Crestron **CLF-DIMRFB**
infiNET™ Lamp Dimmer
Operations Guide

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CRESTRON

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Contents

InfiNET™ Lamp Dimmer: CLF-DIMRFB

Introduction

Features and Functions

- Free-standing dimmer module designed to sit on the floor
- Provides control of a conventional floor lamp or table lamp, toggling between on (at a user preset level) and off
- Enables local dimming control via a built-in foot switch
- Crestron System Integration via infiNET™ Wireless Network

Specifications

Specifications for the CLF-DIMRFB are listed in the following table.

CLF-DIMRFB Specifications

SPECIFICATION	DETAILS
Load Ratings Incandescent / Tungsten Halogen / Magnetic Low-Voltage	500 Watts/VA
Power Requirements	120 Volts AC, 60Hz
Default MNET ID	01[1]

(Continued on following page)

CLF-DIMRFB Specifications (Continued)

SPECIFICATION	DETAILS
Minimum 2-Series Control System Update File[2, 3]	Version 3.154 or later

Wireless[4]
  RF Transceiver
 	
  RF Output Power
Range (typical)
	2-way RF, 2.4 GHz
	ISM Channels 11-26
	(2400 to 2483.6 MHz),
	IEEE 802.15.4 compliant
	10mW
	150 feet indoor, 250 feet outdoor, subject to site-specific conditions; range is increased by adding additional devices

Environmental
  Temperature
  Humidity
	32° to 104°F (0° to 40°C)
	10% to 90% RH
	(non-condensing)

Enclosure	Free-standing, black metal with high-impact injection-molded plastic footswitch

Dimensions
  Height
  Width
  Depth
	2.38 in (6.03 cm)
	3.15 in (8.01 cm)
	3.69 in (9.37 cm)

Weight	14.46 oz (410 g)
Available Accessories C2N-MNETGW	infiNET Gateway/Transceiver

1. Requires set up with Crestron Toolbox™.
2. The latest software versions can be obtained from the Crestron website. Refer to the NOTE following these footnotes.
3. Crestron 2-Series control systems include the AV2 and PRO2. Consult the latest Crestron Product Catalog for a complete list of 2-Series control systems.
4. C2N-MNETGW gateway/transceiver required.

NOTE: Crestron software and any files on the website are for authorized Crestron dealers and Crestron Authorized Independent Programmers

(CAIP) only. New users may be required to register to obtain access to certain areas of the site (including the FTP site).
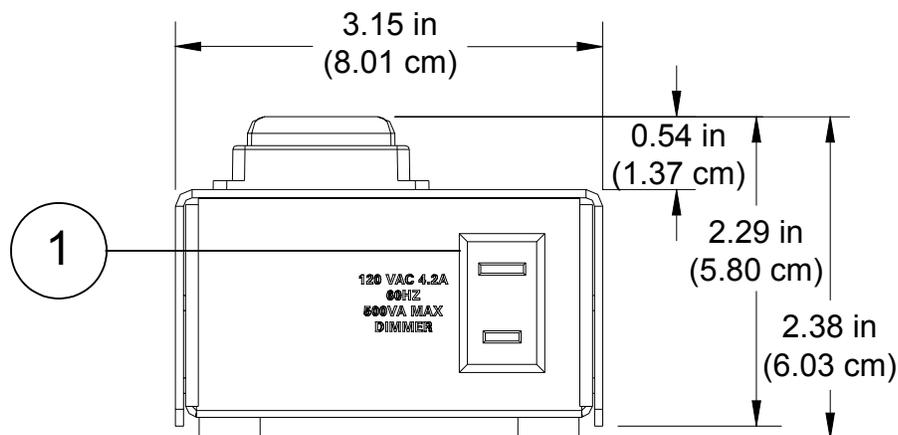
Physical Description

This section provides information on the connections, controls, and indicators available on your CLF-DIMRFB.

