INSTALLATION MANUAL

FREEDOM RESIDENTIAL AWNING

12V MOTORIZED LATERAL ARM BOX AWNING

Residential

Read this manual before installing or using this product. Failure to follow the instructions and safety precautions in this manual can result in personal injury and/or cause the product to not operate properly.

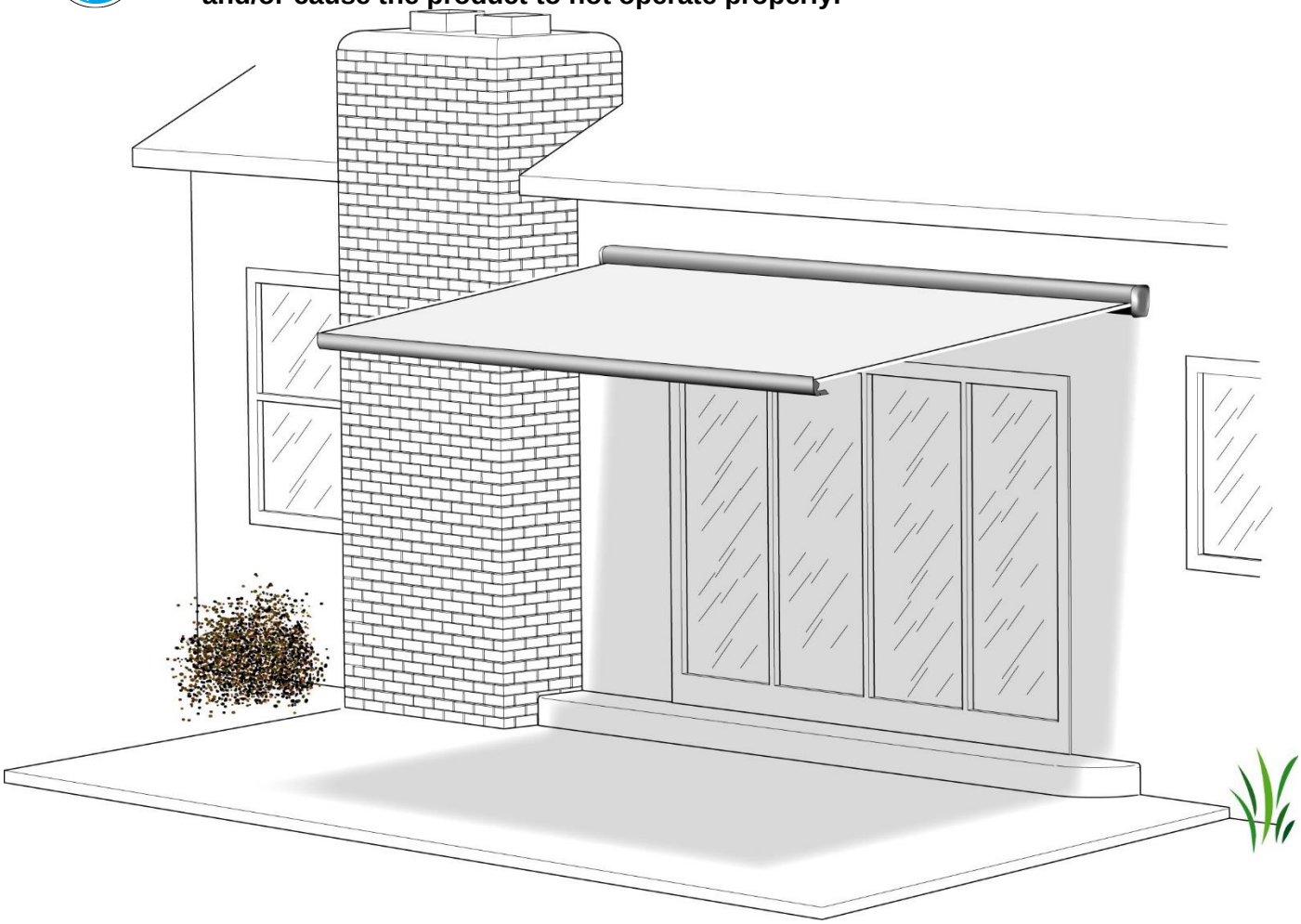


TABLE OF CONTENTS

PROPRIETARY STATEMENT

The Freedom WM Awning is a product of SOL-LUX, located in Broomfield, Colorado, USA. The information contained in or disclosed in this document is considered proprietary to SOL-LUX. Every effort has been made to ensure that the information presented in the document is accurate and complete. However, SOL-LUX assumes no liability for errors or for any damages that result from the use of this document.

The information contained in this manual pertains to the current configuration of the models listed on the title page. Earlier model configurations may differ from the information given. SOL-LUX reserves the right to cancel, change, alter or add any parts and assemblies, described in this manual, without prior notice.

SOL-LUX agrees to allow the reproduction of this document for use with SOL-LUX products only. Any other reproduction or translation of this document in whole or part is strictly prohibited without prior written approval from SOL-LUX.

