

SPOEB10xx-105

User Guide

- Stand-Alone Media Converter
- Power Over Ethernet (15.4W)
- 10/100Base-TX to 100Base-FX
- Auto Negotiation & AutoCross
- Link Pass Through & PSE enable / disable
- PSE/LPT enable / disable
- Far End Fault & Auto Link Restore



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Introduction

The Transition Networks SPOEB10xx-105 Power over Ethernet (POE) converter is a two port 10/100Base-TX to 100Base-FX media converter capable of providing power to Data Terminal Equipment (DTE) Power Devices (PD) via the Media Dependent Interface (MDI) twisted pair cable. The SPOEB10xx-105 emulates Power Sourcing Equipment (PSE) and provides power via the 10/100Base-TX interface for a remote PD device that complies with the IEEE802.3af™ standard.

The SPOEB10xx-105 lets enterprises provide power to network devices over the existing CAT5 data connection. Transition Networks' AC powered PoE media converters combine data received over a fiber optic link with -48VDC power; providing power to Data Terminal Equipment (DTE) Power Devices (PD) over unshielded twisted pair (UTP) cable. The PoE converters are Power Sourcing Equipment (PSE) and are fully compatible with Powered Devices (PDs) that comply with the IEEE802.3af™: 2003 standard. The converters also include PD signature sensing and power monitoring features per the IEEE 802.3af standard. Other features include Over-Current Protection, Under-Current Detection, and Fault Protection Input. This feature-enhanced model offers the ability to enable/disable many of the features as well as force port capabilities. In addition, with the PSE/LPT switch enabled, a loss of Fiber RX will disable PSE power output on the UTP port for two seconds to allow the remote device to re-initialize.

The PoE converter is fully compatible with devices that comply with the IEEE802.3af standard. The PoE converter is capable of inserting power on data pairs of the MDI.

Product Description

Models

| Number | Description |
|---------------|---|
| SPOEB1039-105 | 10/100Base-TX RJ-45 PoE to 100Base-FX MM LC 2km |
| SPOEB1040-105 | 10/100Base-TX RJ-45 PoE to 100Base-FX Open SFP Slot |
| SPOEB1011-105 | 10/100Base-TX RJ-45 PoE to 100Base-FX MM ST 2km |
| SPOEB1013-105 | 10/100Base-TX RJ-45 PoE to 100Base-FX MM SC 2km |

Optional Accessories

| Part Number | Description |
|--------------|--|
| WMBL | Wall Mount Bracket; Length: 4.0 in. (102 mm), fits converter length: 4.7 in. (119mm) |
| WMBD | DIN Rail Mount Bracket; Length: 5.0 in. (127 mm) |
| WMBV | Vertical Wall Mount Plate; Length: 5.0 in. (127 mm) |
| RMS19-SA4-01 | 4-Slot Media Converter Shelf |
| SFP Modules | Transition Networks offers a full line of SFP Transceivers . |

Distances

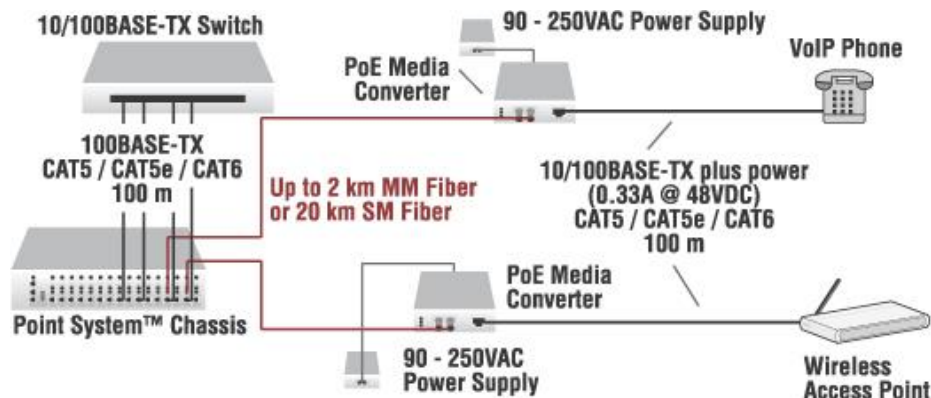
| Number | Port One - Copper 10/100Base-TX | Port Two - Duplex Fiber-Optic 100Base-FX |
|---------------------|---------------------------------|--|
| SPOEB1039-105 (LC) | RJ-45 PoE; 100 m (328 ft.)* | LC, 1300nm multimode, 2km (1.2 miles) |
| SPOEB1040-105 (SFP) | RJ-45 PoE; 100 m (328 ft.)* | SFP, open slot |
| SPOEB1011-105 (ST) | RJ-45 PoE; 100 m (328 ft.)* | ST, 1300 nm multimode; 2 km (1.2 miles) |
| SPOEB1013-105 (SC) | RJ-45 PoE; 100 m (328 ft.)* | SC, 1300 nm multimode; 2 km (1.2 miles) |

* Cable distances are typical maximum distances. Actual distance depends on the physical characteristics of the network installation.

