Overview - Components

FLEXSHADE® C*MO

CAUTION

Read and understand all warnings before beginning installation.
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TOOLS REQUIRED

- PENCIL
- TAPE MEASURE
- LASER LEVEL
- LEVEL
- POWER DRILL
- HARDWARE (by others)

RECOMMENDED PERSONNEL

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If you have any difficulties installing or servicing your Coupled FlexShade®, call your dealer or Draper, Inc.
**Important Installation Information**

**Caution:**

1. Inspect all boxes to make sure you have received the proper shades and parts. Controls may be shipped separately, or in same carton as shades.
2. Open cartons lengthwise, taking care not to cut into cardboard shipping container.
3. Before mounting shades, verify measurements on label provided with shade, and ensure unit is installed at correct width.
4. All endcaps, fascia, pocket headbox, and other hardware must be installed level. Shades must be level and square.
5. Read the following installation guidelines thoroughly and follow them carefully. Failure to do so may cause product to fail or otherwise fail, and invalidates warranty.
6. Installer is responsible for selecting mounting hardware appropriate for site conditions.

**Safety Information**

Improper installation and use of the Motorized FlexShade® Coupled can result in serious injury or death. Primarily, injuries can occur if the unit falls due to imprecise installation, mishandling of the unit during installation, or installation on an insufficient wall or ceiling structure. Please use extreme care.

1. Please read the following installation guidelines thoroughly and follow them carefully. Failure to do so may cause product to fail or otherwise fail, and could result in serious injury.
2. Installation and calibration of the unit should only be performed by an authorized, qualified, and experienced professional. In particular, electrical work and wiring (indicated in diagram by dashed lines) must be completed only by a qualified professional electrician who has read this manual completely and is familiar with the construction and operation of the equipment and the hazards involved.
3. Do not affix the unit to wall or ceilings that have inadequate strength to permanently hold the unit during use. It is the owner’s and installer’s responsibility to confirm the wall or ceiling to which the unit attaches is sufficient to permanently hold the weight and stress loads of the unit at all times. Draper®, Inc., is not responsible for improper installation, application, testing, or workmanship related to the product at place of installation.
4. It is the installer’s responsibility to make sure appropriate fasteners are used for mounting.
5. All brackets, fascia, headboxes, pockets, wall clips, and other hardware must be installed level. Unit must be level and square.
6. Never leave the area while operating the unit during installation, maintenance, or normal operation, unless it is secure and safe.
7. Before testing or operation, carefully inspect the entire area and path of the shade and areas underneath the shade to be sure no persons or objects are in the area.
8. Turn off power and any nearby equipment or cables carrying electricity before connecting switches, wires, controls, or electrical components.
9. Make sure the limit switches are pointed down or accessible when placing the motor in brackets/endcaps.
10. All motors should be tested and limits set using test cord before shades are wired.
11. Do not wire motors in parallel without written permission from Draper, Inc.
12. During testing or operation, carefully watch the surrounding area for any potential safety concerns including nearby persons or objects.

**Field Adjustments**

Each Draper Solar Control Shade is tested to ensure proper operation. Even with this testing, some field adjustments may be needed for telescoping.

If the shade is telescoping, place a piece of shimming fabric into the fabric roll when the shade is deployed on the side that the fabric will be drawn toward. For example: if the fabric is tracking to the left, place the shimming fabric on the right side.

**Cleaning and Maintenance**

Window covering products manufactured by Draper, when properly installed, should require no operational maintenance or lubrication.

Most standard Draper fabrics may be cleaned at the window by vacuuming with a soft brush attachment. They also may be cleaned by using a sponge or soft cloth and mild solution of warm soapy water. A mild dishwashing liquid is recommended. A clean dry cloth is recommended for the metal finish.

**Please Note:** Exceptions are GreenScreen Evolve®, GreenScreen Revive®, and Phifer® SW7000 fabrics, which must be cleaned with a dry art sponge.

(GreenScreen Revive® and GreenScreen Evolve® are registered trademarks of Mermet® USA. SheerWeave® is a registered trademark of Phifer® Incorporated.)
Section 1 - Operating the Retractable Coupler Shaft

**Please Note:** Custom products/installations may not be reflected by this document.

The Draper® Coupled FlexShade® utilizes a locking retractable shaft to hold roller assemblies in place and link panels together. The retractable coupler shaft has three distinct positions: fully extended, intermediate, and fully retracted.