CLF-DIMRFB Physical View

CLF-DIMRFB Overall Dimensions (Front view)

CLF-DIMRFB Overall Dimensions (Top view)
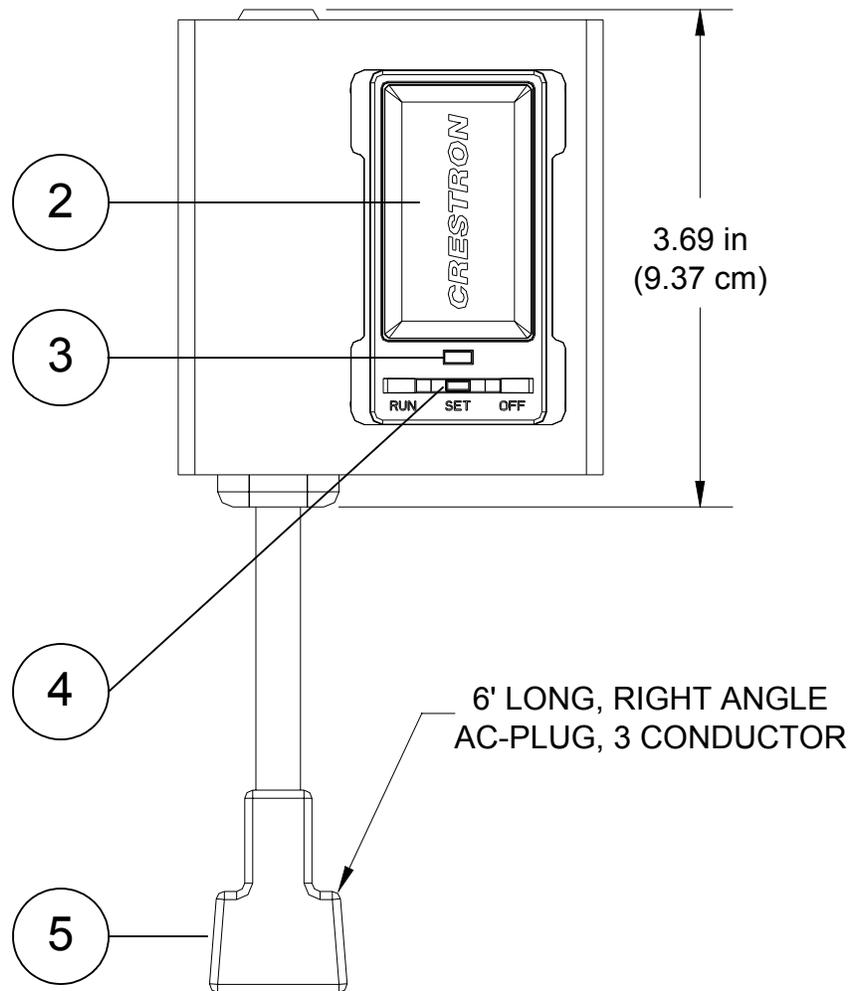
Connectors, Controls, & Indicators

#	CONNECTORS, CONTROLS, & INDICATORS	DESCRIPTION
1	AC Receptacle (ungrounded)	Plug table/floor lamp in here
2	Foot Switch	Operates dimmer*
3	LED Indicator	Provides feedback*
4	Selection Switch	Three-position switch sets mode of operation*
5	AC Plug	Connects to 120V AC power source

* Refer to "Operation" on page 14.

Industry Compliance

This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.

cᵁᴸus   (E239013)

As of the date of manufacture, the CLF-DIMRFB has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.

CE

NOTE: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Setup

Identity Code

The MNET ID of the CLF-DIMRFB has been factory set to **01**. After an infiNET device is added to an infiNET network, its MNET ID must be changed to a value that can be addressed by the control system program (03 to 20). The MNET IDs of multiple CLF-DIMRFB devices in the same system must be unique. MNET IDs are changed from a personal computer (PC) via the Crestron Toolbox. When setting the MNET ID, consider the following:

- The MNET ID of each unit must match an ID code specified in the SIMPL Windows or D3 Pro™/SystemBuilder™ program.

- Each network device must have a unique MNET ID.

For more details, refer to the Crestron Toolbox help file.

Hardware Hookup

Make the necessary connections as called out in the illustration that follows this paragraph. Apply power after all connections have been made.

When making connections to the CLF-DIMRFB, consider the following:

- The included cable cannot be extended.

- Do not use an extension cord.

