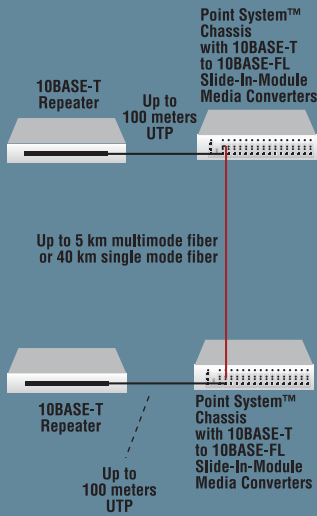


Ethernet Copper to Fiber Media Converter



- ▶ Integrate mixed cabling environments in either switched or shared Ethernet networks.
- ▶ Connect legacy 10BASE-T devices to a fiber based cabling infrastructure.

Extend Network Distance & Connect Unlike Devices



▶ Extend Network Distance

Two 10BASE-T to 10BASE-FL Media Converters used back-to-back extend the distance between two 10BASE-T devices up to 5 km (3.1 mi.) using multimode fiber or up to 40 km (24.9 mi.) using single mode fiber without a repeater.

▶ Connect Unlike Devices

Connect your workgroup to a distant server or a central switch; or extend distances between like and unlike devices in either full or half-duplex modes.

Specifications

See pages 171 – 181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™ 10BASE-T; 10BASE-FL
4-position Switch	Fiber Port: Enables / disables network traffic on the fiber port; (Up = enabled) Copper Port: Enables / disables network traffic on the copper port; (Up = enabled) AutoCross™: Enables / disables AutoCross™ function; (Up = enabled) Link Pass Through: Enables / disables Link Pass Through function; (Up = enabled)
3-position Jumper	Hardware: Converter mode is determined by 4-position switch settings Software: Converter mode is determined by most recently saved on-board microprocessor settings.
Status LEDs	PWR (Power): On for normal operation; LKF (Link Fiber): Steady LED indicates good fiber link and normal operation; RXF (Receive Fiber): Flashing LED indicates data reception on fiber link; LKC (Link Copper): Steady LED indicates good copper link and normal operation; RXC (Receive Copper): Flashing LED indicates data reception on copper link
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	2.3 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	EN55022; EN55024; EN61000; CE Mark
Warranty	Lifetime

See Also:

- ▶ Ethernet Stand-Alone Media Converters
pages 74 – 75

CETTF10xx-x0x



Features (both Class A & B)

- ▶ Can be used with any Point System™ Chassis (see pages 20 & 21)
- ▶ AutoCross™ (see page 14)
- ▶ Link Pass Through (see page 15)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Remote Firmware Upgrade (see page 16)

See pages 171–181 for complete fiber optic connector specs.

Ordering Info: Class A

CETTF1011-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 850nm MM (ST)
[2 km/1.2 mi.] Link Budget: 13.5 dB

CETTF1013-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 850nm MM (SC)
[2 km/1.2 mi.] Link Budget: 13.5 dB

CETTF1018-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 850nm MM (MT-RJ)
[2 km/1.2 mi.] Link Budget: 13.5 dB

CETTF1027-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1300nm MM (ST)
[5 km/3.1 mi.] Link Budget: 13.5 dB

CETTF1012-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm SM (ST)
[20 km/12.4 mi.] Link Budget: 7.0 dB

CETTF1014-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm SM (SC)
[20 km/12.4 mi.] Link Budget: 15.0 dB

CETTF1022-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm SM (ST)
[40 km/24.9 mi.] Link Budget: 19.0 dB

CETTF1015-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm SM (SC)
[40 km/24.9 mi.] Link Budget: 14.0 dB

Single Fiber Products Recommended use in pairs (see page 17)

CETTF1029-105
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm TX / 1550nm RX
single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

CETTF1029-106
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1550nm TX / 1310nm RX
single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

Ordering Info: Class B

CETTF1011-200
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 850nm MM (ST)
[2 km/1.2 mi.] Link Budget: 13.5 dB

CETTF1013-200
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 850nm MM (SC)
[2 km/1.2 mi.] Link Budget: 13.5 dB

CETTF1027-200
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1300nm MM (ST)
[5 km/3.1 mi.] Link Budget: 13.5 dB

CETTF1012-200
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm SM (ST)
[20 km/12.4 mi.] Link Budget: 7.0 dB

CETTF1014-200
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm SM (SC)
[20 km/12.4 mi.] Link Budget: 7.0 dB

CETTF1022-200
10BASE-T (RJ-45) [100 m/328 ft.]
to 10BASE-FL 1310nm SM (ST)
[40 km/24.9 mi.] Link Budget: 19.0 dB

FCC & CISPR Class A devices comply with radiated emissions standards for commercial applications in the United States (FCC Class A) and Europe (CISPR Class A).

FCC & CISPR Class B devices comply with radiated emissions standards for residential applications in the United States (FCC Class B) and Europe (CISPR Class B).

- fast ethernet
- 10/100 bridging
- 100/1000 bridging
- 10/100/1000
- gigabit ethernet
- atm/oc-x
- ds3-t3/e3
- high speed serial
- rs232
- rs422/485
- t1/e1
- e&m, 2/4-wire
- pots 2-wire
- video

Speed Selectable Media Converter



▶ **Selectable speed setting:**
The converter can be set to 10Mbps or 100Mbps. Both copper and fiber ports are automatically set to the same speed.

- ▶ Provides easy migration path from 10Mbps to 100Mbps networks
- ▶ Converts copper to fiber to assist with fiber integration into your copper network

Transition Networks's speed selectable copper to fiber Media Converter allows you to extend the distance between copper based connections with the use of fiber optic cable. The ability to select the speed of converter allows for easy migration from a 10Mbps network today to a 100Mbps network in the future. This converter is a true layer 1 device as both the copper and fiber ports operate at the same speed setting (i.e. 100BASE-TX to 100BASE-FX). **For 10Mbps applications, these devices must be used in pairs.**

Features

- ▶ AutoCross™ (see page 14)
- ▶ Link Pass Through (see page 15)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Supports single mode fiber

Management Features

- ▶ Report local converter status to chassis:
 - Copper/fiber link status
 - Hardware/Software mode
 - 10Mb or 100Mb speed setting
 - Link Pass Through on/off setting
- ▶ Write operation includes:
 - Enable/disable Link Pass Through
 - Set speed to 10Mb or 100Mb
- ▶ Can be used with any Point System™ Chassis (see pages 20 & 21)

See Also:

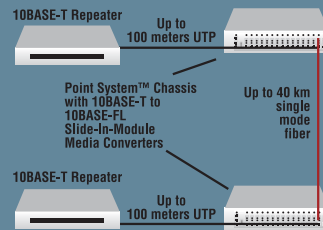
- ▶ Ethernet or Fast Ethernet Speed Selectable Stand-Alone Media Converters

page 80

CSEFE10xx-10x



Extend Network Distance

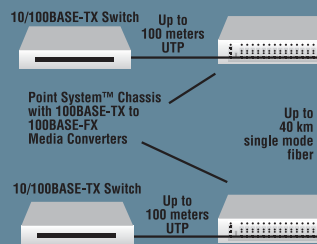


Ethernet

Use the 10BASE-T to 10BASE-FL speed setting (back-to-back) to extend the distance between two 10BASE-T devices up to 40 km (24.9 mi.) using single mode fiber without a repeater.

Fast Ethernet

Use the 100BASE-TX to 100BASE-FX setting to extend the distance between any two 100BASE-TX devices up to 40 km (24.9 mi.) using single mode fiber. Or interface directly with a 100BASE-FX compliant port on any device to provide a 100BASE-TX port interface.



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
Switches	Switch 1: Link Pass Through on/off Switch 2: 10Mb or 100Mb operation
3-position Jumper	Hardware: Converter mode is determined by DIP switch settings Software: Converter mode is determined by most recently saved on-board microprocessor settings
Status LEDs	PWR (Power): Lit for normal operation F-ACT (Fiber Activity): Blinking = data reception on the fiber link F-100 (Fiber Speed): ON = link at 100Mb F-10 (Fiber Speed): ON = link at 10Mb C-ACT (Copper Activity): Blinking = data reception on the copper link C-100 (Copper Speed): ON = link at 100Mb C-10 (Copper Speed): ON = link at 10Mb
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	3.6 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A; EN55024; EN60950 Class A; FCC Class A; CE Mark
Warranty	Lifetime

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CSEFE1012-100

10BASE-T or 100BASE-TX (RJ-45)
[100 m/328 ft.]
to 10BASE-FL or 100BASE-FX 1310nm SM (ST)
[20 km/12.4 mi.] Link Budget: 17.0 dB

CSEFE1014-100

10BASE-T or 100BASE-TX (RJ-45)
[100 m/328 ft.]
to 10BASE-FL or 100BASE-FX 1310nm SM (SC)
[20 km/12.4 mi.] Link Budget: 17.0 dB

CSEFE1022-100

10BASE-T or 100BASE-TX (RJ-45)
[100 m/328 ft.]
to 10BASE-FL or 100BASE-FX 1310nm SM (ST)
[40 km/24.9 mi.] Link Budget: 26.0 dB

CSEFE1015-100

10BASE-T or 100BASE-TX (RJ-45)
[100 m/328 ft.]
to 10BASE-FL or 100BASE-FX 1310nm SM (SC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

CSEFE1029-100

10BASE-T or 100BASE-TX (RJ-45)
[100 m/328 ft.]
to 10BASE-FL or 100BASE-FX 1310nm TX / 1550nm RX single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

CSEFE1029-101

10BASE-T or 100BASE-TX (RJ-45)
[100 m/328 ft.]
to 10BASE-FL or 100BASE-FX 1550nm TX / 1310nm RX single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

Fast Ethernet Class A Media Converter



- ▶ Integrate fiber into a copper environment
- ▶ Provides a fiber interface when connected to devices with RJ-45 ports.

▶ **Extend Network Distance:**
Deploy fiber in a strategic and economical manner by using Fast Ethernet converters. Fast Ethernet converters can extend distances that copper cannot reach.

Features

- ▶ Round trip delay of only 40 bit times —far below the Class II rating of 92 bit times.
- ▶ Auto-Negotiation (see page 14)
- ▶ AutoCross™ (see page 14)
- ▶ Link Pass Through (see page 15)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Can be used with any Point System™ Chassis (see pages 20 & 21)

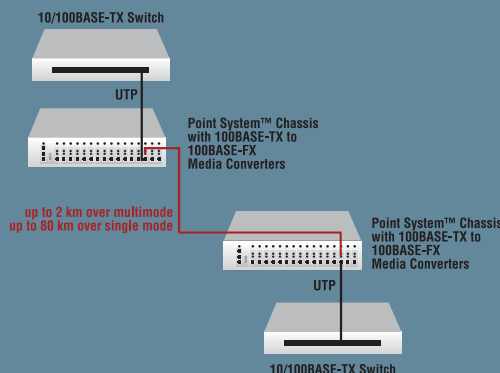
CFETF10xx-105



ethernet fast ethernet

- 10/100 bridging
- 100/1000 bridging
- 10/100/1000
- gigabit ethernet
- atm/oc-x
- ds3-t3/e3
- high speed serial
- rs232
- rs422/485
- t1/e1
- e&m, 2/4-wire
- pots 2-wire
- video

Extend Network Distance



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
3-position Jumper	Hardware: Converter mode is determined by 4-position switch settings. Software: Converter mode is determined by most recently saved on-board microprocessor settings.
4-position Switch	Auto-Negotiation (UP = enabled): Allows detection of, and adaptation to, full-duplex or half-duplex mode in device attached to copper link. Link Pass Through (UP = enabled): Allows a fault EITHER on the copper OR on the fiber side of the media converter to stop signal and data transmission on the other side. AutoCross™ (UP = enabled): Allows straight-through twisted pair cable to be used for crossover connections.
Status LEDs	Power: Indicates that DC power is connected TX (Link Copper): ON indicates TP link; Blinking indicates TP receive; FX (Link Fiber): ON indicates fiber link; Blinking indicates Fiber receive
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	3.4 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CE Mark, FCC Class A; CISPR Class A; VCCI Class 1
Warranty	Lifetime

Ordering Info [Class A]

See pages 171–181 for complete fiber optic connector specs.

