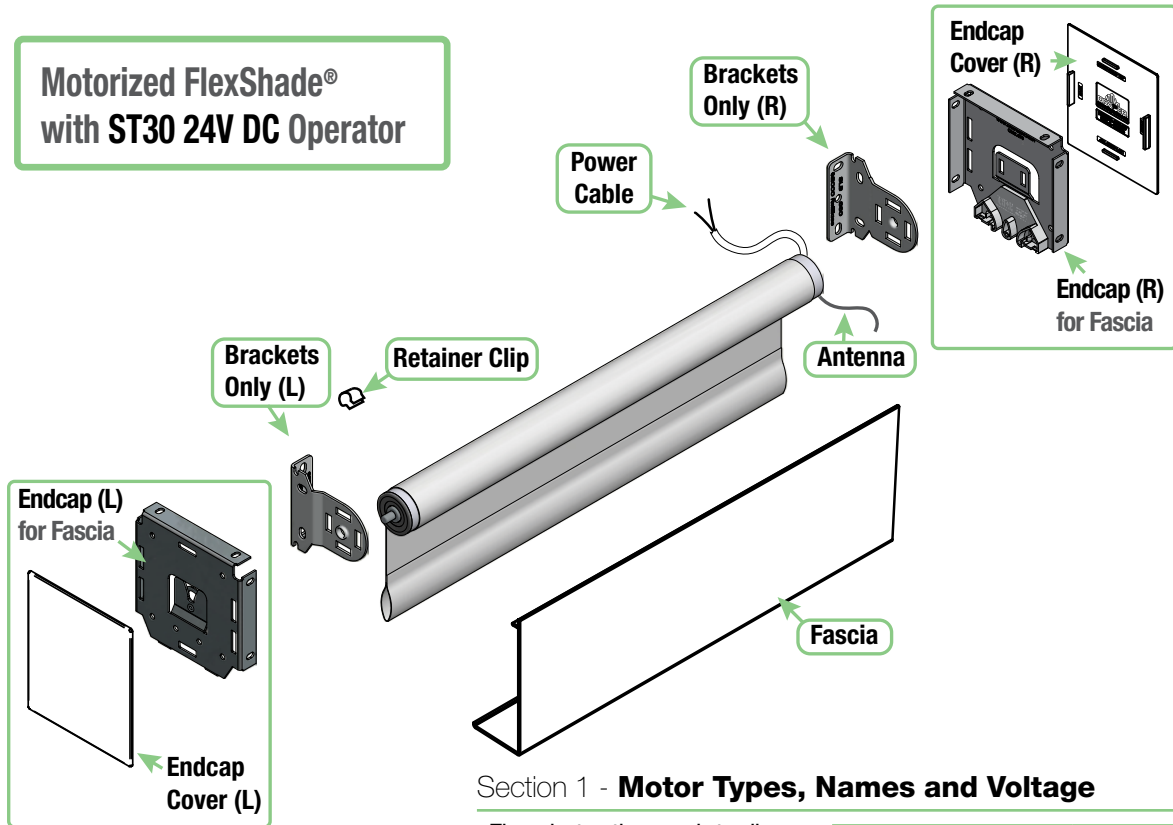


FlexShade® ST30 DC

24 volt motor with a small installation footprint

INSTRUCTIONS INSTALLATION & OPERATION

Overview - Motorized FlexShade Components

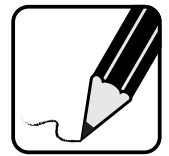


Section 1 - Motor Types, Names and Voltage

These instructions apply to all Draper medium duty motor operated window shades using the following motors:

MOTOR NAME	MOTOR VOLTAGE
ST30 Dry Contact	24V
ST30 RTS	24V
ST30 485	24V

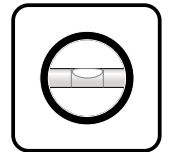
TOOLS REQUIRED



PENCIL



POWER DRILL



LEVEL



TAPE MEASURE



HARDWARE (by others)

⚠ CAUTION ⚠

Read and understand all warnings (Page 2 of this document) before beginning installation.

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Section 1	Motor Types, Names and Voltage.....	1	Section 5	Electrical Connections	5
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Section 3	Mounting Endcaps for Fascia.....	4			

If you have any difficulties installing or servicing your 24V DC Motorized FlexShade, call your dealer or Draper, Inc.

