Crestron **Roller Shades and Interfaces**
Programming and Setup Guide

INTRODUCTION

The Crestron® shade control interface (CSC interface) and Crestron shade motors (CSM-QMT series) allow setup and configuration without the use of a control system. Refer to the information in this guide for a detailed overview of the setup and configuration of the CSC-ACEX, CSC-DCEX, CSC-ACCN, CSC-DCCN and Crestron CSM-QMT series shade motors.

CONTROLS AND INDICATORS

The CSC-ACEX, CSC-DCEX, CSC-ACCN and CSC-DCCN interfaces all have white **UP**, **SET** and **DN** push buttons that allow setup and configuration of a shade. The interfaces also have **SET**, **NET** and **PWR** LEDs that provide confirmation, operating mode and error state feedback. All LEDs extinguish after 1 minute of inactivity if there are no errors to report. The function of these push buttons and LEDs is identical for all interfaces, refer to the table below for a description of the LED colors for the interfaces.

CSC-ACEX, CSC-DCEX, CSC-ACCN and CSC-DCCN LED Colors

BUTTON LABEL	LED COLOR
SET	Red
NET	Amber
PWR	Green

Typical Push Button and LED Location (CSC-DCCN Interface Shown)

The Crestron CSM-QMT series shade motors have unlabeled red UP, SET and DN push buttons that allow setup and configuration of a shade. They have a single multicolor LED that lights red, amber, green, blue or white to provide confirmation, operating mode and error state feedback. The UP button is located closest to the LED, the SET button is the second button from the LED and the DN (down) button is the third button from the LED, refer to the illustrations below that show two possible motor orientations for details.

Crestron CSM-QMT Series Motor Multicolor LED and Push Button Orientation
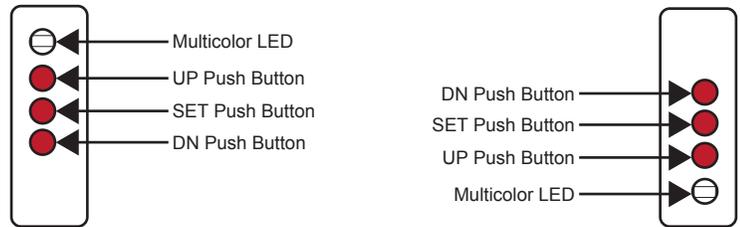
TEST SHADE

Before the shade is operated, the motor must be tested to ensure that the motor direction is correct and that the shade travels correctly while raising and lowering.

Test Motor Direction

Press the **DN** (down) button to to lower the shade. If the shade begins to travel up, the motor direction must be reversed.

To reverse the shade direction, press and hold the **SET** button for 10 seconds, the red LED lights for 3 seconds.

> **NOTE**: Reversing the direction of the motor resets any limits that were set from the factory or during the "Set Limits" procedure. After setting one of the limits (either the upper or lower), the motor automatically enters the opposite setup mode. There is no need to enter the opposite setup mode. Follow the procedure in "Setup - Set Limits" to reassign limits.

Test Shade Travel

Using the **DN** and **UP** buttons ensure that the shade travels to the anticipated lower limit and then back to the expected upper limit without the shade making contact with any building materials. Also ensure that the shade does not telescope off the roll when it is being raised or lowered. Remount and shim the shade to allow proper operation of the shade. If the shade stops before reaching its anticipated lower or upper limit, refer to "Setup" below.

SETUP

Test Limits

Shade limits are set from the factory but it may be necessary to reset them depending on the installation conditions. Test the lower limits by lowering the shade until it reaches its lower limit or reaches an obstacle. Test the upper limits by raising the shade until it reaches its upper limit. If the limits are not appropriate for the installation, follow the procedures below.

Set Limits

When the limits are not set the red LED flashes three times, pauses for 1 second, flashes once, pauses for 5 seconds and then repeats this code until the limits are set.

To set the upper limit for the shade complete the following steps:

1. Press and hold **SET** and **UP** for 4 seconds to enter *Upper Limit Setup* mode. The amber LED blinks when the interface is in *Upper Limit Setup* mode.
2. Move shade to the desired position.
3. Press and hold **SET** and **UP** for 4 seconds to save the upper limit. The red LED illuminates for 3 seconds to indicate that the limit has been saved. When pressing both buttons, the **SET** button must be pressed first to prevent the shade from moving.

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SETUP

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To set the lower limit for the shade complete the following steps:

1. Press and hold **SET** and **DN** for 4 seconds to enter *Lower Limit Setup* mode. The green LED blinks when the interface is in *Lower Limit Setup* mode.
2. Move shade to the desired position.
3. Press and hold **SET** and **DN** for 4 seconds to save the lower limit. The red LED illuminates for 3 seconds to indicate that the limit has been saved. The **SET** button must be pressed first to prevent the shade from moving.

If either the upper limit or lower limit needs to be reset after initial configuration enter *Upper Limit Setup* mode or *Lower Limit Setup* mode and follow the appropriate procedure above.

Joining an infiNET EX Network (infiNET EX Interfaces Only)

Before the interface can be used in a Crestron control system, it must first join an infiNET EX® network by being acquired by an infiNET EX gateway.

> **NOTE**: The interface can be acquired by only one gateway.