CFETF1011-105
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 11.0 dB

CFETF1013-105
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB

CFETF1018-105
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1300nm MM (MT-RJ)
[2 km/1.2 mi.] Link Budget: 14.5 dB

CFETF1014-105
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm SM (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

CFETF1015-105
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm SM (SC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

CFETF1016-105
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm SM (SC)
[60 km/37.3 mi.] Link Budget: 29.0 dB

CFETF1017-105
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1550nm SM (SC)
[80 km/49.7 mi.] Link Budget: 29.0 dB

FCC & CISPR Class A devices comply with radiated emissions standards for commercial applications in the United States (FCC Class A) and Europe (CISPR Class A).

FCC & CISPR Class B devices comply with radiated emissions standards for residential applications in the United States (FCC Class B) and Europe (CISPR Class B).

[See CFETF10xx-205 for Class B product.]

See Also:

- ▶ Fast Ethernet Stand-Alone Media Converters

pages 81 –82

Fast Ethernet Class B Media Converter



▶ Integrate fiber into copper based environments that require Class B rated products.

▶ Can be used with any Point System™ Chassis (see pages. 20 & 21)

▶ Should be used in the 18-slot Class B Point System™ Chassis if Class B ratings are required.

CFETF10xx-2xx



Features

- ▶ Round trip delay of only 40 bit times —far below the Class II rating of 92 bit times.
- ▶ Auto-Negotiation (see page 14)
- ▶ AutoCross™ (see page 14)
- ▶ Link Pass Through (see page 15)
- ▶ Far End Fault (FEF) Detection (see page 14)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Pause (see page 15)
- ▶ Remote Firmware Upgrade (see page 16)

The following converter management features are available in conjunction with the Point System™:

Reporting Features

- ▶ Report converter status to management software:
 - TP & Fiber Link status
 - Hardware switch settings
 - Fault
 - TP cable length
- ▶ Write operation includes:
 - Power on/off device
 - Full or half-duplex
 - Pause enable/disable
 - LPT enable/disable
 - FEF enable/disable
 - AutoCross™ enable/disable

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
Switches	SW1: Auto-Negotiation (UP = ON) SW2: Pause (UP = ON) SW3: Link Pass Through (UP = ON) SW4: Far End Fault (UP = ON)
Internal Jumpers	AutoCross™ Jumper: Enable/disable AutoCross™
Hardware/Software Jumper:	Hardware: Converter mode is determined by 4-position switch settings Software: Converter mode is determined by most recently saved on-board microprocessor settings.
Status LEDs	PWR (Power): On = connection to external power LKF (Fiber Link): On = Fiber Link RXF (Fiber Receive): Blinking = data reception on fiber link RXC (Copper Receive): Blinking = data reception on copper link LKC (Copper Link): On = Copper Link
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	3.4 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A & B; FCC Class A & B; CE Mark
Warranty	Lifetime

See Also:

- ▶ Fast Ethernet Stand-Alone Media Converters

pages 81–82

Ordering Info [Class B]

See pages 171–181 for complete fiber optic connector specs.

- CFETF1011-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 11.0 dB
- CFETF1013-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
- CFETF1039-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1300nm multimode (LC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
- CFETF1018-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1300nm MM (MT-RJ)
[2 km/1.2 mi.] Link Budget: 14.5 dB
- CFETF1014-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm SM (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB
- CFETF1019-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm SM (LC)
[20 km/12.4 mi.] Link Budget: 17.3 dB
- CFETF1015-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm SM (SC)
[40 km/24.9 mi.] Link Budget: 26.0 dB
- CFETF1016-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm SM (SC)
[60 km/37.3 mi.] Link Budget: 29.0 dB
- CFETF1017-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1550nm SM (SC)
[80 km/49.7 mi.] Link Budget: 29.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

- CFETF1029-205**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm TX / 1550nm RX
single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB
- CFETF1029-206**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1550nm TX / 1310nm RX
single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB
- CFETF1029-207**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1550nm TX / 1550nm RX
single fiber single mode (SC)
[40 km/24.9 mi.] Link Budget: 25.0 dB
- CFETF1029-208**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1550nm TX / 1310nm RX
single fiber single mode (SC)
[40 km/24.9 mi.] Link Budget: 25.0 dB
- CFETF1029-209**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm TX / 1550nm RX
single fiber single mode (SC)
[60 km/37.3 mi.] Link Budget: 29.0 dB
- CFETF1029-210**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1550nm TX / 1310nm RX
single fiber single mode (SC)
[60 km/37.3 mi.] Link Budget: 28.0 dB
- CFETF1029-211**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1310nm TX / 1550nm RX
single fiber single mode (SC)
[80 km/49.7 mi.] Link Budget: 33.0 dB
- CFETF1029-212**
100BASE-TX (RJ-45) [100 m/328 ft.]
to 100BASE-FX 1550nm TX / 1310nm RX
single fiber single mode (SC)
[80 km/49.7 mi.] Link Budget: 32.0 dB

Remotely Managed Fast Ethernet Media Converter



- ▶ **In-band management of stand alone** Fast Ethernet media converters
- ▶ **Remote Loopback** assists in diagnosing network problems
- ▶ **Upstream and downstream bandwidth control** allows service providers to offer an array of services

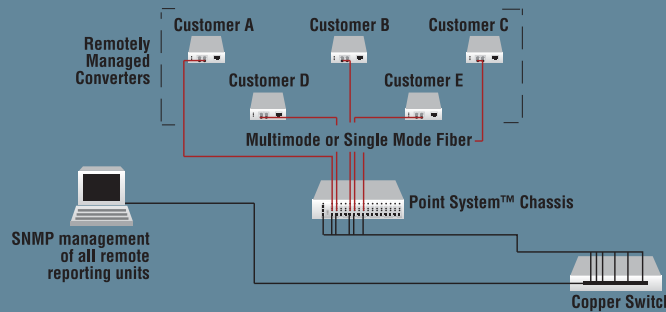
CRMFE10xx-20x



With the Remotely Managed Fast Ethernet Media Converter, service providers can now **monitor and manage the entire optical link from the Central Office (CO) to the Customer Premise Equipment (CPE)**. They also have the ability to **remotely change the bandwidth** offered to the customer in increments of 64KBps and choose the appropriate mode of connection straight from their Network Management Centers.

Converters should be used in pairs. Typical installation will include a chassis card installed in the Point System™ locally and a stand-alone converter (SRMFE) installed at the remote location.

Remotely Managed Fast Ethernet



Features

- ▶ **Auto-Negotiation** (see page 14)
- ▶ **AutoCross™** (see page 14)
- ▶ **Link Pass Through** (see page 15)
- ▶ **Far End Fault (FEF)** (see page 14)
- ▶ **Automatic Link Restoration** (see page 16)
- ▶ **Pause** (see page 15)
- ▶ **Remote Management** (see page 15)
- ▶ **Loopback** (see page 16)
- ▶ **Bandwidth Allocation** (see page 16)
- ▶ **Remote Firmware Upgrade** (see page 16)
- ▶ **Can be used with any Point System™ Chassis** (see pages 20 & 21)

See Also:

- ▶ Remotely Managed Fast Ethernet Stand-Alone Media Converters

page 84

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
3-position Jumpers	Jumper (J2): Enable/Disable AutoCross™ Jumper (J6): Hardware: Converter mode is determined by 4-position switch settings Software: Converter mode is determined by most recently saved on-board microprocessor settings.
4 position Switch	Pos 1: Auto-Neg: (ON) Advertises 100Mb/s full/half-duplex during auto-negotiation; (OFF) (Used primarily when connecting to hub) Operates at 100Mb/s in duplex mode of attached device. Pos 2: PAUSE: Applies only if Switch 1 is UP AND media converter is connected to Auto-Negotiating device(s) capable of Pause Control Frame propagation. (UP) ALLOWS negotiation of Pause Control Frame. (DOWN) Does NOT allow negotiation of Pause Control Frame. Pos 3: Link Pass Through: (UP) enabled; (DOWN) disabled Pos 4: Far End Fault: (UP) enabled; (DOWN) disabled
Status LEDs	Power LKF (Fiber Link) RXF (Fiber Receive) RXC (Copper Receive) LKC (Copper Link)
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	3.4 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A & B + EN55024; FCC Class A & B; CE Mark
Warranty	Lifetime

Ordering Info

See pages 171 – 181 for complete fiber optic connector specs.

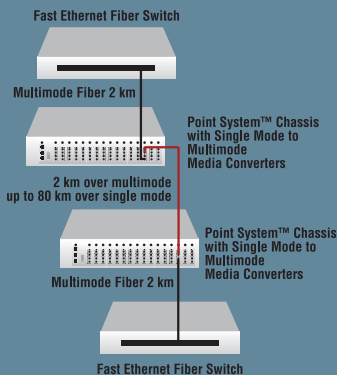
- CRMFE1011-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1300nm MM (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB
- CRMFE1013-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1300nm MM (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB
- CRMFE1018-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1300nm MM (MT-RJ) [2 km/1.2 mi.] Link Budget: 14.5 dB
- CRMFE1014-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1310nm SM (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB
- CRMFE1015-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1310nm SM (SC) [40 km/24.9 mi.] Link Budget: 26.0 dB
- CRMFE1016-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1310nm SM (SC) [60 km/37.3 mi.] Link Budget: 29.0 dB
- CRMFE1017-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1550nm SM (SC) [80 km/49.7 mi.] Link Budget: 29.0 dB
- CRMFE1035-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1550nm SM (SC) [120 km/74.6 mi.] Link Budget: 36.0 dB
- Single Fiber Products**
Recommended use in pairs (see page 17)
- CRMFE1029-200**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1310nm TX / 1550nm RX single fiber SM (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB
- CRMFE1029-201**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1550nm TX / 1310nm RX single fiber SM (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB
- CRMFE1029-202**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1310nm TX / 1550nm RX single fiber SM (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB
- CRMFE1029-203**
100BASE-TX (RJ-45) [100 m/328 ft.] to 100BASE-FX 1550nm TX / 1310nm RX single fiber SM (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB

Single Mode to Multimode Media Converter



- ▶ Connect single mode fiber cable to devices with multimode ports.
- ▶ Protocol Transparency
- ▶ Can be used with any Point System™ Chassis (see pages 20 & 21)

Extend Network Distance



Convert multimode 100 – 155Mbps interfaces to single mode fiber on a port-by-port basis and extend ATM or Fast Ethernet over single mode fiber up to 80 km.

