

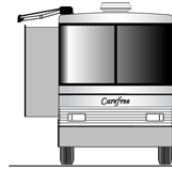


**RV**

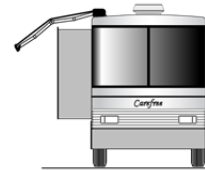
**2-Stage Multi-Position Awning**



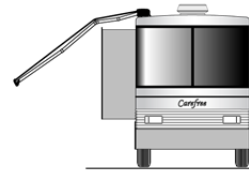
Read this manual before installing or servicing this product. Failure to follow the instructions and safety precautions in this manual can result in personal injury and/or cause the product to not operate properly.



Slide-Out Position



Window Position



Patio Position

TABLE OF CONTENTS

<b>Product Overview</b> .....	<b>1</b>
Paramount Patio Awning Specifications .....	1
Component Checklist.....	2
<b>Installation – Mechanical</b> .....	<b>4</b>
Required Pre-Installation Parameters.....	4
Mounting Plate Layout and Installation.....	5
Mounting the Awning Unit.....	5
<b>Installation – Electrical</b> .....	<b>6</b>
Key Pad Installation.....	6
Control Box Installation.....	7
Installing the Remote Receiver.....	8
Ignition Lockout Sensor Installation (Optional) .....	9
Wiring Diagram – Single Awning .....	10
Wiring Diagram – 2-Awnings .....	11
Wiring Diagram – 4 Awnings .....	13
Connection Flex w/ "110VDR" Control Boxes .....	15
Optional Manual Bypass Switch .....	15
Switch Installation - LED Lighting .....	16
Testing the System .....	17
<b>Standard System Adjustments</b> .....	<b>18</b>
Awning Calibration Procedure .....	18
Setting the Motor Limits.....	20
Adjusting the Lead Rail Height .....	21
Manual Override .....	21

## PROPRIETARY STATEMENT

The Paramount Patio Awning is a product of Carefree of Colorado, located in Broomfield, Colorado, USA. The information contained in or disclosed in this document is considered proprietary to Carefree of Colorado. Every effort has been made to ensure that the information presented in the document is accurate and complete. However, Carefree of Colorado 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. Carefree of Colorado reserves the right to cancel, change, alter or add any parts and assemblies, described in this manual, without prior notice.

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

## 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.**



Indicates a hazardous situation, which if not avoided, could result in death or serious bodily injury.



Indicates a hazardous situation, which if not avoided, may result in minor or moderate bodily injury.



Indicates a situation that may result in equipment-related damage.

### General Safety:



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](http://www.P65warnings.ca.gov)



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



Always wear appropriate safety equipment (i.e. goggles).



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



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.

Electric components in this product have been tested by the following agencies:



**Motor:** UL Recognized (USA)  
CSA Approved (Canada)

**Controls:** UL Listed (USA & Canada)



## PRODUCT OVERVIEW

The Paramount Patio Awning offers the coach owner an awning system that provides as much or as little shade as required. The canopy is housed in an aluminum case that easily blends in with the coach roof.

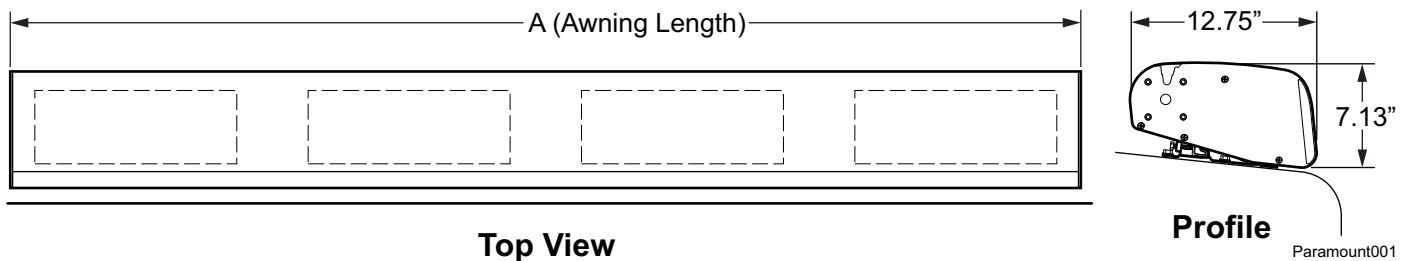
Each unit is equipped with lateral support arms that are the strongest available on the market. No vertical arms interfere with coach sidewalls or equipment that may be mounted on the roof.

The unique and innovative 110V electronic control system provides Carefree's *Direct Response* system with interior pushbutton controls for standard extend/retract functions. At the master control panel the auto-retract system can be engaged to automatically retract the awning in windy conditions. Sensitivity can be set to respond to a variety of wind speed conditions. An RF remote is furnished with the *Direct Response* system.

- Self-contained, no need for additional awning rails or other attachments;
- Mounting does not interfere with the side walls, windows or other accessories, the awning can be positioned without concern of obstructions;
- Available for single, double and quad installations;
- Lateral support 2- stage arm design;
- 3 pre-set extend positions: Slide-out Cover, Slide-out Cover + Window, and full Patio extension.

