



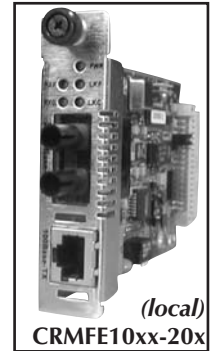
User's Guide

CRMFE10xx-20x - Chassis SRMFE10xx-20x - Stand-Alone

- **Fast Ethernet**
- **100Base-TX to 100Base-FX**
- **Remote Converter Management**

Transition Networks **CRMFE10xx-20x** and **SRMFE10xx-20x** series fast Ethernet media converters connect 100Base-TX shielded or unshielded twisted-pair copper cable to 100Base-FX fiber-optic cable.

The media converters are designed to be installed in pairs where the **CRMFE10xx-20x** is the **local** media converter and the **SRMFE10xx-20x** is the **remote** media converter.



Part Number	Port One - Copper 100Base-TX	Port Two - Duplex Fiber-Optic 100Base-FX
CRMFE1011-200	RJ-45	ST, 1300 nm multimode
SRMFE1011-200	100 m (328 ft)*	2 km (1.2 miles)*
CRMFE1013-200	RJ-45	SC, 1300 nm multimode
SRMFE1013-200	100 m (328 ft)*	2 km (1.2 miles)*
CRMFE1014-200	RJ-45	SC, 1310 nm single mode
SRMFE1014-200	100 m (328 ft)*	20 km (12.4 miles)*
CRMFE1015-200	RJ-45	SC, 1310 nm single mode
SRMFE1015-200	100 m (328 ft)*	40 km (24.8 miles)*
CRMFE1016-200	RJ-45	SC, 1310 nm single mode
SRMFE1016-200	100 m (328 ft)*	60 km (32.3 miles)*
CRMFE1017-200	RJ-45	SC, 1550 nm single mode
SRMFE1017-200	100 m (328 ft)*	80 km (49.7 miles)*
CRMFE1018-200	RJ-45	MT-RJ, 1300 nm multimode
SRMFE1018-200	100 m (328 ft)*	2 km (1.2 miles)*
CRMFE1019-200	RJ-45	LC, 1310 nm single mode
SRMFE1019-200	100 m (328 ft)*	20 km (12.4 miles)
CRMFE1025-200	RJ-45	MT-RJ, 1310 nm single mode
SRMFE1025-200	100 m (328 ft)*	20 km (12.4 miles)*

* Typical maximum cable distance.
Actual distance is dependent upon the physical characteristics of the network.

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CRMFE10xx-20x / SRMFE10xx-20x

Part Number	Port One - Copper 100Base-TX	Port Two - Fiber-Optic - 100Base-FX single fiber single mode
CRMFE1029-200	RJ-45	SC, 1310 nm TX / 1550 nm RX
SRMFE1029-200	100 m (328 ft)*	20 km (12.4 miles)*
CRMFE1029-201	RJ-45	SC, 1550 nm TX / 1310 nm RX
SRMFE1029-201	100 m (328 ft)*	20 km (12.4 miles)*

A CRMFE1029-200 or a SRMFE1029-200 is to be installed with either a CRMFE1029-201 or a SRMFE1029-201; where one is the local converter and the other is the remote converter.

CRMFE1029-202	RJ-45	SC, 1310 nm TX / 1550 nm RX
SRMFE1029-202	100 m (328 ft)*	40 km (24.8 miles)*
CRMFE1029-203	RJ-45	SC, 1550 nm TX / 1310 nm RX
SRMFE1029-203	100 m (328 ft)*	40 km (24.8 miles)*

A CRMFE1029-202 or a SRMFE1029-202 is to be installed with either a CRMFE1029-203 or a SRMFE1029-203; where one is the local converter and the other is the remote converter.