Hardware Connections for the CLF-DIMRFB

TO ANY 120V AC, 60Hz POWER SOURCE

CRESTRON

RUN SET OFF

120 VAC 4.2A
60HZ
500VA MAX
DIMMER

TO LAMP
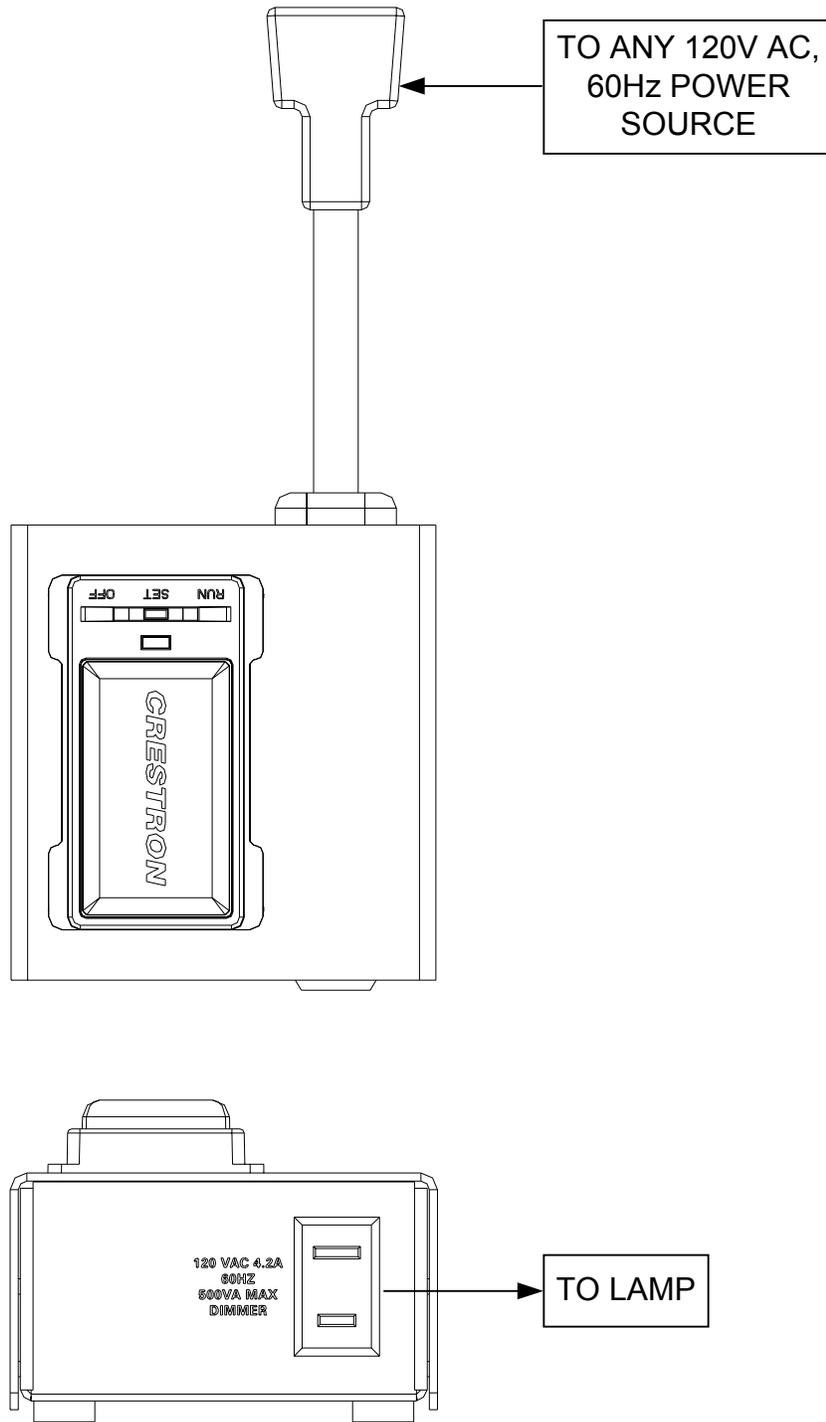
Programming Software

Have a question or comment about Crestron software?

Answers to frequently asked questions (FAQs) can be viewed in the Online Help section of the Crestron website. To post a question or view questions you have submitted to Crestron's True Blue Support, log in at http://support.crestron.com. First-time users will need to establish a user account.