## PARAMOUNT PATIO AWNING SPECIFICATIONS

The following information is for reference only. Specific information is detailed in the installation instructions.

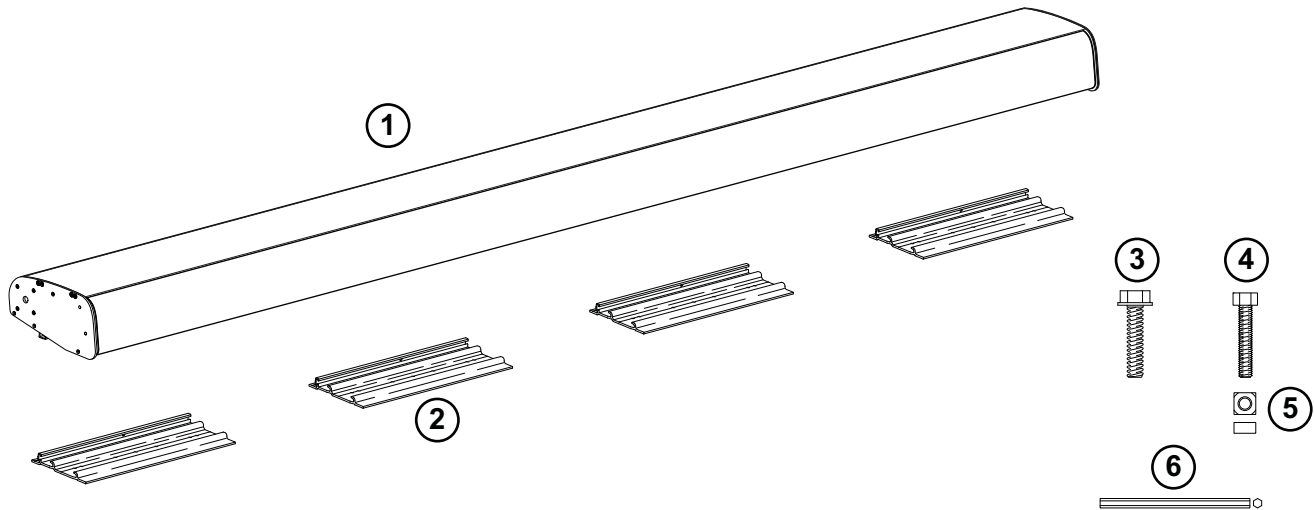


<b>LENGTH</b>	14' – 21' (in 1 foot increments)		
Position:	<i>Slide-Out</i>	<i>Window</i>	<i>Patio</i>
<b>EXTENSION:</b>	40"	72"	106"
<b>LEAD RAIL DROP</b>	8" (10°)	32" (33°)	51" (33°)
<i>Values are approximate, actual dimensions may vary with specific installations. Angles are measured from horizontal (parallel to ground)</i>			

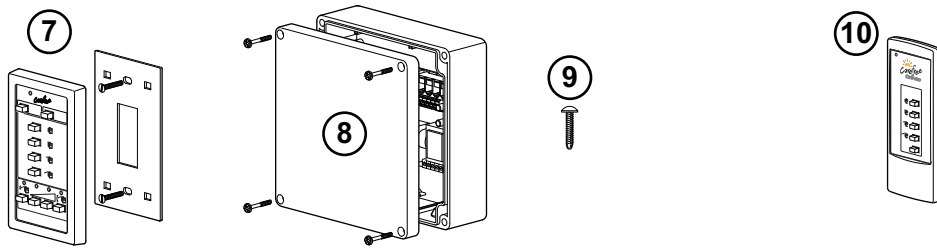
<b>MOTOR SPECIFICATIONS:</b>		Available in LH or RH configurations
Type:	Tubular Motor	
Power:	120V, 60HZ, 2.5A	
Torque:	60 nm	
Speed:	14 RPM	
Cycle:	40 Sec ON / 1 Min OFF	
<b>CONTROLS:</b>	Direct Response Electronics with a single master control and single remote for all awnings.	
<b>COLOR:</b>	Hardware:	White, Black
	Fabric:	Woven Acrylic Fabric

<b>APPROXIMATE INSTALLED WEIGHT (LBS.)</b>					
Awning Length (ft.)	Weight	Awning Length (ft.)	Weight	Awning Length (ft.)	Weight
14	206.5	17	229	20	251.5
15	214	18	236.5	21	259
16	221.5	19	244		