1. To retract the coupler shaft from fully extended to the intermediate position, grasp the roller with one hand, while using the included Spanner Wrench to rotate the metal Locking Ring counterclockwise (as viewed facing the coupler assembly) approximately ½ of a turn with the other, leaving the shaft extended approximately ½” (13mm).

2. To retract the coupler shaft fully, rotate the metal Locking Ring counterclockwise (as viewed facing the coupler assembly) an additional ¼ of a turn.

3. To lock shaft in place when extended, rotate metal Locking Ring clockwise ¼ turn.

**Please Note:** There is no retractable shaft in the idler end assembly on the idler end shade (furthest from the operator). This idler assembly utilizes a sliding pin and retainer clip.

**Please Note:** These instruction steps are for installing endcaps one at a time. Endcaps may also all be installed at the same time, prior to installing roller/fabric assemblies. If endcaps are installed first, be certain of measurements and locations. For best results, assemble the unit on a flat, clean surface. Verify measurements before attaching endcaps.

Section 2 - Couplers, Brackets, and Endcaps

**Caution:** Before mounting shades, verify measurements on the card provided with the shade, and ensure the endcaps are installed at the correct width.

**Please Note:** Installer is responsible for selecting mounting hardware appropriate for site conditions.

**Caution:** DO NOT use wall brackets for ceiling installations, and DO NOT use ceiling brackets for wall installations.
Section 3 - Surface Headbox Installation (Optional)

**Please Note:** If unit is to be installed without Surface or Pocket Headbox, please proceed to Section 5.

**Caution:** Before mounting shades, verify measurements on the card provided with the shade, and ensure the endcaps are installed at the correct width.

**Please Note:** Installer must provide adequate clearance for removal of Roller Assembly during installation and maintenance.

**Please Note:** Headbox MUST BE mounted directly to ceiling or wall, or to a continuous blocking that has been secured to building structure.

1. Slide endcaps and coupler(s) into top/back cover piece of surface headbox.
   - Begin with one end. *(Motor End shown)*
   - Slide coupler(s) into headbox.
   - Slide opposite side endcaps into headbox. *(Idler End shown)*

2. Using pre-drilled holes in endcaps, mark headbox for drilling.

3. Drill holes in back (wall mount) or top (ceiling mount) of top/back cover of surface headbox.

4. Attach endcaps, coupler, and top/back cover piece to wall or ceiling, using mounting hardware appropriate for site conditions.

5. Next, mount Roller Assembly as shown in Section 5.

**Please Note:** A minimum of two (2) screws is required for each endcap.
Section 4 - **Pocket Headbox Installation** *(Optional)*

**Please Note:** If unit is to be installed without Surface or Pocket Headbox, please proceed to **Section 5**.

**Caution:** Before mounting shades, verify measurements on the card provided with the shade, and ensure the endcaps are installed at the correct width.

**Please Note:** Installer must provide adequate clearance for removal of Roller Assembly during installation and maintenance.

**Please Note:** Headbox MUST BE mounted directly to ceiling or wall, or to a continuous blocking that has been secured to building structure.

1. Lift headbox into mounting position.
2. Mark location of optional pre-drilled pocket mounting holes and bracket mounting holes on top side of headbox on mounting surface.
3. Drill small starter hole *(if necessary)* in mounting surface.
4. Mount pocket headbox using appropriate fasteners for surface.
5. Slide endcaps and coupler(s) into top/back cover piece of surface headbox.

**Small Pocket Headbox**

**Large Pocket Headbox**
Motorized FlexShade® *(Coupled)*

**Section 5 - Mounting Roller Assemblies, Couplers, and Endcaps**

**Please Note:** If unit is to be installed with Surface or Pocket Headbox, please consult previous sections before proceeding.

**Caution:** Before mounting shades, verify measurements on the card provided with the shade, and ensure the endcaps are installed at the correct width.

1. Attach motor endcap to surface using appropriate fasteners.

   ![](SHAFT FULLY RETRACTED)

   **Caution:** Ensure the operator-end fabric/roller assembly’s coupler shaft is **fully retracted** (see "Operating the Retractable Shaft.").

2. Attach motor end roller to endcap or bracket and hold in place. (Endcap option shown.)

   Slide motor clips into place.

   ![](SHAFT FULLY EXTENDED)

   **Caution:** Ensure the operator-end fabric/roller assembly's coupler shaft is **fully extended** (see "Operating the Retractable Shaft.").

3. Verify coupler location, and mark for placement.

   Please Note: Use measurements instead of the roller to determine placement.