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
3-position Jumper	Hardware: Software mode is disabled. Software: Converter mode is determined by most recently saved on-board microprocessor settings.
Status LEDs	Power: Steady green LED indicates connection to external AC power LKS (Single mode Fiber Link): Steady LED indicates single mode fiber link LKM (Multimode Fiber Link): Steady LED indicates multimode fiber link
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	3.5 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	UL Listed; C-UL Listed (Canada); CISPR/EN55022 Class A; EN55024; EN61000; FCC Class A; CE Mark
Warranty	Lifetime

See Also:

- ▶ Fast Ethernet or ATM/OC-3/SDH/SONET Stand-Alone Media Converters

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CFMFF1xxx-20x



Features

- ▶ Link Pass Through (see page 15)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Card Manageability:
 - MM/SM signal detect
 - Hardware/software mode
 - Fiber port enable/disable multimode or single mode

Ordering Info [Class B]

See pages 171–181 for complete fiber optic connector specs.

CFMFF1313-200

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB

CFMFF1314-200

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

CFMFF1315-200

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1310nm single mode (SC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

CFMFF1316-200

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1310nm single mode (SC)
[60 km/37.3 mi.] Link Budget: 29.0 dB

CFMFF1317-200

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1550nm single mode (SC)
[80 km/49.7 mi.] Link Budget: 29.0 dB

CFMFF1414-200

1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB
to 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

CFMFF1415-200

1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB
to 1310nm single mode (SC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

CFMFF1329-200

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1310nm TX/1550nm RX single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

CFMFF1329-201

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1550nm TX/1310nm RX single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

CFMFF1329-202

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1310nm TX/1550nm RX single fiber SM (SC)
[40 km/24.9 mi.] Link Budget: 25.0 dB

CFMFF1329-203

1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB
to 1550nm TX/1310nm RX single fiber SM (SC)
[40 km/24.9 mi.] Link Budget: 25.0 dB

CFMFF1429-200

1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB
to 1310nm TX/1550nm RX single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

CFMFF1429-201

1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB
to 1550nm TX/1310nm RX single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

CFMFF1429-202

1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB
to 1310nm TX/1550nm RX single fiber SM (SC)
[40 km/24.9 mi.] Link Budget: 25.0 dB

CFMFF1429-203

1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB
to 1550nm TX/1310nm RX single fiber SM (SC)
[40 km/24.9 mi.] Link Budget: 25.0 dB

10/100BASE-SX Media Converter



- ▶ Lowest possible cost solution for fiber installation up to 60 meters (100BASE-SX).
- ▶ 10/100 on fiber is possible with 10/100BASE-SX.
- ▶ Ideal for building backbone and horizontal cabling applications where cost and 10/100 auto-negotiation are critical.

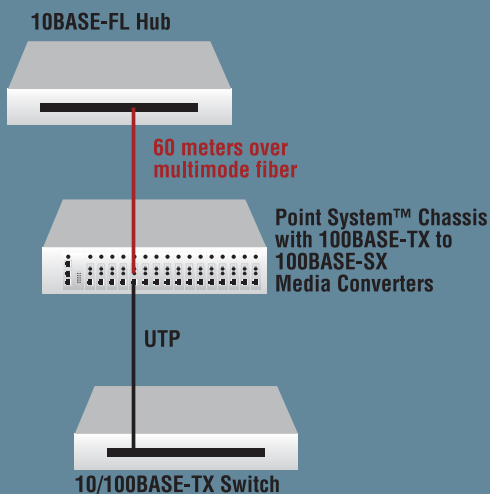
▶ Extend Network Distance

Used in pairs, this media converter can extend distances between two twisted pair switches or a switch and a server up to 60 meters over multimode fiber (100BASE-SX).

▶ Connect Remote Devices

Using a single 10/100BASE-SX media converter, a switch with a copper port can be connected to a switch or any other 10/100BASE-SX compliant device with an existing fiber interface.

Extend Network Distance



Features

- ▶ Auto-Negotiation (see page 14)
- ▶ AutoCross™ (see page 14)
- ▶ Link Pass Through (see page 15)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Can be used with any Point System™ Chassis (see pages 20 & 21)

See Also:

- ▶ 10/100BASE-SX Stand-Alone Media Converters

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CSETF101x-205



ethernet

fast ethernet 10/100 bridging

- 100/1000 bridging
- 10/100/1000
- gigabit ethernet
- atm/oc-x
- ds3-t3/e3
- high speed serial
- rs232
- rs422/485
- t1/e1
- e&m, 2/4-wire
- pots 2-wire
- video

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CSETF1011-205

10/100BASE-TX (RJ-45)
[100 m/328 ft.]

to 10/100BASE-SX 850nm multimode (ST) [60 m/ 197 ft.]

CSETF1013-205

10/100BASE-TX (RJ-45)
[100 m/328 ft.]

to 10/100BASE-SX 850nm multimode (SC) [60 m/ 197 ft.]

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™; compliant with pending TIA/EIA 785 specification
Status LEDs	PWR (Power) SX-ACT (Fiber Activity) SX-100 (Fiber Speed) SX-10 (Fiber Speed) TX-ACT (Copper Activity) TX-100 (Copper Speed) TX-10 (Copper Speed)
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	3.6 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A & B; FCC Class A & B; CE Mark
Warranty	Lifetime

OAM/IP-Based Remotely Managed Media Converter



- ▶ Applications:
 - Ethernet in the First Mile (EFM)
 - Fiber to the Premise (FTTP), E-Line and E-LAN
 - Enterprise markets

CFBRM10xx-1xx

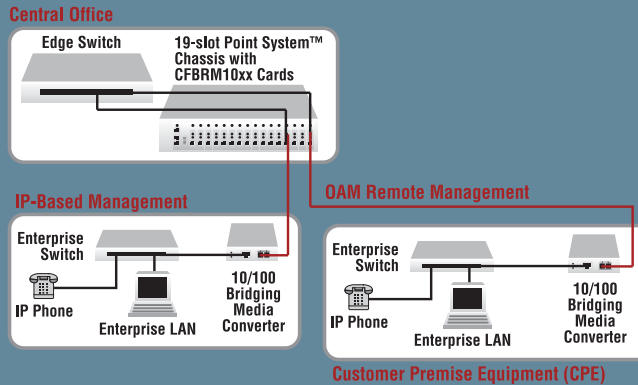


Features

- ▶ MEF 9 & MEF 14 Carrier Ethernet Certification
- ▶ Two selectable remote management modes:
 - IP-Based remote management
 - In-Band OAM 802.3ah (remote device managed by local peer)
- ▶ SNMP v1, v2*
- ▶ AutoCross™ (see page 14)
- ▶ Auto-Negotiation (see page 14)
- ▶ Pause (see page 15)
- ▶ Transparent Link Pass Through (see page 15)
- ▶ Far-End-Fault (see page 14)
- ▶ Remote Loopback (see page 16)
- ▶ Non-Intrusive Echo
- ▶ IEEE 802.1p™ QOS packet classification with 4 egress queues
- ▶ Ipv4 IP TOS and DiffServ QOS classification, IPv6 Traffic class
- ▶ IEEE 802.1q™ VLAN, 4096 entries
- ▶ Static MAC, 64 entries
- ▶ Double VLAN tagging (QinQ)
- ▶ IEEE 802.1x™ Port based security
- ▶ RADIUS client
- ▶ RMON counters for each port
- ▶ Bandwidth allocation per port (see page 16)
- ▶ DMI Optical Management
- ▶ USB port for basic setup
- ▶ Cable diagnostic function for TP ports
- ▶ 8K MAC addresses
- ▶ Remote Firmware Upgrade (see page 16)

*Future firmware upgrade; Please contact Transition Networks for upgrade availability.

Remotely Manage 10/100 Converters



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™, IEEE Std. 802.3ah, IEEE Std. 802.1P, IEEE Std. 802.1Q, IEEE Std. 802.1X
Data Rate	Copper: 10/100 Fiber: 100 Mbps
Filtering Addresses	8K MAC Addresses
RAM Buffers	256K (2 Mb)
Max Frame Size	802.3ac tagged: 1628 bytes untagged: 1632 bytes
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	5.1 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class B, EN55024, EN61000, FCC Class B, CE Mark
Warranty	Lifetime

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CFBRM1011-100
CFBRM1011-110 (DMI model)
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-FX 1300nm MM (ST)
[2 km/1.2 mi.] Link Budget: 11.0 dB

CFBRM1013-100
CFBRM1013-110 (DMI model)
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-FX 1300nm MM (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB

CFBRM1014-100
CFBRM1014-110 (DMI model)
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-LX10 1310nm SM (SC)
[20 km/6.2 mi.] Link Budget: 16.0 dB

CFBRM1015-100
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-FX 1310nm SM (SC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

CFBRM1016-100
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-FX 1310nm SM (SC)
[60 km/37.3 mi.] Link Budget: 29.0 dB

CFBRM1017-100
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-FX 1550nm SM (SC)
[80 km/49.7 mi.] Link Budget: 29.0 dB

CFBRM1035-100
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-FX 1550nm SM (SC)
[120 km/74.6 mi.] Link Budget: 36.0 dB

CFBRM1040-100
10/100BASE-TX (RJ-45) [100 m]
to SFP slot (empty)

Single Fiber Products
Recommended use in pairs (see page 17)

CFBRM1029-100
CFBRM1029-110 (DMI model)
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-BX-U 1310nm TX/1550nm
RX Bi-Di single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

CFBRM1029-101
CFBRM1029-111 (DMI model)
10/100BASE-TX (RJ-45) [100 m]
to 100BASE-BX-D 1550nm TX/1310nm
RX Bi-Di SM (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

Note: all units feature USB port for local management application.

Single fiber options for 40 km, 60 km, 80 km and 120 km are available upon request. Please contact Transition Networks.

See Also:

- ▶ OAM/IP-Based Remotely Managed Stand-Alone Media Converters

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OAM/IP-Based Remotely Managed Media Converter



Applications:

- Ethernet in the First Mile (EFM)
- Fiber to the Premise (FTTP), E-Line and E-LAN
- Enterprise markets

Features

- ▶ MEF 9 & MEF 14 Carrier Ethernet Certification
- ▶ Two selectable remote management modes:
 - IP-Based remote management
 - In-Band OAM 802.3ah (remote device managed by local peer)
- ▶ SNMP v1, v2*
- ▶ AutoCross™ (see page 14)
- ▶ Auto-Negotiation (see page 14)
- ▶ Pause (see page 15)
- ▶ Transparent Link Pass Through (see page 15)
- ▶ Far-End-Fault (see page 14)
- ▶ Remote Loopback (see page 16)
- ▶ IEEE 802.1p™ QoS packet classification with four egress queues

- ▶ Ipv4 IP TOS and DiffServ QoS classification, IPv6 Traffic class
 - ▶ IEEE 802.1q™ VLAN, 4096 entries
 - ▶ Static MAC, 64 entries
 - ▶ Double VLAN tagging (QinQ)
 - ▶ IEEE 802.1x™ Port based security
 - ▶ RADIUS client
 - ▶ RMON counters for each port
 - ▶ Bandwidth allocation per port (see page 16)
 - ▶ DMI Optical Management
 - ▶ USB port for basic setup
 - ▶ Cable diagnostic function for TP ports
 - ▶ 8K MAC addresses
 - ▶ Remote Firmware Upgrade (see page 16)
- *Future firmware upgrade; Please contact Transition Networks for upgrade availability.*

