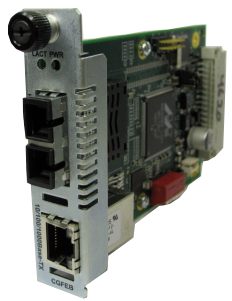
TRANSITION NETWORKS®

CGFEB10xx-12x



User's Guide

CGFEB10xx-12x Slide-in-Module Media Converter

- **Copper to Fiber**
- **10/100/1000Base-T to 1000Base-SX/LX**

Transition Networks CGFEB10xx-12x series media converters, designed to be installed in a PointSystem™ chassis connect 10Base-T, 100Base-TX, or 1000Base-T twisted-pair copper cable to 1000Base-SX or 1000Base-LX fiber devices.

The CGFEB10xx-12x has one copper port and one fiber-optic port.

Part Number	Port 1 - Copper 10/100/1000-Base-T	Port 2 - Duplex Fiber-Optic
CGFEB1013-120	RJ-45 100 m *(328 ft)*	SC, 1000Base-SX, 850nm multimode 220/550m *(720/1,805 ft)*
CGFEB1014-120	RJ-45 100 m *(328 ft)*	SC, 1000Base-LX, 1310nm single mode 10 km *(6.2 miles)*
CGFEB1015-120	RJ-45 100 m *(328 ft)*	SC, 1000Base-LX, 1310nm single mode 25 km *(15.5 miles)*
CGFEB1017-120	RJ-45 100 m *(328 ft)*	SC, 1000Base-LX, 1550nm single mode 65 km *(40.4 miles)*
CGFEB1024-120	RJ-45 100 m *(328 ft)*	SC, 1000Base-LX, 1300nm multimode 2 km *(1.2 miles)**
CGFEB1035-120	RJ-45 100 m *(328 ft)*	SC, 1000Base-LX, 1550nm single mode 120 km *(77.5 miles)*
CGFEB1040-120	RJ-45 100 m *(328 ft)*	1000Base-X SFP slot *(empty)*

*The CGFEB1024 extends 1000Base-LX beyond 220 meters. Transition Networks cannot guarantee a full 2km distance on every installation since the distance is largely dependent on the quality of the fiber cable installation and splicing.

Distances

Distances listed are the typical maximum cable distances. Actual distance is dependent on the physical characteristics of the network these devices are operating on.

Installation 3
Operation 8
Diagnostic Monitoring Interface (DMI) 14
Cable Specifications 15
Technical Specifications 17
Troubleshooting 18
Contact Us 19
Compliance Information 20

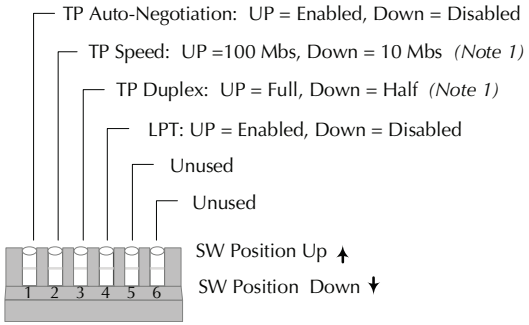
Part Number	Port 1 - Copper 10/100/1000Base-T	Port 2 - Duplex Fiber-Optic 1000Base LX
CGFEB1029-120	RJ-45 100 m *(328 ft)*	SC, 1310nm TX/1550nm RX single mode 20 km *(12.4 miles)*
CGFEB1029-121	RJ-45 100 m *(328 ft)*	SC, 1550nm TX/1310nm RX single mode 20 km *(12.4 miles)*
	Install CGFEB1029-120 and CGFEB1029-121 single-fiber optic in the same network where one is the local converter and the other is the remote converter.	
CGFEB1029-122	RJ-45 100 m *(328 ft)*	SC, 1310nm TX/1550nm RX single mode 40 km *(24.9 miles)*
CGFEB1029-123	RJ-45 100 m *(328 ft)*	SC, 1550nm TX/1310nm RX single mode 40 km *(24.9 miles)*
	Install CGFEB1029-122 and CGFEB1029-123 single-fiber optic in the same network where one is the local converter and the other is the remote converter.	
CGFEB1029-126	RJ-45 100 m *(328 ft)*	SC, 1510nm TX/1590nm RX single mode 80 km *(49.6 miles)*
CGFEB1029-127	RJ-45 100 m *(328 ft)*	SC, 1590nm TX/1510nm RX single mode 80 km *(49.6 miles)*
	Install CGFEB1029-126 and CGFEB1029-127 single-fiber optic in the same network where one is the local converter and the other is the remote converter.	