Features

- External AC power supply
- IEEE 802.3af Power Over Ethernet compatible
- 48 VDC PSE output voltage
- Applies power on the data pairs (aka Alt A, or Mode A)
- PD Detection Signature
- Over-Current Protection and Under-Current Detection
- Powered Device (PD) Reset
- PD Detection Signature
- Minimum Load Sensing
- Fault Protection Input
- Auto-Negotiation (802.3u): allows devices to perform automatic configuration to achieve the best possible mode of operation over a link.
- AutoCross™: automatically detects and configures the twisted pair port to the correct MDI or MDI-X configuration.
- Link Pass Through (LPT): a troubleshooting feature that lets the media converter monitor both fiber and copper RX ports for loss of signal.
- Far End Fault (FEF): a troubleshooting feature generally used with Link Pass Through to notify both end devices of a loss of link.
- Automatic Link Restoration: lets Transition Networks' converters automatically re-establish link in all network conditions.

Application Example - Power over Cat5 to Remote Devices



Packing List

Make sure that you have received the following with your SPOEB10xx-105:

- One SPOEB10xx-105 Media Converter
- One external power supply (25072) and power cord (25071)
- Four rubber feet
- One printed Documentation Post Card

Please save the packing material for possible future use.

Installation

CAUTION: All installation and service must be performed by qualified service personnel. Read and follow all warning notices and instructions marked on the product and included in this manual.

Set the Configuration DIP Switch

The configuration switches are located on the side panel of the SPOEB10xx-105 media converter. Use a small, flat blade screwdriver to set the switches.



Eight-position Configuration Switch (SW1)

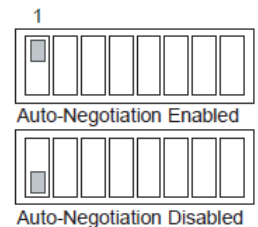
- 1 - TP Autoneg - Up = TP Autoneg Enabled, Down = TP Autoneg Disabled.
- 2 - TP Speed - Up = TP 100Mbps, Down = TP 10 Mb/s (only when TP Autoneg Disabled).
- 3 - TP Duplex - Up = TP Full Duplex, Down = TP Half Duplex (only when TP Autoneg disabled).
- 4 - FBR Duplex - Up = FBR Full Duplex, Down = FBR Half Duplex.
- 5 - LPT Select – Up = LPT Enabled, Down = LPT Disabled.
- 6 - PSE Select - Up = PSE Enabled, Down = PSE Disabled.
- 7 - PSE/LPT power off LPT - Up = Disabled, Down = Enabled.
- 8 - Reserved.

1 - TP Auto-Negotiation

Up - Enables Auto-Negotiation.

Down - Disables Auto-Negotiation.

The Auto-Negotiation feature allows the media converter to bring up the copper links to the highest speed and mode possible for all the attached network devices.

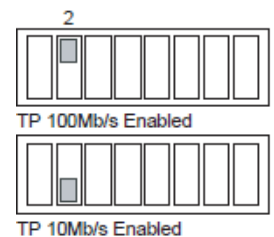


2 - TP Speed

Up - Forces 100 Mb/s on the copper port.

Down - Forces 10 Mb/s on the copper port.

(Only has effect when Auto-Negotiation is disabled.)

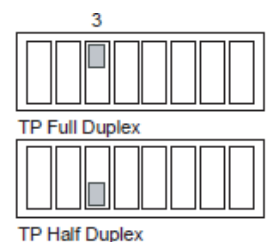


3 - TP Full/Half Duplex

Up - Full-Duplex; the twisted-pair cable distances are constrained by cable requirements.

Down - Half-Duplex; the twisted-pair cable distances are constrained by the 512-Bit Rule.

