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Product Manual

# CS-SHADE-ROLLER-MTL-MOTOR and CS-SHADE-ROLLER-MTL- MANUAL

## Crestron Shades with Brushed Metal Brackets

**Original Instructions**

The U.S. English version of this document is the original instructions.  
All other languages are a translation of the original instructions.

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# Overview

The CS-SHADE-ROLLER-MTL-MOTOR and CS-SHADE-ROLLER-MTL-MANUAL are small shade mounting systems that expose the entire shade, giving the space a contemporary look. The system is very compact, enabling installation in tight spaces. The brushed metal end caps conceal the mounting brackets to provide an exceptionally elegant finish. The easy-to-install and versatile mounting brackets allow the shade to be mounted inside the window opening or on a wall or ceiling.

The CS-SHADE-ROLLER-MTL-MOTOR is a motorized roller shade and the CS-SHADE-ROLLER-MTL-MANUAL is a manual, clutch-operated shade.

This section provides the following information:

- [Features](#)

# Features

This section provides the following information:

- [CS-SHADE-ROLLER-MTL-MOTOR Features](#)
- [CS-SHADE-ROLLER-MTL-MANUAL Features](#)

# CS-SHADE-ROLLER-MTL-MOTOR Features

Key features include:

- Modern-looking hardware for exposed roller shade systems
- Compact design, takes up less space on mounting surface
- Metal end caps available in a variety of colors to match any decor
- Controlled using an CSM-QMTDC-163-1-EX-BLK-MTL or CSM-QMTDC-163-1-CN-BLK-MTL Digital QMT® motor
- Universal bracket for both manual and motorized shading solutions
- Digital Quiet Motor Technology™ provides silent operation and precise positioning
- Patented automatic torque calibration technology detects obstructions to prevent damage
- Programmable stop points afford customizable scene presets
- Real-time remote activity monitoring and status feedback
- Local push button interface for setup and testing
- Onboard multicolor diagnostic LED
- Quick and easy installation
- Control system integration using infiNET EX® wireless or Cresnet® wired communications
- Powered using 24VDC low-voltage, Class 2 wiring
- Limited Lifetime Warranty

## Natural and Artificial Daylight Control

Protect fine furnishings and floor coverings from harmful UV rays with intelligent shading solutions. For added energy efficiency, shades can also be configured to track the location of the sun to reduce solar-heat gain in the summer and utilize its warmth in the winter. Crestron shades can also be set to automatically close, preventing glare on a TV and ensuring the ideal viewing scenario.

## Security and Privacy

Shades provide privacy and security. Use semi-translucent shade fabrics to allow natural light into the space, or blackout shade fabric to completely block views. In the event of a forced entry into a home, shades integrated with a security system can be set to raise automatically, allowing an intruder to be easily spotted from the outside.

## Quiet Shade Motors

Crestron automated shades feature low-voltage Digital QMT® shade motors for quiet operation. Crestron shades help manage daylight without audible disruptions to the space.

## Brushless Motor Technology

The Crestron Digital QMT shade motor is a brushless design, which translates into exceptional reliability, smoother operation, and ultra-quiet performance.



## Easy Installation

Crestron shades are easy to install. Brackets are easily mounted, and the shade components are secured with no special tools required.

## Crestron Design Tool Shades (CDTS) Software

The [Crestron Design Tool Shades \(CDTS\)](#) is a web-based tool used for quoting and ordering Crestron roller shades and drapery tracks. The software may be used to easily create proposals for customers and place orders directly to Crestron.

# CS-SHADE-ROLLER-MTL-MANUAL Features

Key features include:

- Intuitive pull-chain control for precise positioning
- Universal mounting brackets allow for inside mount installation to the window jamb or header or outside mount to the window casing, wall, or ceiling
- Small light gaps
- Modern-looking hardware for exposed roller shade systems
- Compact design, takes up less space on mounting surface
- Metal end caps available in a variety of colors to match any decor
- Universal bracket for both manual and motorized shading solutions
- Smooth and quiet operation
- Field-configurable for left or right side pull chain operation
- Quick and easy installation
- Limited Lifetime Warranty

## Natural and Artificial Daylight Control

Protect fine furnishings and floor coverings from harmful UV rays with intelligent shading solutions. For added energy efficiency, shades can also reduce solar-heat gain in the summer and utilize its warmth in the winter.

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# Specifications

This section provides the following information:

- [CS-SHADE-ROLLER-MTL-MOTOR Specifications](#)
- [CS-SHADE-ROLLER-MTL-MANUAL Specifications](#)

# CS-SHADE-ROLLER-MTL-MOTOR

## Specifications

Product specifications for the CS-SHADE-ROLLER-MTL-MOTOR.

### Product Specifications

#### Shade Control

---

<b>Motorized</b>	Operator: Motor; Communications: infiNET EX wireless or Cresnet wired; Torque: 3/4 Nm; Speed: 10 - 30 RPM; Duty Cycle: 8 minutes on / 40 minutes off at 3/4 Nm;
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#### Communications

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<b>Cresnet Wired (-CN Motors)</b>	Cresnet controlled device
<b>infiNET EX Wireless (-EX Motors)</b>	RF Transceiver: infiNET EX® 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), default channel 15; IEEE 802.15.4 compliant; Range (typical): 150 ft (46 m) indoor (250 ft (76 m) outdoor) to nearest mesh network device(s); Subject to site-specific conditions and individual device capabilities1; Gateway: Requires a wireless gateway ( <a href="#">CEN-GWEXER</a> or <a href="#">CEN-GW1</a> , sold separately)

#### Shade Configuration

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<b>Shade Width</b>	17.5 to 96 in. (445 to 2,439 mm); Bracket-to-Bracket (B2B) width including end caps; Width is dependent upon shade height and fabric selection
<b>Fabric Width</b>	1.5 in. (38 mm) deduction; Fabric Width = B2B - 1.5 in. (38 mm)
<b>Light Gap</b>	Drive Side: 0.74 in. (18 mm) Idler Side: 0.76 in. (19 mm)
<b>Tube Diameter</b>	Ø 1.63 in. (42 mm)
<b>Roll Up Diameter</b>	2.5 in. (64 mm)

#### End Caps

---

<b>Material</b>	Metal
<b>Colors</b>	Chrome, stainless steel, black nickel, and old brass

#### Power Requirements

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**24VDC** 42.5 W, 1.8A @ 24VDC;  
Requires a dedicated power supply ([CSA-PWS40](#) or [CSA-PWS10S-HUB-ENET](#), sold separately);  
Use a home home run connection between the motor and the power supply

## Connector

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**Wire lead and Connector** (1) wire lead with 4-pin, 3.8 mm terminal block;  
For power and wired communication;  
-EX Models: 2-wire lead for power (24, G);  
-CN Models: 4-wire lead for power (24, G) and communication (Y, Z)

## Controls and Indicators

---

**UP, SET, DN** (3) Recessed pushbuttons;  
For setup and testing

**Status** (1) Multicolor LED;  
For motor status and diagnostics

## Environmental

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**Temperature** 32° to 104°F (0° to 40°C)