Earliest Version Software Requirements for the PC

NOTE: Crestron recommends that you use the latest software to take advantage of the most recently released features. The latest software is available from the Crestron website.

Crestron has developed an assortment of Windows®-based software tools to develop an infiNET system. The following are the minimum recommended software versions for the PC:

Software

TASK	REQUIRED SOFTWARE VERSION
Program control system to operate CLF-DIMRFB.	SIMPL Windows version 2.06.20 or later with SIMPL+® Cross Compiler version 1.1 or later and Library update 382 or later; Also requires Crestron Database version 18.1.0 or later.
Upload program and firmware.	Crestron Toolbox 1.02.25 or later.

(Continued on following page)

Software (Continued)

TASK	REQUIRED SOFTWARE VERSION
Program with simple wizards for lighting systems using a CLF-DIMRFB (optional but recommended).	Crestron D3 Pro version 2.0.6 or later or SystemBuilder version 2.0.6 or later. Refer to software release notes or Crestron website for other required Crestron software packages.

Programming with Crestron D3 Pro or SystemBuilder

Crestron D3 Pro and SystemBuilder are the easiest methods of programming, but do not offer as much flexibility as SIMPL Windows. For additional details, download D3 Pro or SystemBuilder from the Crestron website and examine the extensive help files.

Programming with SIMPL Windows

NOTE: While SIMPL Windows can be used to program the CLF-DIMRFB, it is recommended to use D3 Pro or SystemBuilder for configuring system.

SIMPL Windows is Crestron's premier software for programming Crestron control systems. It is organized into two separate, but equally important "Managers".

Configuration Manager

Configuration Manager is the view where programmers "build" a Crestron control system by selecting hardware from the *Device Library*.

- To incorporate the CLF-DIMRFB into the system, first drag the C2N-MNETGW (MNET Gateway) from the Wireless Receivers | Wireless Receivers (RF) folder of the *Device Library* and drop it in the *System Views.* Then drag the CLF-DIMRFB from the Lighting | Wall Dimmers/Switches (infiNET CLW Series) folder of the *Device Library* and drop it on the C2N-MNETGW.

Locating the C2N-MNETGW in the Device Library

```
Crestron Devices (DvcLib 382)
  ⊞ Control Systems

  ⊟ Wireless Receivers
      ⊞ Wireless Receivers (IR)
      ⊟ Wireless Receivers (RF)
          C2N-MNETGW  ◄————
```

Locating the CLF-DIMRFB in the Device Library

```
Crestron Devices (DvcLib 382)
  ⊞ Control Systems

  ⊟ Lighting
      ⊟ Wall Dimmers/Switches (infiNET CLW
          CLF-DIMRF  ◄————
          CLW-DIM1RF
          CLW-DIM4RF
```
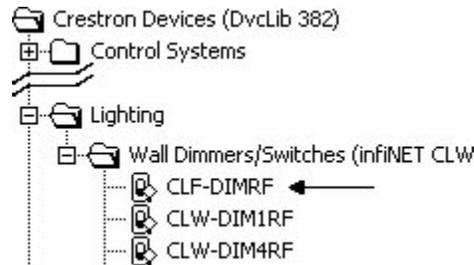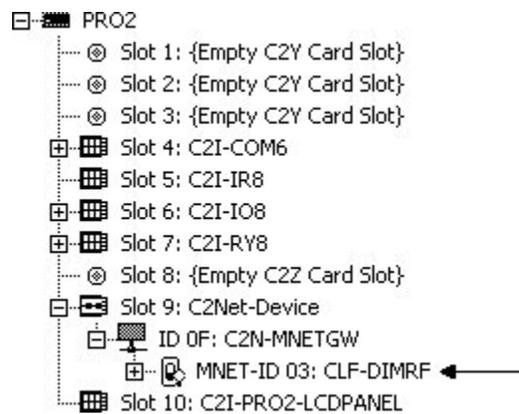
- The system tree of the control system displays the device in the appropriate slot with a default MNET ID as shown in the following illustrations.

