Description

The Crestron® digital CSM-QMTDC shade motors are programmed locally using the buttons on the motor. The information in this guide serves as a detailed programming overview of the Crestron CSM-QMTDC shade motors.

NOTE: The procedures described in this document can also be performed remotely using a control system. The timeout and LED indicators are the same as described in this document.

Additional Resources

Visit the product page on the Crestron website (www.crestron.com) for additional information and the latest firmware updates. Use a QR reader application on your mobile device to scan the QR image.

Controls and Indicators

The Crestron CSM-QMTDC shade motors have **UP**, **SET**, and **DN** (down) push buttons that are used to program the shade. The shade motors have a 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** button is the third button from the LED.

Crestron CSM-QMTDC Motor Multicolor LED and Push Button Orientation

DN Push Button
SET Push Button
UP Push Button
Multicolor LED
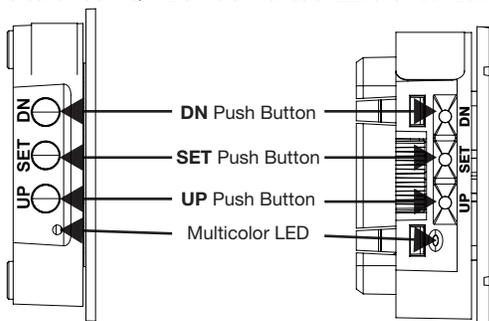
Test the Shade

Before the shade is operated, test the motor to ensure that the shade travels in the correct direction when being operated.

NOTE: Before using the CSM-QMTDC shade motor, ensure the device is using the latest firmware. Check for the latest firmware for the CSM-QMTDC shade motor at www.crestron.com/firmware. Firmware is loaded onto the device using Crestron Toolbox™ software.

Test the Motor Direction

Press the **DN** button to lower the shade about 1 inch. If the shade travels up, reverse the motor direction.

NOTE: Reversing the motor direction resets all previously set limits. After either the upper or lower limit is set, the motor automatically enters Limit Setup mode for the opposite limit. Follow the procedure in "Set the Shade Limits" to reassign limits.

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

Test the Shade Travel

Test the travel of the shade fabric to ensure that it does not come in contact with building materials and that the upper and lower shade limits are properly set.

WARNING: Care has been taken to ensure that the shade is properly balanced. Prior to initial operation, confirm that the brackets are adjusted so that the shade hangs level and plumb. Upon startup, run the shade all the way down and check for plumb. Observe the shade closely as it rolls up. If the shade begins to telescope, stop immediately and take the appropriate action to ensure the shade tracks properly. To prevent damage to the fabric from telescoping, do not leave the shade unattended during the first few cycles of operation. Failure to follow these instructions may result in damage to the edge of the fabric, which is not covered by the warranty.

NOTE: For Crestron Horizontal Sheers, the lower limit is defined as the point before the hem bar tilts.

Using the **DN** button, lower the shade until it reaches its lower limit. Verify that the shade does not come in contact with any building materials. Stop and adjust the mounting brackets if the fabric contacts any building materials. Verify that the shade stops at the desired lower limit.

Using the **UP** button, raise the shade until it reaches its upper limit. Verify that the shade does not come in contact with any building materials. Stop and adjust the mounting brackets if the fabric contacts any building materials. Verify that the shade stops at the desired upper limit. Refer to "Set the Shade Limits" if the shade does not travel to its upper or lower limit.

Set the Shade Limits

If necessary, set the lower and upper shade limits. If the shade 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.

NOTE: Limit Setup mode exits after 8 seconds of inactivity.

NOTE: If a limit is not set after the upper or lower limit is saved, the motor automatically enters Limit Setup mode for the opposite limit. This typically occurs after the motor direction has been reversed and both limits are erased.

NOTE: For Crestron Horizontal Sheers, the lower limit is defined as the point before the hem bar tilts.

Set the lower limit for the shade.

1. Press and hold the **SET** button for 4 seconds to enter Limit Setup mode. The LED alternates between amber and green.
2. Press and release the **DN** button to begin lower limit setup. The green LED flashes.
3. Use the **UP** and **DN** buttons to set the shade to its desired position.
4. Press and hold **SET** for 4 seconds. The LED turns solid red to confirm that the lower limit was successfully set.

Set the upper limit for the shade.

1. Press and hold **SET** for 4 seconds to enter Limit Setup mode. The LED alternates between amber and green.
2. Press and release the **UP** button to begin upper limit setup. The amber LED flashes.
3. Use the **UP** and **DN** buttons to set the shade to its desired position.
4. Press and hold **SET** for 4 seconds. The LED turns solid red to confirm that the upper limit was successfully set.