To acquire an interface, perform the following:

> **NOTE**: Before an interface can be acquired by the gateway, ensure that the gateway or MC3 is updated to the following minimum version:
> - CEN-RFGW-EX: 2.001.0046
> - MC3: 1.003.0008

1. Put the gateway into *Acquire* mode, from the unit itself or from Crestron Toolbox™, as described in the latest version of its operations guide, which is available from the Crestron Web site (www.crestron.com/manuals).

> **NOTE**: In an environment where multiple gateways are installed, only one gateway should be in the *Acquire* mode at any time.

2. Place the interface into *Acquire* mode by doing the following:
   a. Tap the **SET** button three times, then press and hold it down (tap-tap-tap-press+hold) until the red (white for CSM-QMT) LED starts to blink (this can take up to 10 seconds).
   b. When the red (white for CSM-QMT) LED blinks, release the button to start the acquire process.
      · The interface is acquired when the LED stops blinking.
      · If the acquire process fails, the LED flashes rapidly until a button is pressed.
3. Once all interfaces have been acquired, take the gateway out of *Acquire* mode. Refer to the latest version of its operations guide, which is available from the Crestron Web site.

Leaving an infiNET EX Network

To leave a network, place the interface into *Acquire* mode (step 2 above) when there is no gateway in *Acquire* mode.

infiNET EX Motor Comunication

Refer to the latest version of the "Best Practices for Installation and Setup of Crestron RF Products" Reference Guide (Doc. 6689) if communication issues exist with recessed or pocket mount installations. If the QMT50-EX motor does not receive adequate signal, utilize the external antenna (CSA-ANT-EXTRNL-QMT50-W, sold separately) to improve the signal. For installation instructions, refer to the latest version of the CSA-ANT-EXTRNL-QMT50-W Installation Guide (Doc. 7521).

LED DIAGNOSTICS

The following table provides a list of possible LED patterns encountered during normal operation of the shade. All LEDs extinguish after 1 minute of inactivity if there are no errors to report.

LED Patterns

LED PATTERN	LED COLOR		OPERATING MODE
	CSC INTERFACE	**CSM-QMT MOTOR**	
Two fast blink then pause (1/8 second on, 1/8 second off, 1/8 second on, 5/8 second off)	Red	Blue	Firmware upgrade over Cresnet
Slow blink (1/2 second on, 1/2 second off)	N/A	Blue	Upgrading internal firmware
Solid	Red	Blue	In bootloader
Fast blink (1/4 second on, 1/4 second off)	Red/ Green/ Amber	White	*Identify* mode
Slow blink (1/2 second on, 1/2 second off)	Green	Green	Shade moving from local button press
Solid	Amber	Green	Shade communicating with control system program
Slow blink (1/2 second on, 1/2 second off)	Amber	N/A	Not communicating with control system program

Crestron CSM-QMT series motors and the CSC-ACEX, CSC-DCEX, CSC-DCCN and CSC-ACCN display error codes using the red LED on the interface. The LED blinks a specific pattern to indicate an error. The blink patterns listed below are described as 3-3 or 2-1. This means that the LED blinks three times, pauses for 1 second, blinks three times, pauses for 5 seconds and then repeats until error is corrected for a 3-3 blink code. A 2-1 blink code blinks two times, pauses for 1 second, blinks once, pauses for 5 seconds and repeats this code until error is corrected. Refer to the "Troubleshooting" section below for possible corrections.

LED Blinking Patterns

LED PATTERN	ERROR STATE
Error code 3-1	Motor limits are not set.
Error code 3-3	Motor obstacle detection error exists.
Error code 3-4	Motor over current error exists. Check for obstacles or any sources of excessive friction.
Error code 3-5	Motor duty cycle error exists. Reduce operating duty cycle of motor.
Error code 3-6	Communication error with motor. Motor Error – Check wiring between interface and motor.
Error code 2-1	No traffic on network. Check Cresnet wiring.
Error code 2-2	Not polled. Ensure address is set to match program and program is running in control system.

TROUBLESHOOTING

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

Crestron CSM-QMT Series Motor, CSC-ACEX, CSC-DCEX, CSC-DCCN and CSC-ACCN Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	ACTION
LEDs on interface are all off and motor cannot be controlled.	No power being delivered to motor.	Check power connections.
	Poor connection between motor and interface.	Check connections between motor and interface. Pay particular attention to the crimp connections on the motor end of the pigtail.
	Connection to 24 V motors is reversed.	Ensure power connection to motor is not reversed.
Amber LED is not illuminated (CSC interfaces only)	The infiNET EX connection has been lost.	Verify shade is within range of gateway.
		Verify shade is acquired to gateway.
	Cresnet connection has been lost.	Check Cresnet connections, ensure program is running.
Motor moves in opposite direction.	Motor direction is reversed.	Reverse motor direction. Refer to the "Test Shade" section on the previous page.
Motor intermittently stops working.	Motor is exceeding maximum duty cycle.	Reduce duty cycle of motor operation.
	Motor is encountering an obstacle or excessive friction causing it to stop.	Verify all components are aligned and running smoothly.
	Load on motor is exceeding maximum rating.	Verify fabric weight and tube size does not exceed rating for motor.
Solid blue LED displayed (Crestron CSM-QMT series motors only).	Motor stuck in bootloader.	Reload firmware to motor.
Solid red LED displayed (CSC interfaces only).	Motor stuck in bootloader.	Reload firmware to CSC interface.