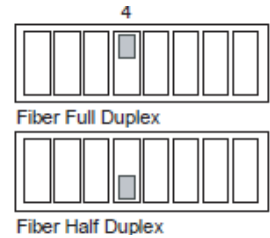
(Only has effect when Auto-Negotiation is disabled.)



4 - Fiber Full/Half Duplex

Up - The cable distances for the fiber port are constrained by the cable requirements.

Down - The cable distances for the fiber port are constrained by the 512-Bit Rule.

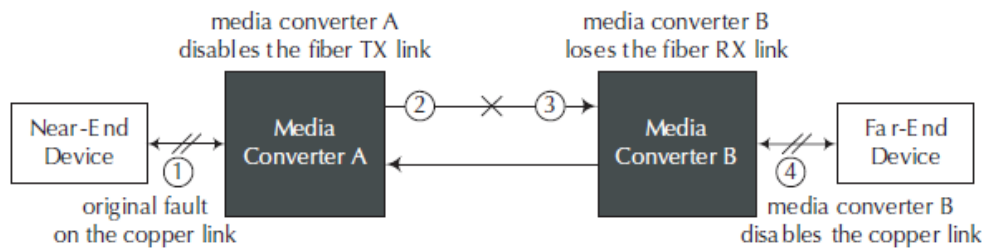
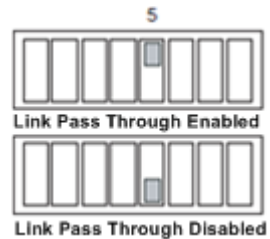


5 - LPT – Link Pass Through

Up - Enables the LPT function.

Down - Disables the LPT function.

The Link Pass-Through allows the media converter to monitor both the fiber and copper RX (receive) ports for loss of signal. In the event of a loss of an RX signal on one media port, the media converter will automatically disable the TX (transmit) signal of the other media port, thus, “passing through” the link loss. The far-end device is automatically notified of the link loss, which prevents the loss of valuable data unknowingly transmitted over an invalid link. See diagram below.

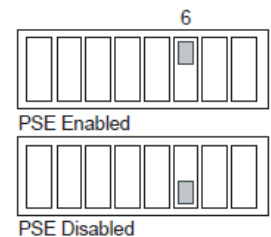


6 - PSE Power

Up - Enables PSE power.

Down - Disables PSE power.

The IEEE 802.3af™ standard allows a device to provide power (PSE - Power Sourcing Equipment) to a remote device and for a remote device (PD - Powered Device) to accept and use this power over a twisted pair interface.

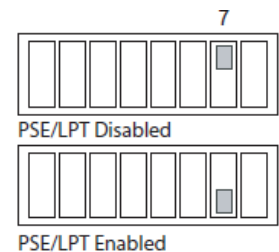


7 - PSE/LPT (POE power off LPT - OPEN = Disabled)

Up - Disable PSE/LPT.

Down - Enable PSE/LPT.

This feature is used to re-initialize a powered device (PD). If the fiber RX (receive) link drops with the PSE/LPT switch in the enabled position (down), the PSE power will turn OFF for two seconds then turn back ON to re-start the remote device. The power will remain ON to allow the remote PD to re-establish the link with the media converter. Note that this feature requires DIP switch 5 (LPT) to also be enabled.



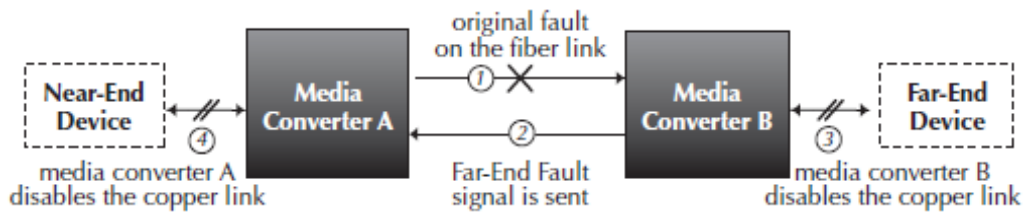
8 - Reserved

Reserved for future use.

Additional Features

Far-End Fault (always enabled)

This troubleshooting feature is generally used in conjunction with Link Pass Through to notify both end devices of a link loss. If the fiber RX signal is lost on the far end converter, the converter will automatically generate a far-end fault signal and send it on its TX fiber port to notify the near-end converter of the fiber link loss. Link Pass-Through will then disable the copper link on both ends, alerting both end devices of network trouble. See diagram below.