CRMFE1039-200	RJ-45	LC, 1300 nm multimode,
SRMFE1039-200	100 m (328 ft)*	2 km (1.2 miles)*

*Typical maximum cable distance. Actual distance is dependent upon the physical characteristics of the network. (TX = transmit, RX = receive)

Optional Accessories for the SRMFE10xx-20x (sold separately).

Part Number	Description
SPS-1872-SA	Optional External Power Supply; 18-72VDC Stand-Alone Output: 12.6VDC, 1.0 A
SPS-1872-PS	Optional External Power Supply; 18-72VDC Piggy-back; Output: 12.6VDC, 1.0 A
E-MCR-04	12-Slot Media Converter Rack (includes universal internal power supply) 17 x 15 x 5 in. (432 x 381 x 127 mm)
WMBL	Optional Wall Mount Brackets; Length: 4.0 in. (102 mm)
WMBV	Optional Vertical Mount Bracket; Length: 5.0 in. (127 mm)
WMBD	Optional DIN Rail Mount Bracket; Length: 5.0 in. (127 mm)
WMBD-F	Optional DIN Rail Mount Bracket (flat); Length: 3.3in. (84 mm)

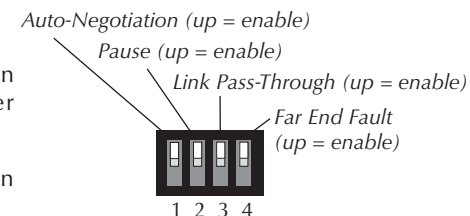
Installation

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when setting the 4-position switch and the jumpers and when installing the CRMFE10xx-20x slide-in-module into the *PointSystem™* chassis. **Failure to observe this caution could result in damage to, and subsequent failure of, the media converter.**

Set the 4-Position Switch

SRMFE10xx-200: The switch is on the side of the media converter housing.

CRMFE10xx-20x: The switch is on the media converter circuit board.



Use a small flatblade screwdriver or a similar device to set the recessed switches. Refer to the drawing (above) for the locations of the four individual switches.

1. Twisted-Pair Auto-Negotiation

up Enable Auto-Negotiation for the copper connection (see page 8).
down Disable Auto-Negotiation for the copper connection.

2. Twisted-Pair Pause Feature

up Enable Pause feature for the copper connection (see page 9).
down Disable Pause feature for the copper connection

3. Link Pass-Through

up Enable Link Pass-Through (see page 8).
down Disable Link Pass-Through.

4. Far-End Fault

up Enable Far-End Fault (see page 9).
down Disable Far-End Fault.

Installation -- Continued

Set the Jumpers

Both jumpers are located on the media converter circuit board.

Enable/Disable AutoCross™

The AutoCross jumper is labeled “J2”. The drawing illustrates the two settings:

Disable Either straight-through or crossover twisted-pair copper cable must be installed, according to the site requirements



Enable The media converter connects automatically to either straight-through or crossover twisted-pair copper cable (see page 9).



NOTE: Factory default is “enable AutoCross.” Transition networks recommends leaving the device in the “enable” mode.

Hardware/Software Mode

The Hardware/Software mode jumper is labeled “J6”. The drawing illustrates the two settings:

Hardware The media converter mode is determined by the 4-position switch settings (see the “4-Position switch” section on page 3).



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



Setting the Jumpers

To set the jumpers on the **CRMFE10xx-20x**, use small needle-nosed pliers or similar device to move the jumper to the desired position.

To set the jumpers on the **SRMFE10xx-20x**:

1. Using a small screwdriver, remove the four (4) screws that secure the cover to the media converter.
2. Carefully remove the cover from the media converter and locate the jumper on the circuit board.
3. Using small needle-nosed pliers or similar device, move the jumper to the desired position.
4. Carefully replace the cover on the media converter and replace the four (4) screws that secure the cover to the media converter.