**Humidity** 10% to 90% RH (noncondensing)

## Dimensions

---

**Bracket** Height: 2-7/16 in. (62 mm)  
Width: 1-1/16 in. (28 mm)  
Depth: 3-1/16 in. (78 mm)

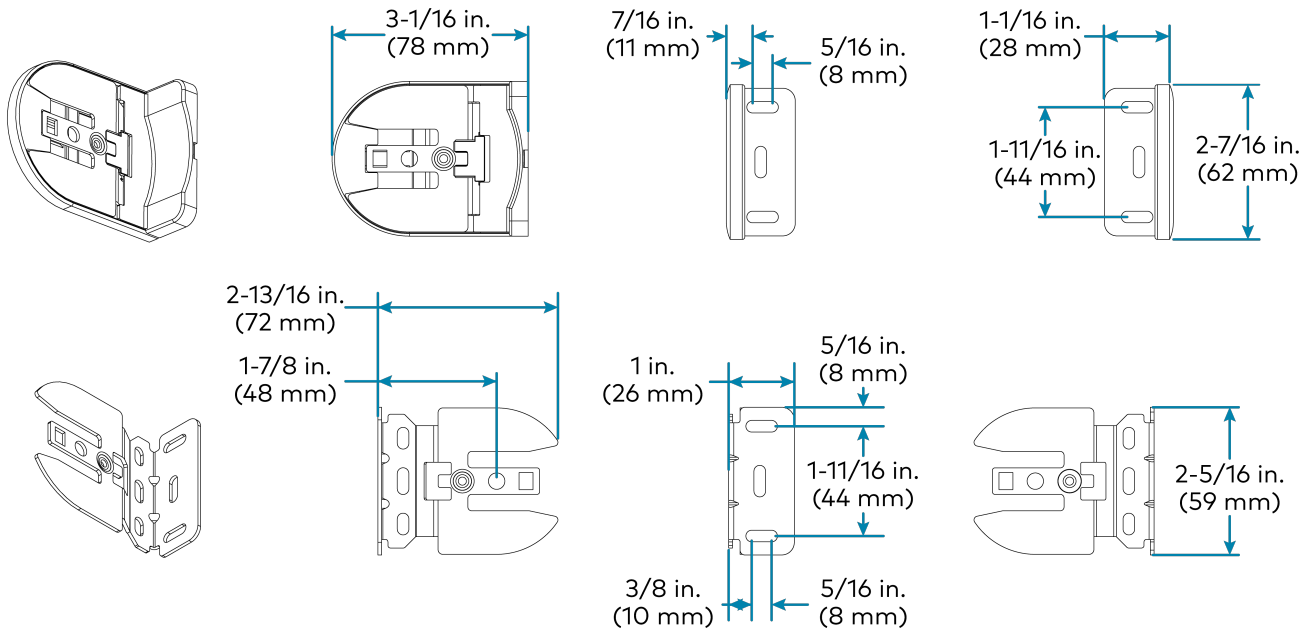
## Compliance

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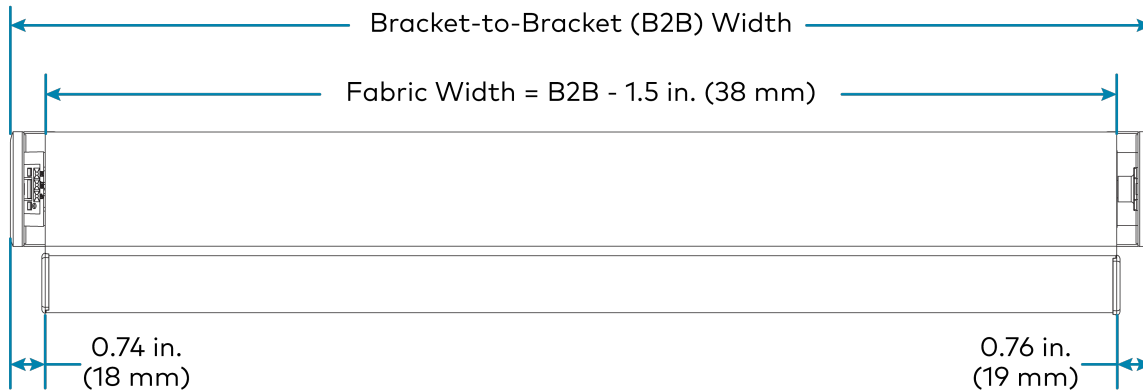
**Regulatory Model: M202034001**  
IC, FCC Part 15 Class B Digital Device

# Dimension Drawings

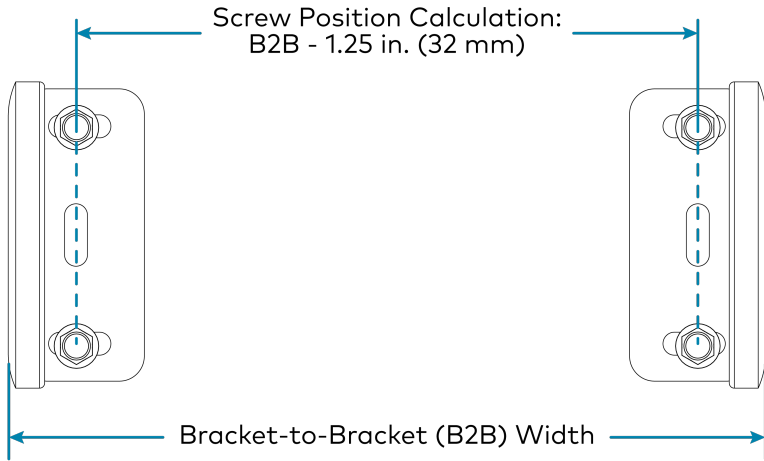
## Bracket Dimensions



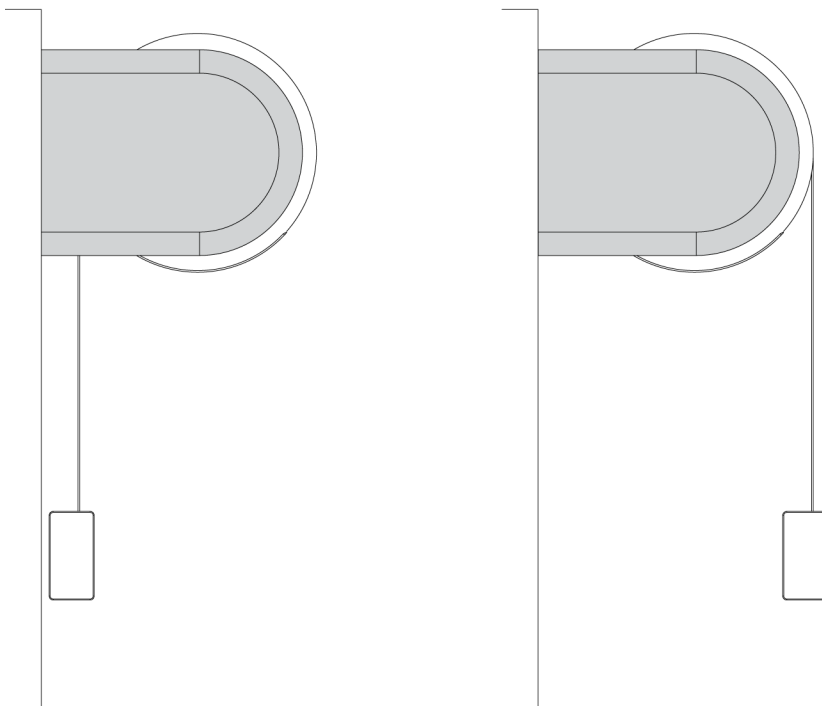
## System Size



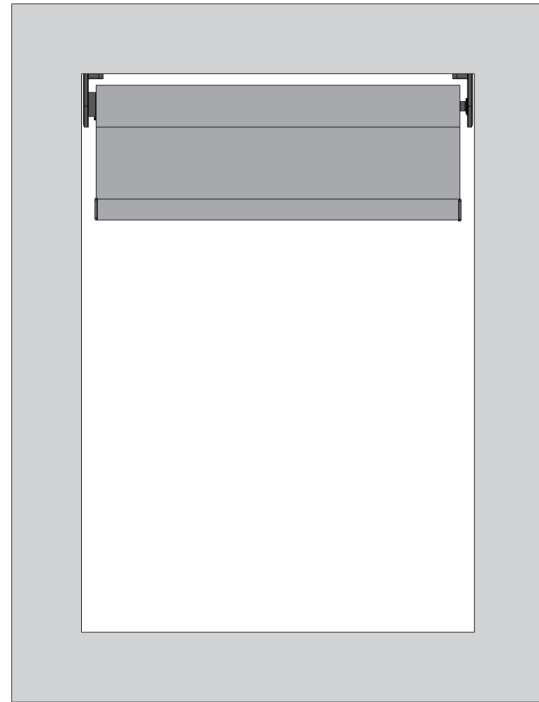
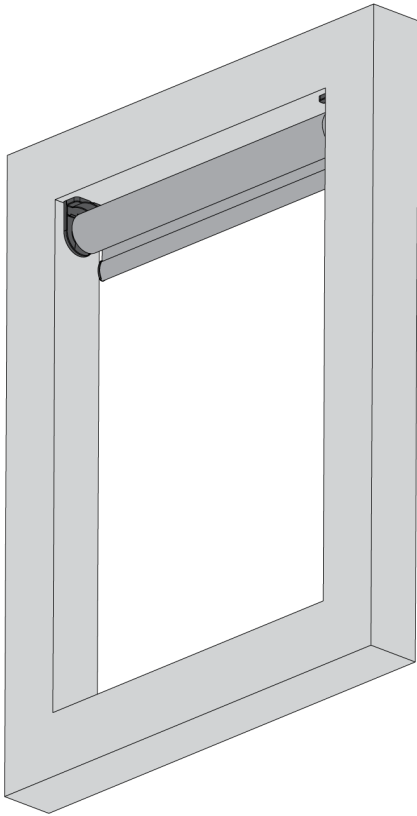
**Bracket Mounting Screw Position**



**Roll Type: Regular Roll (Left) and Reverse Roll (Right)**

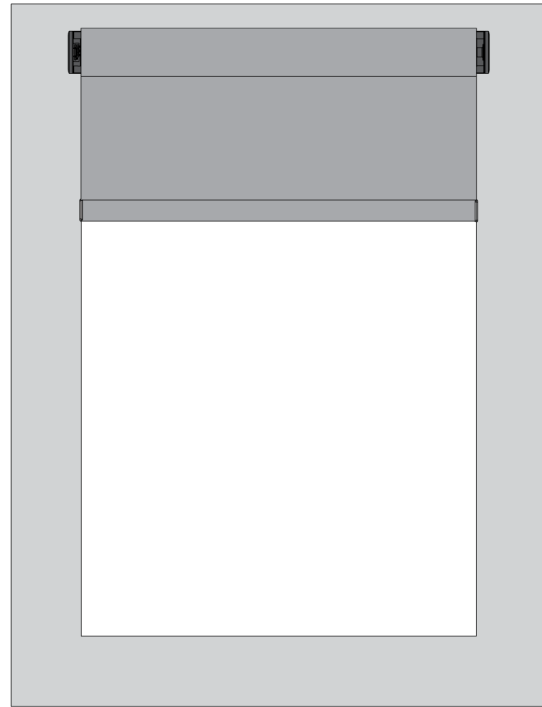
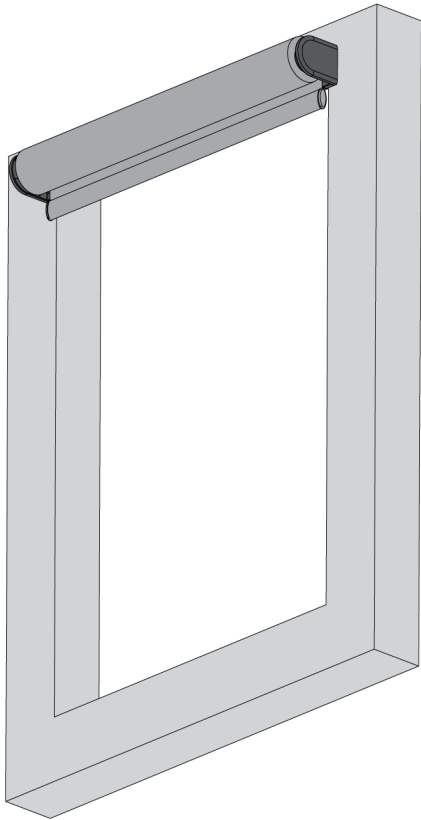


**Inside Mount**





Outside Mount



# CS-SHADE-ROLLER-MTL-MANUAL

## Specifications

Product specifications for the CS-SHADE-ROLLER-MTL-MANUAL.