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™, IEEE Std. 802.3ah, IEEE Std. 802.1P, IEEE Std. 802.1Q, IEEE Std. 802.1X
Data Rate	Fiber: 100BASE-FX Fiber 2: 1000BASE-X
Filtering Addresses	8K MAC Addresses
RAM Buffers	256K (2 Mb)
Max Frame Size	802.3ac tagged: 1628 bytes untagged: 1632 bytes
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	5.1 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class B, EN55024, EN61000, FCC Class B, CE Mark
Warranty	Lifetime

See Also:

- ▶ OAM/IP-Based Remotely Managed Stand-Alone Media Converters

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CFBRM13xx-1xx

NEW

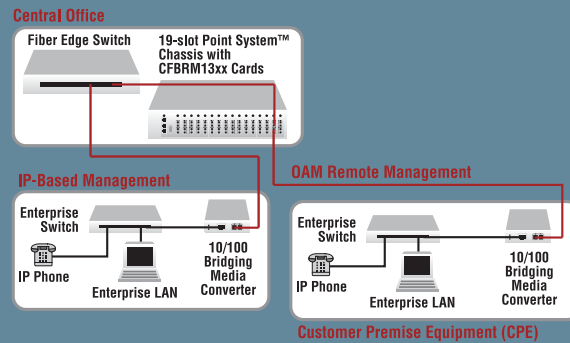


ethernet
fast ethernet

10/100 bridging
100/1000 bridging

10/100/1000
gigabit ethernet
atm/oc-x
ds3-t3/e3
high speed serial
rs232
rs422/485
t1/e1
e&m, 2/4-wire
pots 2-wire
video

Remotely Manage 100/1000 Converters



Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CFBRM1313-100
CFBRM1313-110 (DMI Options)
100BASE-FX 1300nm MM (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB
to 1000BASE-SX 850nm Ext. MM (SC)
[62.5/125µm fiber: 300 m/984 ft.] or
[50/125µm fiber: 550 m/1804 ft.]
Link Budget: 7.0 dB

CFBRM1314-100
CFBRM1314-110 (DMI Options)
100BASE-FX 1300nm MM (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB
to 1000BASE-LX10 1310nm SM (SC)
[20 km/6.2 mi.] Link Budget: 12.0 dB

CFBRM1315-100
CFBRM1315-110 (DMI Options)
100BASE-FX 1300nm MM (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB
to 1000BASE-LX 1310nm SM (SC)
[25 km/15.5 mi.] Link Budget: 19.0 dB

CFBRM1317-100
100BASE-FX 1300nm MM (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB
to 1000BASE-LX 1550nm SM (SC)
[65 km/40.4 mi.] Link Budget: 22.0 dB

CFBRM1335-100
100BASE-FX 1300nm MM (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB
to 1000BASE-LX 1550nm SM (SC)
[125 km/77.7 mi.]
Link Budget: 27.0 dB

Single Fiber Products
Recommended use in pairs

CFBRM1329-100
CFBRM1329-110 (DMI Options)
100BASE-FX 1300nm MM (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB
to 1000BASE-BX-U 1310nm TX /
1490nm RX single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 14.0 dB

CFBRM1329-101
CFBRM1329-111 (DMI Options)
100BASE-FX 1300nm MM (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB
to 1000BASE-BX-D 1490nm TX /
1310nm RX single fiber SM (SC)
[20 km/12.4 mi.] Link Budget: 14.0 dB

Single fiber options for 40 km, 60 km, 80 km and 120 km are available upon request. Please contact Transition Networks.

Note: All units feature USB port for local management application.

Fault-Tolerant Redundant Link Protector



- ▶ Fault-tolerant redundant connections
- ▶ Easy to install and use
- ▶ Supports half and full-duplex transmission
- ▶ AutoCross™ on all 3 ports (see page 14)
- ▶ Auto-Negotiation (see page 14)
- ▶ IEEE 802.3 compliant
- ▶ Nine diagnostic LEDs
- ▶ Optional 3-port switch mode
- ▶ Can be used with any Point System™ Chassis

CBFTF1010-130



Features

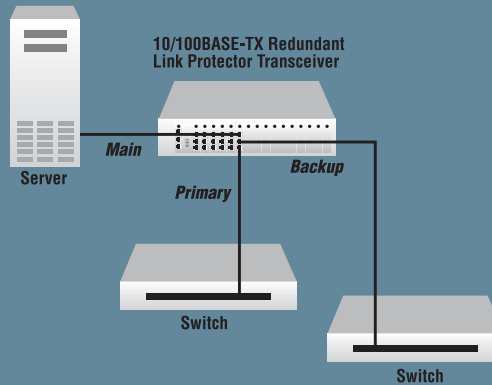
The Redundant Link Protector is a 10/100 Ethernet fault-tolerant transceiver. It significantly reduces network downtime, adding a new level of redundancy to 10/100 Ethernet connections. It also provides a redundant path for critical 10/100 devices. In a 10/100 Ethernet network, a critical device such as a file server may be connected to the rest of the network through a hub or a switch. A common problem in this configuration is that the server is often connected to the network through a single cable. If the cable fails, then the server is disconnected from the rest of the network. Similarly, if a port of a hub or switch to which the server is connected fails, the server is disconnected from the network.

The Redundant Transceiver has three ports: one for the critical (main) device, one for the default (primary) path for the critical device, and another (backup) for the backup path. It is a smart device that will not send any signal on a path that is not active. If the primary path loses its link, then the transceiver will immediately (in less than one microsecond) switch to the backup path.

When the primary path re-establishes its link, the Redundant Link Protector will automatically switch back to the primary path.

Optional functionality, controlled via a dip switch, allows the unit to move from the fault-tolerant mode to a 3-port switch mode.

Fault-Tolerant Redundant Connections



The following management features are available when the converter is used in a managed Point System™ chassis:

▶ Read Management features:

- Media Converter Power
- Copper Link Status
- Copper Port Speed
- Duplex Mode
- Hardware Switch Settings

▶ Write Management features:

- Power on/off device
- Enable Redundancy / 3-port Switch mode

Individual Port Control:

- Enable/disable Auto-Negotiation
- Force Full or Half Duplex
- Force 10Mbps or 100Mbps

Ordering Info

CBFTF1010-130

- 10/100BASE-TX Link Protector Transceiver
- (3) 10/100BASE-TX (RJ-45) [100 m]

Specifications

Standards	IEEE Std. 802.3
RJ-45 Connectors	Type: 8-position, RJ-45 receptacle:
	1: TX+ 5: NC (no connection)
	2: TX- 6: RX-
	3: RX+ 7: NC (no connection)
	4: NC (no connection) 8: NC (no connection)
Dip Switches	SW1: Auto-Negotiation Enable/Disable SW2: 10/100Mbps SW3: Full/Half Duplex SW4: Redundancy/Switch
System LEDs	Power (PWR): Indicates the presence of POWER Primary (PRI): Indicates a link is established on the Primary port Backup (BKP): Indicates the link has moved over to the Backup port.
Per Port LEDs	Lower Right: Green indicates 100Mbps; Orange indicates 10Mbps; Flashing indicates Activity Lower Left: Green indicates full-duplex; Off half-duplex
Dimensions	Width: 0.86" [12 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	2.4 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	FCC Class A, EN55024, UL 60950, CE Mark
Warranty	Lifetime

See Also:

- ▶ 10/100 Redundant Link Protector Stand-Alone Media Converter

page 92

10/100 Bridging Media Converter



- ▶ **Extend network distance up to 120 km:** Bridging media converters will provide conversion and integration solutions for half-duplex and full-duplex environments.
- ▶ Convert 10/100 on copper to straight 100 on fiber.
- ▶ Half or Full-Duplex on both ports

Features

- ▶ Fully manageable
- ▶ LED indications for all operation modes
- ▶ Auto-Negotiation (see page 14)
- ▶ AutoCross™ (see page 14)
- ▶ Link Pass Through (see page 15)
- ▶ Far End Fault (FEF) (see page 14)
- ▶ Automatic Link Restoration (see page 16)

- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Source Address Change (SAC) (see page 17)
- ▶ Can be used with any Point System™ Chassis

Read Management Features

- Media Converter Power
- Copper & Fiber Link Status
- Copper Port Speed
- Hardware Switch Settings

Write Management Features

- Enable/disable Auto-negotiation on Copper
- Force 10Mb/s or 100Mb/s on Copper
- Force Full or Half-duplex on Copper or Fiber
- Select Advertised Modes (when Auto-Negotiation is Enabled)
- Enable/disable:
 - Pause
 - Source Address Change
 - Monitor Port (advanced filters available)
 - Link Pass Through
 - Far End Fault

CBFTF10xx-10x



ethernet
fast ethernet

10/100 bridging

100/1000 bridging
10/100/1000
gigabit ethernet
atm/oc-x
ds3-t3/e3
high speed serial
rs232
rs422/485
t1/e1
e&m, 2/4-wire
pots 2-wire
video

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
Data Rate	10Mbps; 100Mbps
Filtering Addresses	4K MAC addresses
Filtering & Forwarding Rate	14,880pps for Ethernet; 148,800 pps for Fast Ethernet
RAM Buffers	256KB
Max Packet Size	1536 bytes
Switches	SW1 (TP): Auto-Negotiation On/Off SW2 (TP): 10Mbps or 100Mbps with Auto-Negotiation Off SW3 (TP): Half or Full-duplex with Auto-Negotiation Off SW4 (Fiber): Half or Full-duplex SW5: AutoCross™ On/Off SW6: Link Pass Through On/Off
Status LEDs	PWR (Power) FD (Fiber Duplex) LACT (Fiber Link/Activity) Duplex/Link (Copper) Speed (Copper)
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	4.9 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	FCC Class A, VCCI Class 1, CISPR22/EN55022 Class A, EN55024, EN61000, CE Mark
Warranty	Lifetime

See Also:

- ▶ 10/100 Bridging Stand-Alone Media Converters
pages 93 – 95

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CBFTF1011-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1300nm MM (ST) [2 km / 1.2 mi.] Link Budget: 11.0 dB	CBFTF1017-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1550nm SM (SC) [80 km/49.7 mi.] Link Budget: 29.0 dB
CBFTF1013-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1300nm MM (SC) [2 km / 1.2 mi.] Link Budget: 11.0 dB	CBFTF1035-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] 100BASE-FX 1550nm SM (SC) [120 km/74.6 mi.] Link Budget: 36.0 dB
CBFTF1039-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1300nm MM (LC) [2 km / 1.2 mi.] Link Budget: 11.0 dB	Single Fiber Products <i>Recommended use in pairs (see page 17)</i>
CBFTF1018-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1300nm MM (MT-RJ) [2 km / 1.2 mi.] Link Budget: 14.5 dB	CBFTF1029-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1310nm TX/1550nm RX single fiber SM (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB
CBFTF1014-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1310nm SM (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB	CBFTF1029-101 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1550nm TX / 1310nm RX single fiber SM (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB
CBFTF1019-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1310nm SM (LC) [20 km/12.4 mi.] Link Budget: 17.3 dB	CBFTF1029-102 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1310nm TX / 1550nm RX single fiber SM (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB
CBFTF1015-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1310nm SM (SC) [40 km/24.9 mi.] Link Budget: 26.0 dB	CBFTF1029-103 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1550nm TX / 1310nm RX single fiber SM (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB
CBFTF1016-100 10/100BASE-TX (RJ-45) [100 m / 328 ft.] to 100BASE-FX 1310nm SM (SC) [60 km/37.3 mi.] Link Budget: 29.0 dB	

10/100 Bridging Multiport Media Converter



- ▶ 10 or 100Mbps on all TP ports
- ▶ Half or full-duplex on all ports, including fiber

Applications

- ▶ Extend network distance up to 120 km

Bridging media converters will provide conversion and integration solutions for half-duplex and full-duplex environments.