- Both end devices are notified automatically of the link loss
- Prevents loss of valuable data transmitted unknowingly over invalid link
- Allows quick diagnosis and resolution of network problem

Transition Networks' media converters that include the FEF feature will work with other network devices that support Far End Fault per IEEE standards.

Automatic Link Restoration (always enabled)

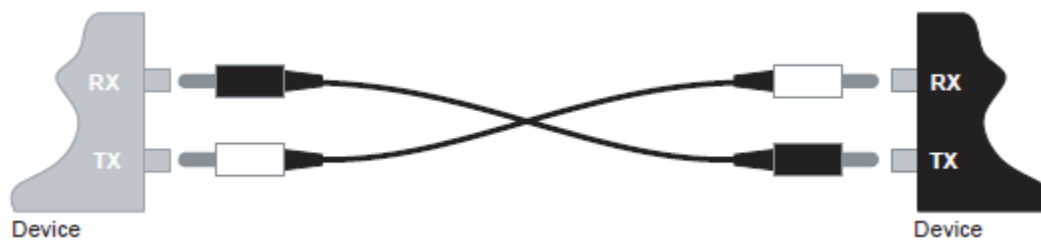
Transition Networks' converters will automatically re-establish the link in all network conditions:

- Without a device reset, the converters will automatically re-establish the link when connected to switches after a link loss.
- With Auto-Negotiation enabled, automatic link restoration allows using Auto-Negotiation with Link-Loss Notification.
- With Link Pass-Through enabled in both directions, automatic link restoration allows using Link-Loss Notification in both directions.

CAUTION: Associated Ethernet wiring must be limited to inside the building.

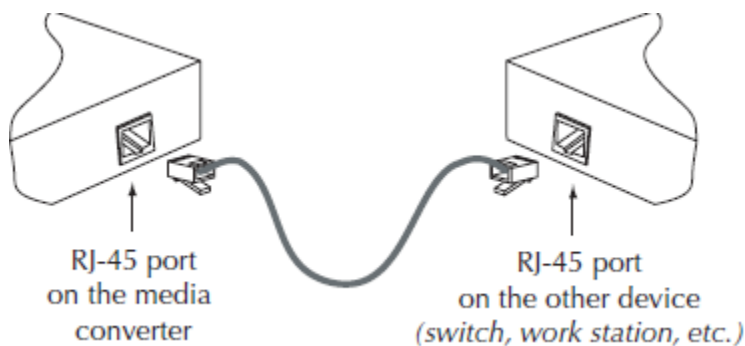
Installing Fiber Cables

1. Locate a 100Base-FX fiber cable with male, two-stranded TX to RX connectors installed at both ends.
2. Connect the fiber cables to the SPOEB10xx-105 media converter as described:
 - Connect the male TX cable connector to the female TX port.
 - Connect the male RX cable connector to the female RX port.
3. Connect the fiber cables to the other device (another media converter, hub, etc.) as follows:
 - Connect the male TX cable connector to the female RX port.
 - Connect the male RX cable connector to the female TX port.



Installing the Copper Cable

1. Locate 100Base-TX copper cables with male, RJ-45 connectors installed at both ends.
2. Connect the RJ-45 connector at one end of the cable to the RJ-45 port on the media converter.
3. Connect the RJ-45 connector at the other end of the cable to the RJ-45 port on the other device (wireless access point, VoIP phone, network camera, etc.).



Connecting Power

Use only the Power Supply that shipped with the SPOEB.

1. Connect the barrel connector on the power adapter to the power port on the media converter (back panel).
2. Connect the power adapter plug to AC power.
3. Verify that the front panel PWR LED is lit indicating the SPOEB is powered.



External 90 - 250 VAC Power Supply (TN# 25072) US Power Cord (25071) and SPOEB

Power Supply Included: To order the corresponding country specific power supply, add the Country Code extension to the end of the SKU: -NA = North America, -LA = Latin America, -EU = Europe, -UK = United Kingdom, -SA = South Africa, -JP = Japan, -OZ = Australia, -BR = Brazil.

Operation

Status LEDs

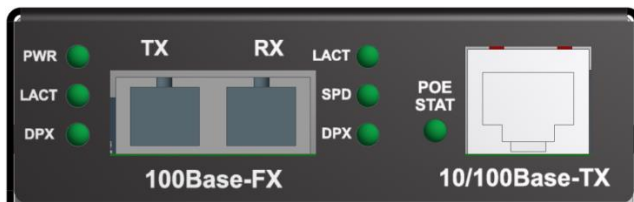
The SPOEB10xx-105 front panels are shown below.