C2Net Device, Slot 9

```
⊟ PRO2
    ⊚ Slot 1: {Empty C2Y Card Slot}
    ⊚ Slot 2: {Empty C2Y Card Slot}
    ⊚ Slot 3: {Empty C2Y Card Slot}
  ⊞ Slot 4: C2I-COM6
    Slot 5: C2I-IR8
  ⊞ Slot 6: C2I-IO8
  ⊞ Slot 7: C2I-RY8
    ⊚ Slot 8: {Empty C2Z Card Slot}
  ⊟ Slot 9: C2Net-Device
      ⊟ ID 0F: C2N-MNETGW
          ⊞ MNET-ID 03: CLF-DIMRF  ◄————
    Slot 10: C2I-PRO2-LCDPANEL
```

- Additional CLF-DIMRFB devices are assigned different MNET ID numbers as they are added.

- If necessary, double click a device to open the "Device Settings" window and change the MNET ID, as shown in the following figure.

"CLF-DIMRFB Device Settings" Window
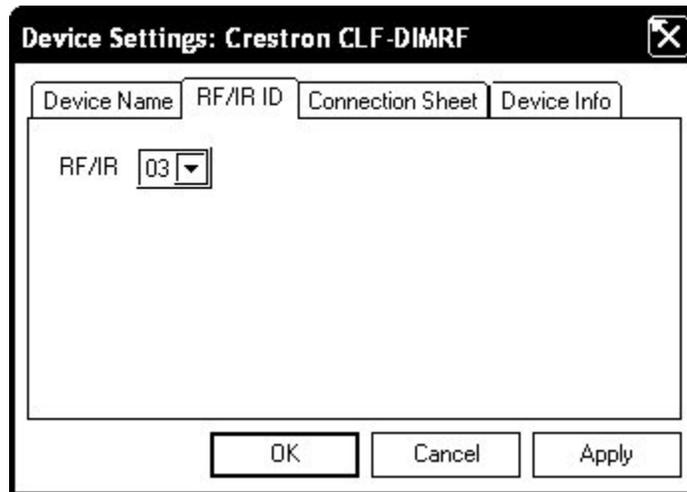
- The ID code specified in the SIMPL Windows program must match the MNET ID of each unit.

Programming Manager

Programming Manager is the view where programmers "program" a Crestron control system by assigning signals to symbols.

The symbol can be viewed by double clicking on the icon or dragging it into *Detail View*. A description for each signal in the symbol is described in the SIMPL Windows help file (**F1**).
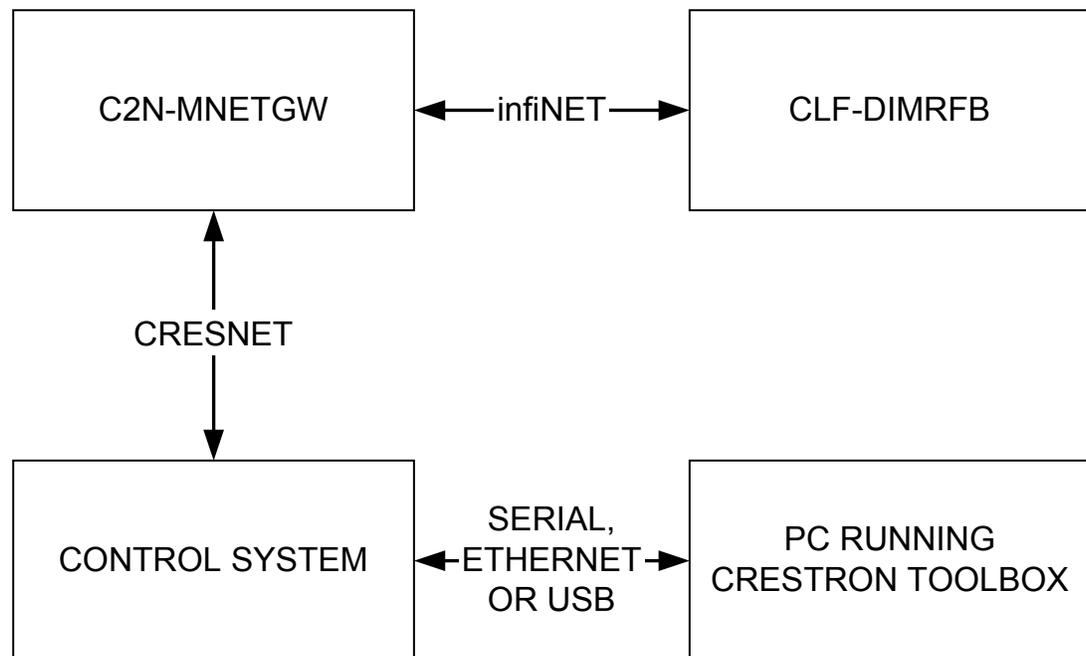
Uploading and Upgrading

