is lost (after it was re-established). When disabled, a loss of fiber RX has no effect on PSE power to the PD device(s).

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## Powered Device Support

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- Type: 1, 2, 3, and 4 PDs
  - Class: 1, 2, 3, 4, 5, 6, 7, 8 PDs
  - Supports both Single-Signature and Dual-Signature PD connections
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## Multiport Configurations

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- 2 port: 1x 10/100/1000Base-T and 1x SFP fiber slot
  - 3 port: 1x 10/100/1000Base-T and 2x SFP fiber slots
  - 4 port: 2x 10/100/1000Base-T and 2x SFP fiber slots
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## Fiber Redundancy

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When enabled on dual fiber models, the media converter treats Fiber 1 as the primary and if the link fails, the fiber link is switched over to fiber 2 within 50ms.

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## Redundant Primary Fiber

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If the “Fiber Redundancy” feature is also enabled, the primary fiber 1 link is continuously monitored and if it is restored for at least 6 seconds, the link will be switched back from the secondary fiber 2 port to the primary fiber 1 port.

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## Power Strain Relief strap

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Included with all models, a strain relief strap is provided to ensure a solid and secure power connection to the media converter. Ideal for areas that may be exposed to vibration.

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## SFP Speed Sensing

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Automatically detects whether a **Gigabit or Fast Ethernet fiber SFP** has been inserted and adjusts accordingly.

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## Auto-Negotiation (802.3u)

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The media converter supports auto negotiation. The 1000Base-X fiber interface negotiates according to 802.3 clause 37. The 10/100/1000Base-T negotiates according to 802.3 clause 28 and 40. The 1000Base-X will link up with its partner after the highest common denominator (HCD) is reached and the copper has linked up with its partner. The 1000Base-X will continue to cycle through negotiation transmitting a remote fault of offline (provided this is enabled through the switch setting) until the copper is linked up and the HCDs match.

The media converter supports auto-negotiation of full duplex, half duplex, remote fault, full duplex pause, asymmetric pause and Auto MDI-X.

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## Auto-MDIX

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Auto-MDIX (automatic medium-dependant interface crossover) detects the signaling on the copper Ethernet interface to determine the type of cable connected (straight-through or crossover) and automatically configures the connection when enabled. The media converter can also correct for wires swapped within a pair.

The media converter will adjust for up to 120ns of delay skew between the 1000Base-T pairs.

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## Smart Link Pass-Through

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When the Link Mode switch is placed into Smart Link Pass-Through mode, the copper Ethernet port will reflect the state of the 1000Base-X media converter port. This feature can be used whether fiber auto-negotiation is enabled or disabled.

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## Fiber Fault Alert

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With Fiber Fault Alert the state of the 1000Base-X receiver is passed to the 1000Base-X transmitter. This provides fault notification to the partner device attached to the 1000Base-X interface of the media converter. If the 1000Base-X transmitter is off as a result of this fault it will be turned on periodically to allow the condition to clear should the partner device on the 1000Base-X be using a similar technique. This eliminates the possibility of lockouts that occur with some media converters. Applies only when fiber auto-negotiation is disabled.

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## Pause (IEEE 802.3xy)

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Pause signaling is an IEEE feature that temporarily suspends data transmission between two devices in the event that one of the devices becomes overwhelmed. The media converter supports pause negotiation on the 10/100/1000Base-T connection and 1000Base-X fiber connection.

- With Autoneg on the device will advertise sym and asymmetric pause
  - With Autoneg off – Pause receive and send will be disabled
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## Duplex

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Full and half duplex operation supported.

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## Jumbo Packets

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Transparent to jumbo packets up to 10KB.

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## VLAN

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Transparent to VLAN tagged packets.

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## Remote Loopback

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Capable of performing a loopback on the 1000Base-X fiber interface.

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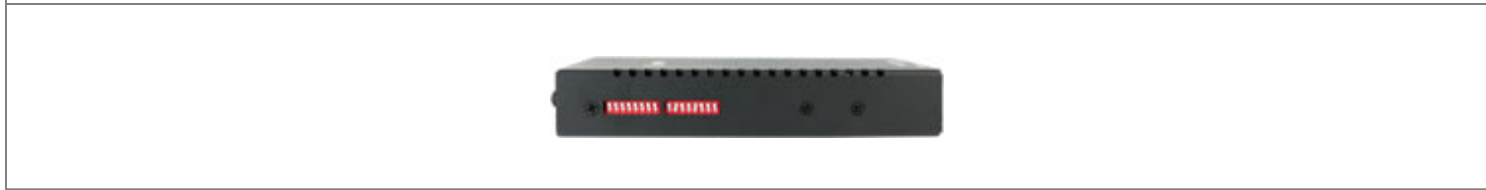
Not what you are looking for? View all Perle **Media Converters**.  
Need help? **Contact Perle**.