Installation

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when handling the media converter. Failure to observe this caution could result in damage or failure of the media converter.

Six-position switch

The six-position switch is located on the circuit board of the media converter. Use a small, flat-blade screwdriver *(or a similar device)* to set the switch according to the site requirements *(see the drawing below)*.



Note 1: Only use when Auto-Negotiation is disabled.

1. TP Auto-Negotiation

   UP Enable Auto-Negotiation for the copper connection.
   DOWN Disable Auto-Negotiation for the copper connection.

2. TP Speed 10Mbs/100Mbs

   UP Set copper connection speed to 100Mbs.
   DOWN Set copper connection speed to 10Mbs.

3. TP Full/Half Duplex

   UP Operate in full-duplex mode.
   DOWN Operate in half-duplex mode of the attached device.

4. Link Pass-Through (LPT)

   UP Enable Link Pass-Through
   DOWN Disable Link Pass-Through.

5. Not used
6. Not used

Installation—continued

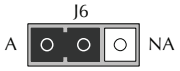
AutoCross jumper

The AutoCross feature allows either straight-through (MDI) or crossover (MDI-X) cables to be used when connecting to 10Base-T, 100Base-TX, or 1000Base-T devices, such as hubs, transceivers, or network interface cards (NICs). AutoCross determines the characteristics of the cable connection and automatically configures the unit to link up regardless of the cable configuration.

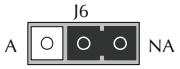
The AutoCross jumper is located on the circuit board of the media converter *(labeled NA = No Autocross and A = AutoCross)*. See Jumper positions below.

Note: Use small, needle-nose pliers to set the jumper.

A — Either straight-through or crossover cable can be used for all twisted-pair copper links.



NA — Straight-through or crossover twisted-pair cable, depending on installed site devices, MUST be installed at EACH twisted-pair copper link.



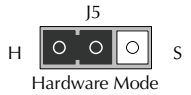
Note: Factory default is "A" enabled. Transition Networks recommends leaving the device in the "enable" mode.

Hardware/software jumper

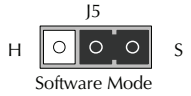
The hardware/software jumper is located on the circuit board *(labeled H and S—see figure to the right.)*

Note: Use small needle-nose pliers to set the jumper.

Hardware — The media converter mode is determined by the 6-position switch settings.



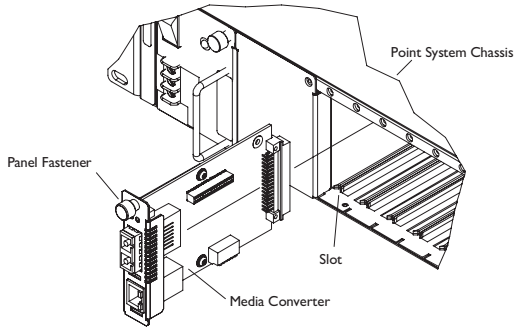
Software — The media converter mode is determined by the most-recently saved, on-board microprocessor settings.



Installation—continued

Install the chassis card

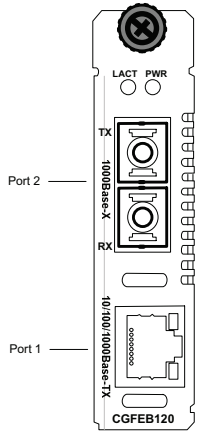
1. Remove one chassis slot cover from the Point System Chassis *(keep the slot cover and screw)*.
2. Carefully slide the media converter into the slot, aligning it with the slot guide.
3. Ensure that the media converter is firmly seated inside the chassis.
4. Push in and rotate the attached panel fastener screw clockwise to secure the media converter to the chassis. See illustration below.