Important Safety Information



Improper installation and use of Motorized FlexShade can result in serious injury or death. Primarily, injuries can occur when the Motorized FlexShade falls due to imprecise installation, mishandling of the Motorized FlexShade 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 fall or otherwise fail, and could result in serious injury.
2. Installation and calibration of the Motorized FlexShade 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 this 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, head boxes, pockets, wall clips, and other hardware must be installed level. Motorized FlexShade must be level and square.
6. Never leave the area while operating the Motorized FlexShade 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.
13. After installation, the entire system, including all sensors, should be carefully tested to ensure safe and normal operation. Extreme care should be taken during testing to remain clear of moving parts to avoid possible injury.
14. Operation of Motorized FlexShade should be performed only by authorized and qualified personnel, who have been trained in the safe and effective operation of the Motorized FlexShade & understand its safety features.
15. The safety features of the Motorized FlexShade, including sensors, should never be disabled, bypassed or overridden. The system should not be operated until all safety features, including the sensors, are properly and completely installed, calibrated and tested.
16. Motorized FlexShade may need to comply with local, state or district rules and regulations, in particular when installed in schools. All applicable rules and regulations should be reviewed before installation and use.
17. Failure to precisely follow installation guidelines invalidates all warranties.
18. Custom products/installations may not be reflected in this manual. Call Draper, Inc., if you have questions about the installation of custom products or any questions about your installation.

Before Beginning Installation

1. Look for any job site conditions that could interfere with installation or operation of the system.
2. Read carefully and be sure to understand all installation instructions and all related operations manuals. These instructions are intended to as a guide for the installer and owner. They should be followed closely and combined with the expertise of experienced qualified installers. Draper, Inc., is not responsible for improper installation, application, testing or workmanship related to the product at place of installation. Please retain all instructions for future use.
3. Open cartons lengthwise.
4. Locate and lay out all pieces.
5. Inspect all boxes to make sure you have received the proper Motorized FlexShade and parts. Controls may be shipped separately, or in same carton as Motorized FlexShade.
6. If you have any difficulties with installing, servicing or operating your Motorized FlexShade, call your dealer or Draper, Inc., (765) 987-7999.

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 high quality gaffer tape about 1" wide on the exposed roller (*where the fabric will cover it*) on the side that the fabric will be drawn toward. For example: if the fabric is tracking to the left, place the tape on the right side.

Cleaning and Maintenance

Window covering products manufactured by Draper, when properly installed, should require no operational maintenance or lubrication. Most of Draper's standard 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 Flocké, Roc-Rol, Obion and Phifer SW7000 fabrics, which must be cleaned with a dry art sponge.

Section 2 - Mounting Brackets *(Brackets Only Installation)*

⚠ Caution: Before mounting shades, verify measurements on package label with shade.

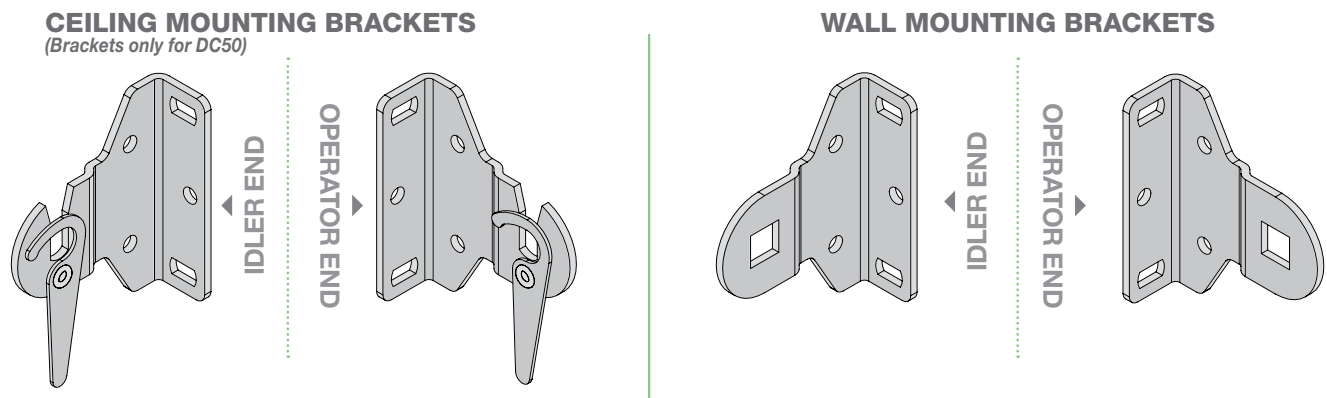
Please Note: Installer is responsible for selecting mounting hardware appropriate for site conditions.