Crestron recommends using the latest programming software and that each device contains the latest firmware to take advantage of the most recently released features. However, before attempting to upload or upgrade it is necessary to establish communication. Once communication has been established, files (for example, programs or firmware) can be transferred to the control system (and/or device). Finally, program checks can be performed (such as changing the device ID or creating an IP table) to ensure proper functioning.

Establishing Communication

Use Crestron Toolbox for communicating with the CLF-DIMRFB; refer to the Crestron Toolbox help file for details. There is a single method of communication: indirect communication.

Indirect Communication

```
┌─────────────────┐                    ┌─────────────────┐
│                 │                    │                 │
│  C2N-MNETGW     │◄──── infiNET ────► │  CLF-DIMRFB     │
│                 │                    │                 │
└─────────────────┘                    └─────────────────┘
         ▲
         │
      CRESNET
         │
         ▼
┌─────────────────┐     SERIAL,        ┌─────────────────┐
│                 │   ◄ETHERNET►       │  PC RUNNING     │
│ CONTROL SYSTEM  │     OR USB         │ CRESTRON TOOLBOX│
│                 │                    │                 │
└─────────────────┘                    └─────────────────┘
```

- CLF-DIMRFB connects to C2N-MNETGW (Gateway), which connects to control system via Cresnet®.

- Establish communication between the PC and the control system as described in the latest version of the 2-Series Reference Guide

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(Doc. 6256), which is available from the Crestron website (http://www.crestron.com/manuals).

Programs and Firmware

- Display the network device tree (**Tools | Network Device Tree**) to show all network devices connected to the control system. Right-click on the CLF-DIMRFB to display actions that can be performed on the CLF-DIMRFB:

  ⇒ Upgrade firmware

  ⇒ Change MNET ID

- Upload the SIMPL Windows file to the control system using SIMPL Windows or Crestron Toolbox.

- Upgrade CLF-DIMRFB firmware via Crestron Toolbox.

  ⇒ Establish communication with the CLF-DIMRFB and display the "System Info" window.

  ⇒ Select **Functions | Firmware…** to upgrade the CLF-DIMRFB firmware.

For details on uploading and upgrading, refer to the SIMPL Windows help file or the Crestron Toolbox help file.

Operation

The CLF-DIMRFB may be warm to the touch during operation. This is normal.

Selection Switch

These dimmers use a three-position selection switch to set the mode of operation.

OFF

When the selection switch is in the **OFF** position, the foot switch will not have any function and the load is disconnected from the power source. This **must** be used when changing light bulbs to ensure that the load is fully disconnected from power.

RUN

The **RUN** position of the selection switch is the normal position for operating the dimmer. When the selection switch is in the **RUN** position, the preset light level can be recalled. Refer to the following table for a list of available functions when the selection switch is in the **RUN** position.

NOTE: To recall a preset light level, move selection switch to the **RUN** position, without pausing at the **SET** position.

RUN Functions

EVENT	ACTION
RUN position entered from **OFF** position.	Recall last load state.
RUN position entered from **SET** position.	Store the current load level to the preset level. (Refer to "SET Functions" on next page.) Cannot save 0%. Any level less than 10% will store as 10%.

(Continued on following page)

RUN Functions (Continued)

EVENT	ACTION
Foot switch is pressed.	Toggle between the preset level and off, using the following rule: If load is currently off, recall preset, otherwise turn load off.

SET

When the selection switch is in the **SET** position, the desired preset level can be adjusted. The LED will blink between off and low every ½ second to indicate that the dimmer is in the **SET** position. Refer to the following table for a list of available functions when the selection switch is in the **SET** position.

NOTE: Selection switch must be in the **SET** position for at least 0.5s for unit to accept a new preset.