SAFETY INFORMATION

⚠	**This is the safety alert symbol. It is used to alert individuals to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible personal injury or death.**
⚠ WARNING	**Indicates a hazardous situation, which if not avoided, could result in death or serious bodily injury.**
⚠ CAUTION	**Indicates a hazardous situation, which if not avoided, may result in minor or moderate bodily injury.**
NOTICE	**Indicates a situation that may result in equipment-related damage.**

General Safety:

⚠ WARNING This product can expose you to chemicals including Di-isodecyl phthalate (DIDP), Vinyl Chloride and Formaldehyde, which are known to the state of California to cause cancer or birth defects or other reproductive harm. For more information visit www.P65warnings.ca.gov

⚠ WARNING The Freedom awning is built with a wind sensor. During vibration and movement of the awning in the open position, if the sensor detects enough movement it will instruct the motor to automatically retract the awning. However, wind is variable, and a strong gust of wind can occur faster than the sensor can react and the wind can quickly damage the awning, potentially breaking loose from the mounting plate. An unsecured awning striking a person may result in injury or death. Do not leave the awning unsupervised at any time. You should immediately retract the awning if wind is starting to affect the awning in an unsafe manner.

⚠ WARNING The Freedom motorized awning has spring loaded arms which push the awning open. The motor and the canopy resist the spring-loaded opening action. Extreme care must be taken when working with the awning to prevent the unintentional release of the spring-loaded arms. Do not stand on a ladder in front of the awning if it is unsecured when performing repairs or maintenance. You must secure the awning first by tying the arms together or looping a retaining strap of sufficient strength around the case and leadrail to prevent an unintentional full release of the awning.

⚠ WARNING Shock Hazard. Always disconnect battery or power source before working on or around the electrical system.

⚠ WARNING Always wear appropriate safety equipment (i.e. goggles) during installation or maintenance.

⚠ CAUTION Always use appropriate lifting devices and/or helpers when lifting or holding heavy objects.

NOTICE When using fasteners, do not over tighten. Soft materials such as fiberglass and aluminum can be "stripped out" and lose the ability to grip and hold.

PRODUCT OVERVIEW

The Freedom WM Awning is a state of the art lateral arm awning. When retracted, the housing provides protection against the elements while the streamlined styling blends in with the house. The full tension canopy fabric allows the awning to be partially or fully extended for best shade coverage.

Each unit is equipped with lateral support arms.

Freedom Awning Specifications:

- Fully retractable and self storing;
- The sealed awning motor operates on standard 12VDC on select models, or direct power from 110VAC, 60Hz on other models
- Case and frame are constructed of high-strength aluminum extrusions, protected with a polyester paint finish;
- Stainless steel fasteners and hardware.

SPECIFICATIONS

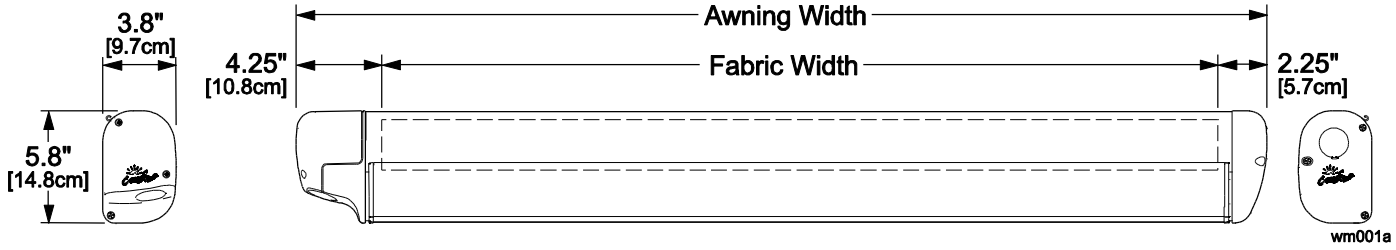


Figure 1

LENGTH:	feet	8	9	10	11	12	13	14	14.7
APPROX WEIGHT:	LBS.	46	50	56	59	63	66	70	72
EXTENSION:	Inches	79	79	94	94	94	94	94	94

POSITION CONTROL:	12V Motorized w/ tubular motor
CONTROLLER:	Standard: –Somfy Awning Controls

MOTOR SPECIFICATIONS		
Motor Type:	Tubular	
Power:	12VDC *Minimum:* 10VDC	*Output:* 30 Watts
	Nominal Current: 2.4Amps	*Max Current:* 2.4Amps (stall @ min voltage)
Torque	*Continuous:* 10Nm/7.4 ft-lbs.	*Tightening:*
Speed	12 rpm	

COLORS AVAILABLE	
Case	White or Black
Fabric:	Acrylic – Please contact Sol-lux for color availability

OPERATION PARAMETERS	
Battery life – (Battery models only)	The Somfy battery at full charge should last 70 to 80 open/close cycles – With the attached solar charger the battery will be trickle charged during solar periods and will last longer. Due to the variations in solar intensity and mounting effects of the solar panel we cannot estimate the number of cycles with the solar panel attached.
Battery Charging	Please refer to Somfy Battery instructions 5144624A
Wind Sensor	Please refer to Somfy Eolis 3D Wirefree RTS instructions 5050583D,5050585D,5052575D
Remote	Please refer to Somfy Situo 1/5 Soliris RTS II instructions 5151626B
Solar Panel	Please refer to Somfy Solar Panel instructions 5117585B
Safety Instructions	Please refer to Somfy Safety instructions 5160994A, 5160996A, 5117827B
Motor Instructions	Please refer to Somfy motor instructions 5151225A
LED Receiver	Please refer to Somfy 12V LED Receiver instructions 5112070A