1. Mark wall, jamb or ceiling for placement of mounting brackets. *(Fig. 1)*
2. Drill small starter hole in mounting surface *(if necessary)*.
3. Attach brackets using appropriate fasteners for mounting surface.

Please Note: The brackets shown are for standard 120V motors. Hardware for other motors will vary. 24V shades use the same hardware as Manual FlexShades. Please review manual shade instructions for parts information.

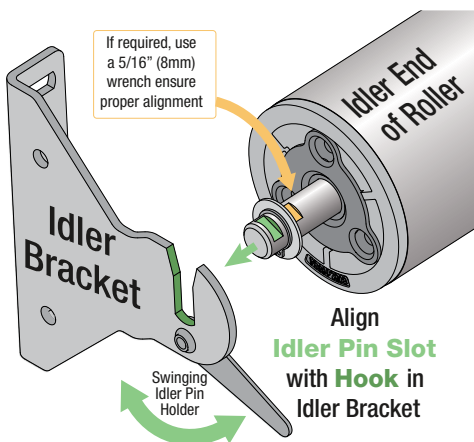
4. Place operator (*motor*) end onto its bracket. If a coupled unit, see separate instruction sheet for Coupled FlexShades.
5. Slide notched pin on idler end into slot on bracket. Slip retainer clip onto idler end between bracket and roller *(Fig. 2)*.

Figure 1

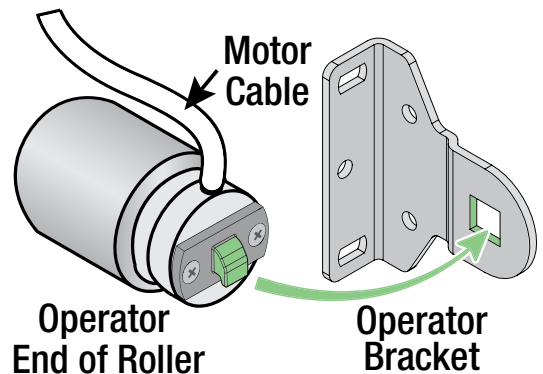


⚠ Caution: DO NOT use wall brackets for ceiling installations. DO NOT use ceiling brackets for wall installations.

Figure 2



***Don't forget:** install retainer clip on shaft between bracket and roller!



Please Note: Install motor so that limit switches are pointed down or accessible.

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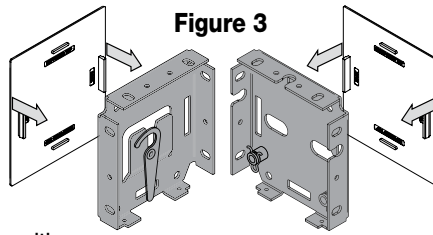
Section 3 - Mounting Endcaps for Fascia

1. Snap end covers into place (Fig. 3).

2. Mark wall, jamb or ceiling for placement of mounting endcaps.

3. Drill small starter hole (if necessary) in mounting surface.

4. Mount endcaps using appropriate fasteners for surface. If this is a coupled unit, be sure to mount coupled endcap in the center position.



⚠ Caution: Before mounting shades, verify measurements on package label with shade.

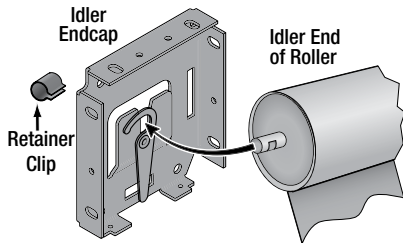
Please Note: Installer is responsible for selecting mounting hardware appropriate for site conditions.

5. Place operator (motor) end into its endcap (Fig. 4).

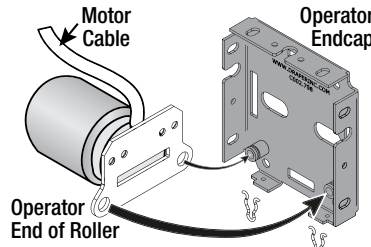
6. For coupled units see separate instruction sheet for Coupled FlexShades.