Joining an infiNET EX® Network (infiNET EX Interfaces Only)

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

Before a device can be used in a lighting system, it must first join an infiNET EX network by being acquired by an infiNET EX gateway.

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

1. Put the infiNET EX gateway into Acquire mode from the unit itself or from Crestron Toolbox, as described in its manual at www.crestron.com/manuals.

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

2. Place the device into Acquire mode.

   a. Press the **SET** button three times, and then press and hold it down (tap-tap-tap-press+hold) until the white LED on the device flashes once (this can take up to 10 seconds).

   b. Release the button to start the acquire process. The LED flashes slowly to show that the device is actively scanning the infiNET EX network.

   • The LED turns on for 5 seconds to show that the device has been successfully acquired to the infiNET EX network.

   • The LED flashes quickly to indicate that the device was not successfully acquired by the infiNET EX network. Press the **SET** 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 devices 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, put the device into Acquire mode, as described in "Joining an infiNET EX Network" above, when no gateway is in Acquire mode.

Verifying Communications Status

To check the communications status of the device, tap the **SET** button three times and then press and hold it down (tap-tap-tap-press+hold) for up to 2 seconds. The LED flashes to indicate the communications status. Refer to the following table for details.

LED	COMMUNICATIONS STATUS
Turns on for 5 seconds	The device is communicating with the control system.
Flashes twice	The device was previously joined to the network but is not communicating with the gateway.
Flashes once	The device is not joined to the network.

NOTE: Wireless networks composed predominantly of battery-powered devices may need additional infiNET EX expanders, such as the CLW-EXPEX or GLA-EXPEX or other non-battery powered infiNET EX devices (all not included), to ensure proper functionality of the network and battery life for the devices. Refer to the Best Practices for Installation and Setup of Crestron RF Products (Doc. 6689) for complete system design guidelines, or contact Crestron True Blue Support for further assistance.

LED Diagnostics

The LED flashes to provide a visual reference that the motor is operating normally or if it is in an error state

Normal Operation

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

LED Patterns

LED PATTERN	LED COLOR	OPERATING MODE
Two fast flashes, then pause (1/8-second on, 1/8-second off, 1/8-second on, 5/8-second off)	Blue	A firmware upgrade over the Cresnet® network is in progress.
Slow flash (1/2-second on, 1/2-second off)	Blue	The motor's internal firmware upgrade is in progress.
Solid	Blue	The motor is in Bootloader mode.
Fast flash (1/4-second on, 1/4-second off)	White	The motor is in Identify mode.
Slow flash (1/2-second on, 1/2-second off)	Green	The motor is moving from a local button press.
Solid	Green	The motor is communicating with the control system program.
Slow flash (1/2-second on, 1/2-second off)	Red	The motor is not communicating with the control system.

Error State

Crestron CSM-QMTDC motors display error codes using the red LED on the interface. The LED flashes a pattern to indicate the error.

For example, when a 3-3 LED flash pattern occurs, the LED flashes three times, pauses for 1 second, flashes three times, pauses for 5 seconds, and then repeats until the error is corrected. When a 2-1 LED flash pattern occurs, the LED flashes two times, pauses for 1 second, flashes once, pauses for 5 seconds, and then repeats this code until the error is corrected.

The flash patterns are listed in the following table. 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	An obstruction is blocking the shade fabric from moving freely.
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 the operating duty cycle of the motor to correct the error.
Error code 3-6	There is a communications error between the motor and Cresnet or infiNET EX control board.

LED PATTERN	ERROR STATE
Error code 2-1	There is no traffic on the network. Check to ensure that proper Cresnet wiring is maintained, or for infiNET EX devices, ensure that the motor is connected to a gateway.
Error code 2-2	The motor is not being polled by the control system. Ensure that the Net ID matches the control system program and that the program is running on the control system.

Troubleshooting

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

Crestron CSM-QMTDC Motor Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	ACTION
The motor cannot be controlled, and all of the LEDs are off.	There is no power provided to the motor.	Check the power connections between the power supply and motor.
	The power connection is reversed between the motor and the power supply.	Ensure that the power connection to the motor is not reversed.
The motor moves in the opposite direction.	The motor direction is reversed.	Reverse the direction of the motor.
The motor intermittently stops working.	The motor is exceeding its maximum duty cycle.	Reduce the duty cycle of the motor operation.
	The motor is encountering an obstacle or excessive friction, which is causing it to stop.	Verify that all components are aligned and running smoothly.
	The load on the motor is exceeding its maximum rating.	Verify that the fabric weight and tube size do not exceed the rating for the motor.
The LED is blue.	The motor is stuck in the bootloader.	Reload firmware to the motor.