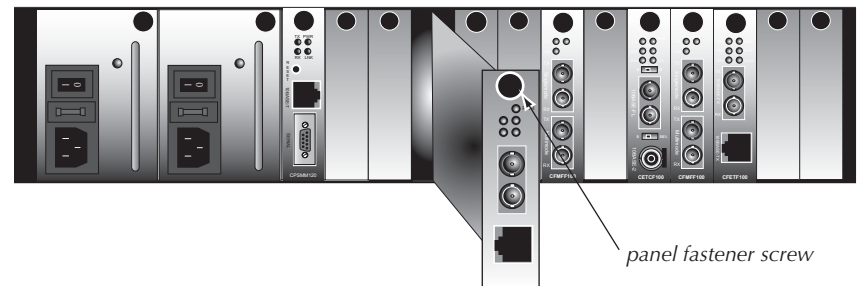
Installation -- Continued

Install the CRMFE10xx-20x Slide-In-Module

CAUTION: Slots in the *PointSystem*™ chassis without a slide-in-module installed **MUST** have a protective plate covering the empty slot for Class A and/or Class B compliance.

To install the **CRMFE10xx-20x** media converter slide-in-module:

1. Locate an empty installation slot on the *PointSystem*™ chassis.
2. Carefully slide the slide-in-module into the installation slot, aligning the module with the installation guides.
3. Ensure that the module is firmly seated inside the chassis.
4. Push in and rotate the attached panel fastener screw clockwise to secure the module to the chassis front.



Install the Copper Cable

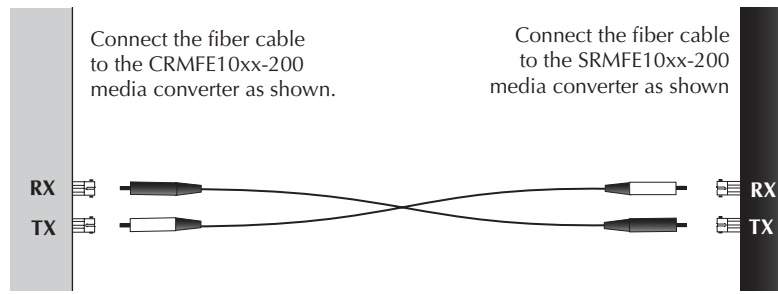
1. Locate or build 100Base-TX compliant copper cables with male, RJ-45 connectors installed at both ends.
2. Connect the RJ-45 connector at one end of the cable to the RJ-45 port on the **CRMFE10xx-20x (local)** media converter.
3. Connect the RJ-45 connector at the other end of the cable to the RJ-45 port on the other (local) device (switch, workstation, etc.).
4. Repeat steps 2 and 3 for the **SRMFE10xx-20x (remote)** media converter.
5. Connect the RJ-45 connector at the other end of the cable to the RJ-45 port on the other (remote) device (switch, workstation, etc.).



Installation -- Continued

Install the Fiber Cable

1. Locate or build 100Base-FX compliant fiber cable with male, two-stranded TX to RX connectors installed at both ends.
2. Connect the fiber cables to the **CRMFE10xx-20x (local)** media converter as described:
 - Connect the male **TX** cable connector to the female **TX** port.
 - Connect the male **RX** cable connector to the female **RX** port.
3. Connect the fiber cables to the **SRMFE10xx-20x (remote)** media converter as described:
 - Connect the male **TX** cable connector to the female **RX** port.
 - Connect the male **RX** cable connector to the female **TX** port.



Power the Media Converter

The **CRMFE10xx-20x** slide-in-module media converter is powered through the Transition Networks PointSystem™ chassis.

To power the **SRMFE10xx-20x** media converter:

AC

The external power supply provided with this device is UL listed by the manufacturer of the power supply.

1. Connect the barrel connector on the power adapter to the media converter's power port (located on the back of the media converter).
2. Connect the power adapter plug to AC power.
3. Verify that the media converter is powered by observing the illuminated LED power indicator light.

DC

Consult the user's guide for the Transition Networks SPS1872-xx DC external power supply for powering the media converter.