### Product Specifications

#### Shade Control

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<b>Manual</b>	Operator: Metal bead chain with manual clutch; Gear Ratio: 3:1; Load : 15.6 lb (7.1 kg) max; Pull Force: 5.2 lb. (2.4 kg) max
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#### Shade Configuration

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<b>Shade Width</b>	8 to 96 in. (204 to 2,439 mm); Bracket-to-Bracket (B2B) width including end caps; Width is dependent upon shade height and fabric selection
<b>Fabric Width</b>	1.56 in. (39 mm) deduction; Fabric Width = B2B - 1.56 in. (40 mm)
<b>Light Gap</b>	Drive Side: 0.79 in. (20 mm) Idler Side: 0.77 in. (19 mm)
<b>Tube Diameter</b>	Ø 1.63 in. (42 mm)
<b>Roll Up Diameter</b>	2.5 in. (64 mm)

#### End Caps

---

<b>Material</b>	Metal
<b>Colors</b>	Chrome, stainless steel, black nickel, and old brass

#### Environmental

---

<b>Temperature</b>	32° to 104°F (0° to 40°C)
<b>Humidity</b>	10% to 90% RH (noncondensing)

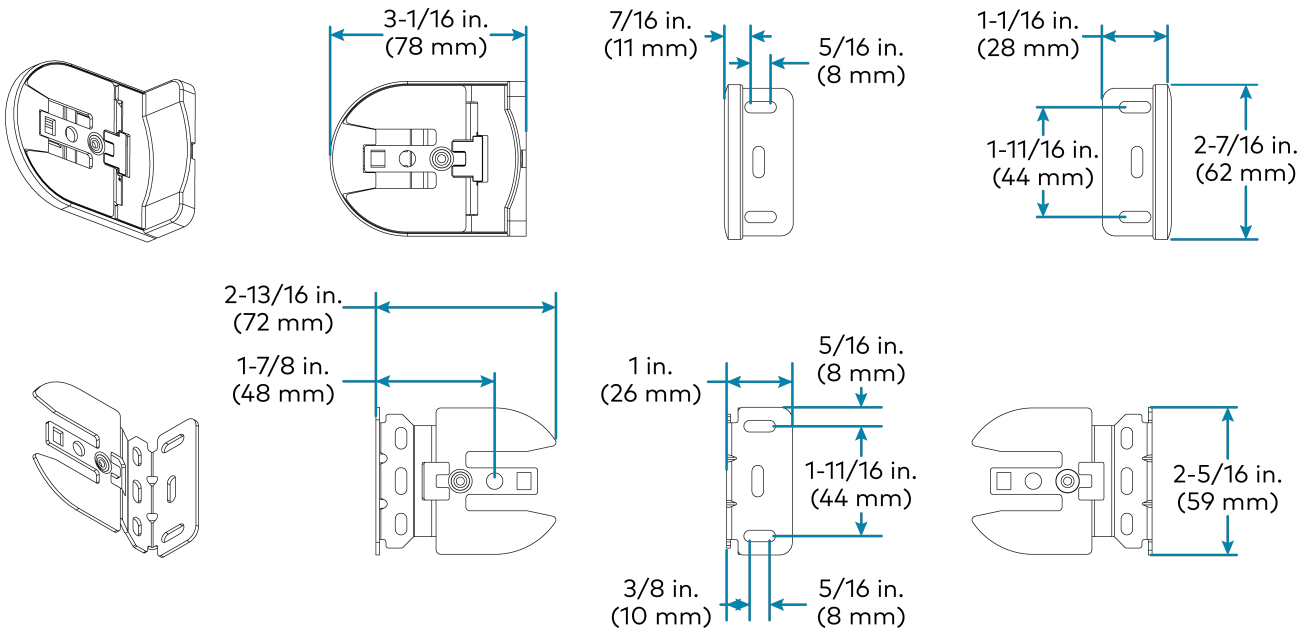
#### Dimensions

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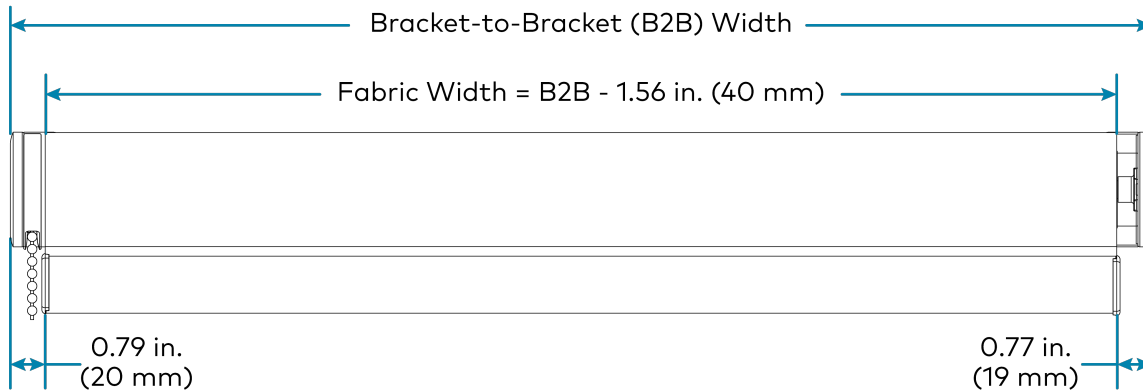
<b>Bracket</b>	Height: 2-7/16 in. (62 mm) Width: 1-1/16 in. (28 mm) Depth: 3-1/16 in. (78 mm)
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# Dimension Drawings

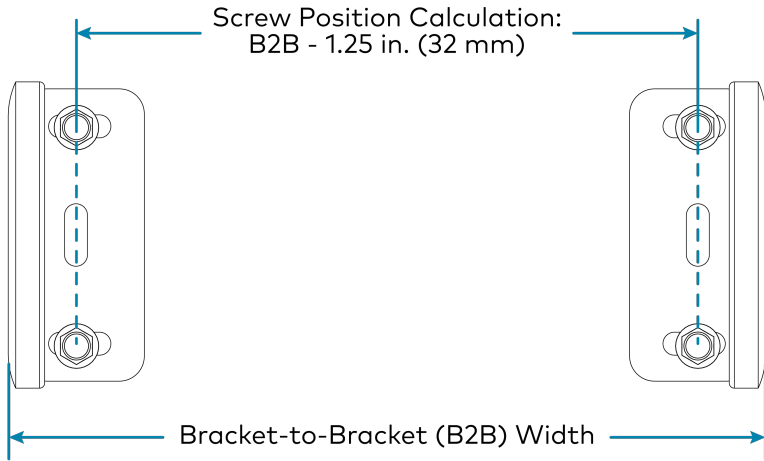
## Bracket Dimensions



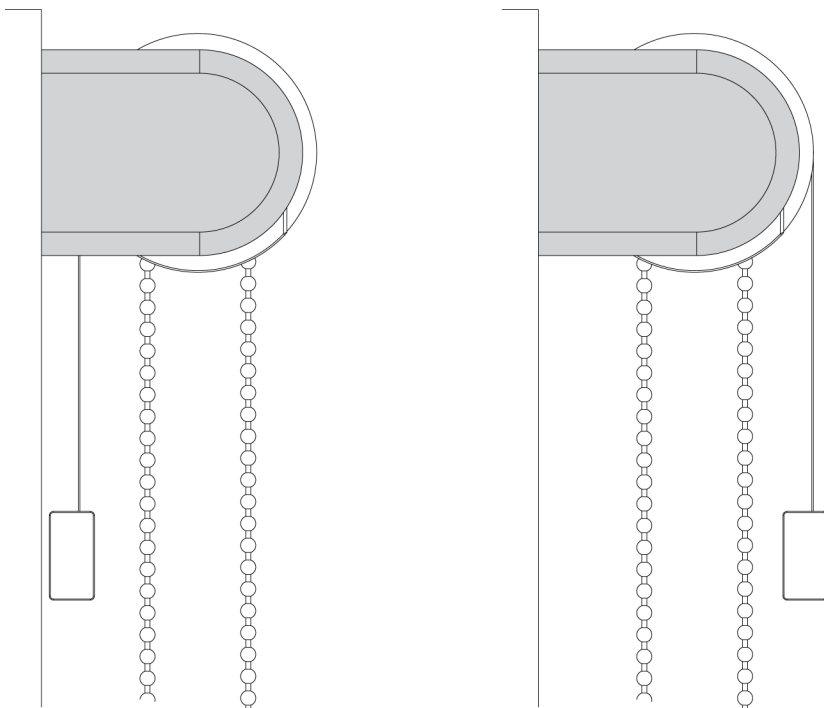
## System Size



**Bracket Mounting Screw Position**



**Roll Type: Regular Roll (Left) and Reverse Roll (Right)**



# Installation

This section provides the following information:

- [Motorized Shade Installation](#)
- [Manual Shade Installation](#)

# Motorized Shade Installation

This section provides the following information:

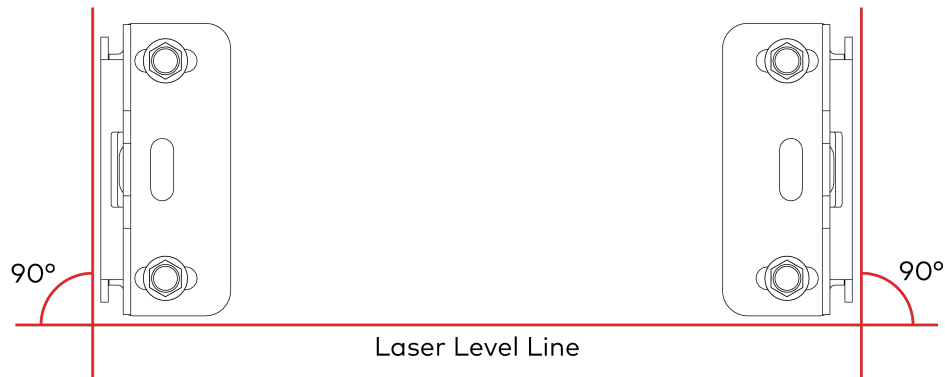
- [Shade Brackets](#)
- [Shade Assembly](#)
- [Motor Wiring](#)
- [Replace a Motor](#)

# Shade Brackets

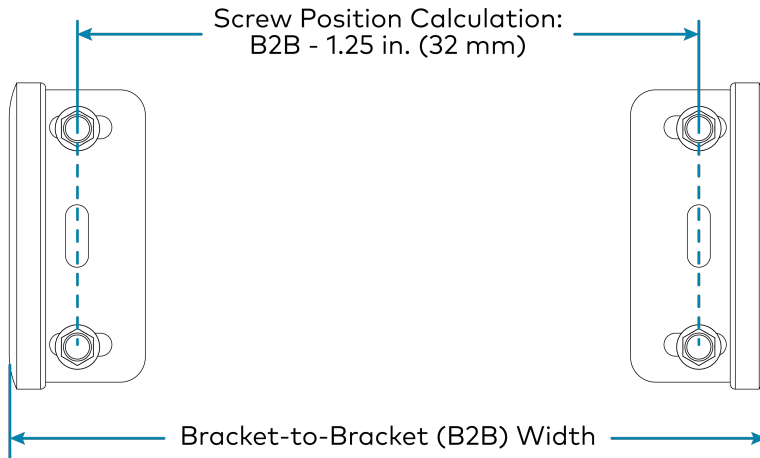
**CAUTION:** There is risk of personal injury and equipment damage if the shade or associated parts fall during or after installation. Use care during installation. Use mounting hardware (for example, screws or bolts) that is appropriate for the mounting surface when securing the brackets.

To mount the shade brackets:

1. Check for a proper fit by holding the roller shade assembly in the approximate mounting location.
2. Mark the locations of the brackets.
  - The mounting points must be level, plumb, and on the same plane. Use a laser level to make sure that the brackets are level. The brackets do not have leveling capabilities.



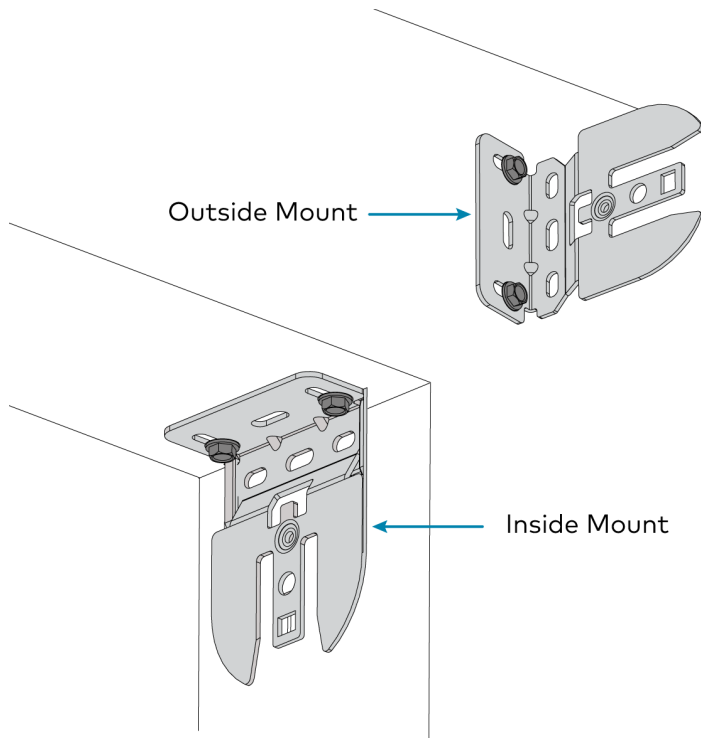
- Space the brackets according to the specifications on the order form.



3. Mount the brackets to the outside of the window frame (outside mount) or the inside of the window frame (inside mount). Use hardware that is appropriate for the mounting surface. Make sure the brackets are level and mounted to a flat surface.

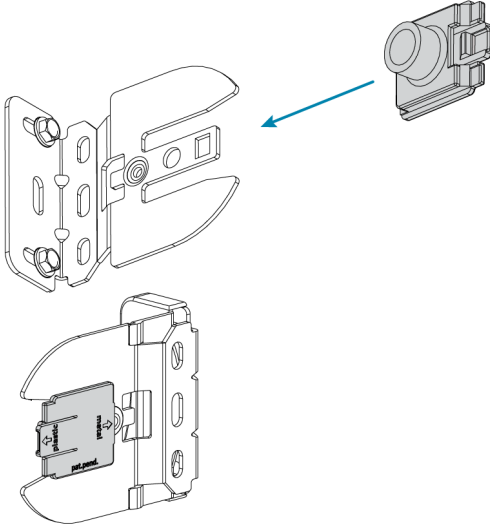
**NOTES:**

- The idler pin is attached to a bracket prior to shipment (not shown in image below). If the idler pin interferes with mounting, remove the idler pin by lifting the release tab on the back the pin and slide it off of the mounting bracket.
- The mounting screw head must be less than 3.5 mm tall. Taller screw heads will interfere with the installation of the screw cover.
- For inside mounts, secure the mounting brackets to the window jamb or the window header.
- The screws provided with the mounting brackets are intended for use on walls (or jambs) with wood or metal blocking. These screws should not be used for hollow drywall or masonry installations. It is the responsibility of the installer to ensure that the mounting method used is secure.



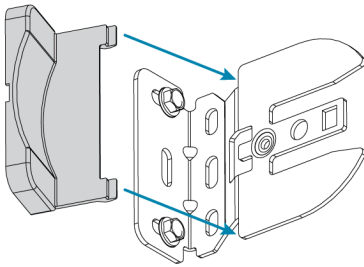


4. If the idler pin was removed, slide it onto the bracket. The idler pin snaps into place.



5. Attach a screw cover to each bracket. The screw covers snap in place.

**NOTE:** Install end caps after mounting the shade assembly.



# Shade Assembly

The roller shade assembly attaches to the mounting brackets.

## Mount the Shade Assembly

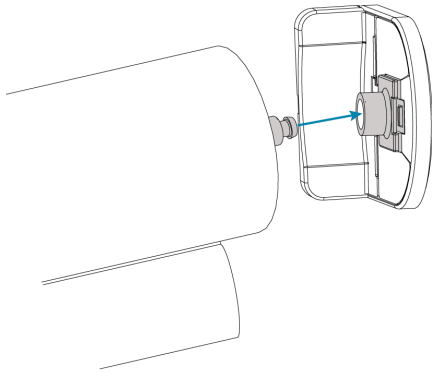
Mount the roller shade assembly to the mounting brackets.

### CAUTIONS:

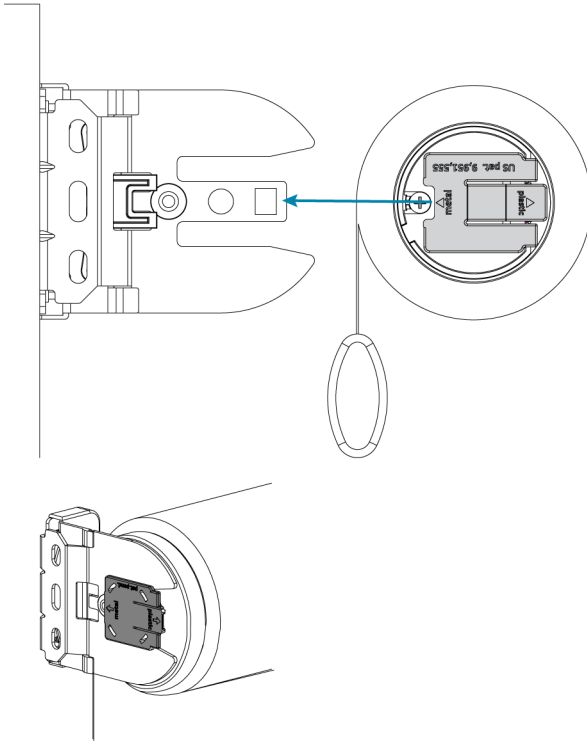
- There is risk of personal injury and equipment damage if the shade or associated parts fall during or after installation. Use proper mounting hardware (for example, screws or bolts) for the mounting surface when securing the brackets to the surface.
- Two or more people are required to properly mount the shades.

