S-110-XT Industrial Temperature Media Converters

10/100Base-TX to 100Base-X Conversion

- 10/100Base-TX to 100Base-X Fiber Media Converters
- Extend network distances up to 20km for industrial Ethernet equipment
- Advanced features - Link Pass-Through, Far-End Fault, Auto-MDIX and Loopback
- -40°F to +167°F (-40°C to +75°C) extended temperature support
- Terminal block power connector

The **S-110-XT Industrial Temperature Media Converters** address the need for transparently connecting 10/100 Ethernet equipment that operate in extreme temperatures to fiber optic cable. The S-110-XT Media Converters will operate in industrial grade temperatures of **-40°F to +167°F (-40°C to +75°C)**. Equipment found in **traffic management, oil and gas pipelines, weather tracking, industrial and outdoor applications** must function in temperatures that cannot be supported by a commercial based media converter. Boasting this extended temperature feature along with a rugged steel casing, the S-110-XT Media Converter provides an economical path to extend the distance between two industrial devices subjected to harsh environments and severe temperatures such as security cameras, wireless access points, alarms, traffic controllers, sensors and tracking devices.

Network Administrators can "see-everything" with Perle's advanced features such as Auto-Negotiation, Auto-MDIX, Link Pass-Through, Far End Fault, and Remote 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 **S-110-XT Industrial Temperature 10/100 Media Converters** the smart choice for IT professionals.

S-110-XT Industrial Temperature Media Converter 10/100 to Fiber Features

Auto-Negotiation (802.3u)

The media converter supports auto negotiation on the 10/100Base-TX interface.

Auto-MDIX

Auto-MDIX (automatic medium-dependant interface crossover) detects the signaling on the UTP interface to determine the type of cable connected (straight-through or crossover) and automatically configures the connection when enabled. With Auto-MDIX enabled, 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.

Link Pass-Through

With Link Pass-Through the state of the UTP receiver is passed to the fiber transmitter to make the media converter appear transparent to the end devices that are connected. In addition if Far-End Fault is enabled the media converter can turn off the 10/100Base-TX transmitter when a FAR-End Fault is received.

Using Link Pass-Through with Far-End Fault minimizes data loss when a fault occurs. Should a fault occur, the end devices have the indication of a failure available to them making trouble shooting easier.

Far-End Fault (FEF)

The media converter implements the 802.3 standard for Far-End Fault for the indication and detection of remote fault conditions on the 100Base-X fiber connection. With Far-End Fault enabled the media converter transmits the Far-End Fault Indication over the 100Base-X fiber connection whenever a receive failure is detected on the 100Base-X fiber connection. The media converter continuously monitors the100Base-X fiber connection for a valid signal.

The action the media converter takes on receiving a Far-End Fault Indication is dependent on the Link Pass-Through switch setting.

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 10/100Base-TX copper connection.

VLAN

The media converter is transparent to VLAN tagged packets.

Remote Loopback

The media converter is capable of performing a loopback on the fiber port.

Specifications				
Lifetime limited warranty	**Reach, RoHS and WEEE Compliant**	**HTSUS Number:** 8517.62.0020	**UNSPSC Code:** 43201553	**ECCN:** 5A991

Power	
Input Supply Voltage	6 - 30 vDC, unregulated (12 vDC Nominal)
Current	175 mA
Power Consumption	2.1 watts
Power Connector	2-pin fixed terminal block

Indicators	
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 100Base-FX 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 100Base-TX 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 100Base-FX 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 10/100Base-TX link is operational in full duplex mode. The LED is off when in half duplex.
10/100 Speed	This green LED is operational only when power is applied. The LED is on when the speed of the copper Ethernet port is running at 100 MBPS. The LED is off when in 10 MBPS
Switches - accessible through a side opening in the chassis	
Auto-Negotiation (802.3u)	• *Enabled (Default)* - The media converter uses 802.3u Auto-negotiation on the 100Base-TX interface. It is set to advertise full duplex. • *Disabled* - The media converter sets the port according to the position of the speed and duplex switches.
Link Pass Through	• *Enabled (Default)* - When the state of the receiver is changed on the 100Base-TX interface it is reflected on the 100Base-FX fiber transmitter. When the state of the receiver on the 100Base-FX interface is changed it is reflected on the 100Base-TX transmitter. • When a Far-End Fault Indication is received on the fiber interface the 100Base-TX transmitter is turned off. When the Far-End Fault Indication is cleared the transmitter is turned back on. • *Disabled* - The 100Base-TX and the 100Base-FX fiber interface operate independently. Far-End Fault indication on the 100Base-FX fiber interface has no effect on the 100Base-TX interface.
Far-End Fault (FEF)	• *Enabled (Default - Up)* - The media converter transmits the Far-End Fault Indication over the 100Base-X fiber connection whenever a receive failure is detected on the 100Base-X fiber connection. The media converter continuously monitors the100Base-X fiber connection and clears the Far-End Fault Indication condition when a valid signal is received. • *Disabled* - Far-End Fault Indications are not transmitted regardless of the condition of the receive signal on the 100Base-FX fiber connection.