7. Slide notched pin into idler endcap and attach retainer clip (Fig. 4).

Figure 4

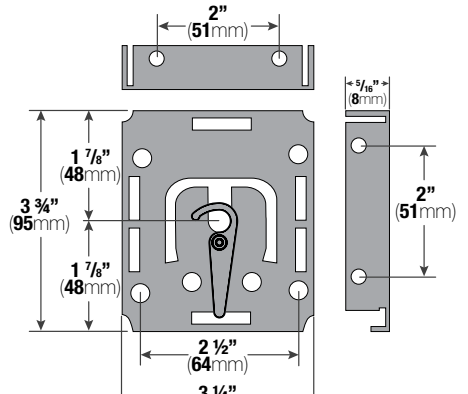


***Don't forget:** install retainer clip on shaft between bracket and roller!

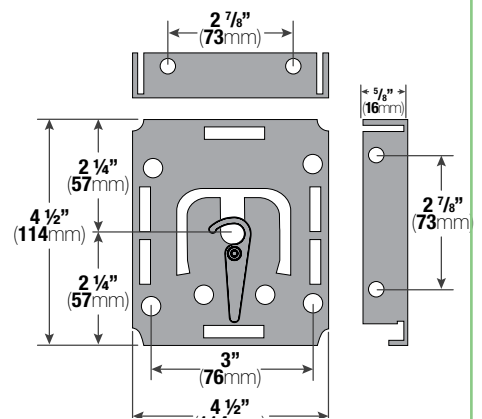


Please Note: Install motor so that limit switches are pointed down or accessible.

SMALL ENDCAPS FOR FASCIA



LARGE ENDCAPS FOR FASCIA



Section 3.2 - Attaching Fascia to Endcaps

1. Place groove along top of fascia over endcaps, and snap into place (Fig. 5).

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, secure with appropriate fastener (not included).

ATTACHING FASCIA

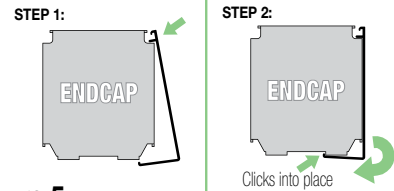


Figure 5

Section 3.3 - Reverse Roll Fascia

1. Mark mounting points.

2. Slide endcaps into extrusions.

3. Using pre-drilled holes in endcaps, mark the fascia for drilling.

4. Attach endcaps to fascia using included hardware.

5. Mount Endcaps/Reverse Roll Fascia.

6. Install roller/fabric/operator assembly according to relevant instructions.

7. Attach endcap covers to endcaps. Use double-sided tape to help secure in place.

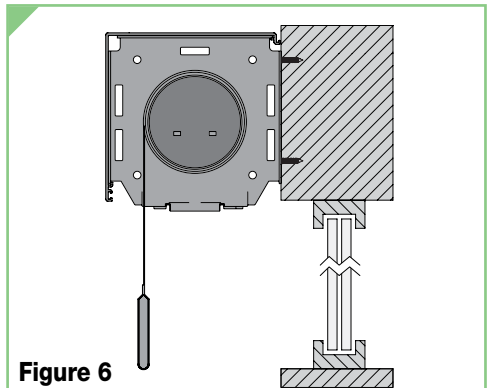


Figure 6

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Section 4 - Surface Headbox or Pocket Headbox

1. Snap endcap covers onto endcaps. (See Section 3.2 - Attaching Fascia to Endcaps: Step 1)

2. Place endcaps into back/top portion of wall/ceiling headbox or into pocket extrusion of large pocket headbox. Using pre-drilled holes in endcaps, mark the headbox for drilling.

Please Note: The installer is responsible for selecting mounting hardware appropriate for site conditions.

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

3. Drill holes in back or top, depending on whether you will be mounting the headbox to the wall or ceiling, or in a pocket.

4. Attach endcaps and Surface Headbox back/top or Large Pocket Headbox extrusion to wall, ceiling or pocket using mounting hardware appropriate for site conditions.

5. Install shade (See Section 3.1 - Mounting Endcaps for Fascia).

6. Attach headbox fascia or pocket closure (Fig. 7).

Note on surface style headbox:

Fascia is not fully seated until it clicks into place on both ends. Once in place, check for secure fit. If not secure, secure with appropriate fastener (not included).