SET Functions

EVENT	ACTION
SET position entered from **OFF** or **RUN** position.	Enables the device to set and store a preset level*. LED will blink at a steady rate while in this position (refer to "LED Behavior" on page 17.
Foot switch is pressed.	Manually raise or lower the load level using the current "ramp time"* parameter. The behavior will be alternating; releasing the button and pressing it again will cause the lights to ramp in the opposite direction. Switch to **RUN** position to store preset. (User can abort any changes made in **SET** position by switching unit **OFF** before returning to **RUN**.)

*   Fade time and ramp time are parameters that can be changed in SIMPL Windows. Refer to the SIMPL Windows help file (F1) for details.

Special Functions

Enter Acquire Mode

Before an infiNET device can be used on an infiNET network, it must first be acquired by a C2N-MNETGW gateway that is connected to a Cresnet network.

NOTE: A dimmer can be acquired by only one gateway.

To acquire a CLF-DIMRFB by a C2N-MNETGW, perform the following:

1. Put the C2N-MNETGW in the *Acquire* mode, from the unit itself or from Toolbox, as described in the latest revision of the C2N-MNETGW guide (Doc. 6317) which is available from the Crestron website. The gateway **ACQUIRE** LED lights.

   NOTE: In environments where multiple gateways are installed, only one gateway should be in *Acquire* mode at a time.

2. Place the CLF-DIMRFB in the *Acquire* mode by doing the following:

   a. Move the selection switch to the **OFF** position.

   b. Press and hold the foot switch, while sliding the selection switch to the **RUN** position.

   c. Continue holding the foot switch until you see the LED blink once. Now release the foot switch; the unit is now in *Acquire* mode.

   NOTE: *Acquire* mode does not actually start until the foot switch is released.

   After approximately 10 seconds, the LED will start to blink slowly and the dimmer will attempt to acquire with a C2N-MNETGW that is in the *Acquire* mode. The device is acquired then the LED stops blinking. Acquiring can take up to five minutes to complete. After being acquired, the device will exit the *Acquire* mode.

3. Take the C2N-MNETGW out of the *Acquire* mode by pressing **ACQUIRE** once all devices have been acquired. Refer to the latest revision of the C2N-MNETGW guide (Doc. 6317).

To communicate with the control system program, an MNET ID value between 03 and 20 must be assigned to the dimmer. Refer to "Identity Code" on page 6.

Release Gateway Connection

In some cases, it might be desirable to release a dimmer from a gateway. If a dimmer is to be released from a gateway, the gateway information must be cleared from the dimmer's memory.

To clear a dimmer's gateway information:

1. Move the selection switch to the **OFF** position.

2. Press and hold the foot switch on the CLF-DIMRFB, while sliding the selection switch to the **RUN** position.

3. Hold the foot switch for approximately 10 seconds until the LED flashes twice. Release the foot switch at this point and the gateway connection will have been removed.

A dimmer can also be released from a gateway using Toolbox. Refer to the latest revision of the C2N-MNETGW guide (Doc. 6317) for instructions.

Restore Default Settings

To restore the dimmer's default settings, press and hold the foot switch while the selection switch is in the **RUN** position. Then, while still holding the foot switch, move the selection switch to the **SET** position and back to the **RUN** position. Release the foot switch.

The factory default settings are:

Preset	100%
Fade time	0.5 seconds
Ramp rate	3 seconds
Lower limit	10%

LED Behavior

The CLF-DIMRFB has a single amber LED. Its behavior is determined by the current state of the dimmer or the control system program.

For reference, the LED can be in one of three intensity levels: off, low and high.