Features

- ▶ Auto-Negotiation (see page 14)
- ▶ AutoCross™ (see page 14)
- ▶ Far End Fault (FEF) (see page 14)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Each port fully manageable
- ▶ Individual switches for both TP ports (-110 only)
- ▶ LED indications for all operation modes
- ▶ Port mirroring mode on TX ports
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Source Address Change (SAC) (see page 17)
- ▶ Fiber Redundancy Mode (-140 only)

When failure on primary fiber occurs it is detected by a converter; fiber two (secondary) is activated and becomes the primary link. The original fiber link (1) is put in the disabled state. It becomes secondary until the failure on primary fiber occurs.

▶ Read Management features:

- Media Converter Power
- Fiber Link Status
- Copper Link Status
- Copper Port Speed
- Hardware Switch Settings

▶ Write Management features:

- Enable/disable Auto-negotiation on Copper
- Force 10Mb/s or 100Mb/s on Copper
- Force Full or Half-duplex on Copper
- Force Full or Half-duplex on Fiber
- Select Advertised Modes (When Auto-Negotiation is Enabled)
- Enable/disable Pause
- Enable/disable Source Address Change
- Enable/disable Monitor Port (Advanced filters available)
- Enable/disable Far End Fault

See Also:

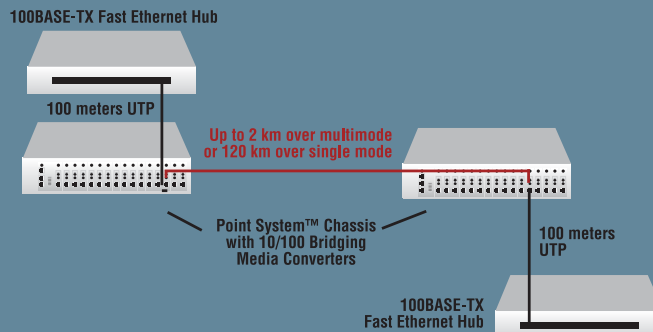
- ▶ 10/100 Bridging Stand-Alone Media Converters

pages 93 – 95

CBFTF10xx-1xx



Extend Network Distance



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
Data Rate	10Mbps; 100Mbps
Filtering Addresses	4K MAC addresses
Filtering & Forwarding Rate	14,880pps for Ethernet; 148,800 pps for Fast Ethernet
RAM Buffers	256KB
Max Packet Size	1536 bytes
Switches	SW1 (TP1): Auto-Negotiation On/Off SW2 (TP1): 10Mbps or 100Mbps with Auto-Negotiation Off SW3 (TP1): Half or Full-duplex with Auto-Negotiation Off SW4 (Fiber1): Half or Full-duplex SW5: AutoCross™ On/Off SW6: Fiber Redundancy On/Off (xBFTF10xx-14x only) SW7 (TP2): Auto-Negotiation On/Off SW8 (TP2): 10Mbps or 100Mbps with Auto-Negotiation Off SW9 (TP2): Half or Full-duplex with \Auto-Negotiation Off SW10 (TP2): Monitor On/Off
Status LEDs	PWR (Power) FD (Fiber Duplex) LACT (Fiber Link/Activity) Duplex/Link (Copper) Speed (Copper)
Dimensions	CBFTF10xx-11x: Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm] CBFTF10xx-12x & -14x: Width: 1.72" [44 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	CBFTF10xx-11x: 4.9 watts CBFTF10xx-12x & -14x: 9.0 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	FCC Class A, VCCI Class 1, CISPR22/EN55022 Class A, EN55024, EN61000, CE Mark
Warranty	Lifetime

-110 models **can** be used with any Point System™ Chassis (see pages 20 & 21)

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CBFTF1011-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1300nm multimode (ST)
[2 km / 1.2 mi.] Link Budget: 11.0 dB

CBFTF1013-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1300nm multimode (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB

CBFTF1018-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1300nm multimode (MT-RJ)
[2 km / 1.2 mi.] Link Budget: 14.5 dB

CBFTF1014-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm single mode (SC)
[20 km / 12.4 mi.] Link Budget: 16.0 dB

CBFTF1015-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm single mode (SC)
[40 km / 24.9 mi.] Link Budget: 26.0 dB

CBFTF1016-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm single mode (SC)
[60 km / 37.3 mi.] Link Budget: 29.0 dB

CBFTF1017-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1550nm single mode (SC)
[80 km / 49.7 mi.] Link Budget: 29.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

CBFTF1029-110

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm TX / 1550nm RX single
fiber single mode (SC)
[20 km / 12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-111

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1550nm TX / 1310nm RX single
fiber single mode (SC)
[20 km / 12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-112

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm TX / 1550nm RX single
fiber single mode (SC)
[40 km / 24.9 mi.] Link Budget: 25.0 dB

CBFTF1029-113

(2) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1550nm TX / 1310nm RX single
fiber single mode (SC)
[40 km / 24.9 mi.] Link Budget: 25.0 dB

-120 models **cannot** be used with the 1-Slot Point System™ Chassis (see pages 20 & 21)

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CBFTF1011-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1300nm multimode (ST)
[2 km / 1.2 mi.] Link Budget: 11.0 dB

CBFTF1013-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1300nm multimode (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB

CBFTF1018-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1300nm multimode (MT-RJ)
[2 km / 1.2 mi.] Link Budget: 14.5 dB

CBFTF1014-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm single mode (SC)
[20 km / 12.4 mi.] Link Budget: 16.0 dB

CBFTF1015-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm single mode (SC)
[40 km / 24.9 mi.] Link Budget: 26.0 dB

CBFTF1016-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm single mode (SC)
[60 km / 37.3 mi.] Link Budget: 29.0 dB

CBFTF1017-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1550nm single mode (SC)
[80 km / 49.7 mi.] Link Budget: 29.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

CBFTF1029-120

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm TX / 1550nm RX single
fiber single mode (SC)
[20 km / 12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-121

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1550nm TX / 1310nm RX single
fiber single mode (SC)
[20 km / 12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-122

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1310nm TX / 1550nm RX single
fiber single mode (SC)
[40 km / 24.9 mi.] Link Budget: 25.0 dB

CBFTF1029-123

(5) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (1) 100BASE-FX 1550nm TX / 1310nm RX single
fiber single mode (SC)
[40 km / 24.9 mi.] Link Budget: 25.0 dB

-140 models **cannot** be used with the 1-Slot Point System™ Chassis (see pages 20 & 21)

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CBFTF1011-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1300nm multimode (ST)
[2 km / 1.2 mi.] Link Budget: 11.0 dB

CBFTF1013-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1300nm multimode (SC)
[2 km / 1.2 mi.] Link Budget: 11.0 dB

CBFTF1018-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1300nm multimode (MT-RJ)
[2 km / 1.2 mi.] Link Budget: 14.5 dB

CBFTF1014-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1310nm single mode (SC)
[20 km / 12.4 mi.] Link Budget: 16.0 dB

CBFTF1015-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1310nm single mode (SC)
[40 km / 24.9 mi.] Link Budget: 26.0 dB

CBFTF1016-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1310nm single mode (SC)
[60 km / 37.3 mi.] Link Budget: 29.0 dB

CBFTF1017-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1550nm single mode (SC)
[80 km / 49.7 mi.] Link Budget: 29.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

CBFTF1029-140

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1310nm TX / 1550nm RX single
fiber single mode (SC)
[20 km / 12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-141

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1550nm TX / 1310nm RX single
fiber single mode (SC)
[20 km / 12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-142

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1310nm TX / 1550nm RX single
fiber single mode (SC)
[40 km / 24.9 mi.] Link Budget: 25.0 dB

CBFTF1029-143

(4) 10/100BASE-TX (RJ-45) [100 m / 328 ft.]
to (2) 100BASE-FX 1550nm TX / 1310nm RX single
fiber single mode (SC)
[40 km / 24.9 mi.] Link Budget: 25.0 dB

Value 10/100 Bridging Media Converter



- ▶ Low cost conversion of 10/100 copper to straight 100 on fiber
- ▶ Same quality & reliability as full-featured bridging converters

CBFTF10xx-15x



▶ Extend Network Distance

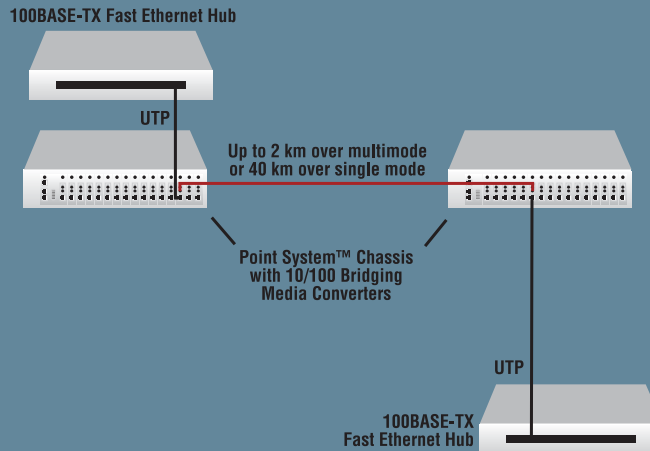
Extend network distance up to 40 km.

Cost-effective managed bridging media converter. It provides conversion and basic integration for 10 or 100Mbps; half and full duplex environments.

Features

- ▶ AutoCross™ (see page 14)
- ▶ Auto-Negotiation (see page 14)
- ▶ 10Mbps or 100Mbps
- ▶ Half or full-duplex on all ports
- ▶ Far End Fault (FEF) Detection (see page 14)
- ▶ LED indications for all operation modes
- ▶ Read Management features:
 - Media Converter Power
 - Copper & Fiber Link Status
 - Copper Port Speed
 - Hardware Switch Settings
 - Serial Number
 - Chassis Slot Number
- ▶ Write Management features:
 - Enable/disable Auto-Negotiation on Copper
 - Force 10Mb/s or 100Mb/s on Copper
 - Force Full-duplex or Half-duplex on Copper or Fiber
 - Select Advertised Modes (when Auto-Negotiation is enabled)

Extend Network Distance



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™; EN55022 Class A; EN55024
Data rate	10Mbps; 100Mbps
Filtering Addresses	1K MAC addresses
Filtering & Forwarding Rate	14,880pps for Ethernet; 148,800 pps for Fast Ethernet
RAM Buffers	128KB
Switches	SW1: TP1: Enable/Disable Auto-Negotiation SW2: TP1: Force Half or Full duplex with Auto-Negotiation off SW3: TP1: Force 10Mbps or 100Mbps with Auto-Negotiation OFF SW4: FBR: Half or Full duplex
Jumpers	FEF enable/disable Hardware/software mode
Unit LED	Power: Green - ON: power applied to board
Copper LEDs	TLNK (Link/Activity) TDPX (Full Duplex/Collision) TSPD (Full speed)
Fiber LEDs	FLNK (Link/Activity) FDPX (Full Duplex/Collision)
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	4.1 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	FCC & CISPR Class A; EN55022; EN55024; EN60950; CSA Certified; CE Mark
Warranty	Lifetime

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CBFTF1011-155

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1300nm MM (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