To mount the roller shade assembly:

1. Place pin on the idler end of the shade on the idler pin.

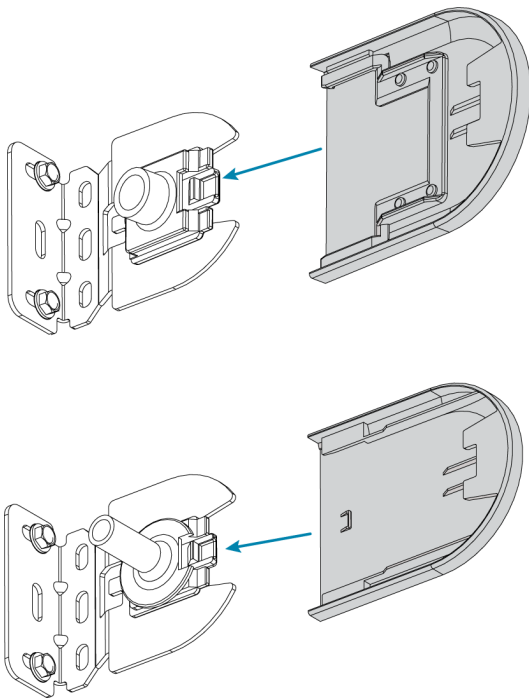


2. Slide the operator end onto the bracket. The operator snaps into place.



### Install the End Caps

Attach the end caps to the mounting brackets. The end caps snap into place.



## Remove the Shade Assembly

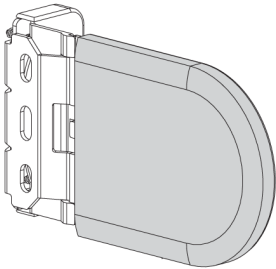
If necessary, the roller shade assembly can be removed from the mounting brackets.

**CAUTION:** Roll up the shade fabric to prevent damage during this procedure.

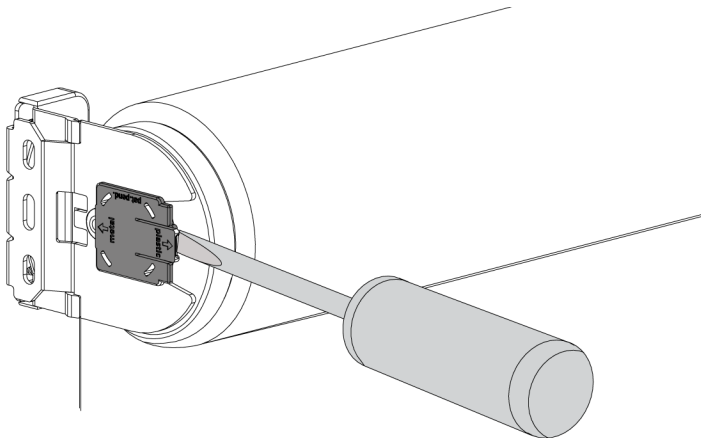
To remove the roller shade assembly:

**NOTE:** Place the roller shade on a soft and clean surface where it will not be damaged.

1. Remove the end cap on the operator end of the shade assembly. Pull the end cap away from the mounting surface to slide the end cap off of the mounting bracket.



2. Use a screwdriver to lift the release tab on the operator end and then slide the operator end off of the mounting bracket.



3. Separate the idler end of the roller shade assembly from the idler pin.

# Motor Wiring

Make data and power connections for the QMT® shade motor. The "-CN" shade motors require both data and power connections while the "-EX" shade motors require only power.

## Routing the Cables

To ensure proper functionality and a clean look, consider the following when routing cables and making connections:

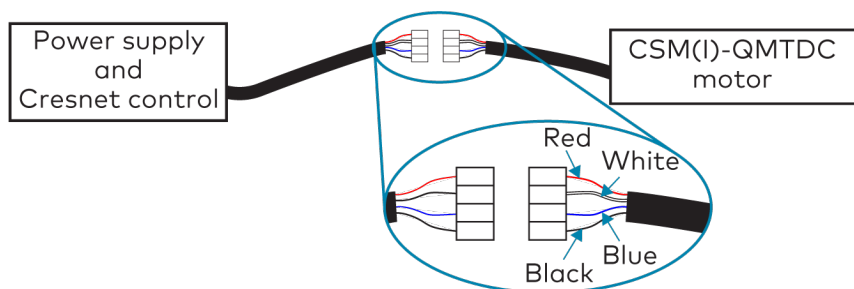
- The cables should exit the wall near the motor end of the shade assembly.
- Route the cables so that they remain out of sight.
- The brackets provide a cutout in the upper corner, which allows wiring to be easily run to the motor.
- A 2-pin connector may be required for shades with a large roll-up diameter.
- Use cable ties to secure the cables to the loop on the bracket.
- Ensure that the cables and connectors do not make contact with the shade fabric.

## Making the Connections

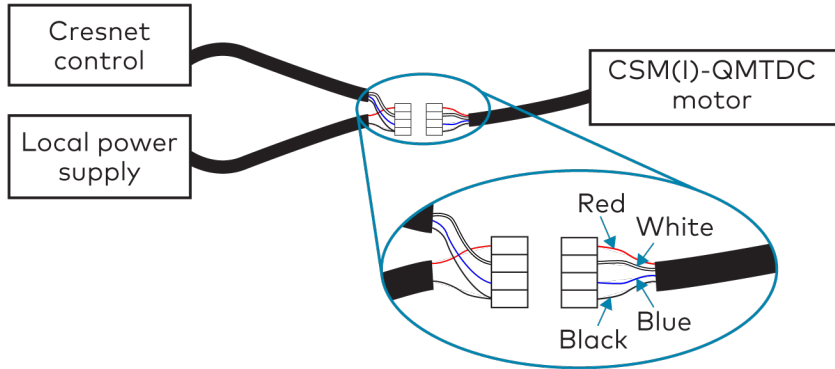
### NOTES:

- When making the connections, do not use CRESNET-HP cable with the small connector. When using CRESNET-HP cable, replace the connector on the motor pigtail with the larger connector that is supplied with the shade.
- All shades should be home run from the power supply ([CSA-PWS40](#) and [CSA-PWS10S-HUB-ENET](#), both sold separately).

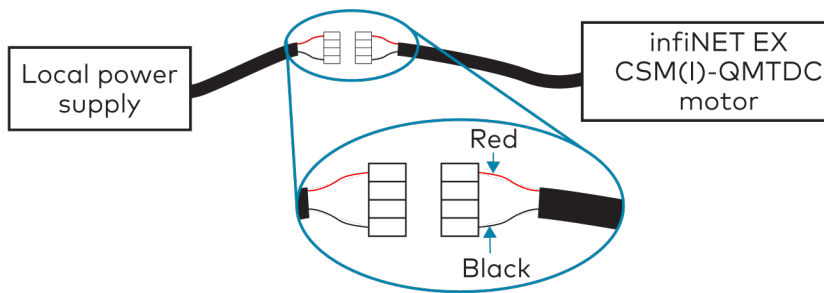
### Cresnet QMT® Shade Motor with the Power and Control Coming from the Same Source



**Cresnet QMT® Shade Motor with the Power and Control Coming from Separate Sources**



**Wire the inNET EX® Wireless QMT® Shade Motor**



# Replace a Motor

The QMT® shade motors can be removed and replaced.

**CAUTION:** Roll up the shade fabric to prevent damage during this procedure.

## NOTES:

- A soft and clean work surface is required to perform this procedure.
- Remove the fascia and disconnect the motor cable before performing this procedure.

## Remove the Roller Shade Assembly

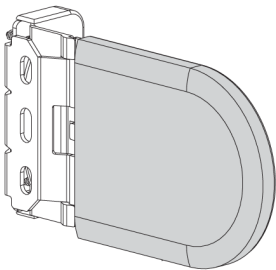
If necessary, the roller shade assembly can be removed from the mounting brackets.