Port Locations

The drawing below show the locations of Port 1 and Port 2

The CGFEB10xx-12x models have two ports.



Port 1: 10/100/1000Base-T

Port 2: 1000Base-SX or 1000Base-LX

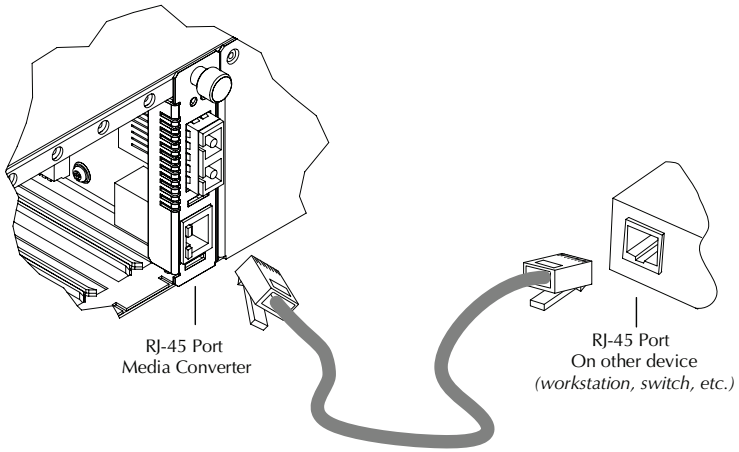
Installation—continued

Install the cable

Port 1: 10/100/1000Base-T Copper Port

1. Locate a 10/100/1000Base-T compliant copper cable with male, RJ-45 connectors installed at both ends.
2. Connect the RJ-45 connector at one end of the cable to the media converter's 10/100/1000Base-T, RJ-45port *(port 1).*
3. Connect the RJ-45 connector at the other end of the cable to the 10/100/1000Base-T, RJ-45 port on the other device *(switch, workstation, etc.)*.

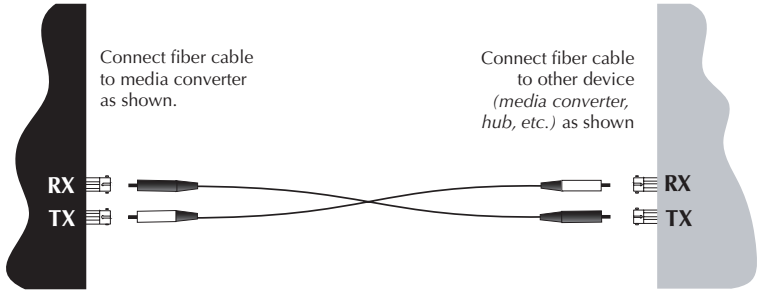
Note: The AutoCross feature *(when enabled)* allows the use of either straight-through or crossover configuration cables.



Installation -- continued

Port 2: 1000Base-X Fiber Port

1. Locate a 1000Base-X compliant fiber cable with male, two-stranded TX to RX connectors installed at both ends.
2. Connect the fiber cables to the media converter's 1000Base-X fiber port *(port 2)* as described:
   - Connect the male TX cable connector to the female TX connector.
   - Connect the male RX cable connector to the female RX connector.
3. Connect the fiber cables to the 1000Base-X fiber port on the other device *(another media converter, hub, etc.)* as described:
   - Connect the male TX cable connector to the female RX connector.
   - Connect the male RX cable connector to the female TX connector.



Operation

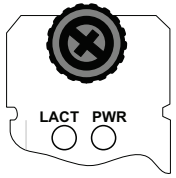
Status LEDs

Use the status LEDs to monitor the media converter operation in the network.

Fiber status LEDs

The status LEDs for the 1000Base-SX/LX fiber connection *(labeled LACT and PWR)* are located next to the fiber port *(Port 2)*.

PWR:	Power	ON = Connection to chassis power.
LACT:	Link activity	ON = A link has been established for the fiber connection. Flashing = The fiber connection is transmitting or receiving data.



Copper status LEDs

The status LEDs for the copper connection are integrated into the RJ-45 port. These LEDs are not labeled on the media converter. See text and drawing below.