Specifications	
<b>Lifetime limited warranty</b>	<b>Reach, RoHS and WEEE Compliant</b> <b>HTSUS Number:</b> 8517.62.0020 <b>UNSPSC Code:</b> 43201553 <b>ECCN:</b> 5A991
<div style="display: flex; justify-content: space-around; align-items: center;">   </div>	
Power	
Input Supply Voltage	52 - 57 vDC
Power Consumption	<ul style="list-style-type: none"> <li>• 1 x 10/100/1000Base-T port models: 4 watts</li> <li>• 2 x 10/100/1000Base-T port models: 4.7 watts</li> </ul> Note: for the HP PoE SFP models the numbers above don't include the SFP power consumptions
Power Over Ethernet (PSE)	up to 100 watts per port
Power Connector	4 pin DIN connector 
Power Adapter	
Universal AC/DC adapter	<ul style="list-style-type: none"> <li>• 1 x 10/100/1000Base-T port models: 100-240v AC, regulated AC, 56VDC/120W, 4Pin DIN connector (adapter included)</li> <li>• 2 x 10/100/1000Base-T port models: 100-240v AC, regulated AC, 56VDC/200W, 4Pin DIN connector (adapter included)</li> </ul>

Indicators	
Power (PWR)	This green LED is turned on when power is applied to the media converter. Otherwise it is off. The LED will blink slowly when either fiber port is in Loopback test mode. The LED will blink quickly if there is a hardware failure where the reason code can be identified through a combination of FDF,LKF, FDC and PSE indicator LEDs
Fiber link on / Receive activity (LKF 1/2)	<ul style="list-style-type: none"> <li>• This green LED is operational only when power is applied. The LED will blink along with transmit/receive data on the fiber port.</li> <li>• If a loss of link on the copper port results in a Link Passthrough condition to the fiber port, this LED will blink at a rate of once every 2 seconds until the condition is cleared.</li> </ul>
Copper link on / Receive activity (LKC 1/2)	<ul style="list-style-type: none"> <li>• This green LED is operational only when power is applied. The LED will blink along with transmit/receive data on the 10/100/1000 UTP port</li> <li>• If a loss of link on the copper port results in a Link Passthrough condition to the fiber port, this LED will blink at a rate of once every 2 seconds until the condition is cleared.</li> </ul>
Fiber Duplex (FDF 1/2)	This green LED is operational only when power is applied. The LED is on when the 10/100/1000Base-X link is operational in full duplex mode. The LED is off when in half duplex. If the Auto-Neg switch is turned off, this LED will always be on
Copper Duplex (FDC 1/2)	This green LED is operational only when power is applied. The LED is on when the 10/100/1000Base-T link is operational in full duplex mode. The LED is off when in half duplex
100/1000	This multi-color LED is operational only when power is applied. The LED is green when the speed of the copper ethernet port is running at 1000 Mbps. The LED is yellow when the speed of the copper Ethernet port is running at 100 Mbps. The LED is off when in 10 Mbps.

<p>PSE Status (PSE 1/2)</p>	<p>This LED will signify the status of the PSE function. Using multi-color and blinking the unit will show the following status for the PSE;</p> <ul style="list-style-type: none"> <li>• GREEN — Solid: The PSE has successfully detected a compliant PD and is applying power over the UTP (for legacy pin out simply show active power when applied)</li> <li>• YELLOW — Solid: The PSE is not active. This means the PSE has been configured to provide power, but the PD is :             <ul style="list-style-type: none"> <li>◦ Not connected</li> <li>◦ Has not detected a compliant PD and is not applying power</li> <li>◦ PSE has turned off power for Reset function</li> </ul> </li> <li>• OFF — PSE function switch disabled</li> <li>• RED — Blinking: Error Conditions             <ul style="list-style-type: none"> <li>◦ Capacitance too High — 1 blink</li> <li>◦ Resistance too Low or short circuit — 2 blinks</li> <li>◦ Resistance too high or open circuit — 3 blinks</li> </ul> </li> </ul>
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Switches - accessible through a side opening in the chassis