CBFTF1013-155

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1300nm MM (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

CBFTF1018-155

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1300nm MM (MT-RJ) [2 km/1.2 mi.] Link Budget: 14.5 dB

CBFTF1014-155

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1310nm sM (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB

CBFTF1015-155

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1310nm SM (SC) [40 km/24.9 mi.] Link Budget: 26.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

CBFTF1029-155

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1310nm TX / 1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-156

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1550nm TX / 1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

CBFTF1029-157

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1310nm TX / 1550nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB

CBFTF1029-158

- (1) 10/100BASE-TX (RJ-45) [100 m/328 ft.]
- to (1) 100BASE-FX 1550nm TX / 1310nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB

See Also:

- ▶ Just Convert-It™ 10/100 Bridging Stand-Alone Media Converters

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10/100/1000 Ethernet Media Converter



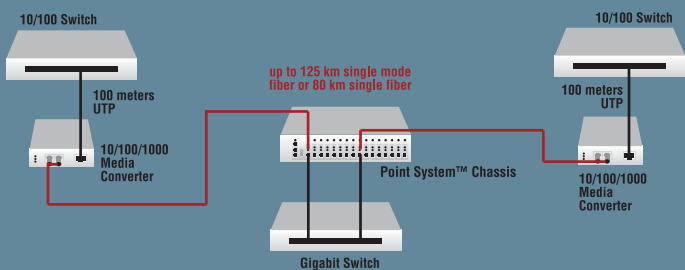
► **Extend Network Distance**
This solution offers a low-cost integration option for network managers who want to migrate from 10/100 networks to Gigabit Ethernet. Gigabit only switches can now be connected to 10/100 networks up to 125 km away over single mode fiber or up to 80 km over single fiber without the need to upgrade the 10/100 side; allowing network

managers to add new equipment gradually.

In addition to the standard 220 meters with standard SX optics, Transition Networks also offers a proprietary solution that will allow users to transmit up to 2 km over multimode (62.5/125µm) fiber (xGFEB1024-100).

Note: CGFEB cards cannot be used in the 1-Slot Point System™ Chassis (see pages 20 & 21)

Extend Network Distance



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3ab™, IEEE Std. 802.1P™, IEEE Std. 802.3™
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps
Filtering Addresses	4K MAC Addresses
RAM Buffers	256K
Dip Switches	Switch 1: TX - Enable/Disable Auto-Negotiation Switch 2: TX - Force 10Mbps or 100Mbps with Autoneg. off Switch 3: TX - Force Half or Full duplex with Autoneg. off Switch 4: FBR - Enable/Disable Auto-Negotiation Switch 5: not used Switch 6: Enable/Disable LPT
Jumpers	Jumper (ED): Enable/Disable AutoCross™ Jumper (HS): Hardware: Converter mode is determined by 6-position switch settings Software: Converter mode is determined by most recently saved on-board microprocessor settings
Status LEDs	TP (Duplex/Link/Activity): Yellow: ON = Half-duplex Link; BLINK = Activity; Green: ON = Full-duplex Link; BLINK = Activity TP (10Mbps/100Mbps/1000Mbps): Off = 10Mbps; Yellow = 100Mbps; Green = 1000Mbps DPX (Fiber Duplex): Green: ON = Full; OFF = Half LACT (Fiber Link/Activity): Green: ON = Link; BLINK = Activity PWR (Power): Green: ON = Power applied to board
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	6.5 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A, EN55024, EN61000, FCC Class A, CE Mark
Warranty	Lifetime

CGFEB10xx-10x



Features

- Auto-Negotiation (see page 14)
- AutoCross™ on TX port (see page 14)
- Link Pass Through (see page 15)
- Automatic Link Restoration (see page 16)
- Pause (see page 15)
- IEEE 802.1P priority mapping
- Remote Firmware Upgrade (see page 16)
- Source Address Change (SAC) (see page 17)
- DMI, Digital diagnostics per SFF-8472

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CGFEB1013-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-SX 850nm multimode (SC) [62.5/125µm: 220 m/722 ft.] [50/125µm: 550 m/1804 ft.] Link Budget: 7.0 dB	CGFEB1029-101 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1550nm TX / 1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 13.0 dB
CGFEB1024-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1310nm Extended MM (62.5/125 µm fiber only) (SC) [up to 2 km] Link Budget: 7.0 dB	CGFEB1029-102 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1310nm TX / 1550nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 20.0 dB
CGFEB1014-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1310nm SM (SC) [10 km/6.2 mi.] Link Budget: 7.0 dB	CGFEB1029-103 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1550nm TX / 1310nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 20.0 dB
CGFEB1015-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1310nm SM (SC) [25 km/15.5 mi.] Link Budget: 15.0 dB	CGFEB1029-104 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1510nm TX / 1590nm RX single fiber single mode (SC) [80 km/49.6 mi.] Link Budget: 24.0 dB
CGFEB1017-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1550nm SM (SC) [65 km/40.4 mi.] Link Budget: 20.0 dB	CGFEB1029-105 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1590nm TX / 1510nm RX single fiber single mode (SC) [80 km/49.6 mi.] Link Budget: 24.0 dB
CGFEB1035-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1550nm SM (SC) [125 km/77.7 mi.] Link Budget: 27.0 dB	See pages 135 & 136 for Compatible SFP Modules.
CGFEB1040-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-X SFP Slot (empty) See right for SFP modules.	
Single Fiber Products Recommended use in pairs (see page 17)	
CGFEB1029-100 10/100/ 1000BASE-T (RJ-45) [100 m] to 1000BASE-LX 1310nm TX / 1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 13.0 dB	

ethernet
fast ethernet

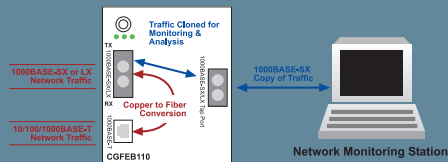
10/100 bridging 10/100/1000

100/1000 bridging
gigabit ethernet
atm/oc-x
ds3-t3/e3
high speed serial
rs232
rs422/485
t1/e1
e&m, 2/4-wire
pots 2-wire
video

10/100/1000 Ethernet with built-in Fiber Tap



Convert
10/100/1000
Copper to Fiber &
Monitor Critical
Network Segments



Product size distorted for demonstration purposes.

CGFEB10xx-11x



Features

- ▶ Auto-Negotiation (see page 14)
- ▶ AutoCross™ (see page 14)
- ▶ Link Pass Through (see page 15)
- ▶ Pause (see page 15)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Source Address Change (SAC) (see page 17)
- ▶ 802.1P Priority Mapping
- ▶ 1000BASE-SX Tap Port
- ▶ Fiber tap clones traffic; offering complete access to network traffic at line rate.
- ▶ No latency associated with the fiber tap
No dB loss on fiber. Active device does not compromise optical budget to monitor network performance.
- ▶ Users can view all fiber traffic including faults & timing errors.
- ▶ SNMP managed TX or RX monitoring
- ▶ *CGFEB cards cannot be used in the 1-slot Point System™ Chassis (see pages 20 & 21)*

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3ab™, IEEE Std. 802.1P™, IEEE Std. 802.3™
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps
Filtering Addresses	4K MAC Addresses
RAM Buffers	256K
Dip Switches	Switch 1: TX - Enable/Disable Auto-Negotiation Switch 2: TX - Force 10Mbps or 100Mbps with Auto-Negotiation off Switch 3: TX - Force Half or Full duplex with Auto-Negotiation off Switch 4: FBR - Enable/Disable Auto-Negotiation Switch 5: not used Switch 6: Enable/Disable LPT
Jumpers	Jumper (ED): Enable/Disable AutoCross™ Jumper (HS): Hardware: Converter mode is determined by 6-position switch settings Software: Converter mode is determined by most recently saved on-board microprocessor settings
Status LEDs	TP (Duplex/Link/Activity) TP (10Mbps/100Mbps/1000Mbps) DPX (Fiber Duplex) LACT (Fiber Link/Activity) PWR (Power)
Dimensions	Width: 1.68" [43 mm] Depth: 4.91" [125 mm] Height: 3.42" [87 mm]
Power Consumption	6.5 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A, EN55024, EN61000, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CGFEB1013-110

- Port 1 10/100/ 1000BASE-T (RJ-45) [100 m/328 ft.]
- Port 2 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB
- Port 3 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB

CGFEB1024-110

- Port 1 10/100/ 1000BASE-T (RJ-45) [100 m/328 ft.]
- Port 2 1000BASE-SX 1310nm Extended multimode (62.5/125µm fiber only) (SC) [up to 2 km] Link Budget: 7.0 dB
- Port 3 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB

CGFEB1014-110

- Port 1 10/100/ 1000BASE-T (RJ-45) [100 m/328 ft.]
- Port 2 1000BASE-LX 1310nm single mode (SC) [10 km / 6.2 mi.] Link Budget: 7.0 dB
- Port 3 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB

CGFEB1015-110

- Port 1 10/100/ 1000BASE-T (RJ-45) [100 m/328 ft.]
- Port 2 1000BASE-LX 1310nm single mode (SC) [25 km / 15.5 mi.] Link Budget: 15.0 dB
- Port 3 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB

CGFEB1017-110

- Port 1 10/100/ 1000BASE-T (RJ-45) [100 m/328 ft.]
- Port 2 1000BASE-LX 1550nm single mode (SC) [65 km / 40.4 mi.] Link Budget: 20.0 dB
- Port 3 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB

Single Fiber Products

Recommended use in pairs (see page 17)

CGFEB1029-110

- Port 1 10/100/ 1000BASE-T (RJ-45) [100 m/328 ft.]
- Port 2 1000BASE-LX 1310nm TX / 1550nm RX single fiber single mode (SC) [20 km / 12.4 mi.] Link Budget: 13.0 dB
- Port 3 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB

CGFEB1029-111

- Port 1 10/100/ 1000BASE-T (RJ-45) [100 m/328 ft.]
- Port 2 1000BASE-LX 1550nm TX / 1310nm RX single fiber single mode (SC) [20 km / 12.4 mi.] Link Budget: 13.0 dB
- Port 3 1000BASE-SX 850nm multimode (SC) [220/550 m/722/1804 ft.]* Link Budget: 7.0 dB

*62.5/125µm fiber: 220 m / 722 ft.;
50/125µm fiber: 550 m / 1804 ft.

OAM/IP-Based Remotely Managed Media Converter



- ▶ Applications:
 - Ethernet in the First Mile (EFM)
 - Fiber to the Premise (FTTP), E-Line and E-LAN
 - Enterprise markets

Features

- ▶ MEF 9 & MEF 14 Carrier Ethernet Certification
- ▶ Two selectable remote management modes:
 - IP-Based remote management
 - In-Band OAM 802.3ah (remote device managed by local peer)
- ▶ SNMP
- ▶ AutoCross™ (see page 14)
- ▶ Auto-Negotiation (see page 14)
- ▶ Pause (see page 15)
- ▶ Transparent Link Pass Through (see page 15)
- ▶ Far-End-Fault (see page 14)
- ▶ Remote Loopback (see page 16)
- ▶ Non-Intrusive Echo
- ▶ IEEE 802.1p™ QOS packet classification with 4 egress queues
- ▶ Ipv4 IP TOS and DiffServ QOS classification, IPv6 Traffic class
- ▶ IEEE 802.1q™ VLAN, 4096 entries
- ▶ Static MAC, 64 entries
- ▶ Double VLAN tagging (QinQ)
- ▶ VLAN Tunneling
- ▶ IEEE 802.1x™ Port based security
- ▶ RADIUS client
- ▶ RMON counters for each port
- ▶ Bandwidth allocation per port (see page 16)
- ▶ DMI Optical Management
- ▶ USB port for basic setup
- ▶ Cable diagnostic function for TP ports
- ▶ 8K MAC addresses
- ▶ Remote Firmware Upgrade (see page 16)

*Future firmware upgrade; Please contact Transition Networks for upgrade availability.

