



## 10/100/1000 SFP Media Converters



- 10/100/1000Base-T to 1000Base-X or 100Base-X Fiber SFP Media Converters
- Connect 10/100 devices to Fast Ethernet or Gigabit backbone
- Empty slot for [Cisco](#) and other industry standard [Gigabit or Fast Ethernet Fiber SFPs](#)
- Automatically adjusts to speed of Gigabit and Fast Ethernet fiber SFP's
- Advanced features - Smart Link Pass-Through, Fiber Fault Alert, Auto-MDIX and Loopback

Perle's line of feature rich **10/100/1000 SFP Media Converters** transparently connects copper to SFP for multimode or single mode fiber. Our 10/100/1000 Ethernet to Fiber Converters provide an economical path to extend the distance of an existing network, the life of non-fiber based equipment, or the distance between two devices. The pluggable fiber optics port allows for flexible network configurations using [SFP transceivers supplied by Perle, Cisco](#) or other manufacturers of MSA compliant SFPs. **S-1110 SFP Media Converters** are also available with support for [Extended Temperature ranges](#).

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 **10/100/1000 SFP Media Converters** the smart choice for IT professionals.

### 10/100/1000 SFP Media Converter Features

SFP Speed Sensing	Automatically detects whether a Gigabit or Fast Ethernet fiber SFP has been inserted and adjusts accordingly.
Auto-Negotiation (802.3u)	<p>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.</p> <p>The media converter supports auto-negotiation of full duplex, half duplex, remote fault, full duplex pause, asymmetric pause and Auto MDI-X.</p>
Auto-MDIX	<p>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.</p> <p>The media converter will adjust for up to 120ns of delay skew between the 1000Base-T pairs.</p>
Smart <a href="#">Link Pass-Through</a>	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.
Fiber Fault Alert	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.
Pause (IEEE 802.3xy)	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.
Duplex	Full and half duplex operation supported.
Jumbo Packets	Transparent to jumbo packets up to 10KB.
VLAN	Transparent to VLAN tagged packets.
Remote Loopback	Capable of performing a loopback on the 1000Base-X fiber interface.

<b>Power</b>	
Input Supply Voltage	6 - 30 vDC, unregulated ( 12 vDC Nominal )
Current	175 mA
Power Consumption	2.1 watts
Power Connector	5.5mm x 9.5mm x 2.1mm barrel socket
<b>Power Adapter</b>	
Universal AC/DC adapter	100-240v AC, regulated DC adapter included
<b>Indicators</b>	
Power / TST	This green LED is turned on when power is applied to the media converter. Otherwise it is off. The LED will blink when in Loopback test mode.
Fiber link on / Receive activity (LKF)	This green LED is operational only when power is applied. The LED is on when the 1000Base-X link is on and flashes with a 50% duty cycle when data is received.
Copper link on / Receive activity (LKC)	This green LED is operational only when power is applied. The LED is on when the 10/100/1000Base-T link is on and flashes with a 50% duty cycle when data is received.
Fiber Duplex (FDF)	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.
Copper Duplex (FDC)	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.
10/100/1000 Speed	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 orange when the speed of the copper Ethernet port is running at 100 Mbps. The LED is off when in 10 Mbps.
<b>Switches - accessible through a side opening in the chassis</b>	
Auto-Negotiation (802.3u)	<p><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.</p> <p><i>Disabled</i> - The media converter sets the port according to the position of the speed and duplex switches.</p>
Link Mode	<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> 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).</p> <p>With Fiber Auto Negotiation disabled the state of the copper link has no effect on the 1000Base-X link.</p> <p><i>Smart Link Pass Through (Down)</i> 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.</p> <p>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.</p>
Fiber Fault Alert	<p>The Fiber Fault Alert switch has meaning when Auto-Negotiation is disabled</p> <p><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.</p> <p><i>Disabled (Down)</i></p>
Remote Loopback	<p>The media converter can perform a loopback on the 1000Base-X fiber interface.</p> <p><i>Disabled (Default - Up)</i></p> <p><i>Enabled</i> - The 1000Base-X receiver is looped to the 1000Base-X transmitter. The copper transmitter is taken off the interface.</p>
	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