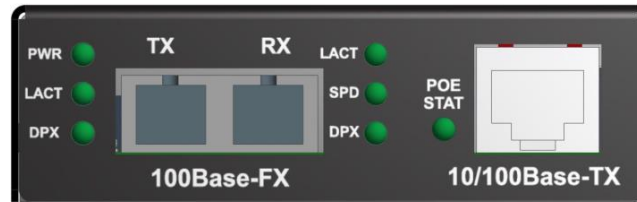
SPOEB1039-105



SPOEB1040-105



SPOEB1011-105



SPOEB1013-105

The SPOEB10xx-105 front panel LEDs are described below.

| LED | Description |
|---------------------|---|
| PWR | Device Power. Green = Power ON. |
| LACT (fiber) | Fiber Link Activity. Green: ON = Link, Blinking = activity. |
| DPX (fiber) | Fiber Duplex mode. Green: ON = Full, OFF = Half. |
| LACT (TP) | TP Link Activity. Green: ON = Link, Blinking = activity. |
| SPD (TP) | TP Speed. Green: ON = 100Mb/s, OFF = 10Mb/s. |
| DPX (TP) | TP Duplex mode. Green: ON = Full, OFF = Half, Blinking = collision. |
| POE STAT | Power over Ethernet State. Green: ON = Enabled, OFF = Disabled. |

LACT = Link Activity. **DPX** = Duplex. **SPD** = Speed. **TP** = Twisted Pair. **LTC** = PoE controller.

PoE Status LED Scheme

The PoE controller component provides the following LED reporting:

| LED Condition | Meaning |
|---------------|--|
| LED Off | Non-Powered Device: 0 ohms < RPORT < 200 ohms. |
| LED Off | Port Open: RPORT > 1M ohms. |
| LED On | Port On: 25k ohms. |
| 1 Flash | Low Signature Resistance: 300 ohms < RPORT < 15k ohms. |
| 2 Flashes | High Signature Resistance: 33k ohms < RPORT < 500k ohms. |
| 5 Flashes | Port Overload Fault. |
| 9 Flashes | Power Management: Allocation Exceeded. |

Cable Specifications

The cable’s physical characteristics must meet or exceed IEEE 802.3™ specifications.

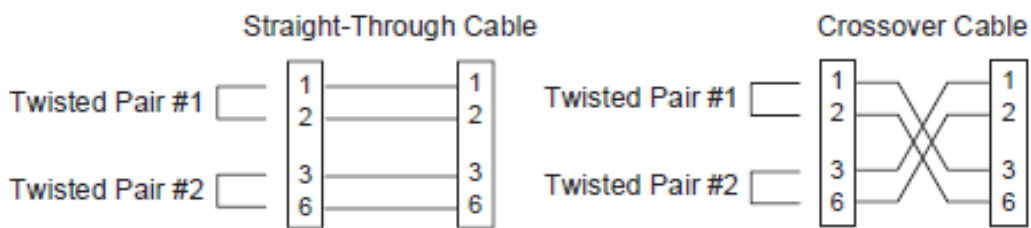
Copper Cable

Category 5: (Minimum Requirement)

Gauge: 24 to 22 AWG

Attenuation: 22.0 dB /100m @ 100 MHz

- Straight-through OR crossover twisted-pair cable may be used.
- Shielded twisted-pair (STP) OR unshielded Twisted-pair (UTP) may be used.
- Pins 1&2 and 3&6 are the two active pairs in an Ethernet network.
- RJ-45 Pin-out: Pin 1 = TD+, Pin 2 = TD-, Pin 3 = RD+, Pin 6 = RD-.
- Use only dedicated wire pairs for the active pins:
(e.g., blue/white & white/blue, orange/white & white/orange, etc.)



- Do not use flat or silver satin wire.

Fiber Cable

The fiber optic transmitters on this device meet Class I Laser safety requirements per IEC-825/CDRH standards and comply with 21 CFR1040.10 and 21CFR1040.11.