Duplex/Link:

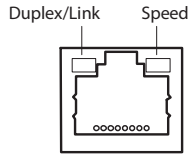
Orange	A link in half-duplex mode has been established for the copper connection.
Flashing Orange	The copper connection is transmitting/receiving data in half-duplex mode.
Green	A link in full-duplex mode has been established for the copper connection.
Flashing Green	The copper connection is transmitting/receiving data in full-duplex mode.

Note: Speed LED:

There are two possible LED states associated 100 Mb/s operation:

- On some units at 100 Mb/s, the speed LED will remain OFF.
- On others units at 100 Mb/s, the speed LED will turn ON orange.

OFF	10 Mb/s or 100 Mb/s operation.
Orange	100 Mb/s operation *(only)*
Green	1000 Mb/s operation *(only)*



10/100/1000Base-T

Operation—continued

Product features

Auto-Negotiation

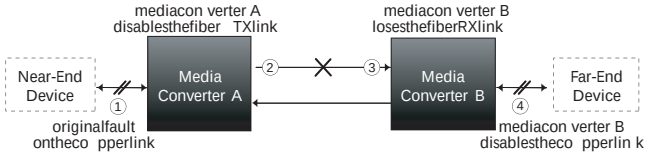
The Auto-Negotiation feature allows the CGFEB10xx-12x media converter to automatically configure itself to achieve the best possible mode of operation over a link. The media converter broadcasts its speed *(10 Mbps, 100 Mbps, or 1000 Mbps)* and duplex capabilities *(full or half)* to the other devices and negotiates the best mode of operation. Auto-Negotiation allows quick and easy installation because the optimal link is established automatically. No user intervention is required to determine the best mode of operation.

A scenario where the media converter is linked to a non-negotiating device is a case where the user may want to disable Auto-Negotiation. In this instance, the mode of operation will drop to the least common denominator between the two devices *(e.g. 100 Mb/s, half-duplex)*. Disabling this feature gives the user the ability to force the connection to the best mode of operation.

Note: The CGFEB10xx-12x and SGFEB10xx-12x also support 1000 Mbps fiber Auto-Negotiation.

Link Pass-Through

The Link Pass-Through feature 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 (1), the media converter will automatically disable the TX *(transmit)* signal (2), thus, "passing through" the link loss (3). The far-end device is automatically notified of the link loss (4), which prevents the loss of valuable data unknowingly transmitted over an invalid link.



Full-Duplex Network

In a full-duplex network, maximum cable lengths are determined by the type of cables that are used. See pages 1 and 2 for the cable specifications for the different CGFEB1xxx-1xx models.

The 512-Bit Rule does not apply in a full-duplex network.

Operation—continued

Product features—continued

Half-Duplex network *(512-Bit Rule)*

In a half-duplex network, the maximum cable lengths are determined by the round trip delay limitations of each Fast Ethernet collision domain. *(A collision domain is the longest path between any two terminal devices, e.g. a terminal, switch, or router.)*

The 512-Bit Rule determines the maximum length of cable permitted by calculating the round-trip delay in bit-times (BT) of a particular collision domain. If the result is less than or equal to 512 BT, the path is good.

For more information on the 512-Bit Rule, see the white paper titled "Collision Domains" on the Transition Networks website at: www.transition.com.

Pause

The pause feature is used to suspend data transmission temporarily in order to relieve buffer congestion. If a media converter needs some additional time to clear network congestion, it will send a pause signal to the media converter at the other end, that media converter will wait a predetermined amount of time before re-transmitting data. This feature reduces data bottlenecks, allowing for more efficient use of the network devices while preventing the loss of valuable data.

In Software mode, the pause feature can be set to one of four settings:

- Disable *(i.e., no pause)*
- Symmetrical pause
- Asymmetric TX (*transmit)* pause
- Asymmetric RX *(receive)* pause

Note: Enable the pause feature if it is present on ALL network devices attached to the media converter(s). Otherwise, disable the pause feature.