**CAUTION:** Roll up the shade fabric to prevent damage during this procedure.

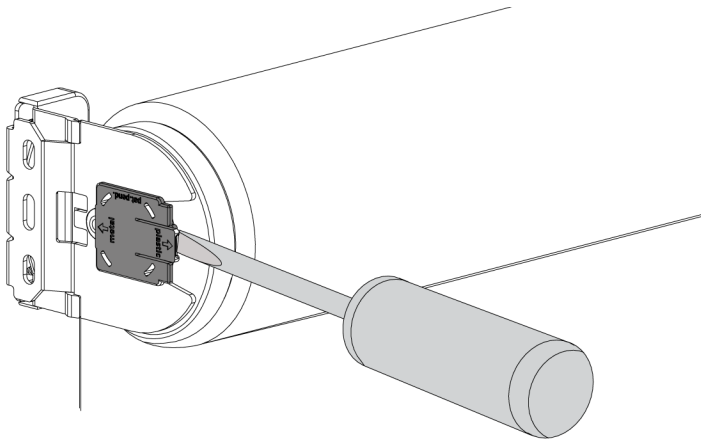
To remove the roller shade assembly:

**NOTE:** Place the roller shade on a soft and clean surface where it will not be damaged.

1. Remove the end cap on the operator end of the shade assembly. Pull the end cap away from the mounting surface to slide the end cap off of the mounting bracket.



2. Use a screwdriver to lift the release tab on the operator end and then slide the operator end off of the mounting bracket.



3. Separate the idler end of the roller shade assembly from the idler pin.

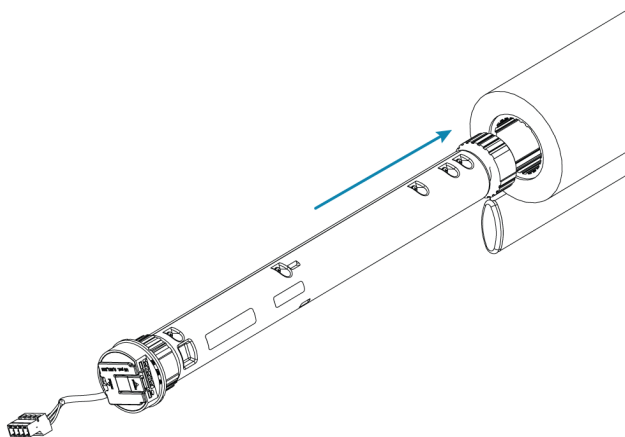
## Replace the Motor

To remove the old motor and then install a new motor:

**CAUTION:** Do not remove the motor by pulling on the control wire.

1. To remove the old motor, pull the motor head to remove it from the tube.
2. To install the new motor, fully insert the new motor into the tube. The tube is designed so that the motor can be easily inserted in only one orientation.

**NOTE:** If the motor does not easily slide into the tube, rotate the motor 180-degrees and then insert the motor into the tube.






## Reinstall the Roller Shade Assembly

To reassemble the shade assembly:

1. If necessary, roll the shade fabric onto the tube.
2. Install the roller shade assembly and connect the motor wire. For details, refer to [Installation on page 21](#).
3. Test the motor direction, set the shade limits, and, if applicable, connect to the wireless network. For details, refer to [Configuration on page 43](#).

# Manual Shade Installation

**! WARNING !**



**Window Blind Cord Strangulation Risk**


Window blinds with a damaged or loose tension device pose a strangulation risk to children. To avoid this potential strangulation risk, consider purchasing cordless products or products with inaccessible cords.

**Products with a Damaged, Loose, or Missing Tension Device Pose a Strangulation Risk to Children**

This Window Blind is equipped with a Tension Device

- Remove from use and repair or replace if tension device is damaged, loose, or missing
- Tension device must be securely attached to wall or floor.
- Children can climb on furniture to reach cords
- Fasteners provided with tension device may not be appropriate for all mounting surfaces
- Use appropriate anchors for mounting surface conditions
- Tag to be removed only by end-user

**! ADVERTENCIA !**



**Riesgo de Estrangulamiento en Cuerdas de Persianas**

Las persianas con un dispositivo tensor suelto o dañado representan un riesgo de estrangulación para los niños. Para evitar un posible riesgo de estrangulamiento, considere comprar productos inalámbricos o productos con cuerdas inaccesibles.

**Productos con un Dispositivo Tensor Dañado, Suelto o Ausente Presentan un Riesgo de Estrangulamiento Para los Niños**

Esta Persiana está equipada con un Dispositivo Tensor

- Retire del uso y arregle o reemplace si el dispositivo tensor está dañado, suelto o ausente
- El dispositivo tensor debe estar firmemente sujeto a la pared o al piso
- Los niños pueden subirse a los muebles para alcanzar las cuerdas
- Los taquetes proporcionados con el dispositivo tensor pueden ser inapropiados para todas las superficies de montaje
- Utilice anclas apropiadas para los diferentes tipos de las superficie del montaje
- La etiqueta puede ser quitada solo por el ultimo que la obtiene

This section provides the following information:

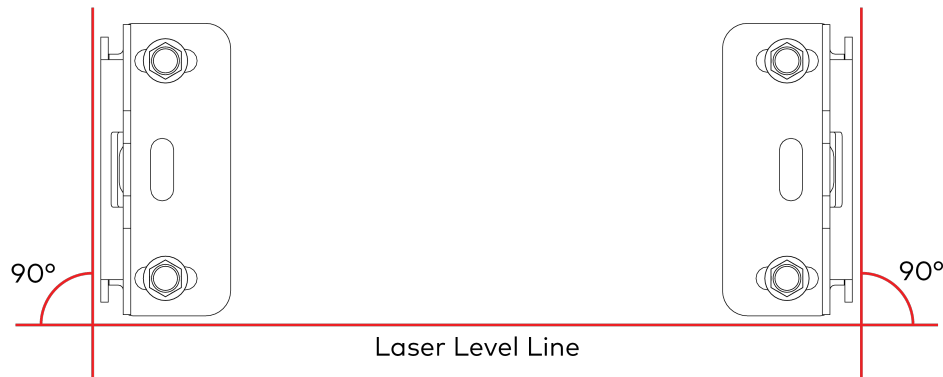
- [Shade Brackets](#)
- [Shade Assembly](#)
- [Chainhold Tension Device](#)

# Shade Brackets

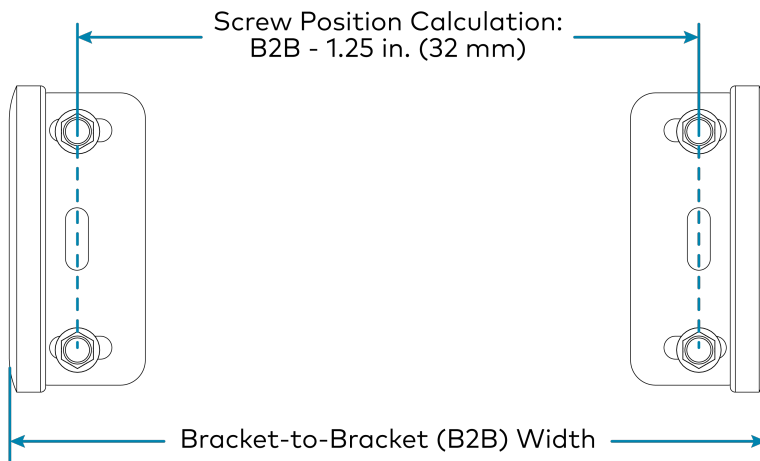
**CAUTION:** There is risk of personal injury and equipment damage if the shade or associated parts fall during or after installation. Use care during installation. Use mounting hardware (for example, screws or bolts) that is appropriate for the mounting surface when securing the brackets.

To mount the shade brackets:

1. Check for a proper fit by holding the roller shade assembly in the approximate mounting location.
2. Mark the locations of the brackets.
  - The mounting points must be level, plumb, and on the same plane. Use a laser level to make sure that the brackets are level. The brackets do not have leveling capabilities.



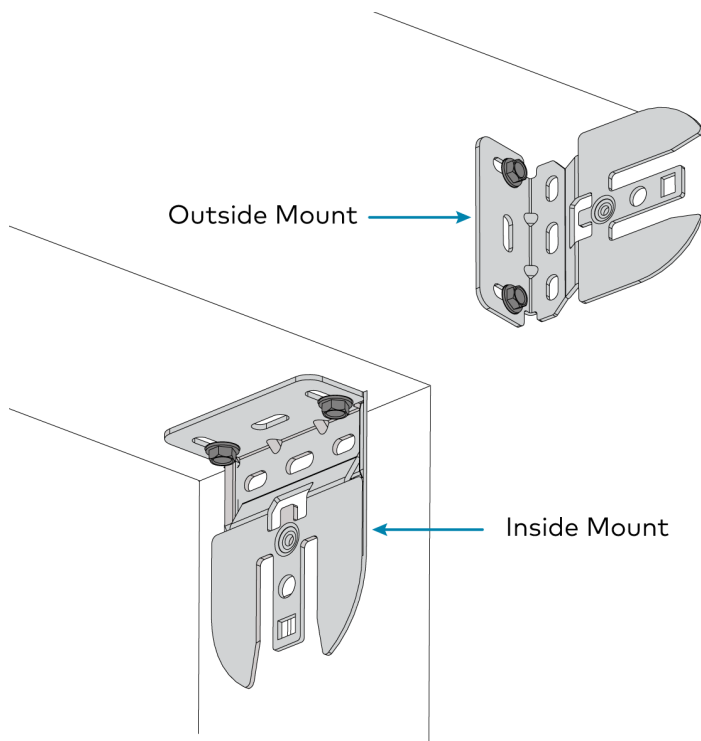
- Space the brackets according to the specifications on the order form.