Fiber Specifications

| <i>SPOEB1011-105 (ST)</i> | <i>SPOEB1013-105 (SC)</i> | <i>SPOEB1039-105 (LC)</i> |
|--|--|---|
| 1x9, 850nm, ST, MM, 3.3V Multimode, Dual fiber, Distance = 2km, Wavelength = 1310 nm Data rate = 100Mbps Max Spectral Width = 400.0nm FWHM Min Tx Power=-19.0 dBm Max Tx Power=-14.0 dBm Rx Sensitivity=-30.0 dBm Rx Max In Power=-14.0 dBm Link Budget=11.0 dB | 1x9, 850nm, SC, MM, 3.3V Multimode, Dual fiber, Distance = 2km, Wavelength = 1310nm Data rate = 100Mbps Max Spectral Width = 400.0nm FWHM MN Tx Power = -19.0 dBm Max Tx Power = -14.0 dBm Rx Sensitivity = -30.0 dBm Rx Max In Power = -14.0 dBm Link Budget = 11.0 dB | Multi Mode Dual Fiber Wavelength = 1310 nm Laser transmitter TN PN 13300 Spectral Width Max. = 147.0nm FWHM Min. TX Power = -19.0 dBm Max. TX Power = -14.0 dBm RX Sensitivity = -30.0 dBm RX Max. In Power = -14.0 dBm Link Budget = 11.0 dB |

Technical Specifications

For use with Transition Networks SPOEB10xx-100 or equivalent.

| | |
|-------------------|--|
| Standards | IEEE 802.3, IEEE 802.3af |
| Data Rate | 10/100 Mbps |
| Max Frame Size | 1600 bytes (with or without VLAN tag) |
| Mac Addresses | 2K |
| Dimensions | 3.25" x 1" x 4.8" (82 mm x 25.4mm x 120mm) |
| Weight | Device: 0.8 lbs. [362 g] approx. Package: 2 lbs. [0.90 kg]. |
| Power Consumption | 25 Watts |
| Power Supply | External Isolated Class II 30W Power Supply: 90 – 250 VAC (TN# 25072) |
| Environment Tmra | 0° to 40°C (32° to 104°F) (Manufacturer's rated ambient operating temperature) |
| Storage Temp. | -25° to +85°C (-13° to +185°F) |
| Humidity | 5% to 95%, non-condensing |
| Altitude | 0 to 10,000 feet |
| MTBF | 49,981 MIL217F2 Hours; 132,144 Bellcore Hours* |
| Compliance | EN55022:1994+A1:1996+A2:1997 Class A, FCC Part 15 Subpart B, UL 1950 |
| Warranty | Lifetime |

Note: The information in this user's guide is subject to change. For the most up-to-date information on the SPOEB10xx-100 media converter, view the user's guide on-line at: <https://www.transition.com>.

Product is certified by the manufacturer to comply with DHHS Rule 21/CFR, Subchapter J applicable at the date of manufacture.

WARNING: Visible and invisible laser radiation when open. Do not stare into the beam or view the beam directly with optical instruments. Failure to observe this warning could result in an eye injury or blindness.

WARNING: Use of controls, adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

WARNING: If the media converter is an IEEE802.3-2005 Powered Device (PD) capable of receiving power via the Media Dependent Interface (MDI) leads, the power source, connector, and cabling attached to the barrel power connector must meet the isolation requirement specified in IEEE802.3-2005. Failure to observe this warning could result in an electrical shock.

IMPORTANT Copper based media ports, e.g., Twisted Pair (TP) Ethernet, USB, RS232, RS422, RS485, DS1, DS3, Video Coax, etc., are intended to be connected to intra-building (inside plant) link segments that are not subject to lightning transients or power faults. Copper based media ports, e.g., Twisted Pair (TP) Ethernet, USB, RS232, RS422, RS485, DS1, DS3, Video Coax, etc., are NOT to be connected to inter-building (outside plant) link segments that are subject to lightning transients or power faults. Failure to observe this caution could result in damage to equipment.

* MTBF is estimated using the predictability method. This method is based on MIL-217F at 25°C ambient temperature, typical enclosure heat rise of 10°C, and nominal operating conditions and parameters. Installation and configuration specific MTBF estimates are available upon request. Contact Technical Support.

