

OmniConverter® Single Pair Ethernet 10Mbps 10BASE-T to 10BASE-T1L Converters

The OmniConverter Single Pair Ethernet converters are IEEE 802.3cg compliant products that convert 10BASE-T Ethernet to single-pair 10BASE-T1L Ethernet. They use single-pair Ethernet cabling (SPE) to extend the Ethernet link distance up to 1km.

The Single Pair Ethernet converters feature one IEEE 802.3cg compliant 10BASE-T1L terminal or IEC 63171 SPE port and one 10BASE-T RJ-45 port supporting 10Mbps full-duplex data rates.

The 10T/T1L is a 10BASE-T RJ-45 Ethernet to single-pair 10BASE-T1L Ethernet converter.

The 10TPS/T1L is an 10BASE-T IEEE 802.3at (PoE+) RJ-45 Ethernet to single-pair 10BASE-T1L Ethernet converter.

The Single Pair Ethernet converters achieve seamless Ethernet connectivity to IEEE 802.3cg compliant devices, such as field transmitters, building controllers or cameras.

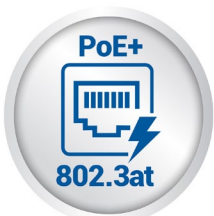
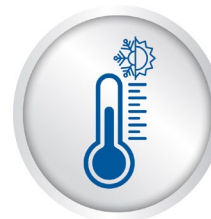
The converters are plug-and-play devices that support 10Mbps data rates and full duplex for simple in-line installation to instantly extend network distances for industrial and in-building automation applications.

They are available as a standalone unit with or without integrated mounting brackets. It can be DIN-rail mounted using the optional DIN-rail mounting clip kit (8252-0). Models are available with an external 100 to 240VAC power adapter or with a 2-Pin DC terminal connector.



KEY FEATURES

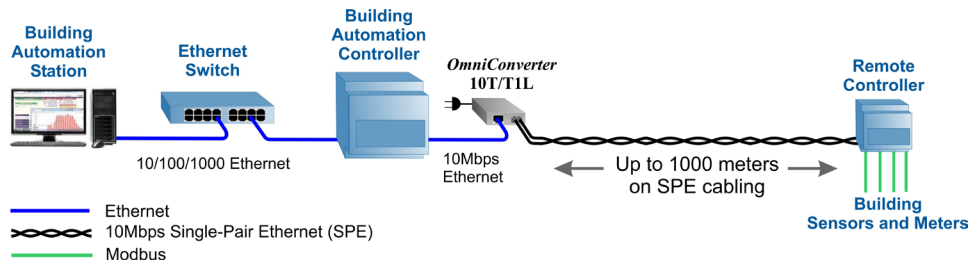
- Ultra compact unmanaged 10BASE-T to 10BASE-T1L single-pair Ethernet media converter
- IEEE 802.3cg single-pair Ethernet on 2-Pin Terminal or IEC 63171-2 SPE connector
- 10TPS/T1L supports PoE+ (IEEE 802.3at) on RJ-45 port
- Plug-and-Play installation
- AC to DC Power Adapter or 2-Pin DC terminal
- DIN-rail mount with optional brackets
- Commercial (0 to +50°C), wide (-40 to +60°C) and extended (-40 to +75°C) operating temperature ranges
- TAA, BAA and NDAA compliant, and Made in the USA
- Free 24/7/365 Technical Support with lifetime warranty



APPLICATION EXAMPLES

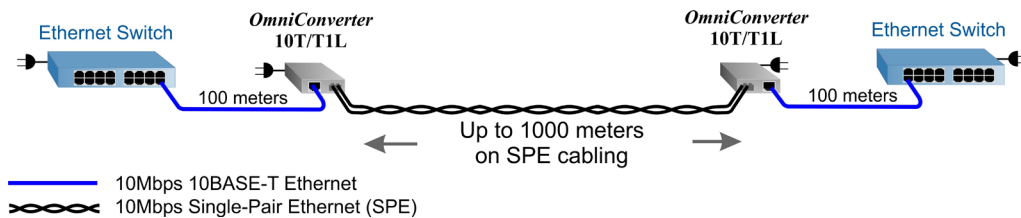
Building Automation Application

This example shows an OmniConverter 10T/T1L extending a 10Mbps Ethernet data connection from a Building Automation Controller over a single-pair Ethernet cable to a Remote Controller. The Remote Controller is gathering data from building sensors and meters.