4. Slide the coupler onto the coupler shaft of the first fabric/roller assembly to be installed, and hold in place. (Endcap option shown.)

5. Attach coupler to surface, using appropriate fasteners. (Endcap option shown.)
6. Replace motor end roller to endcap or bracket. (Bracket option shown.)

- Attach idler end to Idler Bracket.
- Rotate Hook to secure.
- Attach Retaining Clip to Shaft.

Caution: Ensure the operator-end fabric/roller assembly’s coupler shaft is fully retracted (see "Operating the Retractable Shaft").

7. Repeat steps 3–6 to install the next coupler(s) to mounting surface.

- Final (Idler-end) Fabric/Roller Assembly (Bracket option shown.)
- Lift both ends of the idler-end fabric/roller assembly into place and align between the brackets/endcaps.
- Installer #1 places the idler-end sliding shaft onto the idler-end bracket or endcap.
- Installer #2 fully extends coupler shaft of previously installed roller by rotating the metal ring clockwise about ½ of a turn when viewing the face of the coupler assembly (see "Operating the Retractable Shaft" and Fig. 2), until the shaft extends fully into the receiver of the idler-end fabric/roller assembly.

Caution: Ensure shaft is LOCKED IN PLACE with retaining clip!

8. Lock shaft in place. (Endcap option shown.)

- SHAFT FULLY RETRACTED
- SHAFT FULLY EXTENDED

9. Motorized FlexShade® (Coupled)

- SHAFT FULLY EXTENDED
- CAUTION: The end of the previously-installed coupler shaft should be flush with the outside edge of the bearing. If coupler shaft extends beyond the bearing, retract coupler shaft of the previously installed roller to the intermediate position.
Section 6 - Fabric/Roller Assembly Alignment (Steps are shown for endcaps and right-hand operators)

Please note: If needed, the fabric panel heights can be adjusted so that the bottom edges of the fabric panels are aligned. On large units, this procedure should be done on only one panel at a time to minimize the amount of fabric weight that must be supported during the adjustment procedure. Install and adjust rear/upper panels before beginning on lower/front panels.

1. Unlock height adjuster mechanism (or coupler shaft receiver) located at the operator-end of fabric roller assembly that is being adjusted by rotating the metal ring approximately ¼ turn counterclockwise (when viewing the face of the coupler assembly).

Please note: Do not use this procedure to adjust the operator-end assembly. Use the limits to set the down travel of the operator-end assembly.

2. Push the fabric/roller assembly approximately ⅛" (5mm) toward the operator-end of the unit. The fabric/roller assembly will move approximately ⅛" (5mm) toward the operator end.

3. Rotate the fabric/roller assembly in either direction to raise or lower the fabric panel.

4. Allow the fabric/roller assembly to move back and away from the operator end of the unit, and check position of fabric panels.

5. Tighten the locking ring by firmly rotating it approximately ¼ turn clockwise (reverse of step 1).

6. Operate the unit to check fabric position, tracking, etc.

7. Install next panel.

8. Begin with motor shade panel. Continue with intermediate shade panel. Finish with idler shade panel.

Caution: Locking ring on the idler-end coupler assembly MUST BE fully tightened following height adjustment. Wear a heavy glove to grip the locking ring. Tighten the locking ring until it is fully locked and will not rotate any further. Ensure that it will not loosen. If it cannot be tightened by hand, use a flat screwdriver or other tool to assist.

Motorized FlexShade® (Coupled)
Motorized FlexShade® (Coupled) page 9 of 12

Section 7 - Attaching Fascia to Endcaps

Please Note:
- Endcaps must be installed the correct distance apart for fascia to be properly attached with full engagement.
- Fascia is not fully seated until it clicks into place on both ends.
- Once in place, check for secure fit. If not secure, use an appropriate fastener (not included).

**STANDARD ROLL FASCIA**

1. Place groove along top of fascia over endcaps.
2. Snap into place.

**REVERSE ROLL FASCIA**

1. Slide endcap onto fascia.
2. Hang fascia on room side of endcap.
3. Slide Clip to end of fascia, ensuring that clip covers mounting bracket of endcaps.
4. Tighten set-screw with included Hex Wrench.

Section 8 - Limit Switch Adjustments

**Standard and Quiet Motors** (All procedures shown are for Standard Roll. Invert orientation for Reverse Roll)

**Push Button Limits**
1. Fully depress both limit switch push buttons, then operate wall switch to make sure system works properly.
2. Raise shade to desired “up” stop position.
3. Set upper limit by depressing proper (back) push button.
4. Lower shade to desired “down” stop position.
5. Set lower limit by depressing proper (front) push button.