AutoCross™

The AutoCross feature allows either straight-through (MDI) or crossover (MDI-X) cables to be used when connecting to devices such as hubs, transceivers, or network interface cards (NICs). AutoCross determines the characteristics of the cable connection and automatically configures the unit to link up, regardless of the cable configuration.

Automatic link restoration

The converter will automatically restore the link between networked devices after a fault condition has been corrected. In contrast, products from competitors require the user to power down, then power up the converters after a fault condition has been corrected.

Operation—continued

SNMP

See the on-line documentation that comes with Transition Networks FocalPoint™ software for applicable commands and usage.

Use SNMP at an attached terminal or at a remote location to monitor the media converter by monitoring:

- Copper and fiber link status
- Copper and fiber port duplex
- Copper port speed

Use SNMP to enter network commands that:

- Set copper full/half-duplex
- Set copper connection speed *(10Mbs/100Mbs/1000Mbs)*
- Enable/Disable Link Pass-Through
- Enable/Disable Auto-Negotiation
- Enable/Disable Port VLAN
- Set Administrative State UP pass traffic/Down do not pass traffic
- Set Egress and Ingress rate *(unlimited or incremental)*
- Reset Factory Defaults
- Reset Counters
- Reset Switch

Port 1

- Select Speed *(10Mbs/100Mbs)*
- Set port RX/RT pairs: MDI/MDI-X/Auto
- Set Half/Full Duplex
- Enable/Disable Default Forward Unknown Muliticasts
- Enable/Disable Forward Unknown Unicast
- Set VLAN Tagging *(normal/untag/tag/double tag)*
- Enable/Disable Discard Tagged Frames
- Enable/Disable Discard Untagged Frames
- Enable/Disable Use IP
- Enable/Disable Use Tag (enabled/disabled)
- Tag if both *(use tag/use IP)*
- Set Default Priority *(1 thru 7)*
- Set Default VID
- Set IEEE priority remapping *(tags 0 thru 7)*
- Virtual Cable Test

Port 2

Same as for Port 1 plus the following:

- Set Rx Power Intrusion Threshold

Operation—continued

Bandwidth allocation

It allows setting the bandwidth in varied increments, starting at 64 Kbps to full bandwidth.

Rate limiting based on frame priorities can also be configured. Each higher priority frame can be configured to get twice the bandwidth of lower priority frames; e.g., priority “3” frame configurations can get twice the bandwidth of priority “2” frames.

Egress bandwidth allocation in 64Kbits/sec increments:

- Rate limit all frames

Ingress bandwidth allocation in 64Kbits/sec increments with four filter selections:

- Rate limit all frames
- Rate limit multicast, flooded unicast, and broadcast
- Rate limit multicast and broadcast
- Rate limit broadcast

Port-Based VLAN

Allows secure traffic forwarding in one direction only.

RMON Counter on each port

RMON statistics such as packet size counters, collision errors, and packet type are kept for each port.

Switch selectable speed

On unshielded twisted pair (UTP) when Auto-Negotiation is disabled, the speed can be set in either software or hardware mode.

Virtual cable test (VCT) on UPT port

The VCT feature utilizes Time Domain Reflectometry (TDR) technology to remotely and non-evasively diagnose the quality and characteristics of the attached cable plant. Using this technology, the devices detect and report potential cabling issues such as cable opens, cable shorts or any impedance mismatch in the cable and then accurately report *(within one meter)* the distance of the fault. In addition, the VCT technology will detect pair swaps, pair polarity reversal, and excessive pair skew.

Operation—continued

Product features—continued

IEEE802.1q VLAN tagging and double tagging *(Q in Q)*

The 802.1Q specification establishes a standard method for inserting virtual LAN (VLAN) membership information called tagging Ethernet frames to break large networks into smaller parts or to address security concerns. Q in Q support simply adds another layer of IEEE 802.1Q tag to the 802.1Q tagged packets that enter the network. The purpose is to expand the VLAN space by tagging the tagged packets, thus producing a "double-tagged" frame.

VLAN tagging can be configured to one of the following settings:

- Normal = frames are unmodified when passing through the converter
- Untag = all tagged frames will have their tag removed when passing through converter
- Tag = all untagged frames are tagged with the source port default VLAN ID
- Double Tag = all egress frames are double tagged using the source port default VLAN ID for the extra tag. This also enables ingress double tag removal.