The following table describes the LED pattern in all modes of operation:

LED Behavior

LED BEHAVIOR	DEVICE STATE
Low	In **RUN** position, operating normally.
High	Device is in the bootloader. Refer to "Bootloader" on page 21 for more information.
Four brief off blinks every eight seconds.	In **RUN** position but there is no communication with a gateway.[1]
Four brief high blinks every eight seconds.	Device failed to acquire with a gateway.[1]
Two brief off blinks every eight seconds.	In **RUN** position and communicating with a gateway but the dimmer is not addressed in a control system program.
Blink off for ½ second, low for ½ second.	In **SET** position.
Blink off for one second, high for one second.	The dimmer is in the *Acquire* mode and searching for a gateway.
Blink off for ¼ second, high for ¼ second.	This touch-settable device is waiting for user to press a button to identify it.[2]

1. Refer to "Enter Acquire Mode" on page 16.
2. Refer to the Crestron Toolbox help file.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

CLF-DIMRFB Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Dimmer does not function.	Dimmer is not receiving AC power.	Verify that dimmer is properly plugged into an AC outlet and that the circuit breaker is closed.
	Load is not connected.	Verify that load is operational and that the selection switch is not in the **OFF** position.
Dimmer does not function as expected.	Selection switch is in the **SET** position.	Move the selection switch to the **RUN** position.

(Continued on following page)

CLF-DIMRFB Troubleshooting (Continued)

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Dimmer does not respond to control system commands.	If the LED blinks off for ¼ second four times, then returns to low every eight seconds, the dimmer is not currently communicating with a C2N-MNETGW.	Open Crestron Toolbox and select the Network Device Tree. Expand the tree until the gateway to be managed is selected. Right-click the NET ID of the selected gateway to open the sub-menu and select **Functions|MNET Gateway**… If devices are not listed, acquire the device to the infiNET network as described in "Enter Acquire Mode" on page 16.
	If the LED blinks off for ¼ second two times, then returns to low every eight seconds, the MNET ID of device (or the gateway ID) is not set to match the MNET ID of the SIMPL Windows program.	Use the Network Device Tree infiNET network in Crestron Toolbox to poll the infiNET network. Verify that the MNET ID for the infiNET device is set to match the MNET ID specified in the SIMPL Windows program.

(Continued on following page)

CLF-DIMRFB Troubleshooting (Continued)

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Preset will not store.	Selection switch is in the incorrect position.	Move the selection switch to the **SET** position, raise or lower the load level with the foot switch, then switch to the **RUN** position to store the preset.
Cannot recall preset light settings.	Selection switch is in the incorrect position.	Move the selection switch to the **RUN** position to recall preset. Press foot switch to toggle between preset level and off.

Bootloader

In rare cases, it may be necessary to bypass the dimmer's standard firmware and enter into the "bootloader". This might be necessary if the unit was loaded with a faulty version of firmware that might prevent future firmware upgrades.

To enter the bootloader, move the selection switch to **OFF**. Press and hold the foot switch while setting the selection switch to **RUN**. The LED will blink once after five seconds to indicate the start of *Acquire* mode (*Acquire* mode does not actually start until you release the foot switch). Continue holding the foot switch for another five seconds and the LED will flash twice to indicate that the gateway connection will be released on the release of the foot switch. Continue holding the foot switch an additional ten seconds (twenty seconds in all) until the LED flashes three times. Then, release the foot switch. The unit is now running the bootloader. New firmware can now be uploaded from the Crestron Toolbox.

To exit the bootloader and restore the firmware that is currently installed, cycle power to the device by setting the selection switch to **OFF** and back to **RUN** or **SET**.

Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron website (http://www.crestron.com/manuals). This link will provide a list of product manuals arranged in alphabetical order by model number.

List of Related Reference Documents

DOCUMENT TITLE
2-Series Control Systems Reference Guide
C2N-MNETGW infiNET Gateway/Tranceiver

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling the Crestron corporate headquarters at 1-888-CRESTRON [1-888-273-7876]. For assistance in your local time zone, refer to the Crestron website (http://www.crestron.com/offices) for a listing of Crestron worldwide offices.

You can also log onto the online help section of the Crestron website (http://www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features, and extends the capabilities of the CLF-DIMRFB, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange, or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact an authorized CRESTRON dealer. Only authorized CRESTRON dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number, and return address.

2. Products may be returned for credit, exchange, or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee, plus shipping costs, on any products returned with an RMA.

3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from CRESTRON, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touchscreen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from CRESTRON or an authorized CRESTRON dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

CRESTRON shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended, or if it has been subjected to misuse, accidental damage, modification, or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced, or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON is not liable for any claim made by a third party or made by the purchaser for a third party.

CRESTRON shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, CRESTRON makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

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