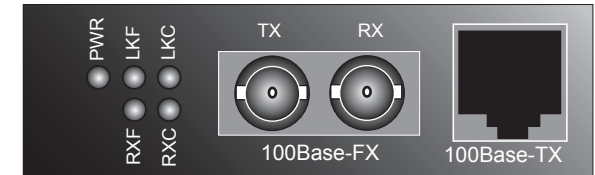
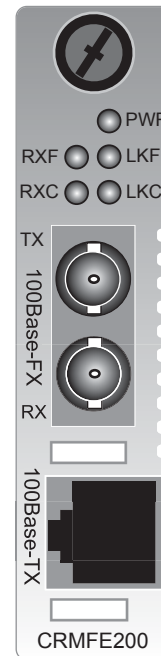
Operation

Status LEDs

Use the status LEDs to monitor the CGRFE10xx-20x and the SGRFE10xx-20x in the network.

PWR	<i>Power</i>	On	= Connection to the external power.
RXF	<i>Fiber Receive</i>	Flashing	= Reception of the data on the fiber link.
LKF	<i>Fiber Link</i>	On	= Fiber link connection.
RXC	<i>Copper Receive</i>	Flashing	= Data reception on the copper link.
LKC	<i>Copper Link</i>	On	= Copper link connection.

CRMFE10xx-200 SRMFE10xx-200



Operation -- Continued

Product Features

Secure and Transparent Data

The data is both secure and transparent because it uses none of the Ethernet bandwidth. In addition, the data exists outside the normal Ethernet framing format.

Auto-Negotiation

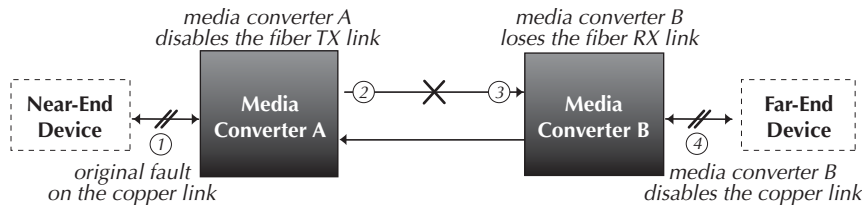
The Auto-Negotiation feature allows the media converter automatically configures itself to achieve the best possible mode of operation over a link. The media converter broadcasts its speed (10Mb/s, 100Mb/s, or 1000Mb/s) and duplex capabilities (full or half) to the other device and negotiates the best 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. 10 Mb/s, half-duplex). Disabling this feature gives the user the ability to force the connection to the best mode of operation.

NOTE: The media converter does NOT support rate conversion between 10Mb/s, 100Mb/s, and 1000Mb/s network devices.

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 on one media port, the media converter will automatically disable the TX (transmit) signal of the other media port, thus, “passing through” the link loss.



Remote Management Function

The SRMFE10xx-20x stand-alone media converter can be remotely managed when connected via fiber cable to a local CRMFE10xx-20x slide-in-module media converter that is installed in a managed Transition Networks PointSystem™ chassis.

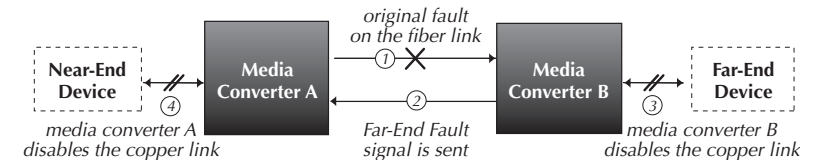
See page 10 for the available SNMP commands that enable the user to both monitor and manage both the local and remote media converters.

Operation -- Continued

Product Features -- Continued

Far-End Fault

When a fault occurs on an incoming fiber link (1), the media converter transmits a Far-End Fault signal on the outgoing fiber link (2). In addition the Far-End Fault signal also activates the Link Pass-Through, which, in turn, disables the link on the copper portion of the network (3) and (4).