Ingress:

a. Frame does not contain a tag, frame is not modified
b. Frame contains one 802.3ac tag, tag is removed
c. Frame contains two 802.3ac tags, the first tag is removed

Egress:

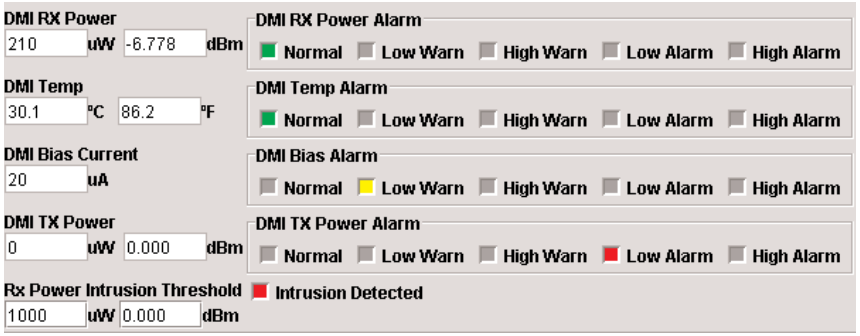
a. Frame is untagged, tag is added
b. Frame contains one 802.3ac tag, tag is added before the current one becomes the frames new 802.3ac tag

IEEE802.1p QoS, IPv4 ToS/Diffserv, IPv6 Traffic class

The 802.1p specification is an extension of the IEEE 802.1Q standard and works in tandem to define the prioritization of the Ethernet frame for traffic class expediting and dynamic multicast filtering. IEEE 802.1p establishes eight levels of priority *(0 ~ 7)* with 7 being the highest priority. Each egress Ethernet frame can be prioritized using IEEE 802.1p *(MAC level)* Traffic Class, or IPV4 TOS and/or DiffServ and/or IPV6 Traffic Class.

Diagnostic Monitoring Interface (DMI)

The following DMI port screen and explanation table contains brief definitions of the DMI support offered on Transition Networks' SFP optical interfaces. For further information, please see the help option on the CPSMM-xxx SNMP agent or Focal Point, Transition Networks' GUI.



Variable Name	Description
DMI Rx Power	Measured Receive optical power in microwatts and in decibels relative to 1mW.
DMI Rx Power Alarm	Alarm status of measured Receive optical power.
DMI Temp	Internally measured temperature of transceiver in degrees C and degrees F.
DMI Temp Alarm	Alarm status for internally measured temperature of transceiver.
DMI Bias Current	Measured transmit bias current in microamperes.
DMI Bias Alarm	Alarm status for measured transmit bias current for the interface.
DMI Tx Power	Measured transmit power, in microwatts and in decibels relative to 1mW.
DMI Tx Power Alarm	Alarm status of measured transmit power.
Rx Power Intrusion Threshold	Instructs the converter to stop passing traffic when the receive power drops below the new threshold. This feature is sometimes referred to as 'Intrusion Detection,' since tapping into a fiber to intercept traffic leads to a reduction in receive power. This value can be entered in microwatts or in decibels relative to 1mW. **Note:** This feature is not available on all devices.