COMPONENT CHECK LIST

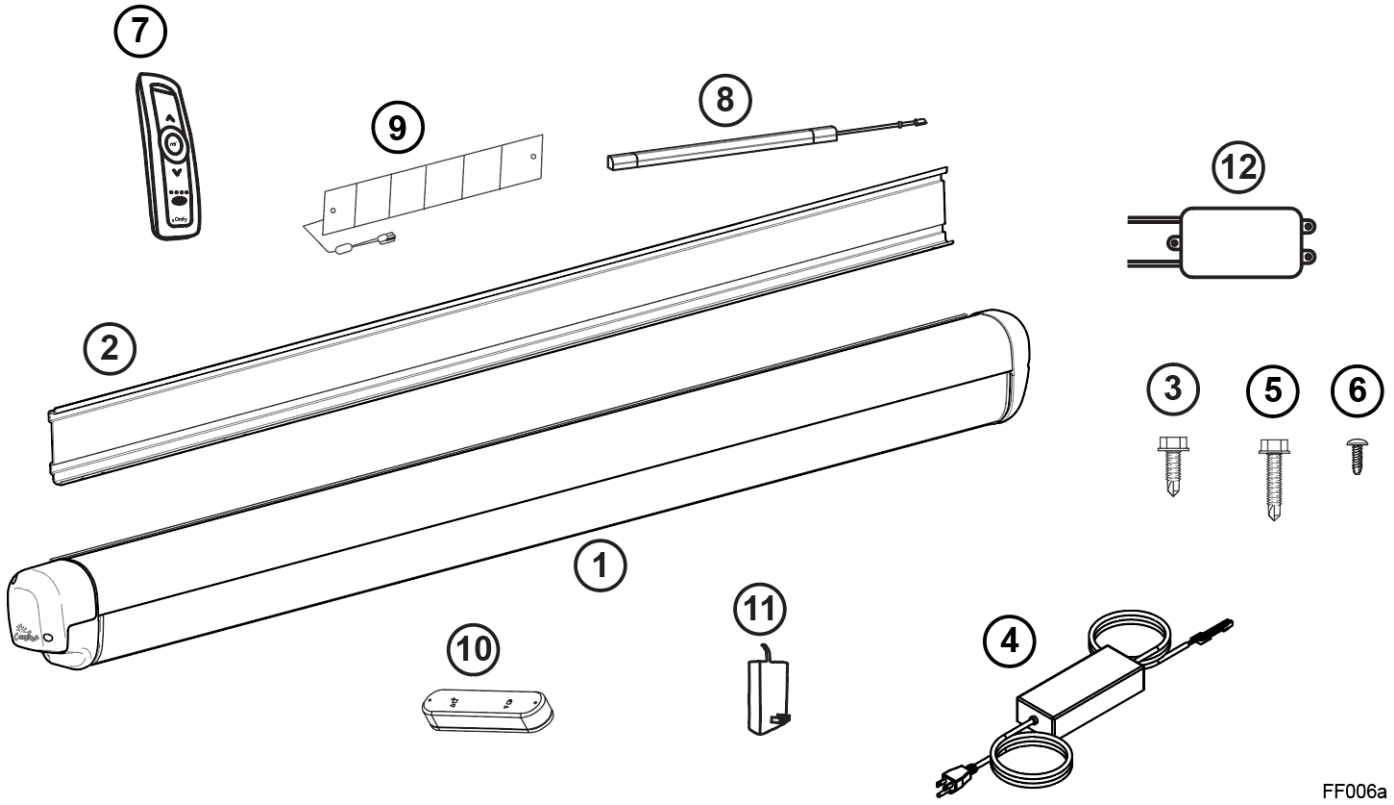


Figure 2

☑	ITEM	DESCRIPTION		QTY	NOTE
❑	**1**	Awning Assembly		1	1
❑	**2**	Mounting Plate		1	2
❑	**3**	Screw, Self Drilling	#10 x 5/8"	4	3
❑	**4**	Power Supply 12V 10Amp	Depending on model	1	4
❑	**5**	Screw, Self Drilling	#10 x 1"	2	3
❑	**6**	Screw, Self Drilling, Hex Head	#6 x 3/8"	3	3
❑	**7**	Somfy Awning Remote		1	5
❑	**8**	Somfy 12 Volt DC external battery	Depending on model	1	6
❑	**9**	Somfy Solar charger	Depending on model	1	6
❑	**10**	Somfy Wind Sensor (located inside the awning)		1	7
❑	**11**	Somfy DC Charger	Depending on model	1	8
❑	**12**	Somfy 12V LED Receiver	Optional depending on model	1	4

NOTES:
1. Awning configuration is specified at time of order, including awning length, fabric etc. Check awning assembly against original purchase order.
2. Mounting Plate is provided with the awning. Do not modify the length of the mounting plate.
3. Screw (item 3) quantity is 2 per lateral spring arm. Screw (item 5) quantity is 1 per lateral spring arm. Screw (item 6) is quantity 3, 1 at each end of the mounting plate and 1 in the middle. Fasteners to attach mounting plate to the structure are not provided, and quantity varies per length and structural requirements.
4. Power Supply is available on select models. Items 4 and 12 are required for LED lighting.
5. Two styles of Somfy remotes are available. Interior rated remote and Exterior rated remote. Either remote can operate the awning. Remote style is specified at time of purchase.
6. These components are provided if the customer orders the Battery powered Freedom Awning.
7. All Freedom awnings are supplied with a Somfy Wind Sensor standard, which is paired to the motor prior to shipment.
8. The AC/DC transformer is provided if the customer orders the direct powered Freedom Awning.