See Also:

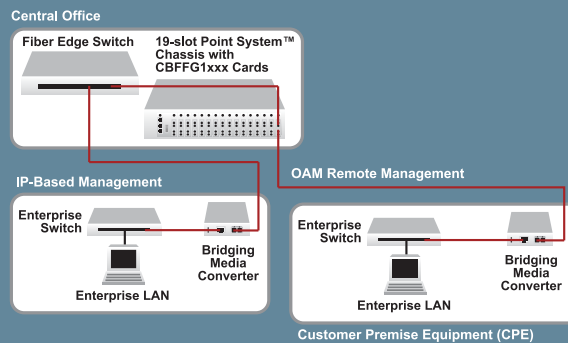
- ▶ 10/100/100 OAM/IP-Based Remotely Managed Stand-Alone Media Converters
pages 101-102

Call us at 800-526-9267 or 952-941-7600

CBFFG10xx-1xx



Remotely Manage 10/100/1000 Converters



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™, IEEE Std. 802.3ah, IEEE Std. 802.1P, IEEE Std. 802.1Q, IEEE Std. 802.1X
Data Rate	Copper: 10/100/1000 Fiber: 1000 Mbps
Filtering Addresses	8K MAC Addresses
RAM Buffers	256K (2 Mb)
Max Frame Size	802.3ac tagged: 1628 bytes untagged: 1632 bytes
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	5.1 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class B, EN55024, EN61000, FCC Class B, CE Mark
Warranty	Lifetime

ethernet
fast ethernet
10/100 bridging
100/1000 bridging
10/100/1000
gigabit ethernet
atm/oc-x
ds3-t3/e3
high speed serial
rs232
rs422/485
t1/e1
e&m, 2/4-wire
pots 2-wire
video

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

- CBFFG1013-100**
CBFFG1013-110 (DMI Options)
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-SX 1310nm MM (ST)
[2 km/1.2 mi.] Link Budget: 7.0 dB
 - CBFFG1014-100**
CBFFG1014-110 (DMI Options)
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-LX 1310nm SM (SC)
[10 km/6.2 mi.] Link Budget: 7.0 dB
 - CBFFG1015-100**
CBFFG1015-110 (DMI Options)
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-LX 1310nm SM (SC)
[25 km/15.5 mi.] Link Budget: 15.0 dB
 - CBFFG1017-100**
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-LX 1550nm SM (SC)
[65 km/40.4 mi.] Link Budget: 21.0 dB
 - CBFFG1035-100**
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-LX 1550nm SM (SC)
[120 km/77.7 mi.] Link Budget: 27.0 dB
- Single Fiber Products**
Recommended use in pairs (see page 17)
- CBFFG1029-100**
CBFFG1029-110 (DMI Options)
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-BX-U 1310nm TX/1550nm RX Bi-Di SM (SC)
[20 km/12.4 mi.] Link Budget: 14.0 dB
 - CBFFG1029-101**
CBFFG1029-111 (DMI Options)
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-BX-D 1550nm TX/1310nm RX Bi-Di SM (SC)
[20 km/12.4 mi.] Link Budget: 14.0 dB
 - CBFFG1029-102**
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-LX 1310nm TX/1550nm RX Bi-Di SM (SC)
[40 km/24.8 mi.] Link Budget: 20.0 dB
 - CBFFG1029-103**
10/100/1000B-T (RJ-45) [100 m]
to 1000BASE-LX 1550nm TX/1310nm RX Bi-Di SM (SC)
[40 km/24.8 mi.] Link Budget: 20.0 dB

Note: all units feature USB port for local management application.

OAM/IP-Based Remotely Managed Media Converter



- Applications:
- Ethernet in the First Mile (EFM)
 - Fiber to the Premise (FTTP), E-Line and E-LAN
 - Enterprise markets

Features

- MEF 9 & MEF 14 Carrier Ethernet Certification
- Two selectable remote management modes:
 - IP-Based remote management
 - In-Band OAM 802.3ah (remote device managed by local peer)
- SNMP v1, v2*
- Auto-Negotiation (see page 14)
- Pause (see page 15)
- Transparent Link Pass Through (see page 15)
- Far-End-Fault (see page 14)
- Remote Loopback (see page 16)
- IEEE 802.1p™ QOS packet classification with four egress queues
- IPv4 IP TOS and DiffServ QOS classification, IPv6 Traffic class
- IEEE 802.1q™ VLAN, 4096 entries
- Static MAC, 64 entries
- Double VLAN tagging (QinQ)
- IEEE 802.1x™ Port based security
- RADIUS client
- RMON counters for each port
- Bandwidth allocation per port (see page 16)
- DMI Optical Management
- USB port for basic setup
- 8K MAC addresses
- Remote Firmware Upgrade (see page 16)

*Future firmware upgrade; Please contact Transition Networks for upgrade availability.

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™, IEEE Std. 802.3ah, IEEE Std. 802.1P, IEEE Std. 802.1Q, IEEE Std. 802.1X
Data Rate	Fiber: 1000BASE-X Fiber 2: 1000BASE-X
Filtering Addresses	8K MAC Addresses
RAM Buffers	256K (2 Mb)
Max Frame Size	802.3ac tagged: 1628 bytes untagged: 1632 bytes
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	5.1 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class B, EN55024, EN61000, FCC Class B, CE Mark
Warranty	Lifetime

See Also:

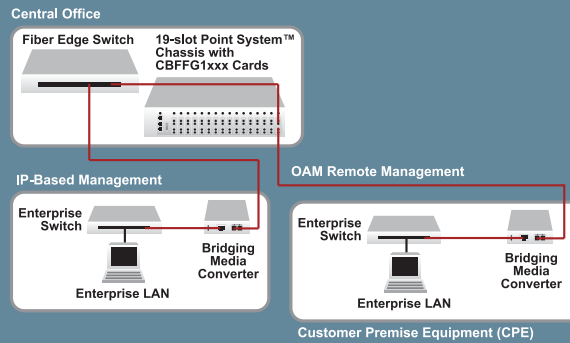
- 1000BASE Bridging, OAM/IP-Based Remotely Managed Stand-Alone Media Converters

pages 101-102

CBFFG13xx-1xx



Remotely Manage 1000BASE Converters



Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CBFFG1313-100

CBFFG1313-110 (DMI Options)

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*

CBFFG1314-100

CBFFG1314-110 (DMI Options)

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-LX10 1310nm SM (SC)
[10 km / 6.2 miles]

CBFFG1315-100

CBFFG1315-110 (DMI Options)

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-LX 1310nm SM (SC)
[30 km / 18.6 miles]

CBFFG1317-100

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-LX 1550nm SM (SC)
[65 km / 40.4 miles]

CBFFG1335-100

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-LX 1550nm SM (SC)
[120 km / 74.6 miles]

CBFFG1340-100

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-X SFP Slot (Empty)

Single Fiber Products

Recommended use in pairs (see page 17)

CBFFG1329-100

CBFFG1329-110 (DMI Options)

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-BX-U 1310nm TX /
1490nm RX single fiber SM (SC)
[20 km / 12.4 miles]

CBFFG1329-101

CBFFG1329-111 (DMI Options)

1000BASE-SX 850nm MM (SC)
[220 m/722 ft.] or [550 m/1804 ft.]*
to 1000BASE-BX-D 1490nm TX /
1310nm RX single fiber SM (SC)
[20 km / 12.4 miles]

*[220 m/722 ft.: 62.5/125µm fiber]

*[550 m/1804 ft.: 50/125µm fiber]

10/100/1000 802.3ah Bridging Media Converter



Applications

- Ethernet in the First Mile (EFM)
- Fiber to the Premise (FTTP), E-Line and E-LAN
- Enterprise markets

Features

- ▶ IEEE 802.3ah™ compliant
- ▶ In-band OAM management (Operation, Administration & Maintenance)
- ▶ 10/100/1000Mbps Auto-Negotiation or forced mode operation on the TP interface (see page 14)
- ▶ Fiber Auto-Negotiation enable/disable to support legacy devices (see page 14)
- ▶ AutoCross™ (see page 14)
- ▶ Transparent Link Pass Through (see page 15)
- ▶ QoS Management
- ▶ 802.1Q VLAN Tagging
- ▶ Static VLANs
- ▶ Remote Link Loss detection & notification
- ▶ RMON Statistics
- ▶ Automatic Link Restoration (see page 16)
- ▶ Symmetric and Asymmetric Pause (see page 15)
- ▶ Remote Loopback assists in diagnosing network problems (per 802.3ah) (see page 16)
- ▶ Bandwidth allocation: Upstream and downstream in 64KB increments (see page 16)
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ DMI management interface for optical monitoring of temperatures and power on -110 models.

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™; IEEE Std. 802.3ah™; IEEE Std. 802.1P; IEEE Std. 802.1Q
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps
Filtering Addresses	4K MAC Addresses
RAM Buffers	256K (2 Mb)
Status LEDs	TP (Duplex/Link/Activity) TP (10Mbps/100Mbps/1000Mbps) DPX (Fiber Duplex) LACT (Fiber Link/Activity) PWR (Power)
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	5.1 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A, EN55024, EN61000, FCC Class A, CE Mark
Warranty	Lifetime

▶ **Note:** CMEFG cards cannot be used in the 1-Slot Point System™ Chassis (see pages 20 & 21)

See Also:

- ▶ 10/100/1000 802.3ah Bridging Stand-Alone Media Converters

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CMEFG10xx-1xx

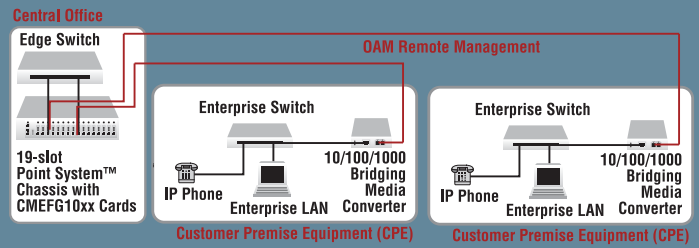


ethernet
fast ethernet
10/100 bridging
100/1000 bridging

10/100/1000 gigabit ethernet

atm/oc-x
ds3-t3/e3
high speed serial
rs232
rs422/485
t1/e1
e&m, 2/4-wire
pots 2-wire
video

Remotely Manage 10/100/1000 Converters



Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CMEFG1013-100: Link Budget: 7.0 dB
CMEFG1013-110 (with DMI mgmt.)
Link Budget: 8.5 dB
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 10/100/1000BASE-LX 1550nm SM (SC) [120 km/74.6 mi.] **Link Budget: 27.0 dB**

CMEFG1039-100
CMEFG1039-110 (with DMI mgmt.)
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-SX SFP Bundle: 850nm multimode (LC) [62.5/125 µm: 220 m/722 ft.]
Link Budget: 7.5 dB
[50/125 µm: 550 m/1804 ft.]
Link Budget: 7.5 dB

CMEFG1019-100
CMEFG1019-110 (with DMI mgmt.)
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-LX SFP Bundle: 1310nm single mode (LC) [10 km/6.2 mi.] **Link Budget: 11.5 dB**

CMEFG1014-100: Link Budget: 7.0 dB
CMEFG1014-110 (with DMI mgmt.)
Link Budget: 12.0 dB
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-LX-10 1310nm SM (SC) [10 km/6.2 mi.]