**Screw-Type Limits**
1. Determine which direction of fabric travel corresponds with arrows on motor.
2. Operate shade to desired “down” stop position. Set limit by turning proper socket toward + to lower limit, and - to raise it.
3. Operate shade to desired “up” stopping position. Set limit by turning proper screw toward + to raise limit, and - to lower it.

**Limit Switch Adjustments:**

**RS485 Motors:** See limit setting instructions packaged with the RS485 Address/Limit Setting Tool (part# C156.241).

**RTS Motors:** See Radio Frequency Remote Control Programming Instructions (FS_MO_RFRC_ProgInst).

**IntelliFlex I/O Motors:** See limit setting instructions packaged with the Motor Limit Setting Tool (part# C202.030).

**Caution:**
- Be sure all switches are in “off” position before adjusting limit switches.
- Be prepared to shut off manually while testing.
- Shade may be damaged by running shade fabric down too far to expose roller.
- If using a group control system, each limit switch must be set prior to connecting to system.
- Motor must be installed so limit switches are pointed down.

Section 9 - Electrical Connections

Shade operates on 110-120V, 60 Hz current. Shade is shipped with internal wiring complete and control switch(es) fully boxed, and standardly supplied with a 6’ (1.8 m) cable lead. Longer lead can be substituted by removing two screws in motor end of roller, removing lead, plugging new lead in, and replacing screws. Wire to connect shade to switch(es) and switch(es) to power supply should be furnished by installer.

Connections should be made in accordance with attached wiring diagram, and wiring should comply with national and local electrical codes. DO NOT wire motors in parallel without written permission from Draper®.

All operating switches should be “off” before power is connected.

Please Note: For low-voltage wiring requirements, Draper recommends consulting with a professional low-voltage electrical contractor. It is very important that shielded and stranded CAT 5 cable be used to prevent any electrical interference.

Please Note: A Draper Motor Test Cable (Part# 503109) and M12 Pigtail (Part# C107.089.60) are available for temporary power for testing and limit setting.

**IMPORTANT:** To reduce the risk of electric shock, equipment that features a grounding type attachment plug has a third (grounding) pin on the attachment plug. This plug will ONLY fit into a grounding type outlet. If the plug does not fit into the outlet, a qualified electrician must install the proper outlet.

**DO NOT** change the plug in any way.

**DO NOT** use an extension cord. If the power supply cord is too short, a qualified electrician must install an outlet near the drapery operator.
NOTE: Test shade operation. If shade direction does not correspond with the switch orientation, turn power back off and switch the red and black wires from the motor to the switch.

Do not wire motors in parallel without written permission from Draper.

**Controls & System Overview**

**Sonesse® 120VAC Motors**

**Sonesse® RTS 120VAC Motors**

**Sonesse® RS485 120VAC Motors**

**M12 Connector** for 4-Wire Motors

**M12 Connector** for 3-Wire Motors

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**Data Cable Pin-Out - RJ45 Connector**

- 1 - DATA + (ORANGE/WHITE)
- 2 - DATA - (ORANGE)
- 3 - N/A (GREEN/WHITE)
- 4 - POWER + (BLUE)
- 5 - POWER + (BLUE/WHITE)
- 6 - N/A (GREEN)
- 7 - GROUND - (BROWN/WHITE)
- 8 - GROUND - (BROWN)

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*Sonesse® is a registered trademark of Somfy® Systems, Inc.*
Controls & System Overview

IntelliFlex I/O 120VAC Motors

AV Gateway

Handheld Remote

Wireless Gateway

Contact Closure Interface

Network Device Connector

Network Device Connector

Network Device Connector

Network Device Connector

M12 Connectors

RS485 120VAC Motor

RS485 120VAC Motor

Wall Switch

110-120V Line

Single gang box (by others)
Min. 4" x 2 1/4" x 1 7/8" deep
(10 x 5.4 x 48mm)

Data Cable with RJ45 Connector

Dashed Wiring by Electrician

Data Cable Pin-Out - RJ45 Connector

1 - ORANGE/WHITE
2 - ORANGE
3 - GREEN/WHITE
4 - BLUE
5 - BLUE/WHITE
6 - GREEN
7 - BROWN/WHITE
8 - BROWN
* This dimension may be larger, depending on motor selection. Contact Draper® for motor verification.