INSTALLATION

For structural and operation integrity, the Freedom Freestyle WM awning must be mounted with the included mounting plates and cannot be mounted using an awning rail.

Prior to mounting the awning, ensure that the awning will not interfere with light fixtures, exhaust vents, openings, etc.

REQUIRED PRE-INSTALLATION PARAMETERS

Prior to installing the awning, the installer must determine the layout of the specific construction elements to successfully assemble and mount the awning.

1. Determine the location, size and type of structural framing in the area where the awning is to be mounted.
   - There must be structural framing at the awning mount locations. Fiberglass or sheet metal siding alone is **NOT** strong enough to support the weight of the awning!
   - If the framing is not obvious, it may be possible to use a stud finder or other similar device.
   - If in doubt, contact an engineer or contractor to determine the type and position of the structural frame.
2. Determine the mounting locations for the control box and switch assemblies.
   - For Battery installations, the battery should be mounted underneath the awning case protected from UV and weather. The Solar panel should be mounted near the awning an oriented toward maximum sun exposure.
   - For 12V power supply installations, the 12V power supply should be mounted in accordance with the authority having jurisdiction wiring requirements for outdoor electrical appliances.

MOUNTING PLATE LAYOUT AND INSTALLATION

1. Determine the location of the awning:
   - General profile dimensions are shown in Figure 1
   - Mounting area must be plumb and clear of obstacles;
   - The mounting plate is shorter than the awning (Reference Figure 4). Do not modify the length of the mounting plate.
   - The awning is factory set with minimum pitch. Mounting height above a door opening or window must be adjusted if a greater pitch is desired. The chart below provides the approximate distance from the bottom of the awning to the top edge of the projection when the awning is set at MINIMUM and MAXIMUM pitch:

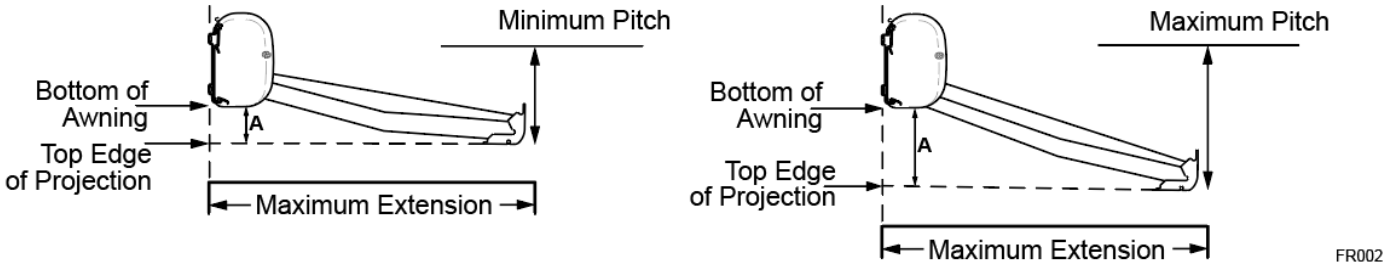


Figure 3

Awning Length	8ft to 8.4ft	8.5ft to 9.8ft	9.8ft to 14.5ft
MAXIMUM EXTENSION	68in	79in	94in
A @ MIN PITCH AND MAX EXTENSION	4.5in	6in	6.5in
A @ MAX PITCH AND MAX EXTENSION	19in	23in	26.5in

2. Mark the mounting plate position with a chalk line ensuring that it is parallel to the ground. Include the end points of the mounting plate.
3. Use a non-permanent method of marking to temporarily mark the location of the structural framing in the mounting area.
4. Transfer the frame pattern to the mounting plate.

5. Below is the minimum number of required mounting locations. Each location uses two screws.

Awning Length	8ft	9ft	10ft	11ft	12ft	13ft	14ft	14.5ft
# of Locations	4				5			

6. On the plate mark the location of the mounting locations. The inner mounting locations should be spaced as evenly as possible between the outer mounting locations. Locations must match the frame location pattern. If using the optional roof top mounting brackets, adjust the pattern to match the bracket mounting holes.
7. Position the mounting plate on the wall using the marks made previously.
8. Determine the best method to attach the plate to the wall. Examples for attaching are shown below. Bracket attach details are suggestions and may not cover all circumstances. If unsure, consult a builder or engineer prior to installation.

ATTACHING THE MOUNTING PLATE

1. Determine the optimum positioning of the awning.
   1. The centerline of the awning fabric is offset from the centerline of the awning assembly. To align the center of the fabric, use the backplate of the awning assembly for measurements.
   2. The bottom of the mounting plate should be 11" above any openings or frames to avoid interference when the awning is installed. Dimensions are based on the steepest pitch. The height can be reduced by reducing the pitch.
   3. Measure each end of the awning position from the ground so that the awning is mounted parallel to the ground.