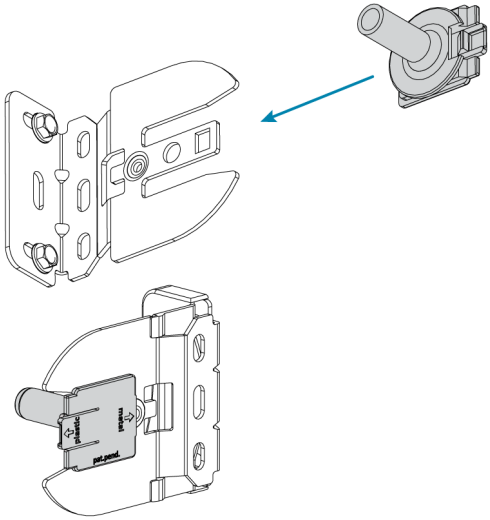
3. Mount the brackets to the outside of the window frame (outside mount) or the inside of the window frame (inside mount). Use hardware that is appropriate for the mounting surface. Make sure the brackets are level and mounted to a flat surface.

**NOTES:**

- The mounting screw head must be less than 3.5 mm tall. Taller screw heads will interfere with the installation of the screw cover.
- For inside mounts, secure the mounting brackets to the window jamb or the window header.
- The screws provided with the mounting brackets are intended for use on walls (or jambs) with wood or metal blocking. These screws should not be used for hollow drywall or masonry installations. It is the responsibility of the installer to ensure that the mounting method used is secure.

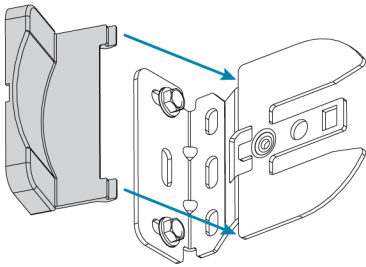


4. Slide the idler pin onto the bracket. The idler pin snaps into place.



5. Attach a screw cover to each bracket. The screw covers snap in place.

**NOTE:** Install end caps after mounting the shade assembly.



# Shade Assembly

The roller shade assembly attaches to the mounting brackets.

## Mount the Shade Assembly

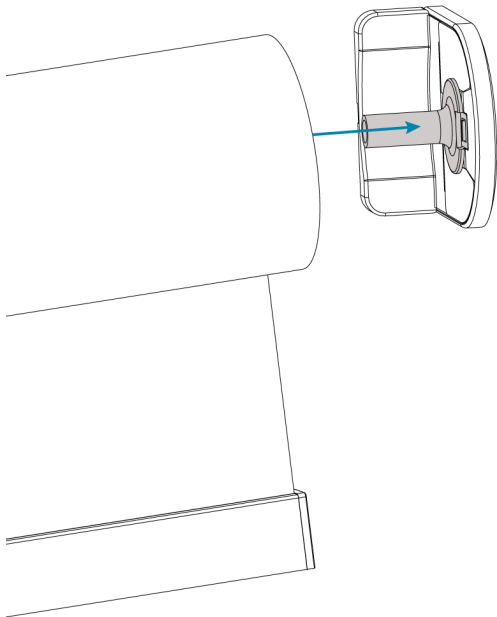
Mount the roller shade assembly to the mounting brackets.

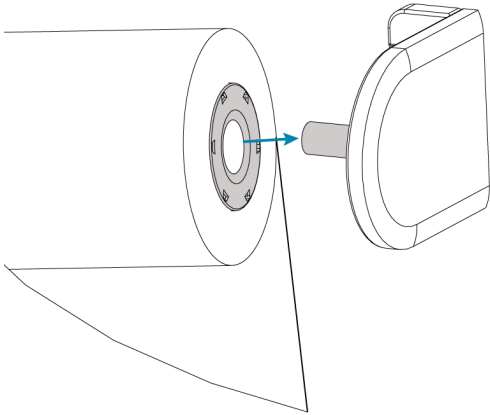
### CAUTIONS:

- There is risk of personal injury and equipment damage if the shade or associated parts fall during or after installation. Use proper mounting hardware (for example, screws or bolts) for the mounting surface when securing the brackets to the surface.
- Two or more people are required to properly mount the shades.

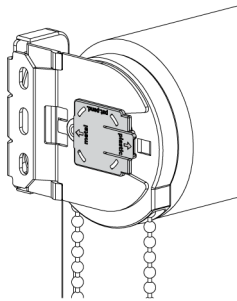
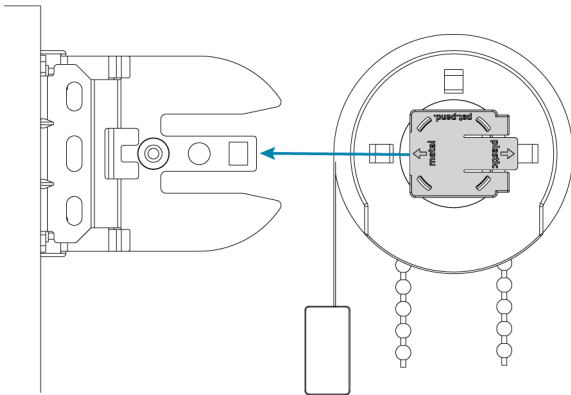
To mount the roller shade assembly:

1. Place the idler end of the shade on the idler pin.



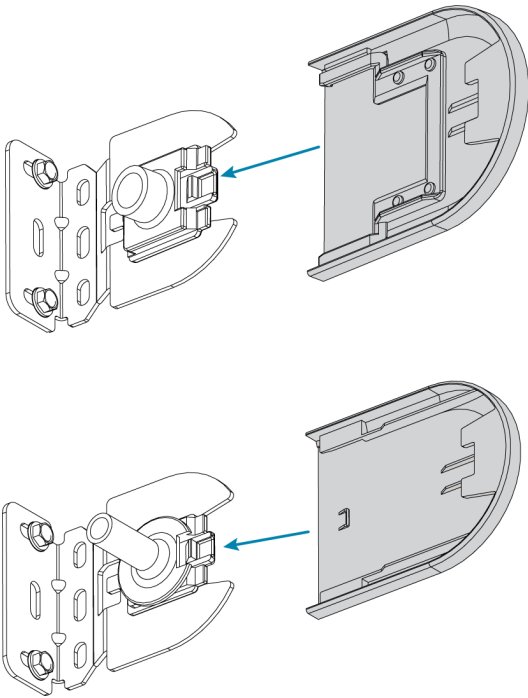


2. Slide the operator end onto the bracket. The operator snaps into place.



## Install the End Caps

Attach the end caps to the mounting brackets. The end caps snap into place.



## Remove the Shade Assembly

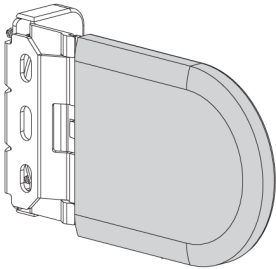
If necessary, the roller shade assembly can be removed from the mounting brackets.

**CAUTION:** Roll up the shade fabric to prevent damage during this procedure.

To remove the roller shade assembly:

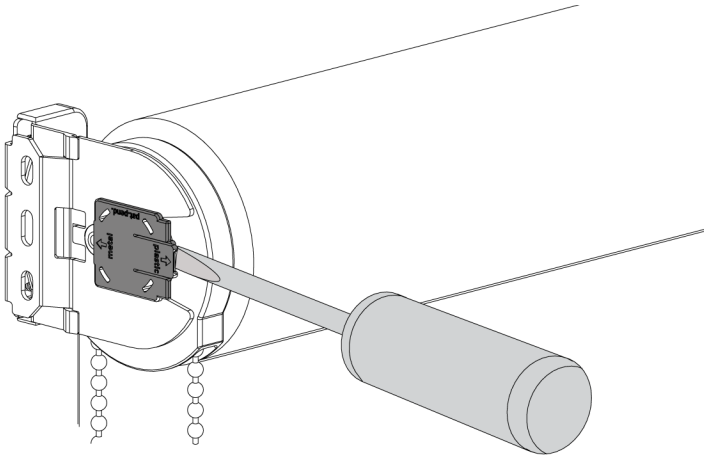
**NOTE:** Place the roller shade on a soft and clean surface where it will not be damaged.

1. Remove the screws that secure the Chainhold Tension Device. Do not remove the Chainhold Tension Device from the chain, as it will severely damage the product.
2. Remove the end cap on the operator end of the shade assembly. Pull the end cap away from the mounting surface to slide the end cap off of the mounting bracket.





3. Use a screwdriver to lift the release tab on the operator end and then slide the operator end off of the mounting bracket.




4. Separate the idler end of the roller shade assembly from the idler pin.

# Chainhold Tension Device

**WARNING:** A Chainhold Tension Device is provided with the shade assembly and must be properly installed. For details, refer to the [Chainhold Tension Device Installation Guide](#).

**! WARNING !**



**Window Blind Cord Strangulation Risk**


Window blinds with a damaged or loose tension device pose a strangulation risk to children. To avoid this potential strangulation risk, consider purchasing cordless products or products with inaccessible cords.

**Products with a Damaged, Loose, or Missing Tension Device Pose a Strangulation Risk to Children**

This Window Blind is equipped with a Tension Device

- Remove from use and repair or replace if tension device is damaged, loose, or missing
- Tension device must be securely attached to wall or floor.
- Children can climb on furniture to reach cords
- Fasteners provided with tension device may not be appropriate for all mounting surfaces
- Use appropriate anchors for mounting surface conditions
- Tag to be removed only by end-user

**! ADVERTENCIA !**



**Riesgo de Estrangulamiento en Cuerdas de Persianas**

Las persianas con un dispositivo tensor suelto o dañado representan un riesgo de estrangulación para los niños. Para evitar un posible riesgo de estrangulamiento, considere comprar productos inalámbricos o productos con cuerdas inaccesibles.