Cable Specifications

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

Fiber cable

Bit Error Rate:	$<10^{-9}$
Single mode fiber *(recommended)*:	9 µm
Multimode fiber *(recommended)*:	62.5/125 µm
Multimode fiber *(optional)*:	100/140, 85/140, 50/125 µm
CGFEB1013-120	850nm multimode
Fiber Optic Transmitter Power:	min: -10.0 dBm max: -4.0 dBm
Fiber Optic Receiver Sensitivity:	min: -17.0 dBm max: 0.0 dBm
Link Budget:	7.0 dB
CGFEB1014-120	1310nm single mode
Fiber Optic Transmitter Power:	min: -13.0 dBm max: -3.0 dBm
Fiber Optic Receiver Sensitivity:	min: -20.0 dBm max: -3.0 dBm
Link Budget:	7.0 dB
CGFEB1015-120	1310nm single mode
Fiber Optic Transmitter Power:	min: -5.0 dBm max: -0.0 dBm
Fiber Optic Receiver Sensitivity:	min: -20.0 dBm max: -3.0 dBm
Link Budget:	15.0 dB
CGFEB1017-120	1550nm single mode
Fiber Optic Transmitter Power:	min: -3.0 dBm max: 2.0 dBm
Fiber Optic Receiver Sensitivity:	min: -23.0 dBm max: -3.0 dBm
Link Budget:	20.0 dB
CGFEB1024-120	1300nm multimode*
Fiber Optic Transmitter Power:	min: -10.0 dBm max: -3.0 dBm
Fiber Optic Receiver Sensitivity:	min: -17.0 dBm max: -3.0 dBm
Link Budget:	7.0 dB
CGFEB1029-120	1310nm TX/1550 RXnm single mode
CGFEB1029-121	1550nm TX/1310nm RX single mode
Fiber Optic Transmitter Power:	min: -8.0 dBm max: -3.0 dBm
Fiber Optic Receiver Sensitivity:	min: -21.0 dBm max: -3.0 dBm
Link Budget:	13.0 dB
CGFEB1029-122	1310nm TX/1550nm RX single mode
CGFEB1029-123	1550nm TX/1310nm RX single mode
Fiber Optic Transmitter Power:	min: -3.0 dBm max: +2.0 dBm
Fiber Optic Receiver Sensitivity:	min: -23.0 dBm max: -8.0 dBm
Link Budget:	20.0 dB

*Fiber cable for CGFEB1024-120 must be 62.5/125 µm.

Cable Specification—continued

Fiber cable—continued

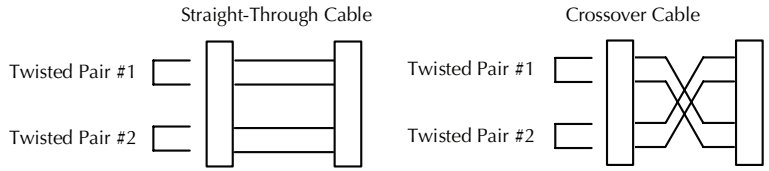
CGFEB1029-126	1510nm TX/1590nm RX single mode	
CGFEB1029-127	1590nm TX/1510nm RX single mode	
Fiber Optic Transmitter Power:	min: -2.0 dBm	max: -3.0 dBm
Fiber Optic Receiver Sensitivity:	min: -26.0 dBm	max: -3.0 dBm
Link Budget:	24.0 dB	
CGFEB1035-120	1550nm single mode	
Fiber-optic Transmitter Power:	min: 0.0 dBm	max: +5.0 dBm
Fiber-optic Receiver Sensitivity:	min: -27.0 dBm	max: -3.0 dBm
Link Budget:	27.0 dB	

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.

Copper cable

Category 5 *(minimum requirement)*	
Gauge:	24 to 22 AWG
Attenuation:	22.0 dB /100 m @ 100 MHz
Maximum Cable Distance:	100 meters

- Straight-through OR crossover twisted-pair cable may be used.
- Shielded (STP) OR unshielded (UTP) twisted-pair cable may be used.
- All pin pairs *(1&2, 3&6, 4&5, 7&8)* are active pins in a Gigabit Ethernet network.
- 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.



Technical Specifications

For use with Transition Networks Model CGFEB10xx-12x..

Standards:	IEEE 802.3™, IEEE 802.3ab, IEEE 802.3u, IEEE 802.3z, IEEE802.1P, IEEE 802.1q
Dimensions:	5.0" x 3.4" x 0.86" *(127 x 86 x 22 mm)*
Weight:	1.0 lb *(0.45 k g)*
Power Consumption:	4.8 watts
Data Rate *(copper)*:	10/100/1000 Mbps
Data Rate *(fiber)*:	1000 Mbps *(operates in full-duplex only)*
Filtering Addresses:	8K MAC addresses
Maximum Frame Size:	1628 bytes tagged *(IEEE 802.3ac)* 1632 bytes untagged
MTBF:	474,662 hours *(MIL217F2V5.0) (MIL-HDBK-217F)* 1,317,534 hours *(Bellcore7 V5.0)*
Environment:	See chassis specifications
Storage Temp:	-40°C to 85°C *(-40°F to 185°F)*
Humidity:	5% to 95%, non-condensing
Altitude:	0 to 10,000 feet
Warranty:	Lifetime

*Manufacturer's rated ambient temperature: Tmra range for the CGFEB10xx-12x depends on the Transition Networks PointSystem™ chassis in which this slide-in-module will be installed.