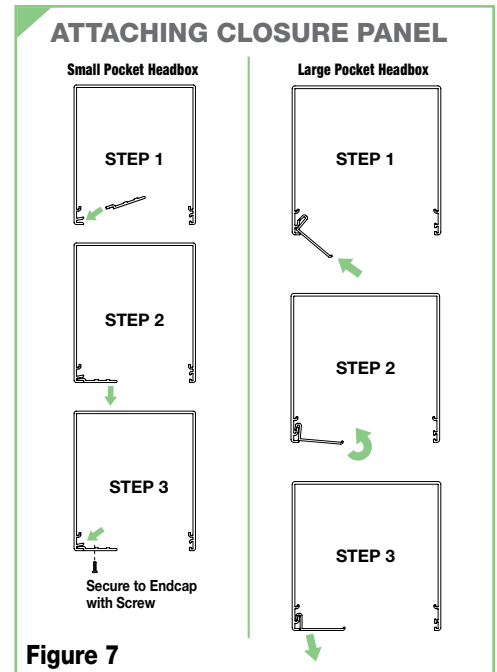


Figure 7

Section 5 - Electrical Connections

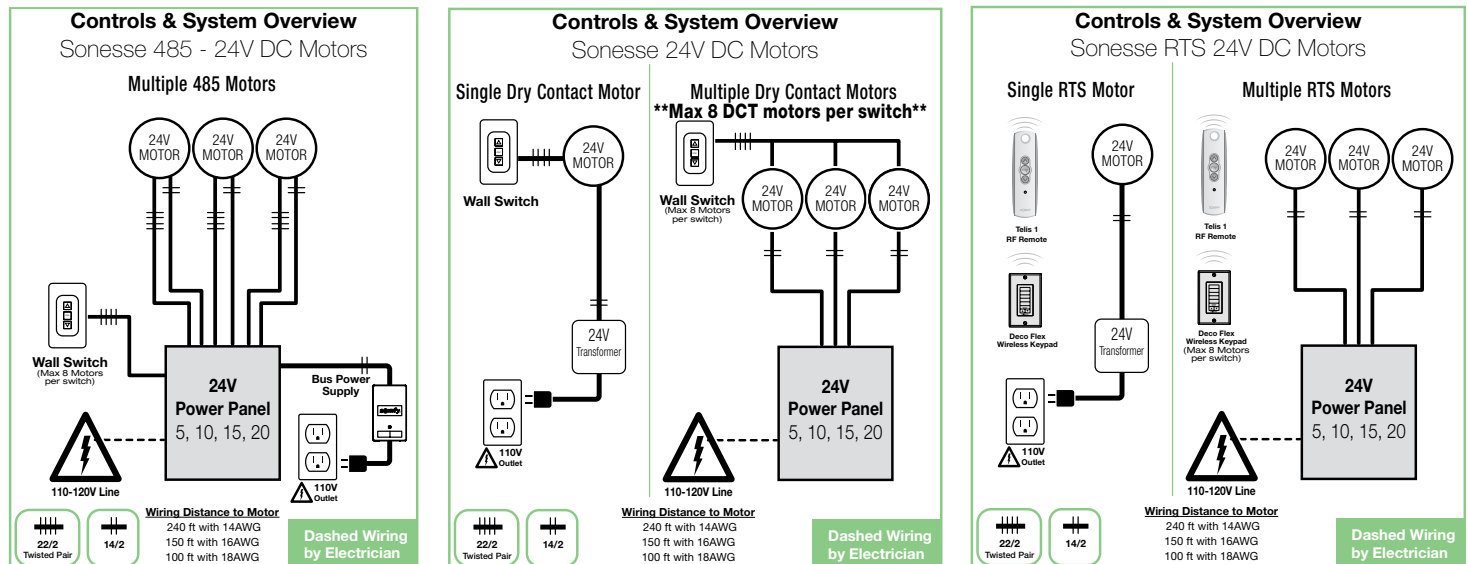
1. Wire to connect shade to switch(es) and switch(es) to power supply should be furnished by installer. Connections should be made in accordance with attached wiring diagram, and wiring should comply with national and local electrical codes. DO NOT wire motors in parallel.

Please Note: 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: Wiring diagram for standard right-hand motor placement with fabric from rear of roller, or left-hand motor placement with fabric from front of roller.

Section 6 - Wiring Diagrams



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24 volt motor with a small installation footprint

Section 7 - Limit Switch Adjustments

⚠ 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 7.1 - Limit Switch Adjustments (see figure 11)

1. Switch on the power supply. The LED switches ON.
2. Press Up and Down buttons on RTS control point OR Motor head at the same time:
The shade moves up and down (*fast raising and lowering*), and commissioning process begins.