Remote Loopback	The media converter can perform a loopback on the 100Base-X fiber interface. • Disabled (Default - Up) • *Enabled* - The 100Base-X receiver is looped to the 100Base-X transmitter. The 100Base-TX transmitter is taken off the interface.
Auto-MDIX (Internal Strap)	If Auto-Negotiation (802.3u) is enabled, the media converter uses the HP Auto-MDIX method for the 100Base-TX interface.If Auto-Negotiation (802.3u) is disabled the Media converter will use the RX Energy method on the 100Base-TX interface to set the port MDI or MDIX whichever is appropriate. • *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. • *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.
Speed Copper	• 100 (Default) • 10
Duplex Copper	• Full (Default) • Half
Duplex Fiber	• Full (Default) • Half
Connectors	
100Base-TX	RJ45 connector, 2 pair CAT 5, EIA/TIA 568A/B or better cable
Magnetic Isolation	1.5kv
Filtering	
Filtering	1024 MAC Addresses

Frame Specifications	
Buffer	512 Kbits frame buffer memory
Size	Maximum frame size of 2048 bytes
Environmental Specifications	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°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)*	607,001 Hours *Calculation model based on MIL-HDBK-217-FN2 @ 30°C*
Chassis	Metal with an IP20 ingress protection rating
Mounting	
Din Rail Kit	Optional
Rack Mount Kit	Optional
Product Weight and Dimensions	
Weight	0.3 kg, 0.66 lbs
Dimensions	120 x 80 x 26 mm, 4.7 x 3.1 x 1.0 inches
Packaging	
Shipping Weight	0.425 kg, .9 lbs
Shipping Dimensions	150 x 210 x 40 mm, 5.9 x 11 x 2.8 inches

Regulatory Approvals	
Emissions	• FCC Part 15 Class B, EN55022 Class B • CISPR 22 Class B • CISPR 32:2015/EN 55032:2015 (Class A) • CISPR 35/EN 55035 • EN61000-3-2
Immunity	EN55024
Electrical Safety	• UL/EN/IEC 62368-1 • CAN/CSA C22.2 No. 62368-1 • UL 60950-1 • IEC 60950-1(ed 2); am1, am2 • EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 • CE
Laser Safety	• EN 60825-1 • Fiber optic transmitters on this device meet Class 1 Laser safety requirements per IEC-60825 FDA/CDRH standards and comply with 21CFR1040.10 and 21CFR1040.11.

Product List

S-110-M2ST2-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm multimode (ST) [2 km/1.2 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090010

S-110-M2SC2-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm multimode (SC) [2 km/1.2 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090000

S-110-M2LC2-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm multimode (LC) [2 km/1.2 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090020

S-110-S2SC20-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-LX 1310nm single mode (SC) [20 km/12.4 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090030

S-110-S2ST20-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-LX 1310nm single mode (ST) [20 km/12.4 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090040

S-110-S2LC20-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-LX 1310nm single mode (LC) [20 km/12.4 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090050

S-110-S1SC20U-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-BX 1310nm TX / 1550nm RX single strand fiber, single mode (SC) [20 km/12.4 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090060

S-110-S1SC20D-XT - 10/100 Fast Ethernet Stand-Alone Industrial Temperature Media Rate Converter. 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-BX 1550nm TX / 1310nm RX single strand fiber, single mode (SC) [20 km/12.4 miles]. Extended Temperature, terminal block power connector for external power source.

Power Cord & Part Number(s)

None

05090070

Related Accessories

Power Supplies

UK Extended Temperature 12VDC / 24W power adapter for Perle Device Servers, Media

04030671

EU Extended Temperature 12VDC / 24W power adapter for Perle Device Servers, Media

04030672

USA Extended Temperature 12VDC / 24W power adapter for Perle Device Servers, Media

04030674

South Africa Extended Temperature 12VDC / 24W power adapter for Perle Device

04030675

Australia Extended Temperature 12VDC / 24W power adapter for Perle Device Servers, Media

04030676

Accessories

DIN Rail Mounting Kit for 4 & 8 port IOLAN desktop 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.

04030840

Standalone media converter wall / rack mount bracket

05059999