CSC-ACEX/CSC-DCEX/CSC-ACCN/CSC-DCCN/CSM-QMT MOTORS
Roller Shade Interfaces
Programming Guide

Description

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.

Additional Resources

Visit the product page on the Crestron website (www.crestron.com) for additional information and the latest firmware updates.

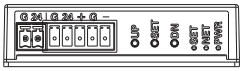
Controls and Indicators

The CSC-ACEX, CSC-DCEX, CSC-ACCN, and CSC-DCCN interfaces all have white **UP**, **SET**, and **DN** (down) push buttons that allow for the 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 one 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

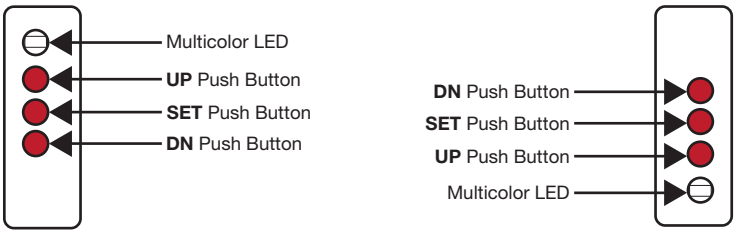
LED LABEL	LED COLOR
SET	Red
NET	Amber
PWR	Green

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 for the 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. 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 the Shade

NOTE: Install the shade, and then install the hembar before preceeding.

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** 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. When the shade direction has been reversed, the red LED lights for three seconds.

NOTE: Reversing the direction of the motor resets any limits that were set from the factory or during the "Set Up the Shade Limits: Set Limits" procedure. After setting one of the limits (either the upper or lower), the motor will automatically enter the opposite setup mode. Follow the procedure in "Set Up the Shade Limits: 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 the "Set Up the Shade Limits" section.

Set Up the Shade Limits

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 limit by lowering the shade until it reaches its lower limit or reaches an obstacle. Test the upper limit 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 one second, flashes once, pauses for five 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 four 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 four seconds to save the upper limit. The red LED lights for three 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.

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

1. Press and hold **SET** and **DN** for four 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 four seconds to save the lower limit. The red LED lights for three 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 or lower limits need to be reset after initial configuration, enter Upper Limit Setup mode or Lower Limit Setup mode and follow the appropriate procedure.

Wireless Communications

The device connects to the Crestron network via the infiNET EX® communications protocol. Use the procedures outlined below to join or leave an infiNET EX network and to verify communications between the device and the control system.

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. To join an infiNET EX network, the device must be acquired by an infiNET EX gateway.

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

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

- CEN-RFGW-EX: 2.001.0046
- MC3: 1.003.0008

To acquire an interface, perform the following:

1. Put the infiNET EX gateway into Acquire mode from the unit itself or from Crestron Toolbox™. Refer to the gateway's manual at www.crestron.com/manuals for details.

   NOTE: In an environment with more than one gateway, DO NOT have multiple gateways in acquire mode simultaneously. Doing so will cause errors during installation.

2. Place the interface into Acquire mode:
   a. Tap the **SET** button three times and 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. Release the button to start the acquire process.
      - The LED turns on for five seconds to show that the interface has been successfully acquired by the infiNET EX network.
      - The LED blinks fast to indicate that the device was not successfully acquired by the infiNET EX network. Press the button to acknowledge failure to acquire the infiNET EX network. Ensure the gateway is in Acquire mode and within range before attempting the acquire process again.
3. Once all interfaces have been acquired, take the gateway out of Acquire mode. Refer to the gateway's manual for details.

Leaving an infiNET EX Network

To leave an infiNET EX network, place the interface into Acquire mode (step two above) when there is no gateway in Acquire mode.

infiNET EX Motor Comunication

Refer to 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 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 one 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 blinks then a pause (1/8 second on, 1/8 second off, 1/8 second on, 5/8 second off)	Red	Blue	There is a firmware upgrade over Cresnet®.
Slow blink (1/2 second on, 1/2 second off)	N/A	Blue	The internal firmware is upgrading.
Solid	Red	Blue	The device is in bootloader status.
Fast blink (1/4 second on, 1/4 second off)	Red, Green, and then Amber	White	The device is in Identify mode.
Slow blink (1/2 second on, 1/2 second off)	Green	Green	The shade is moving due to a local button press.
Solid	Amber	Green	The shade is communicating with the control system program.
Slow blink (1/2 second on, 1/2 second off)	Amber	N/A	The shade is not communicating with the 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 are described as 3-3 or 2-1. This means that the LED blinks three times, pauses for one second, blinks three times, pauses for five seconds, and then repeats until the error is corrected. A 2-1 blink code blinks two times, pauses for one second, blinks once, pauses for five seconds, and repeats this code until the error is corrected. Refer to the "Troubleshooting" section for possible corrections.

LED Blinking Patterns

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

Troubleshooting

The following table provides corrective actions 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)	CORRECTIVE ACTION
The LEDs on the interface are all off, and the motor cannot be controlled.	No power is being delivered to the motor.	Check the power connections.
	There is a poor connection between the motor and the interface.	Check the connections between the motor and the interface. Pay particular attention to the crimp connections on the motor end of the pigtail.
	The connection to 24 V motors is reversed.	Ensure the power connection to the motor is not reversed.
The amber LED is not lit (CSC interfaces only).	The infiNET EX connection has been lost.	Verify the shade is within range of the gateway.
		Verify the shade is acquired to the gateway.
	The Cresnet connection has been lost.	Check the Cresnet connections, and ensure the program is running.
The motor moves in the opposite direction.	The motor direction is reversed.	Reverse the motor direction. Refer to the "Test the Shade" section.
The motor intermittently stops working.	The motor is exceeding the maximum duty cycle.	Reduce the duty cycle of the motor operation.
	The motor is encountering an obstacle or excessive friction causing it to stop.	Verify all of the components are aligned and running smoothly.
	The load on the motor is exceeding the maximum rating.	Verify the fabric weight and the tube size does not exceed the rating for motor.
The solid blue LED lights (Crestron CSM QMT series motors only).	The motor is stuck in the bootloader.	Reload the firmware to the motor.
The solid red LED lights (CSC interfaces only).	The motor is stuck in the bootloader.	Reload the firmware to the CSC interface.

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