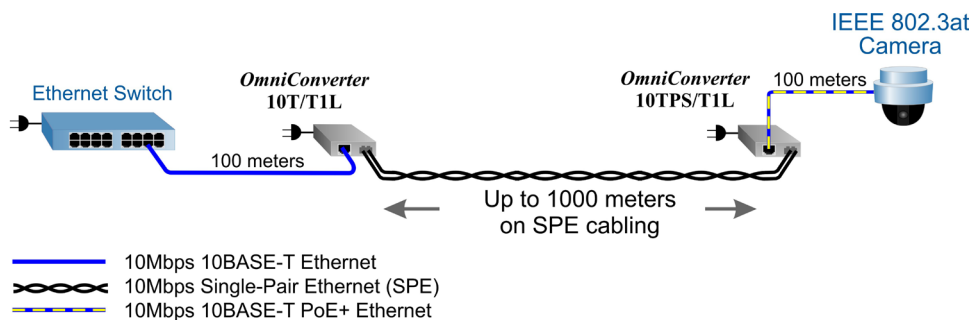
Extend Ethernet up to 1000 meters

This example shows an OmniConverter 10T/T1L extending a 100 meter 10Mbps Ethernet data connection across a single-pair Ethernet cable to another OmniConverter 10T/T1L. The total distance extension is up to 1200 meters.



Extend Ethernet up to 1000 meters and Inject up to 30W PoE+

This example shows an OmniConverter 10T/T1L extending a 10Mbps Ethernet data connection across a SPE cable to a 10TPS/T1L powering an 802.3at PoE camera.



STANDARDS AND COMPLIANCES

Regulatory Compliances (Pending)	Safety: UL 62368-1, UL 60950-1, IEC 62368-1, IEC 60950-1, CUL CSA C22.2 No. 60950-1, EN 60950-1:2006 CE Mark, UKCA EMI: FCC 47CFR, Part 15 Class A AS/NZS 3548, AS/NZS 4417.1 and AS/NZS 4417.2 ICES-003 Issue 3 EN 55032/CISPR 22 and EN55035 EN61000-3-2 VCCI V3/2001.04 (CISPR 22A:1997, Class A) EMC: IEC/EN61000-4-2, IEC/EN61000-4-3 IEC/EN61000-4-4, IEC/EN61000-4-5 IEC/EN61000-4-6, IEC/EN61000-4-8 IEC/EN61000-4-11 ACT: TAA, BAA, NDAA
Environmental	REACH, RoHS and WEEE