Troubleshooting

If the media converter fails, isolate and correct the fault by determining the answers to the following questions and then take the indicated action:

1. Is the media converter **PWR** LED lit?
NO:
 - Is the barrel connector fully inserted into the media converter?
 - Is the adapter plugged into an AC outlet; if not, plug it into the outlet.
 - Is the AC outlet active? If not, check the outlet's circuit breaker
 - Contact Technical Support; see "[Contact Us](#)" below.YES
 - Go to step 2.
2. Is the **POE STAT** LED lit?
NO
 - Is there an active (connected to another device) RJ-45 cable inserted into the media converter's TX port; if not, insert the cable accordingly.
 - Is power turned on and the power LED lit on the other device? See "[Status LEDs](#)" on page 9.
 - Contact Technical Support; see "[Contact Us](#)" below.YES
 - Go to step 3.
3. Is the copper **TP LACT** LED lit?
NO
 - Check the twisted pair cables for proper installation in the device at both ends.
 - Disconnect and reconnect the twisted pair cable to restart the initialization process.
 - Restart the attached device to restart the initialization process.
 - Contact Technical Support; see "[Contact Us](#)" below.YES
 - Go to step 4.
4. Is the fiber **RX LACT** LED lit?
NO
 - Check the fiber cables for proper connection.
 - Verify that the TX and RX cables on the media converter are connected to the RX and TX ports, respectively, on the other device.
 - Disconnect and reconnect the fiber cable to restart the initialization process.
 - Restart the attached device to restart the initialization process.
 - Contact Technical Support; see "[Contact Us](#)" below.YES
 - Go to step 5.
5. Is data being passed through the device?
NO
 - Ensure the Powered Device (PD) IEEE 802.3af compliant.
 - Ensure the load to the Powered Device (PD) is less than 0.4 Amp.
 - Is a data source connected; if not, connect a data source to the media converter.
 - Is the data source active; if not, start sending data.
 - Are the FX **LACT** and TX **LACT** LEDs flashing? See "[Status LEDs](#)" on page 9.
 - Verify the DIP switch settings. See "[Set the Configuration DIP Switch](#)" on page 4.
 - Check the fiber **SPD** LED condition. See "[Status LEDs](#)" on page 9.
 - Check the fiber **DPX** LED condition. See "[Status LEDs](#)" on page 9.
 - Contact Technical Support; see "[Contact Us](#)" below.

Safety Warnings and Cautions

These products are not intended for use in life support products where failure of a product could reasonably be expected to result in death or personal injury. Anyone using this product in such an application without express written consent of an officer of Transition Networks does so at their own risk, and agrees to fully indemnify Transition Networks for any damages that may result from such use or sale.



Attention: this product, like all electronic products, uses semiconductors that can be damaged by ESD (electrostatic discharge). Always observe appropriate precautions when handling.



Warning: Potential for damage to equipment or personal injury.



Warning: Risk of Electrical Shock

Service, Warranty and Tech Support

Warranty

Limited Lifetime Warranty

Effective for Products Shipped May 1, 1999 and After. Every Transition Networks labeled product purchased after May 1, 1999, and not covered by a fixed-duration warranty will be free from defects in material and workmanship for its lifetime. This warranty covers the original user only and is not transferable.

This warranty does not cover damage from accident, acts of God, neglect, contamination, misuse or abnormal conditions of operation or handling, including over-voltage failures caused by use outside of the product's specified rating, or normal wear and tear of mechanical components. If the user is unsure about the proper means of installing or using the equipment, contact Transition Networks' free technical support services.

Transition Networks will, at its option:

- Repair the defective product to functional specification at no charge
- Replace the product with an equivalent functional product
- Refund a portion of purchase price based on a depreciated value

Return Authorization

To return a defective product for warranty coverage, contact Transition Networks' technical support department for a return authorization number. Transition's technical support department can be reached through any of the following means:

Contact Us

Technical Support: Technical support is available 24-hours a day

US and Canada: 1-800-260-1312 | International: 00-1-952-941-7600

Main Office

tel: +1.952.941.7600 | toll free: 1.800.526.9267 | fax: 952.941.2322

sales@transition.com | techsupport@transition.com | customerservice@transition.com

Address

Transition Networks | 10900 Red Circle Drive | Minnetonka, MN 55343, U.S.A.

Return Instructions

Send the defective product postage and insurance prepaid to the following address:

Transition Networks, Inc.
10900 Red Circle Drive
Minnetonka, MN 55343 USA
Attn: RETURNS DEPT: CRA/RMA # _____

Failure to properly protect the product during shipping may void this warranty. The return authorization number must be written on the outside of the carton to ensure its acceptance. We cannot accept delivery of any equipment that is sent to us without a CRA or RMA number.

CRA's are valid for 60 days from the date of issuance. An invoice will be generated for payment on any unit(s) not returned within 60 days.

Upon completion of a demo/ evaluation test period, units must be returned or purchased within 30 days. An invoice will be generated for payment on any unit(s) not returned within 30 days after the demo/ evaluation period has expired.