Pause

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

In **Hardware** mode, the pause feature can be set to

- Disable (i.e., no pause)
- Enable (i.e., symmetrical pause)

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

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 100Base-TX 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.

NOTE: Factory default is “enable AutoCross.” Transition networks recommends leaving the device in the “enable” mode.

Operation -- Continued

Product Features -- 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 **local CRMFE10xx-20x** media converter by monitoring:

- Copper and fiber link status.
- Enable/disable Auto-Negotiation.
- Enable/disable pause feature.
- Enable/disable Link Pass-Through.
- Enable/disable Far-End Fault.
- Enable/disable AutoCross.
- Enable/disable the CRMFE10xx-20x media converter.
- Uptime (d:h:m:s) counter with reset.
- TX (copper) receive bytes and FX (fiber) receive bytes counters (a single reset command resets both functions).
- MSC TX (transmit) bytes and MSC RX (receive) bytes counters (a single reset command resets both functions).
- Bandwidth allocation in 64Kbytes/s units. (Two fields, one for TX (copper) to FX (fiber) and one for FX (fiber) to TX (copper), are available.)

Also, use SNMP to monitor the **remote SRMFE10xx-20x** media converter with the following network commands:

- Copper and fiber link status.
- Enable/disable Auto-Negotiation.
- Enable/disable pause feature.
- Enable/disable Link Pass-Through.
- Enable/disable Far-End Fault.
- Enable/disable AutoCross.
- Uptime (d:h:m:s) counter with reset command.
- Loopback: Data sent from the TX interface is intercepted and looped back the RX interface. The data is not sent out and data coming into the receiver from the copper cable is ignored.

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
CRMFE1011-200, SRMFE1011-200	1300 nm multimode
Fiber Optic Transmitter Power:	min: -19.0 dBm max: -14.0 dBm
Fiber Optic Receiver Sensitivity:	min: -30.0 dBm max: -14.0 dBm
Link Budget:	11.0 dB
CRMFE1013-200, SRMFE1013-200	1300 nm multimode
Fiber Optic Transmitter Power:	min: -19.0 dBm max: -14.0 dBm
Fiber Optic Receiver Sensitivity:	min: -30.0 dBm max: -14.0 dBm
Link Budget:	11.0 dB
CRMFE1014-200, SRMFE1014-200	1310 nm single mode
Fiber-optic Transmitter Power:	min: -15.0 dBm max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -31.0 dBm max: -8.0 dBm
Link Budget:	16.0 dB
CRMFE1015-200, SRMFE1015-200	1310 nm single mode
Fiber-optic Transmitter Power:	min: -8.0 dBm max: -2.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm max: -7.0 dBm
Link Budget:	26.0 dB
CRMFE1016-200, SRMFE1016-200	1310 nm single mode
Fiber-optic Transmitter Power:	min: -5.0 dBm max: 0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm max: -7.0 dBm
Link Budget:	29.0 dB
CRMFE1017-200, SRMFE1017-200	1550 nm single mode
Fiber-optic Transmitter Power:	min: -5.0 dBm max: 0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm max: -7.0 dBm
Link Budget:	29.0 dB
CRMFE1018-200, SRMFE1018-200	1300 nm multimode
Fiber-optic Transmitter Power:	min: -19.0 dBm max: -14.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.5 dBm max: -14.0 dBm
Link Budget:	14.5 dB
CRMFE1019-200, SRMFE1019-200	1310 nm single mode
Fiber-optic Transmitter Power:	min: -15.2 dBm max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.5 dBm max: -3.0 dBm
Link Budget:	17.3 dB
CRMFE1025-200, SRMFE1025-200	1310 nm single mode
Fiber-optic Transmitter Power:	min: -11.0 dBm max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -20.0 dBm max: -3.0 dBm
Link Budget:	9.0 dB