SPECIFICATIONS

Description	OmniConverter 10T/T1L 10BASE-T RJ-45 to 10BASE-T1L	OmniConverter 10TPS/T1L 10BASE-T PoE+ RJ-45 to 10BASE-T1L
Standard Compliances	IEEE 802.3, IEEE 802.3cg	IEEE 802.3, IEEE 802.3cg, IEEE 802.3af, IEEE 802.3at
Frame Size	Up to 1518 bytes	
Port Types	10BASE-T: RJ-45 10BASE-T1L: 2-Pin Terminal or IEC 63171-2 SPE connector	
Cable Types	10BASE-T: Ethernet, EIA/TIA 568A/B, Cat 3 or better 10BASE-T1L: Single-Pair Ethernet (SPE) cable, IEC 61156-13 (fixed) or IEC 61156-14 (flexible) 18AWG cable or better	
AC Power Requirements (Models with AC/DC Adapters)	100 - 240VAC/50 - 60Hz, 0.6A @ 120VAC 2.5mm Barrel	100 - 240VAC/50 - 60Hz, 1.5A @ 120VAC 2.1mm Barrel
DC Power Requirements (Models with DC Terminals)	+9 to +24VDC; 0.034A @ 12VDC 2 Pin Terminal (isolated)	+44 to +57VDC; 0.56A @ 56VDC 2 Pin Terminal (isolated)
Dimensions (W x D x H)	w/o Bracket: 1.75" x 2.50" x 0.84" (44.5 mm x 63.5 mm x 21.3 mm) w/ Bracket: 2.10" x 2.50" x 0.84" (53.3 mm x 63.5 mm x 21.3 mm)	
Weight	Module Only: 2.5 oz. (70.9 grams) w/ AC/DC Adapter: 12 oz. (340.2 grams)	Module Only: 2.5 oz. (70.9 grams) w/ AC/DC Adapter: 12 oz. (340.2 grams)
Operating Temperature (See Temperature Derating Table)	Commercial: 0 to 50°C Wide: -40 to 60°C Extended: -40 to 75°C Storage: -40 to 80°C	
Humidity	5 to 95% (non-condensing)	
Altitude	-100m to 4,000m (operational)	
MTBF (hours)	Module Only: 2,481,000 AC/DC Adapter: 100,000	Module Only: 2,160,000 AC/DC Adapter: 100,000
Warranty	Lifetime warranty with 24/7/365 free Technical Support	

ORDERING INFORMATION

Step 1: Choose a Base Part Number (2xxx-cxx-pt)

Model Number	Description
2010-c00-pt	10T/T1L - 1 x 10BASE-T RJ-45 port + 1 x 10BASE-T1L
2010-c10-pt	10TPS/T1L - 1 x 10BASE-T PoE+ RJ-45 port + 1 x 10BASE-T1L

Step 2: Choose a SPE Connector Type (2xxx-cxx-pt)

0 = 2-pin Terminal
2 = IEC 63171-2 SPE jack

Step 3: Choose a Power and Mounting Option (2xxx-cxx-pt)

A = Barrel Connector and AC/DC Power Adapter, 100-240VAC, 50-60Hz, with US power cord, without integrated mounting brackets
B = Barrel Connector and Universal AC/DC Power Adapter, 100-240 VAC, 50-60Hz, No power cord, without integrated mounting brackets
C = Direct DC input, 2 pin terminal connector, no AC/DC Power Adapter, without integrated mounting brackets
G = No AC/DC Power Adapter provided, without integrated mounting brackets
I = Barrel Connector and AC/DC Power Adapter, 100-240VAC, 50-60Hz, with Japanese power cord, without integrated mounting brackets
D = Barrel Connector and AC/DC Power Adapter, 100-240VAC, 50-60Hz, with US power cord, with integrated mounting brackets
E = Barrel Connector and Universal AC/DC Power Adapter, 100-240 VAC, 50-60Hz, No power cord, with integrated mounting brackets
F = Direct DC input, 2 pin terminal connector, no AC/DC Power Adapter, with integrated mounting brackets
H = No AC/DC Power Adapter provided, with integrated mounting brackets
J = Barrel Connector and AC/DC Power Adapter, 100-240VAC, 50-60Hz, with Japanese power cord, with integrated mounting brackets

Step 4: Choose an Operating Temperature Option (2xxx-cxx-pt)

<leave blank> = Commercial temperature (0 to 50°C)
W = Wide temperature (-40 to 60°C)
Z = Extended temperature (-40 to 75°C)

©2026 Omnitron Systems Technology, Inc. OmniConverter is a registered trademark of Omnitron Systems Technology, Inc. Trademarks are owned by their respective companies. Specifications subject to change without notice. All rights reserved.