<p>Auto-Negotiation (802.3u)</p>	<ul style="list-style-type: none"> <li>• <i>Enabled (Default)</i> - The media converter uses 802.3u Auto-negotiation on the 10/100/1000Base-T interface. It is set to advertise full duplex, half duplex, pause and remote fault capabilities.</li> <li>• <i>Disabled</i> - The media converter sets the port according to the position of the speed and duplex switches.</li> </ul>
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<p><b>Link Mode</b></p>	<p>Link Mode provides a transparency to the state of the copper link allowing for simplified trouble shooting from the devices connected to the media converter.</p> <p><i>Normal (Default — Up)</i></p> <ul style="list-style-type: none"> <li>• With Fiber Auto Negotiation enabled when the copper link goes down the 1000Base-X link is brought down. The 1000Base-X link will advertise Remote Fault (Link Fault).</li> <li>• With Fiber Auto Negotiation disabled the state of the copper link has no effect on the 1000Base-X link.</li> </ul> <p><i>Smart Link Pass Through (Down)</i></p> <ul style="list-style-type: none"> <li>• With Fiber Auto Negotiation enabled the behavior is as follows. When the copper link goes down the 1000Base-X link is brought down. The 1000Base-X link will advertise Remote Fault (Link Fault). When Remote Fault (Link Fault) is received on the 1000Base-X interface the copper transmitter will be turned off. When the copper receiver is off the 1000Base-X transmitter will be turned off. When the 1000Base-X receiver goes off the copper transmitter will be turned off.</li> <li>• With Fiber Auto-Negotiation disabled the behavior is as follows. When the copper receiver is off the 1000Base-X transmitter will be turned off. When the 1000Base-X receiver goes off the copper transmitter will be turned off.</li> </ul>
<p><b>Fiber Fault Alert</b></p>	<ul style="list-style-type: none"> <li>• The Fiber Fault Alert switch has meaning when Auto-Negotiation is disabled</li> <li>• <i>Enabled (Default - Up)</i> When the 1000Base-X receiver is off the 1000Base-X transmitter is turned off. Periodically the 1000Base-X receiver will be turned on for a short period to allow the condition to clear if the 1000Base-X link partner is using a similar feature.</li> <li>• <i>Disabled (Down)</i></li> </ul>
<p><b>Loopback</b></p>	<ul style="list-style-type: none"> <li>• The media converter can perform a loopback on the 1000Base-X fiber interface.</li> <li>• <i>Disabled (Default - Up)</i></li> <li>• <i>Enabled</i> - The 1000Base-X receiver is looped to the 1000Base-X transmitter. The copper transmitter is taken off the interface.</li> </ul>
<p><b>Speed Copper</b></p>	<ul style="list-style-type: none"> <li>• 100 (Default)</li> <li>• 10</li> </ul>

Duplex Copper	<ul style="list-style-type: none"> <li>• Full (Default)</li> <li>• Half</li> </ul>
Fiber Negotiation	<ul style="list-style-type: none"> <li>• <i>Up</i>: The Media Converter will negotiate Ethernet parameters on the fiber connection. This will ensure that the most optimal connection parameters will be in effect. If connecting to another Perle Media Converter, this parameter should be set to Auto. The Media Converter Module will advertise 1000Mbps, Full and Half Duplex, no Pause.</li> <li>• <i>Down</i>: The Media Converter Module's fiber will be fixed to 1000Mbps, Full Duplex.</li> </ul>
Auto-MDIX (Internal Strap)	<ul style="list-style-type: none"> <li>• If Auto-Negotiation (802.3u) is enabled, the media converter determines the current cable pinout to use on the copper interface. If Auto-Negotiation (802.3u) is disabled the Media converter will use the RX Energy method on the copper interface to set the port MDI or MDIX whichever is appropriate.</li> <li>• Enabled (Default) - Either a straight-through or crossover type cable can be used to connect the media converter to the device on the other end of the cable.</li> <li>• Disabled - If the partner device on the other end of the cable does not have the Auto-MDIX feature a specific cable, either a straight-through or crossover will be required to ensure that the media converter's transmitter and the partner devices transmitter are connected to the others receiver. The Media converter's 100Base-TX port is configured as MDI-X with this switch setting.</li> </ul>
PSE Power	<ul style="list-style-type: none"> <li>• Settable for each UTP port available.</li> <li>• When enabled (UP), the media converter will perform a Power Sourcing Equipment (PSE) function as per IEEE802.3bt standard.</li> <li>• Default is 'enabled'</li> </ul>
PD Power Reset	<ul style="list-style-type: none"> <li>• This is a technique to perform a power reset on a PD device(s) attached.</li> <li>• When enabled (down), the media converter will upon loss of link on any fiber port, turn off PSE output power to the PD device(s) for 2 seconds then turn the power back on. The power remains on until any fiber link transitions from up to down again.</li> <li>• With Passthrough enabled (Link Mode enabled and Fiber Auto-Negotiation enabled) , a loss of link on the fiber resulting from a loss of link on the copper, a PD Power Reset till still occur.</li> <li>• When PD Power Reset disabled, loss of fiber link has no effect on PSE power to the PD device(s).</li> </ul>