The customer must pay for the non-compliant product(s) return transportation costs to Transition Networks for evaluation of said product(s) for repair or replacement. Transition Networks will pay for the shipping of the repaired or replaced in-warranty product(s) back to the customer (any and all customs charges, tariffs, or/and taxes are the customer's responsibility).

Before making any non-warranty repair, Transition Networks requires a \$200.00 charge plus actual shipping costs to and from the customer. If the repair is greater than \$200.00, an estimate is issued to the customer for authorization of repair. If no authorization is obtained, or the product is deemed "not repairable", Transition Networks will retain the \$200.00 service charge and return the product to the customer not repaired.

Non-warranted products that are repaired by Transition Networks for a fee will carry a 180-day limited warranty. All warranty claims are subject to the restrictions and conventions set forth by this document.

Transition Networks reserves the right to charge for all testing and shipping incurred, if after testing, a return is classified as "No Problem Found."

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. TRANSITION NETWORKS IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY. AUTHORIZED RESELLERS ARE NOT AUTHORIZED TO EXTEND ANY DIFFERENT WARRANTY ON TRANSITION NETWORKS'S BEHALF.

Compliance Certifications

CISPR22/EN55022 Class A
CE Mark

FCC Regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Regulations

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Achtung !

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fall ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention !

Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.



In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Transition Networks will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.



CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentliches Telekommunikationsnetz in den EGMitgliedstaaten verstösst gegen die jeweiligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

Declaration of Conformity

DECLARATION OF CONFORMITY

Transition Networks, Inc.
Manufacturer's Name

10900 Red Circle Drive, Minnetonka, Minnesota 55343 U.S.A.
Manufacturer's Address

DECLARES THAT THE PRODUCT(S)
SPOEB1039-105 (LC)
SPOEB1040-105 (SFP)
SPOEB1011-105
SPOEB1013-105

CONFORM TO THE FOLLOWING PRODUCT REGULATIONS:
IEC 60079-0 Ed.6, IEC 60079-15 Ed.4, EN 60079-0:2012, EN 60079-15:2010, IEC 60079-28 Ed.1,
EN 60079-28:2007, CE certified, FCC Part 15, CISPR (EN55022) class
EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8,
and EN61000-4-11, IEC60068-2-27, IEC60068-2-32, IEC60068-2-6, EN60950-1

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standards(s).

Minnetonka, Minnesota November 18, 2015 Stephen Anderson
Place Date Signature

Stephen Anderson Vice President of Engineering
Full Name Position

25141B

Electrical Safety Warnings



Electrical Safety

IMPORTANT: This equipment must be installed in accordance with safety precautions.

Elektrische Sicherheit

WICHTIG: Für die Installation dieses Gerätes ist die Einhaltung von Sicherheitsvorkehrungen erforderlich.

Elektrisk sikkerhed

VIGTIGT: Dette udstyr skal installeres i overensstemmelse med sikkerhedsadvarslerne.

Elektrische veiligheid

BELANGRIJK: Dit apparaat moet in overeenstemming met de veiligheidsvoorschriften worden geïnstalleerd.

Sécurité électrique

IMPORTANT : Cet équipement doit être utilisé conformément aux instructions de sécurité.

Sähköturvallisuus

TÄRKEÄÄ : Tämä laite on asennettava turvaohjeiden mukaisesti.

Sicurezza elettrica

IMPORTANTE: questa apparecchiatura deve essere installata rispettando le norme di sicurezza.

Elektrisk sikkerhet

VIKTIG: Dette utstyret skal installeres i samsvar med sikkerhetsregler.

Segurança eléctrica

IMPORTANTE: Este equipamento tem que ser instalado segundo as medidas de precaução de segurança.

Seguridad eléctrica

IMPORTANTE: La instalación de este equipo deberá llevarse a cabo cumpliendo con las precauciones de seguridad.

Elsäkerhet

OBS! Alla nödvändiga försiktighetsåtgärder måste vidtas när denna utrustning används.

Record of Revisions

| Rev | Date | Description of Changes |
|-----|----------|--|
| A | 7/15/15 | Release for SPOEB10xx-105. All pages at Rev. A. |
| B | 12/30/15 | Add SPOEB1011-105 and SPOEB1013-105. Update DIP switch and Troubleshooting sections. |
| C | 11/29/17 | Update DIP switch 8 description and contact information. |

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Address comments on this product or manual to:

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