The RTS control point is pre-programmed in the motor.

Section 7.2 - Checking the direction of rotation (see figure 12)

1. Press Up button on the RTS control point / Motor head:
 - a) If the shade rises (A), the direction of rotation is correct:
Move onto the section entitled "Setting the end limits".
 - b) If shade lowers (B), the direction of rotation is incorrect:
Move onto the next step.
2. Press my / stop button on RTS control point / Motor head until shade moves up and down:
The direction of rotation has been modified.
3. Press Up button on RTS control point / Motor head to check the direction of rotation.

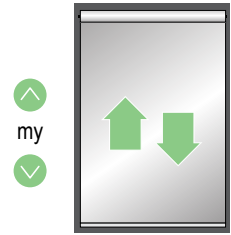


Figure 11

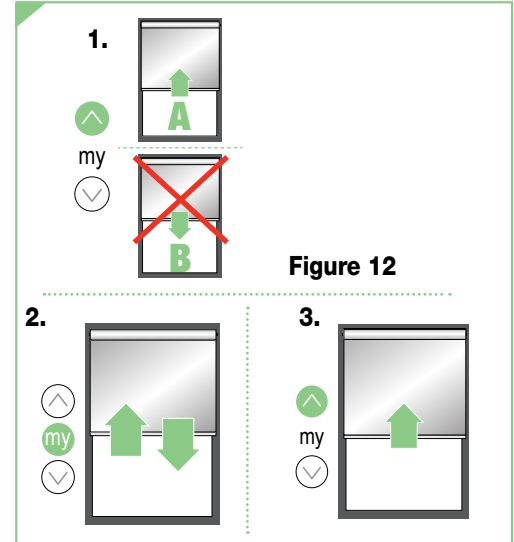


Figure 12

Section 7.3 - Setting the end limits (see figure 13)

The end limits can be set in any order.

1. Raise shade to desired position by pressing Up button.
2. Press my / stop and Down buttons at the same time until shade moves.
The upper end limit is memorized.
3. Press my / stop button when the shade reaches the desired lowered position.
If necessary, adjust the position of shade using the Up and Down buttons.
4. Press my / stop and Up buttons at the same time until shade moves.
The lower end limit is memorized. The shade rises and stops in raised position.

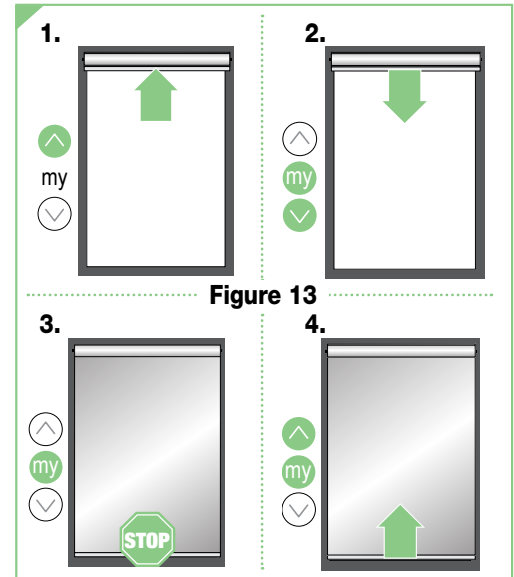


Figure 13

Section 7.4 - Validation of the setting (see figure 14)

To confirm end limits, press my / stop button until shade moves up and down.

The end limits are programmed and the LED switches OFF

Section 7.5 - Recording the RTS control point (see figure 15)

The motor is in programming mode:

Quickly press the PROG button on the RTS control point to be programmed:

The shade moves up and down: this RTS control point is now programmed.

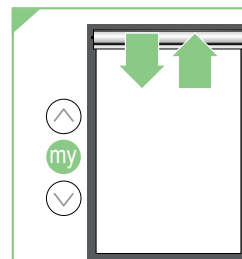


Figure 14

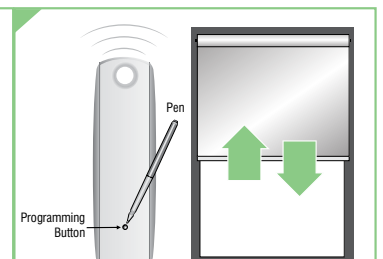


Figure 15