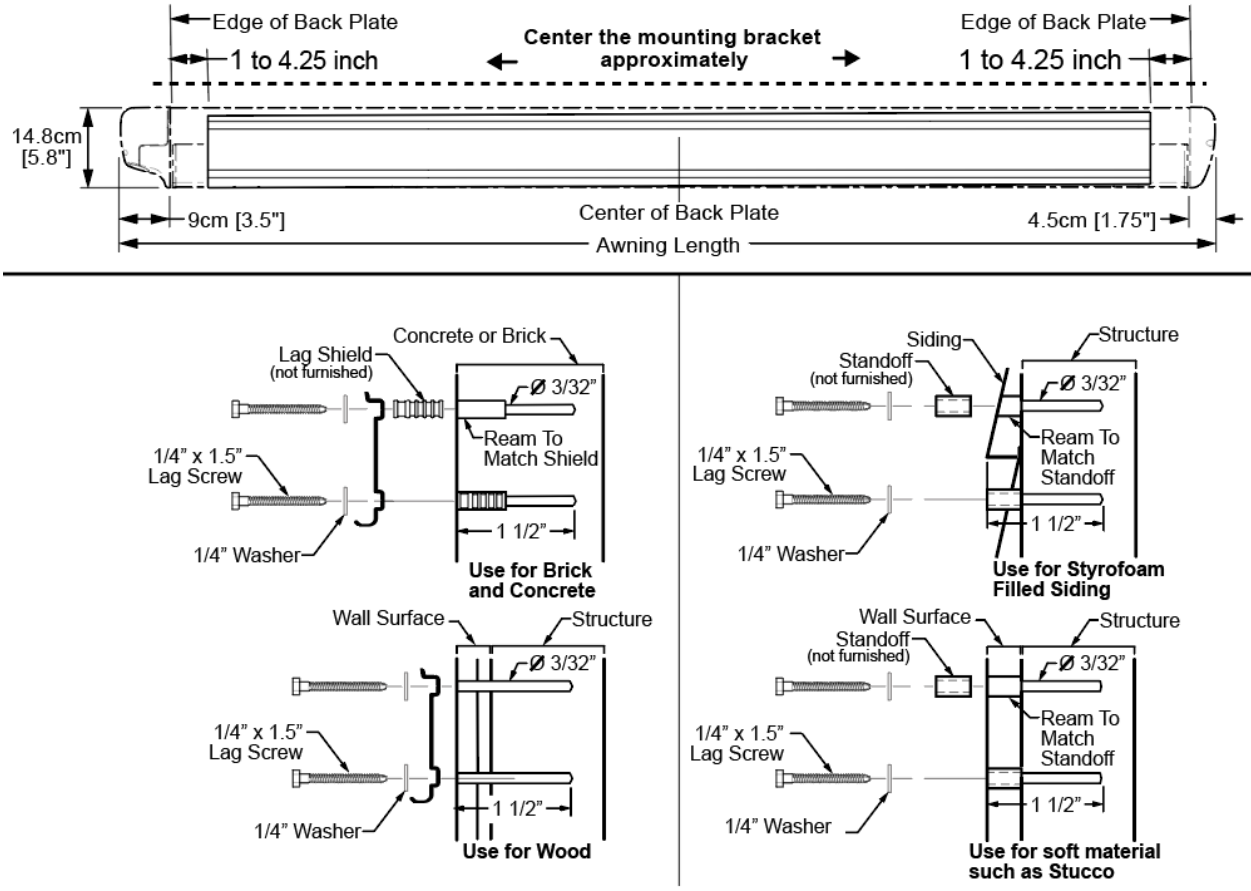
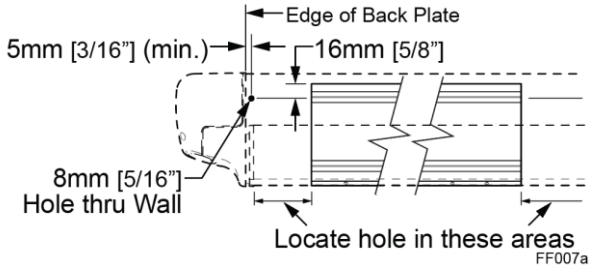


Figure 4

4. Determine where to drill through the mounting plate. Identify structural materials for anchoring the mounting plate.
5. **⚠ WARNING** The mounting plate MUST be secured to the structural frame on both sides of the Case Connectors inside the awning, or directly behind the Case Connectors. If not, damage over time to the mounting plate will occur, possibly resulting in detachment of the awning from the mounting plate. The Case Connector location can be easily seen when visually inspecting the awning in the closed position. There are 2 screws on the outside of the awning at the location of the Case Connector. If installing the mounting plate to a header board, there is potential for the Awning to bend the mounting plate or header board over time if the case connectors are not directly in line with the structural framing. Additional engineering may be required when using a header board.
6.
7. The lag screws can be used for mounting into wood or aluminum frames.
   7.1. Using the plates as a template, drill 3/32" pilot holes for lag screws. You must drill the hole centered in the groove shown in Figure 4.
   7.2. Start at the approximate middle of the plate and drill through the top groove into the structural support.
   7.3. Drive the lag screw and washer into the structural support, do not tighten all the way.
   7.4. Level the mounting plate and drill additional 3/32” pilot holes through the mounting plate into the structural support near the ends of the mounting plate.
   7.5. Once you confirm the mounting plate is level, firmly drive all required mounting screws to secure the mounting plate.
8. Use the dimensions shown to locate the routing hole for the awning motor cable if the electrical components are to be mounted inside the structure or building.

   NOTES: The hole location can be in the areas shown to avoid interior framing, cabinets and electrical components that could be damaged or interfere with the hole location.

   Ensure that the awning cable is accessible after routing.



   The cable extends from the awning 72" - 89" depending on the awning configuration. If the final routing to the battery/solar location is greater than the supplied wire, the installer must splice additional wire to the awning cable. Ensure that the new wire matches the gauge of the existing wire.