**Productos con un Dispositivo Tensor Dañado, Suelto o Ausente Presentan un Riesgo de Estrangulamiento Para los Niños**

Esta Persiana está equipada con un Dispositivo Tensor

- Retire del uso y arregle o reemplace si el dispositivo tensor está dañado, suelto o ausente
- El dispositivo tensor debe estar firmemente sujeto a la pared o al piso
- Los niños pueden subirse a los muebles para alcanzar las cuerdas
- Los taquetes proporcionados con el dispositivo tensor pueden ser inapropiados para todas las superficies de montaje
- Utilice anclas apropiadas para los diferentes tipos de las superficie del montaje
- La etiqueta puede ser quitada solo por el ultimo que la obtiene

# Configuration

Prior to configuration, ensure the device is running the latest firmware. To update the firmware, use the Crestron Toolbox™ application.

Program the QMT® shade motor using the buttons on the motor.

**NOTE:** The procedures described in this document can also be performed remotely using a control system.

This section provides the following information:

- [Test and Adjust Shade Limits \(Motorized Shades\)](#)
- [Fabric Telescoping](#)
- [Wireless Communications](#)

# Test and Adjust Shade Limits (Motorized Shades)

## 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 shade assembly is level and centered and that the brackets are level and plumb. To prevent damage to the fabric, do not leave the shade unattended during the first few open and close cycles. Failure to follow these instructions may result in damage to the shade fabric, which is not covered by the warranty.

To test the shade travel:

1. Press **DN** to lower the shade until it reaches its lower limit. **Stop immediately if the following occurs:**
  - The shade fabric contacts the mounting brackets or building materials.
  - The shade fabric telescopes.
2. Verify that the shade stops at the desired lower limit. If the shade does not travel to the desired lower limit, adjust the shade limits. For details, refer to [Adjust the Shade Limits on page 44](#).
3. Press **UP** to raise the shade until it reaches its upper limit. **Stop immediately if the following occurs:**
  - The shade fabric contacts the mounting brackets or building materials.
  - The shade fabric telescopes.
4. Verify that the shade stops at the desired upper limit. If the shade does not travel to the desired upper limit, adjust the shade limits. For details, refer to [Adjust the Shade Limits on page 44](#).
5. After adjusting the shade travel, perform several complete open and close cycles to verify that the shade is functioning properly.

## Adjust the Shade Limits

To adjust the lower limit:

1. Press and hold **SET** for 4 seconds to enter **Limit Setup** mode. The LED alternates between amber and green.
2. To begin lower limit setup, press **DN**. The green LED flashes.
3. Press the **UP** or **DN** button 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.

5. If the upper limit is not set, the motor automatically enters **Limit Setup** mode for the upper limit. To set the upper limit, refer to step 3 in the procedure below.

To adjust the upper limit:

1. Press and hold **SET** for 4 seconds to enter **Limit Setup** mode. The LED alternates between amber and green.
2. To begin upper limit setup, press **UP**. The amber LED flashes.
3. Press the **UP** or **DN** button 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.
5. If the lower limit is not set, the motor automatically enters **Limit Setup** mode for the lower limit. To set the lower limit, refer to step 3 in the procedure above.

# Fabric Telescoping

Fabric telescoping is when the shade fabric shifts to the left or right during operation. Telescoping typically occurs when the shade assembly is not level. Situations that may cause telescoping:

- The shade is not perfectly level.
- The shade bumps into objects while traveling up or down.
- The HVAC ductwork is blowing on the shade, or air is coming in through a window.
- A foreign object is stuck to the shade fabric (for example tape, bugs, dust, etc.).

To prevent telescoping:

- If the shade assembly is not level, remount the shade brackets. If necessary, use a shim.
- Make sure there are no obstructions near the window area that the shade could bump into while traveling (for example, latches and cranks).
- Direct HVAC airflow away from the shade, and make sure that windows are closed while operating the shade.
- Lower the shade down to the bare tube. Inspect the front and back of the shade to make sure that no foreign objects are stuck to the shade fabric.

If the shade is still telescoping, shim using a small (1 in. x 1 in.) piece of tape on the bare tube. The shade must be rolled down past its lower limit to expose the tube.

- **Fabric is telescoping to the left:** Place the tape on the right side of the tube.
- **Fabric is telescoping to the right:** Place the tape on the left side of the tube.

# Wireless Communications

The device connects to the Crestron network using the infiNET EX® wireless communications protocol. A [CEN-GWEXER](#) or [CENI-GWEXER](#), [CEN-GW1](#), or [CENI-GW1](#) wireless gateway (all sold separately) is required for infiNET EX® wireless communication. Use the procedures outlined below to join or leave the wireless network and to verify communications between the device and the control system.

## Join a Wireless Network

To join a wireless network:

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

1. Put the gateway into **Acquire** mode from the unit itself, Crestron Home® Setup app, or from Crestron Toolbox.

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

2. To join the wireless network:
  - a. Press **SET** three times, and then press and hold it down (tap-tap-tap-press+hold) until the LED flashes white. It may take up to 10 seconds for the LED to flash.
  - b. When the LED flashes, release the button. The LED slowly flashes white while the device searches for a gateway that is in Acquire mode, and then lights to indicate the pairing status.
    - If pairing was successful, the LED turns on for 5 seconds.
    - If pairing was unsuccessful, the LED flashes quickly. Press the **SET** button to acknowledge the failure. 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.

## Leave a Wireless Network

To leave a wireless network:

1. Make sure that there are no gateways in **Acquire** mode.
2. Place the device in **Acquire** mode. To place the device in **Acquire** mode, refer to [Join a Wireless Network on page 47](#).
3. The device leaves the wireless network when it is searching for a new network. The LED flashes quickly to show that the device left the wireless network and that it did not join a new wireless network. Press the **SET** button to turn off the LED.

## 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 white LED indicates the communications status.

White LED	Communications Status
Turns on for 5 seconds	The device is communicating with the control system.
Flashes three times	The device is communicating with the gateway but the gateway is not 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.



# Operation

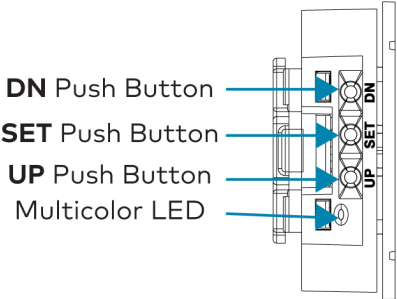
This section provides the following information:

- [Controls and Indicators](#)
- [LEDs](#)

# Controls and Indicators

The Crestron QMT® 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.

## LED and Pushbutton Orientation



# LEDs

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

The following table provides a list of possible LED patterns encountered during normal operation. All LEDs extinguish after 1 minute of inactivity.

## 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 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 <b>Bootloader</b> mode.
Fast flash (1/4-second on, 1/4-second off)	White	The motor is in <b>Identify</b> 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.

# Troubleshooting

Use the following sections to view corrective actions for possible issues and error states.

## System Diagnostics

The following table provides corrective action for possible issues. If further assistance is required, please contact [Crestron Support](#).

### Crestron QMT Shade 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.

# Error State

Crestron QMT shade motors display error codes using the red LED on the interface. The LED flashes a pattern to indicate the error.

**NOTE:** The error code does not flash while the motor is in a sleep state. If the error state is still active when the motor wakes up, the LED will continue to flash the code.

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 [Troubleshooting on page 52](#) for possible corrections.

## LED Blinking Patterns

LED Error Code	Error State
2-1	The motor is unable to communicate with the gateway. Check to ensure that proper Cresnet wiring is maintained. Check that the motor is connected to a wireless gateway.
2-2	The motor is not being polled by the control system. Ensure that the NetRF ID matches the control system program and that the program is running on the control system.
3-1	The motor limits are not set.
3-3	An obstruction is blocking the shade fabric from moving freely.
3-4	A motor overcurrent error exists. Check for obstacles or any sources of excessive friction.
3-5	A motor duty-cycle error exists. Reduce the operating duty cycle of the motor to correct the error.
3-6	There is a communications error between the motor and Cresnetwireless control board.

# Resources

The following resources are provided for the CS-SHADE-ROLLER-MTL-MOTOR and CS-SHADE-ROLLER-MTL-MANUAL.

**NOTE:** You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

## Crestron Support and Training

- [Crestron True Blue Support](#)
- [Crestron Resource Library](#)
- [Crestron Online Help \(OLH\)](#)
- [Crestron Training Institute \(CTI\) Portal](#)

## Programmer and Developer Resources

- [help.crestron.com](http://help.crestron.com): Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- [developer.crestron.com](http://developer.crestron.com): Provides developer documentation for Crestron APIs, SDKs, and other development tools

## Product Certificates

To search for product certificates, refer to [support.crestron.com/app/certificates](http://support.crestron.com/app/certificates).

## Related Documentation

- [Crestron Design Tool Shades \(CDTS\)](#)
- [Crestron Shading Solutions Design Guide](#)
- [Crestron Shading Solutions Feature Page](#)
- [crestron.com/shadesafety](http://crestron.com/shadesafety) (PDF)

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