The information in this user's guide is subject to change. For the most up-to-date information, see the user's guide on-line at: www.transition.com.

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.

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 lightening 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 lightening transients or power faults.

Troubleshooting

1. Is the Power LED illuminated?
   NO
   - Is the media converter inserted properly into the chassis?
   - Is the power cord properly installed in the chassis and in the grounded AC outlet?
   - Does the grounded AC outlet provide power?
   - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

   YES
   - Proceed to step 2.

2. Is the Duplex LED illuminated orange OR green?
   NO
   - Check the copper cables for proper connection.
   - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

   YES - Orange
   - The media converter has selected half-duplex mode. If this is not the correct mode, disconnect and reconnect the copper cable to restart the initialization process.
   - Proceed to step 3.

   YES - Green
   - The media converter has selected full-duplex mode. If this is not the correct mode, disconnect and reconnect the copper cable to restart the initialization process.
   - Proceed to step 3.

3. Is the LACT LED illuminated?
   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.
   - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

   YES
   - Proceed to step 4.

4. Is the Speed LED illuminated?
   NO
   - The media converter has selected 10 Mb/s operation. If this is not the correct speed, disconnect and reconnect the copper cable to restart the initialization process.
   - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

   YES - Flashing Orange
   - The media converter has selected 100 Mb/s speed. If not the correct speed, disconnect and reconnect the copper cable to re-initialize.
   - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

   YES - Flashing Green
   - The media converter has selected 1000 Mb/s operation. If this is not the correct speed, disconnect and reconnect the copper cable to re-initialize.
   - Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

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

Transition Now

Chat live via the Web with Transition Networks Technical Support.
Log onto www.transition.com and click the Transition Now link.

Web-Based Seminars

Transition Networks provides seminars via live web-based training.
Log onto www.transition.com and click the Learning Center link.

E-Mail

Ask a question anytime by sending an e-mail to our technical support staff.
techsupport@transition.com

Address

Transition Networks
10900 Red Circle Drive,
Minnetonka, MN 55343, U.S.A.
telephone: 952-941-7600
toll free: 800-526-9267
fax: 952-941-2322

TRANSITION NETWORKS

Declaration of Conformity

Name of Mfg: Transition Networks
10900 Red Circle Drive, Minnetonka MN 55343 U.S.A.

Model: CGFEB10xx-12x Series Media Converters

Part Number(s): CGFEB1013-120, CGFEB1014-120, CGFEB1015-120, CGFEB1017-120, CGFEB1024-120, CGFEB1029-120, CGFEB1029-121, CGFEB1029-122, CGFEB1029-123, CGFEB1029-126, CGFEB1029-127,CGFEB1035-120, CGFEB1040-120

Purpose: To declare that the CGFEB10xx-12x to which this declaration refers is in conformity with the following directive(s) standard(s):

EMC Directive 2004/108/EC; EN 55022:2006+A1:2007 Class A; EN55024:1998+A1:2001+A2:2003; EN61000-3-2; EN61000-3-3; CFR Title 47 Part 15 Subpart B Class A; Low Voltage Directive: 2006/95/EC; CFR Title 21 Section 1040.10 Class II, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Stephen Anderson, Vice-President of Engineering

June 2011
Date

Compliance Information

CISPR22/EN55022 Class A, EN55024, EN61000, FCC 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 lass 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 Fäll ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention !

Ceci est un produit de Classe A. Dans un environment domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilsateur de prende les measures 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 öffentlickes Telekommunikationsnetz in den EG-Mitgliedstaaten verstösst gegen die jeweligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

Trademark Notice

All trademarks and registered trademarks are the property of their respective owners.

Copyright Restrictions