PoE power vs Ethernet CAT	<ul style="list-style-type: none"> <li>• CAT3 and above for PoE power up to 15.4 watts</li> <li>• CAT5 and above for PoE power between 15.4 watts and up to 30 watts</li> <li>• CAT6 and above for PoE power between 30 watts and up to 100 watts</li> </ul> <p>Note: always choose the highest Ethernet CAT category between desired speed and PoE power</p>
Connectors	
10/100/1000Base-T	<ul style="list-style-type: none"> <li>• RJ45 connector</li> <li>• 2 pair CAT5, EIA/TIA 568A/B or better cable for 10/100.</li> <li>• 4 pair CAT5 UTP cable for Gigabit.</li> </ul> <p>Note: always choose the highest Ethernet CAT category between desired speed and PoE power</p>
Magnetic Isolation	1.5kv
Small Form Factor Pluggable (SFP) slot	<ul style="list-style-type: none"> <li>• SFP slot models: Empty slot for 1000Base-X or 100Base-X <b>SFP modules supplied by Perle, Cisco</b> or other manufacturers of MSA compliant SFPs.</li> <li>• Hot insertion and removable (hot swappable).</li> </ul>
Filtering	
Filtering	1024 MAC Addresses
Frame Specifications	
Buffer	1000 Kbits frame buffer memory
Size	<ul style="list-style-type: none"> <li>• Maximum frame size of 10,240 bytes -- Gigabit</li> <li>• Maximum frame size of 2048 bytes -- Fast Ethernet</li> </ul>
Environmental Specifications	
Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	minimum range of -25°C to 70°C (-13°F to 158°F)
Operating Humidity	5% to 90% non-condensing
Storage Humidity	5% to 95% non-condensing
Operating Altitude	Up to 3,048 meters (10,000 feet)

Heat Output (BTU/HR)	<ul style="list-style-type: none"> <li>• 1 x 10/100/1000Base-T port models: 13.65 BTU/hr</li> <li>• 2 x 10/100/1000Base-T port models: 16 BTU/hr</li> </ul>
MTBF (Hours)*	324134 Hours <i>Calculation model based on MIL-HDBK-217-FN2 @ 30°C</i>
Chassis	Metal with an IP20 ingress protection rating
<b>Mounting</b>	
Din Rail Kit	Optional
Rack Mount Kit	Optional
<b>Product Weight and Dimensions</b>	
Weight	0.4 Kg, 1.0 lbs (no power adaptor)
Dimensions	150 x 95 x 26 mm, 5.9 x 3.7 x 1.0 inches
<b>Packaging</b>	
Shipping Weight	1.36 kg, 3 lbs
Shipping Dimensions	300 x 200 x 70 mm, 11.81 x 7.87 x 2.75 inches
<b>Regulatory Approvals</b>	
Emissions	<ul style="list-style-type: none"> <li>• FCC Part 15 Class A</li> <li>• CISPR 32 / EN 55032</li> <li>• EN61000-3-2</li> </ul>
Immunity	CISPR 35 / EN 55035
Electrical Safety	<ul style="list-style-type: none"> <li>• UL/EN/IEC 62368-1 (previously 60950-1)</li> <li>• CAN/CSA C22.2 No. 62368-1</li> <li>• CE</li> </ul>

# Part Number: 05079345

S-1110HP-SFP - Gigabit Media and Rate Converter with Type 4 High-Power PoE PSE (up to 100W/port): 10/100/1000Base-T (RJ45) [100 m/328 ft] to 1000Base-X or 100Base-X. SFP Slot (empty)



Power Cord: SA -- BS546 (Type M) for use in South Africa.

## Related Accessories

### Accessories



DIN Rail Mounting Kit for 4 & 8 port IOLAN desktop models, all Stand-Alone Media Converters and all Stand-alone Ethernet

**04030840**



Standalone media converter wall / rack mount bracket

**05059999**