   Wire and splices must be furnished by the installer.

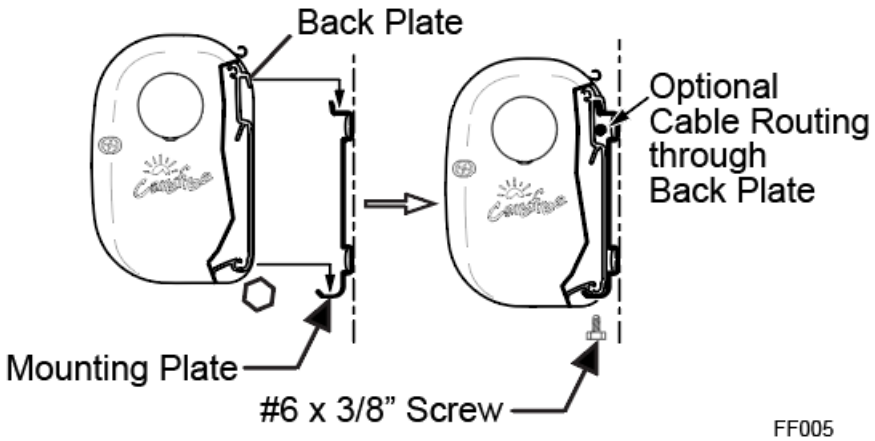
   This is a preliminary step, the wire and switch installation are completed after the awning is mounted.

MOUNTING THE AWNING

1. Set the awning into the hooks of the mounting plates.

   Route the awning cable through the hole drilled previously while lifting the awning into position.

   Tip: If the wire is routed along the back of the case, use small pieces of tape to hold the wire in place while lifting the awning.
2. Adjust the position of the awning horizontally as required.



⚠ WARNING You must ensure that the entire awning is seated into the mounting plate completely. Failure to verify if both ends are not seated fully could allow the awning to dismount from the mounting plate during the remaining steps of the installation.

NOTICE If any extra force is required to engage the awning to the mounting plate, the mounting plate is not flat and will require shimming. The mounting plate MUST be mounted flat to allow the awning to snap on easily. Failure to do so will result in improper operation of the awning.

3. Firmly hold the awning in the brackets and attach the awning case to the brackets using three (3) #6 x 3/8inch screws through the bottom of the bracket into the awning case. Predrill the holes with a #32 drill bit (.116inch)

POWERING THE AWNING

Once the awning is mounted onto the mounting plate, it is temporarily secured. At this time, the awning needs to be powered to complete the installation.

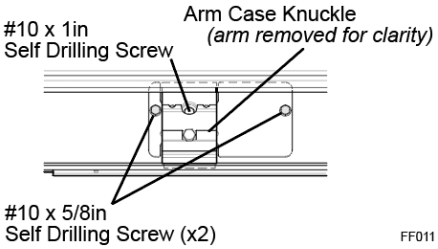
1. Battery/Solar models
    a. Connect the electrical lead of the awning to the battery. The battery should have charge to operate the awing prior to charging. If the awning will not move, please charge the battery to a full charge, and then proceed.
    b. Using the remote, open the awning by pressing the down arrow button (If the up-arrow button opens the awning, this can be reversed. Follow the instructions for the Somfy remote and for the 12VDC motor.
    c. Open the awning to full extension. Verify that the awning can operate fully without obstruction.
    d. Route the battery to an accessible location, along with cable management based on the customer's requirements. This location should be dry and protected from the weather. The battery connection should be accessible for powered charging if necessary. Attach the battery in a location that is protected from rain/snow.
    e. Attach the Solar panel to the motor connection. Once attached, route the cables based on the customer's requirements and mount the solar panel in an area that is accessible to the southern for maximum solar trickle charging of the battery. Other orientations are permissible.
    f. If the battery is low, it can be charged using the AC charger adapter. Disconnect the battery from the awning motor, and plug the AC charger connector to the battery. Then plug the AC charger adapter to a nearby 110VAC, 60Hz outlet. It will take approximately 210 minutes to fully charge the battery. It is expected that with the solar trickle charger, the battery may only need to be charged 1 or 2x a year.
    g. Proceed to Securing the Awning while the awning is open.
2. Direct Power models
    a. Connect the awning connector to the 12VDC power supply power cable.
    b. Plug in the 12VDC power supply to a nearby 110VAC 60Hz outlet.
    c. Using the remote, open the awning by pressing the down arrow button (If the up-arrow button opens the awning, this can be reversed. Follow the instructions for the Somfy remote and for the 12VDC motor.
    d. Open the awning to full extension. Verify that the awning can operate fully without obstruction.
    e. Route the cables to the desired mounting location for the 12VDC power supply. This location should be dry and protected from the weather.

SECURING THE AWNING

The awning must be secured as described below. This step can be done after the wiring is completed and the awning can be opened using the switch or the awning can be opened.

NOTICE **For proper awning operation and structural integrity, the awning must be secured as described. Failure to secure the awning may result in damage to the awning and structure and void the warranty.**

1. Open the awning. Remove the power source to the awning.
2. Through the flat plate of each case connector, use two (2) #10 x 5/8inch self-drilling screws and one (1) #10 x 1inch self-drilling screw to attach the awning to the mounting brackets.
3. After fastening the awning, reattach the power source to the awning.