Cable Specifications -- Continued

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

Fiber Cable -- Continued

CRMFE1029-200, SRMFE1029-200	1310nm TX/1550nm RX single mode
Fiber-optic Transmitter Power:	min: -13.0 dBm max: -6.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.0 dBm max: -3.0 dBm
Link Budget:	19.0 dB
CRMFE1029-201, SRMFE1029-201	1550nm TX/1310nm RX single mode
Fiber-optic Transmitter Power:	min: -13.0 dBm max: -6.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.0 dBm max: -3.0 dBm
Link Budget:	19.0 dB
CRMFE1029-202, SRMFE1029-202	1310nm TX/1550nm RX single mode
Fiber-optic Transmitter Power:	min: -8.0 dBm max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.0 dBm max: -3.0 dBm
Link Budget:	25.0 dB
CRMFE1029-203, SRMFE1029-203	1550nm TX/1310nm RX single mode
Fiber-optic Transmitter Power:	min: -8.0 dBm max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.0 dBm max: -3.0 dBm
Link Budget:	25.0 dB
CRMFE1039-200, SRMFE1039-200	1550nm TX/1310nm RX multimode
Fiber-optic Transmitter Power:	min: -19.0 dBm max: -14.0 dBm
Fiber-optic Receiver Sensitivity:	min: -30.0 dBm max: -14.0 dBm
Link Budget:	11.0 dB

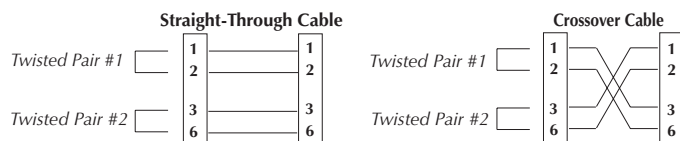
The fiber optic transmitters on this device meet Class I Laser safety requirements per IEC-825/CDRH standards and comply with 21 CFR1040.10 and 21CFR1040.11.

Copper Cable

Category 5:

Gauge:	24 to 22 AWG
Attenuation:	22.0 dB /100m @ 100 MHz
Maximum Cable Distance:	100 meters

- Straight-through **OR** crossover cable may be used.
- Shielded (STP) **OR** unshielded (UTP) twisted-pair may be used.
- Pins **1&2** and **3&6** are the two active pairs in an Ethernet network .
- RJ-45 Pin-out: Pin 1 = TD+, Pin 2 = TD-, Pin 3 = RD+, Pin 6 = RD-
- Use only dedicated wire pairs for the active pins:
(e.g., blue/white & white/blue, orange/white & white/orange, etc.)
- **Do not** use flat or silver satin wire.



Technical Specifications

For use with Transition Networks Model CRMFE10xx-20x and SRMFE10xx-20x.

Standards:	IEEE 802.3™, 2000
Data Rate:	100 Mb/s
Power Consumption:	3.8 W, 320 mA @ 11.88VDC
CRMFE10xx-20x:	
Case Dimensions:	3.4" x 0.87" x 5.0" (86 mm x 22 mm x 127 mm)
Weight:	4 oz (113 g) (approximate)
MTBF	483,000 hours (MIL217F2 V5.0) (MIL-HDBK-217F) 1,344,000 hours (Bellcore7 V5.0)
SRMFE10xx-20x:	
Case Dimensions:	3.25" x 1" x 4.7" (83 mm x 25 mm x 119 mm)
Weight:	9.6 oz (278 g) (approximate)
MTBF	49,000 hours (MIL217F2 V5.0) (MIL-HDBK-217F) 123,000 hours (Bellcore7 V5.0)
Power Supply:	12VDC, 0.5 A (North America) 12VDC, 0.41A (Europe, Japan, Latin America) 12VDC, 1.25A (Australia, N.Z., S. Africa, UK)
Environment:	Tmra*: 0° to 50°C (32° to 122°F) Storage Temperature: -15° to 65°C (5° to 145°F) Humidity: 5 to 95%, non condensing Altitude: 0 to 10,000 feet
Warranty:	Lifetime

*Manufacturer's rated ambient temperature: Tmra range for the CRMFE10xx-20x 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 on the CRMFE10xx-20x / SRMFE10xx-20x media converter, view the user's guide on-line at: www.transition.com.