CMEFG1015-100: Link Budget: 15.0 dB
CMEFG1015-110 (with DMI mgmt.)
Link Budget: 19.0 dB
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-LX 1310nm SM (SC) [30 km/18.6 mi.]

CMEFG1017-100
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-LX 1550nm SM (SC) [65 km/40.4 mi.] **Link Budget: 21.0 dB**

CMEFG1035-100
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-LX 1550nm SM (SC) [120 km/74.6 mi.] **Link Budget: 27.0 dB**

CMEFG1040-100
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-X SFP Slot (empty)
 See page 135-136 for SFP modules.

Single Fiber Products
Recommended use in pairs (see page 17)

CMEFG1029-100: Link Budget: 14.0 dB
CMEFG1029-110 (with DMI mgmt.)
Link Budget: 11.0 dB
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-BX-U 1310nm TX / 1490nm RX single fiber single mode (SC) [20 km/12.4 mi.]

CMEFG1029-101: Link Budget: 14.0 dB
CMEFG1029-111 (with DMI mgmt.)
Link Budget: 11.0 dB
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-BX-D 1490nm TX / 1310nm RX single fiber single mode (SC) [20 km/12.4 mi.]

CMEFG1029-102
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-BX-U 1310nm TX / 1490nm RX single fiber single mode (SC) [40 km/24.9 mi.] **Link Budget: 20.0 dB**

CMEFG1029-103
 10/100/1000BASE-T (RJ-45) [100 m/328 ft.]
 1000BASE-BX-D 1490nm TX / 1310nm RX single fiber single mode (SC) [40 km/24.9 mi.] **Link Budget: 20.0 dB**

Single fiber options for 40 km, 60 km, 80 km and 120 km are available upon request. Please contact Transition Networks.

Gigabit Ethernet Media Converter



► Migrate to Gigabit Ethernet in a cost-effective manner. Used in conjunction with lower cost 1000BASE-T switches, companies can take advantage of the high bandwidth Gigabit Ethernet offers without all of the higher costs.

Transition Networks's 1000BASE-T to SX/LX converters allow users to extend the bandwidth to those users outside the reach of the 1000BASE-T standard (up to 125 km).

Features

- Copper & Fiber Auto-Negotiation (see page 14)
- Transparent Link Pass Through (see page 15)
- Automatic Link Restoration (see page 16)
- Remote Fault Detect (see page 17)
- Loopback (see page 16)
- Pause (see page 15)
- Remote Firmware Upgrade (see page 16)
- DMI - Diagnostic Monitoring Interface supported on CGETF1040-110 when an SFP supporting DMI is used.

DMI models have four functions:

- Transmit Power
- Receive Power
- Transmit bias current
- Temperature

Within each function, the device will send a trap (i.e. error) whenever a high or low warning event or a high or low alarm event occurs (for a total of 16 traps).

Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3ab™ and IEEE Std. 802.3™
6-position Switch	SW1: Remote Fiber Fault Detect (Down=Enabled) SW2: Symmetric Pause SW3: Asymmetric Pause SW4: Transparent Link Pass Through (UP=Enabled) SW5: Fiber Auto-Negotiation (Down=Enabled) SW6: Loopback (Down=Enabled)
3-position Jumper	Hardware: Converter mode is determined by 6-position switch settings Software: Converter mode is determined by most recently saved on-board microprocessor settings.
Status LEDs	PWR (Power): ON=connection to external AC power LKF (Fiber Link): ON=fiber connection RXC (Copper Receive): Flashing=Receiving data on copper link; ON=Copper Link connection Duplex: ON=Copper Link connection
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	5.4 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	CISPR/EN55022 Class A + EN55024; FCC Class A; CE Mark
Warranty	Lifetime

See Also:

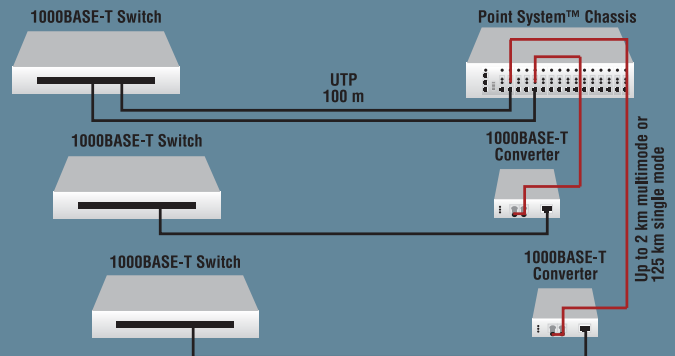
- Gigabit Ethernet Stand-Alone Media Converters

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CGETF10xx-11x



Migrate to Gigabit Ethernet



Ordering Info

See pages 171–181 for complete fiber optic connector specs.

CGETF1013-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-SX 850nm multimode (SC)
[62.5/125µm fiber: 220 m/722 ft.]
Link Budget: 7.0 dB
[50/125µm fiber: 550 m / 1804 ft.]
Link Budget: 7.0 dB

CGETF1039-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-SX 850nm multimode (LC)
via SFP
[62.5/125µm fiber: 220 m/722 ft.]
Link Budget: 8.0 dB
[50/125µm fiber: 550 m / 1804 ft.]
Link Budget: 8.0 dB

CGETF1024-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1310nm Extended MM
(62.5/125µm fiber only) (SC)
[2 km/1.2 mi.] Link Budget: 7.0 dB

CGETF1014-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1310nm SM (SC)
[10 km/6.2 mi.] Link Budget: 7.0 dB

CGETF1015-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1310nm SM (SC)
[25 km/15.5 mi.] Link Budget: 15.0 dB

CGETF1017-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1550nm SM (SC)
[65 km/40.4 mi.] Link Budget: 21.0 dB

CGETF1035-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1550nm SM (SC)
[125 km/77.7 mi.] Link Budget: 27.0 dB

CGETF1040-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-X SFP Slot (empty)

Single Fiber Products

Recommended use in pairs

CGETF1029-110
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1310nm TX / 1550nm
RX single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 13.0 dB

CGETF1029-111
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1550nm TX / 1310nm
RX single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 13.0 dB

CGETF1029-112
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1310nm TX / 1550nm
RX single fiber single mode (SC)
[40 km/24.9 mi.] Link Budget: 20.0 dB

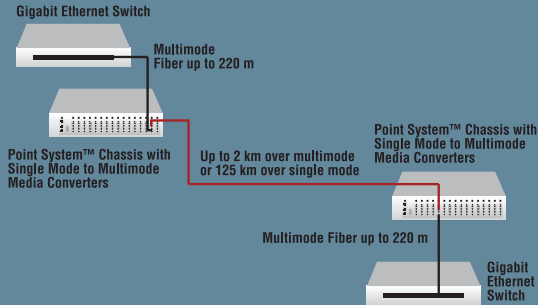
CGETF1029-113
1000BASE-T (RJ-45) [100 m/328 ft.]
to 1000BASE-LX 1550nm TX / 1310nm
RX single fiber single mode (SC)
[40 km/24.9 mi.] Link Budget: 20.0 dB

Gigabit Ethernet/Fibre Channel Optical Mode Converter



Used individually or in pairs, this media converter can extend Gigabit Ethernet over single mode fiber **up to 125 km**. Convert 1000BASE-SX ports on a Gigabit Ethernet switch to 1000BASE-LX on a port-by-port basis. Ideal for campus area networks or other applications requiring the distance advantages of single mode fiber.

Extend Network Distance



Specifications

See pages 171–181 for complete fiber optic connector specs.

Standards	IEEE Std. 802.3™
3-position Jumper	Hardware: Software mode is disabled. Software: Converter mode is determined by most recently saved on-board microprocessor settings.
Status LEDs	PWR (Power): Steady green LED indicates connection to external AC power LKS (Single mode fiber link): Steady LED indicates single mode fiber link LKM (Multimode fiber link): Steady LED indicates multimode fiber link
Dimensions	Width: 0.86" [22 mm] Depth: 5.0" [127 mm] Height: 3.4" [86 mm]
Power Consumption	3.5 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Regulatory Compliance	UL Listed; C-UL Listed (Canada); CISPR/EN55022 Class A & B + EN55024; FCC Class A & B; CE Mark
Warranty	Lifetime

See Also:

- ▶ Gigabit Ethernet Stand-Alone Media Converters

page 106

CFMFF1xxx-22x



Features

- ▶ Link Pass Through (page 15)
- ▶ Automatic Link Restoration (see page 16)
- ▶ Protocol Transparency
- ▶ Extended Multimode SX capability (up to 2 km 62.5/125µm fiber)
- ▶ Remote Firmware Upgrade (see page 16)
- ▶ Card manageability:
 - Multimode signal detect
 - Hardware/software mode
 - Fiber port enable/disable multimode
 - Fiber port enable/disable single mode
- ▶ Can be used with any Point System™ Chassis

Ordering Info

See pages 171–181 for complete fiber optic connector specs.

- CFMFF1313-220**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget 7.0 dB
to 1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget 7.0 dB
- CFMFF1324-220**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget 7.0 dB
to 1000BASE-LX 1310nm Extended MM (62.5/125µm fiber only) (SC) [up to 2 km] Link Budget: 7.0 dB
- CFMFF1424-220**
1000BASE-LX 1310nm SM (SC) [10 km/6.2 mi.] Link Budget: 7.0 dB
to 1000BASE-LX 1310nm Extended MM (62.5/125µm fiber only) (SC) [up to 2 km] Link Budget: 7.0 dB
- CFMFF1314-220**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1310nm SM (SC) [10 km/6.2 mi.] Link Budget: 7.0 dB
- CFMFF1414-220**
1000BASE-LX 1310nm SM (SC) [10 km/6.2 mi.] Link Budget: 7.0 dB
to 1000BASE-LX 1310nm SM (SC) [10 km/6.2 mi.] Link Budget: 7.0 dB
- CFMFF1315-220**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1310nm SM (SC) [25 km/15.5 mi.] Link Budget: 15.0 dB

- CFMFF1317-220**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1310nm SM (SC) [65 km/40.4 mi.] Link Budget: 20.0 dB
- CFMFF1335-220**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1550nm SM (SC) [125 km/77.7 mi.] Link Budget: 27.0 dB
- Single Fiber Products**
Recommended use in pairs (see page 17)
- CFMFF1329-220**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1310nm TX / 1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 13.0 dB
- CFMFF1329-221**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1550nm TX / 1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 13.0 dB
- CFMFF1329-222**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1310nm TX / 1550nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 20.0 dB
- CFMFF1329-223**
1000BASE-SX 850nm multimode (SC) [62.5/125µm fiber: 220 m / 722 ft.] [50/125µm fiber: 550 m / 1804 ft.] Link Budget: 7.0 dB
to 1000BASE-LX 1550nm TX / 1310nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 20.0 dB

ethernet
fast ethernet
10/100 bridging
100/1000 bridging
10/100/1000

gigabit ethernet

atm/oc-x
ds3-t3/e3
high speed serial
rs232
rs422/485
t1/e1
e&m, 2/4-wire
pots 2-wire
video