SETTING THE OPERATIONAL PARAMETERS

Once the awning is properly secured, you may start to utilize the Somfy controllers to set up the operational parameters for the awning. There are 3 phases of this.

- Pairing the Somfy Remote
- Setting the Out Limit
- Setting the In Limit (Optional)
- Setting up the Wind Sensor

1. Connect the 12V battery to the motor or the 12V power supply.
    a. If using the battery, we recommend fully charging the battery the day before the installation.
    b. If using the battery, after connecting the battery to the motor, also connect the solar panel to the motor
2. The awning is paired to the remote at the assembly factory, and end limits are set to the maximum for the awning. If this is acceptable for the customer at installation, no further work is required. If for some reason the controller or the remote is no longer paired, follow the instructions below.
3. Follow the instructions for the T3.5DC ESP HZ motor to pair the controller to the awning (Ref 5151225A), section 2.1 Learning Mode (Figure 5):

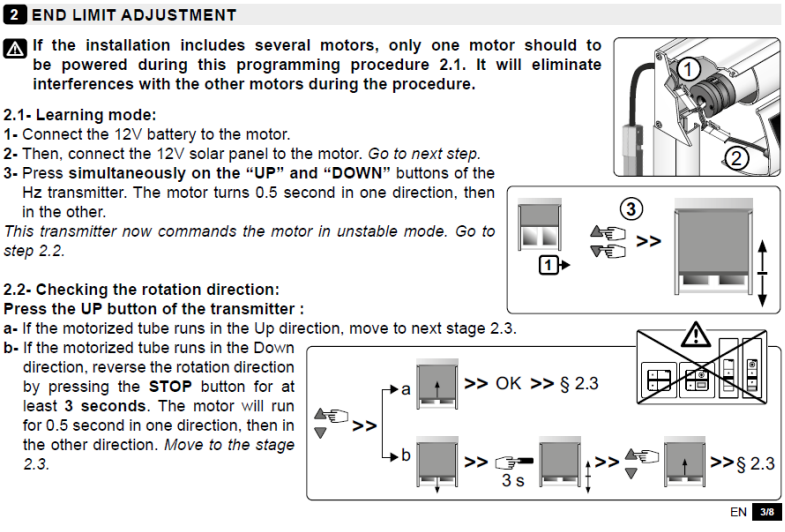
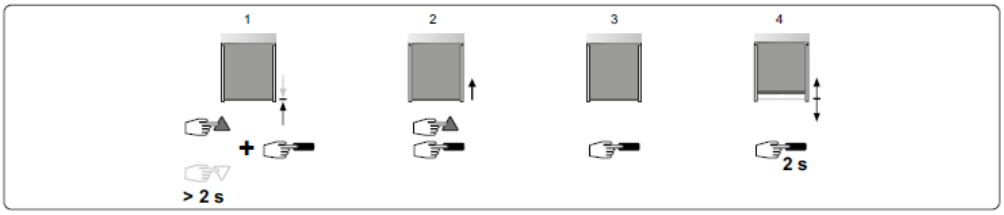


Figure 5

4. Follow the remaining steps to set the end limits for the awning.

2.3- End limit setting:

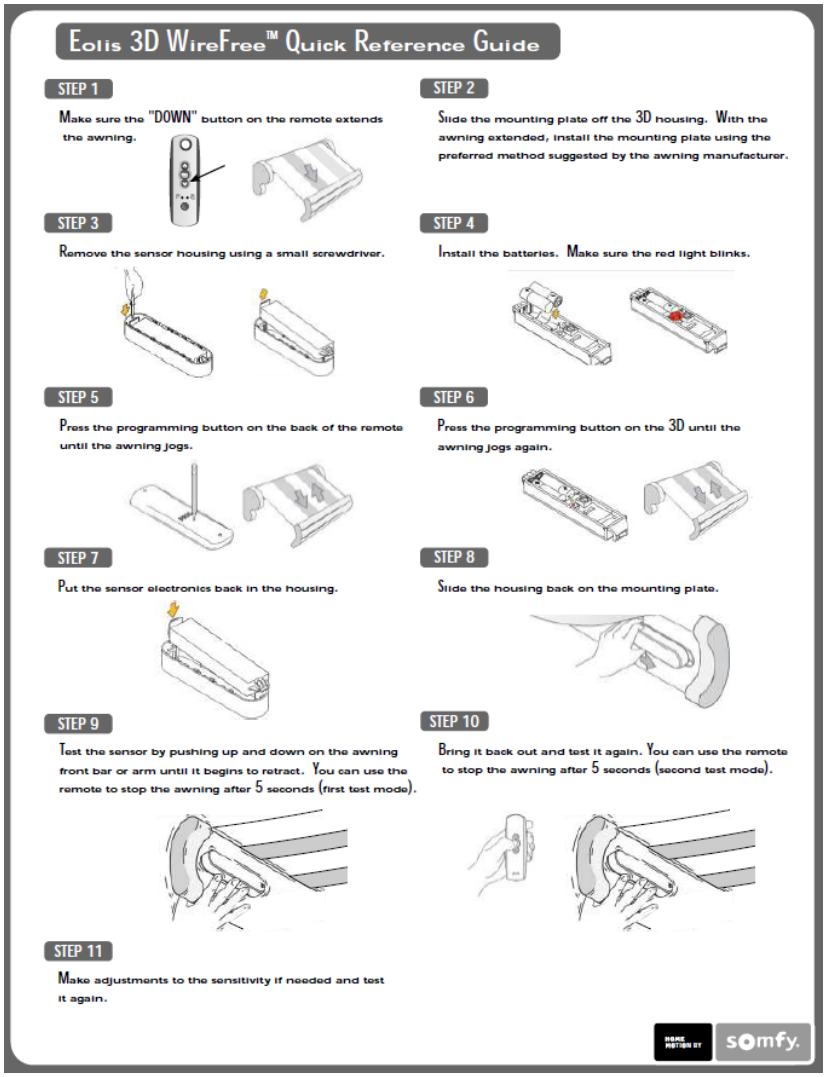
Semi-automatic setting for awnings with blockers for UP end limit:



1- Move the motor to the desired DOWN end-limit position using the UP and DOWN buttons. *(If you hold the UP or DOWN button for more than 2 seconds the awning will move automatically in the UP or DOWN direction. You will then have to stop the awning at the desired end-limit position by pressing the STOP button).*
2- To set the DOWN end limit position, press simultaneously the STOP and UP buttons. The motor will run automatically in the UP direction.
3- (Optional) Press STOP button to stop the motor.
4- To confirm the end limits press for 2 seconds on STOP. The motor will run for 0.5 second in one direction, then in the other direction. *The operation is completed. Go to section 3.*

Figure 6

5. Follow the remaining instructions for other various functions with the Somfy Autonomous Awning controls. Some important sections of the manual to aid the installer are as follows:
    a. Section 2.2, Checking the rotation direction
    b. Section 7, Closing Force Function
6. Pair the Eolis 3D Wirefree RTS wind sensor to the motor
    a. Follow the instructions to program the wind sensor to the motor (Ref 5050583D)

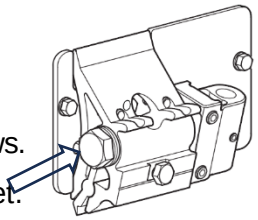


OPTIONAL LED LIGHTING

The Freedom awning is available with LED lighting when using an external power supply. LED Lighting is not available with Battery/Solar models. To utilize the LED lightstrip, follow these steps:

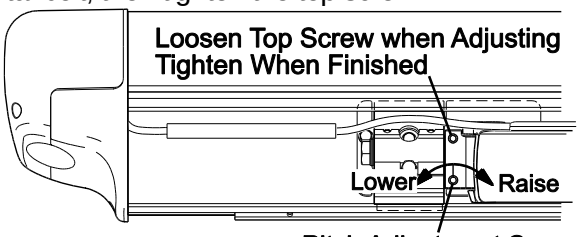
1. Install the awning as per the installation instructions above for the Direct Power model.
2. Route the LED wires from the awning to the 12V LED receiver.
3. Connect the +12VDC wire (Red) from the awning to the +12VDC wire on the 12V LED receiver (OUT). Please refer to the wiring diagram included with the 12V LED receiver.
4. Connect the Ground wire (Black) from the awning to the Ground wire on the 12V LED receiver (OUT). Please refer to the wiring diagram included with the 12V LED receiver.
5. Connect the (IN) +12V and Ground wires to the 12VDC Power supply.
6. For all connections, you may use wire nuts or other suitable electrical connectors as allowed by the electrical codes in your installation area. Please consult with the Authority Having Jurisdiction for further information.

PITCH ADJUSTMENT


FF028

The pitch for Freedom Freestyle WM can be adjusted to optimize the installation.

1. Open the awning to access the adjustment screws located on the case connectors.
2. Have a second person lift on the lead rail to relieve the pressure on the adjustment screws.
3. Slightly loosen the horizontal bolt in the case connector (see arrow) with a 17mm socket.
4. Using a 4mm allen wrench, loosen the top screw. Turn the bottom adjustment screw clockwise to raise the lead rail; turn the adjustment screw counterclockwise to lower the lead rail.
5. When the pitch is set at the desired angle, retighten the horizontal bolt, then tighten the top screw.
6. Repeat for each arm. Ensure that the lead rail is parallel with the awning case.



FF030

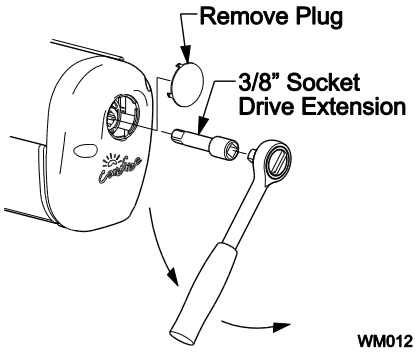
NOTE: The Freedom Freestyle AM lead rail self-adjusts to accommodate the pitch. No adjustment is required to the lead rail when the pitch is adjusted.

MANUAL OVERRIDE

If power to the awning is not available, the awning can be safely retracted using the manual override located on the idler (right) end of the case.

NOTE: This procedure cannot be used to extend the awning.

1. Remove the plug from the right endcap and save.
2. Insert a 3/8" socket drive extension and handle into the square drive hole inside the endcap.
3. Turn the handle counterclockwise until the awning is retracted.
4. Replace the plug.



WM012

NOTICE After closing the awning with the manual override, the lead rail may move out from the case 1/4" - 1/2". This is normal and the awning is secure until power is restored or repairs are completed. Do not attempt to force the lead rail in with the override, serious damage can occur to the awning.

MOUNTING TEMPLATE 1:1 SCALE