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

CAUTION: Visible and invisible laser radiation when open. Do not stare into beam or view directly with optical instruments.

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

Troubleshooting

1. **Is the PWR LED on either media converter illuminated?**
NO
 - Is the power adapter on the **SRMFE10xx-20x** the proper type of voltage and cycle frequency for an AC outlet?
 - Is the power adapter properly installed in the **SRMFE10xx-20x** media converter and in the outlet?
 - Is the **CRMFE10xx-20x** media converter inserted properly into the chassis?
 - Is the power cord properly installed in the PointSystem™ chassis and in the grounded AC outlet?
 - Does the grounded AC outlet provide power?
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.**YES**
 - Proceed to step 2.

2. **Is the LKC LED illuminated?**
NO
 - Check the twisted pair cables for proper connection.
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.**YES**
 - Proceed to step 3.

3. **Is the LKF LED illuminated?**
NO
 - Check the fiber cables for proper connection.
 - Verify that the TX and RX cables on one media converter are connected to the RX and TX ports, respectively, on the other media converter.
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.**YES**
 - Proceed to step 4.

4. **Is the RXC LED flashing?**
NO
 - If there is no activity on the 100Base-TX port, proceed to step 5.
 - If there is activity on the 100Base-TX port, disconnect and reconnect the 100Base-TX cable to restart the initialization process.
 - Restart the workstation to restart the initialization process.
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.**YES**
 - Proceed to step 5.

Troubleshooting -- Continued

5. **Is the RXF LED flashing?**
NO
 - If there is no activity on the 100Base-FX port, continue below
 - If there is activity on the 100Base-FX port, disconnect and reconnect the 100Base-FX cable to restart the initialization process.
 - Verify that TX and RX cables on one media converter are connected to RX and TX ports, respectively, on the other media converter.
 - Restart the workstation to restart the initialization process.
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.**YES**
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 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

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E-Mail

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

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Compliance Information

EN55022 Class A & B + EN55024; CE Mark

FCC Regulations: This equipment has been tested and found to comply with the limits for a Class A & B 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.


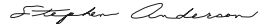
Canadian Regulations: This digital apparatus does not exceed the Class A & B limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

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



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

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

	Declaration of Conformity
Name of Mfg:	Transition Networks 6475 City West Parkway, Minneapolis MN 55344 U.S.A.
Model:	xRMFE10xx-20x Series Media Converters
Part Number(s):	CRMFE1011-200, CRMFE1013-200, CRMFE1014-200, CRMFE1015-200, CRMFE1016-200, CRMFE1017-200, CRMFE1018-200, CRMFE1019-200 CRMFE1025-200, CRMFE1029-200, CRMFE1029-201, CRMFE1029-202, CRMFE1029-203, CMFE1039-200 SRMFE1011-200, SRMFE1013-200, SRMFE1014-200, SRMFE1015-200, SRMFE1016-200, SRMFE1017-200, SRMFE1018-200, SRMFE1019-200, SRMFE1025-200, SRMFE1029-200, SRMFE1029-201, SRMFE1029-202, SRMFE1029-203, SMFE1039-200
Regulation:	EMC Directive 89/336/EEC
Purpose: To declare that the xRMFE10xx-20x to which this declaration refers is in conformity with the following standards.	
CISPR 22: 1993; EN 55022:1998 A1:2000 Class A & B; EN 55024: 1998; FCC Part 15 Subpart B; EN 61000-3-2:2000; EN 61000-3-3: 1995 A1:2001; 21CFR subpart J	
I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).	
 Stephen Anderson, Vice-President of Engineering	<u>September 16, 2005</u> Date

Trademark Notice

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