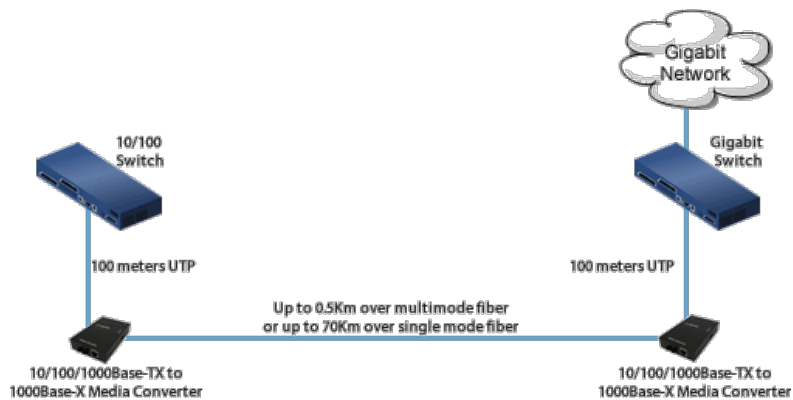
	Energy method on the copper interface to set the port MDI or MDIX whichever is appropriate.
Auto-MDIX (Internal Strap)	<p><i>Enabled (Default)</i> - Either a straight-through or crossover type cable can be used to connect the media converter to the device on the other end of the cable.</p> <p><i>Disabled</i> - 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.</p>
Speed Copper	100 (Default) 10
Duplex Copper	Full (Default) Half
Duplex Fiber	Full (Default) Half
<b>Connectors</b>	
10/100/1000Base-T	RJ45 connector 2 pair CAT5, EIA/TIA 568A/B or better cable for 10/100. 4 pair CAT5 UTP cable for Gigabit.
Magnetic Isolation	1.5kv
Small Form Factor Pluggable ( SFP ) slot	Empty slot for 1000Base-X or 100Base-X <a href="#">SFP modules supplied by Perle, Cisco</a> or other manufacturers of MSA compliant SFPs.  Hot insertion and removable ( hot swappable )
<b>Filtering</b>	
Filtering	1024 MAC Addresses
<b>Frame Specifications</b>	
Buffer	1000 Kbits frame buffer memory
Size	Maximum frame size of 10,240 bytes -- Gigabit Maximum frame size of 2048 bytes -- Fast Ethernet
<b>Environmental Specifications</b>	
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 )	7.2
MTBF (Hours)	Without power adaptor: 662,000 With power adaptor: 353,000
<b>Mounting</b>	
Din Rail Kit	Optional
Rack Mount Kit	Optional
<b>Product Weight and Dimensions</b>	
Weight	0.3 kg, 0.66 lbs
Dimensions	120 x 80 x 26 mm, 4.7 x 3.1 x 1.0 inches
<b>Packaging</b>	
Shipping Weight	0.58 kg, 1.3 lbs
Shipping Dimensions	170 x 280 x 70 mm, 6.7 x 10.2 x 2.8 inches
<b>Regulatory Approvals</b>	
Emissions	FCC Part 15 Class A, EN55022 Class A
	CISPR 22 Class A
	EN61000-3-2
Immunity	EN55024
	UL 60950-1

Electrical Safety	EN60950
	CE
Environmental	RoHS - 2002/95/EC Directive
	WEEE - 2002/96/EC Directive
	Reach compliant
Other	ECCN: 5A991A
	HTSUS Number: 8517.62.0050
	Perle Lifetime warranty

### Bridge 10/100 Devices to gigabit Backbone

#### Connect 10/100 devices to Gigabit Backbone

Devices on a 10/100 ethernet switch can be connected to a Gigabit backbone through the use of rate converting 10/100/1000 Media Converters.






	Description	Power Cord	Product Part Number
	<b>S-1110-SFP - 10/100/1000 Gigabit Ethernet Stand-Alone Media and Rate Converter.</b> 10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-X or 100Base-X - SFP Slot (empty)	USA	<a href="#">05050194</a>
		UK	<a href="#">05050191</a>
		EU	<a href="#">05050192</a>
		SA	<a href="#">05050195</a>
		AUS	<a href="#">05050196</a>
	<b>S-1110P-SFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE PSE.</b> 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05080004</a>
		UK	<a href="#">05080001</a>
		EU	<a href="#">05080002</a>
		SA	<a href="#">05080005</a>
		AUS	<a href="#">05080006</a>
	<b>S-1110P-DSFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE PSE.</b> 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - Dual SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05080014</a>
		UK	<a href="#">05080011</a>
		EU	<a href="#">05080012</a>
		SA	<a href="#">05080015</a>
		AUS	<a href="#">05080016</a>
	<b>S-1110DP-SFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE PSE.</b> Dual 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05082004</a>
		UK	<a href="#">05082001</a>
		EU	<a href="#">05082002</a>
		SA	<a href="#">05082005</a>
		AUS	<a href="#">05082006</a>
	<b>S-1110DP-DSFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE PSE.</b> Dual 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - Dual SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05082014</a>
		UK	<a href="#">05082011</a>
		EU	<a href="#">05082012</a>
		SA	<a href="#">05082015</a>
		AUS	<a href="#">05082016</a>
	<b>S-1110PP-SFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE+ PSE.</b> 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05081004</a>
		UK	<a href="#">05081001</a>
		EU	<a href="#">05081002</a>
		SA	<a href="#">05081005</a>
		AUS	<a href="#">05081006</a>
	<b>S-1110PP-DSFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE+ PSE.</b> 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - Dual SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05081014</a>
		UK	<a href="#">05081011</a>
		EU	<a href="#">05081012</a>
		SA	<a href="#">05081015</a>
		AUS	<a href="#">05081016</a>
	<b>S-1110DPP-SFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE+ PSE.</b> Dual 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05083004</a>
		UK	<a href="#">05083001</a>
		EU	<a href="#">05083002</a>
		SA	<a href="#">05083005</a>
		AUS	<a href="#">05083006</a>
	<b>S-1110DPP-DSFP - 10/100/1000 Gigabit Ethernet Standalone Media Rate Converter w/ PoE+ PSE.</b> Dual 10/100/1000BASE-T (RJ-45) [100 m/328 ft.] to 1000BASE-X or 100BASE-X - Dual SFP Slot (empty), w/ AC Adapter	USA	<a href="#">05083014</a>
		UK	<a href="#">05083011</a>
		EU	<a href="#">05083012</a>
		SA	<a href="#">05083015</a>
		AUS	<a href="#">05083016</a>

**Related products:**

- [SFP transceivers supplied by Perle](#)

**Accessories:**

Accessories			
	4 DIN Rail Mount Bkt	DIN Rail Mounting Kit for 4 & 8 port IOLAN SDS/STS wall mount models, all Stand-Alone Media Converters and all Stand-Alone Ethernet Extenders. Two of these brackets are required for the 8 port STS8-D model.	 <a href="#">04030840</a>
	MCSM	Standalone media converter wall / rack mount bracket	 <a href="#">05059999</a>