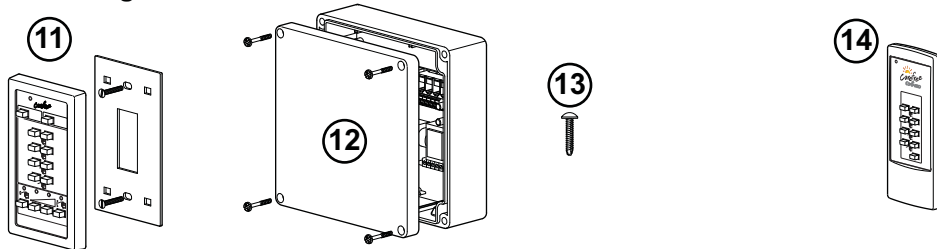
COMPONENT CHECKLIST



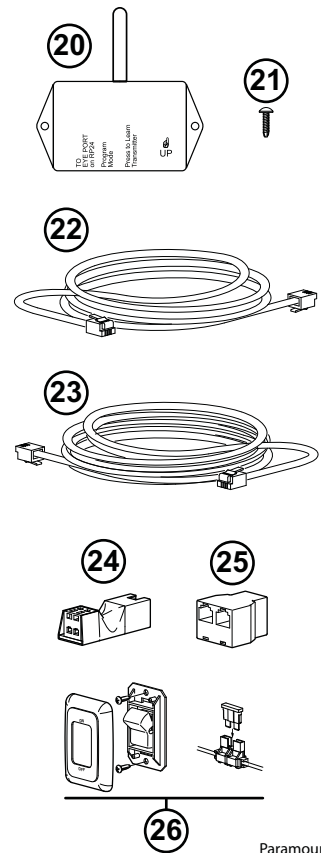
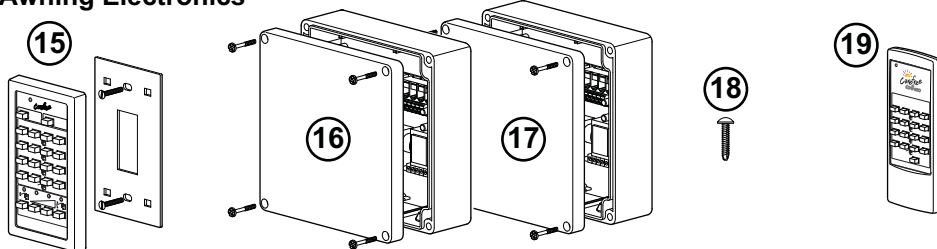
Single Awning Electronics



Dual Awning Electronics



4-Awning Electronics

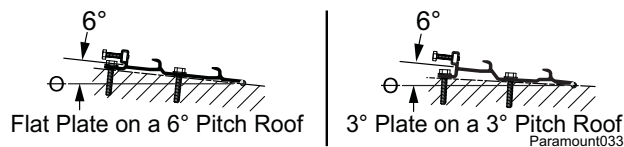


Paramount002

<input checked="" type="checkbox"/>	ITEM	DESCRIPTION		QTY	NOTE
<input type="checkbox"/>	1	Awning Assembly		1	1
<input type="checkbox"/>	2	Mounting Bracket		4	2
<input type="checkbox"/>	3	Screw, Thread Cutting	3/8 x 1 1/2	24	
<input type="checkbox"/>	4	Screw, Hex Head	5/16-18 x 2	4	
<input type="checkbox"/>	5	Square Nut	5/16-18	4	
<input type="checkbox"/>	6	Hex Key	7mm x 133mm	1	
<input type="checkbox"/>	7	Key Pad Switch Assy	Single Awning	1	3,4
<input type="checkbox"/>	8	Control Box	Single Awning	1	3
<input type="checkbox"/>	9	Screw	#8 x 3/4	4	
<input type="checkbox"/>	10	Remote Control, 433MHz	Single Awning	1	3,5
<input type="checkbox"/>	11	Key Pad Switch Assy	Dual Awning	1	3,4
<input type="checkbox"/>	12	Control Box	Dual Awning	1	3
<input type="checkbox"/>	13	Screw	#8 x 3/4	4	
<input type="checkbox"/>	14	Remote Control, 433MHz	Dual Awning	1	3,5
<input type="checkbox"/>	15	Key Pad Switch Assy	4-Awning Combo	1	3,4
<input type="checkbox"/>	16	Control Box, Box #1	4-Awning Combo	1	3
<input type="checkbox"/>	17	Control Box, Box #2	4-Awning Combo	1	3
<input type="checkbox"/>	18	Screw	#8 x 3/4	8	
<input type="checkbox"/>	19	Remote Control, 433MHz	4-AwningCombo	1	3,5
<input type="checkbox"/>	20	RF Receiver, 433MHz		1	
<input type="checkbox"/>	21	Screw	#6 x 1/2	2	
<input type="checkbox"/>	22	RJ11 Cable	60 inches	NOTE	6
<input type="checkbox"/>	23	RJ11 Cable, used with items 11 & 15	20 feet	1	
<input type="checkbox"/>	24	Sensor, Ignition Lock-Out		1	7
<input type="checkbox"/>	25	Splitter		1	7
<input type="checkbox"/>	26	Switch Kit w/ Fuse, LED Lighting		A/R	8

- Notes:
1. Awning configuration is specified at time of order, including awning length, LH or RH configuration, fabric color etc. Check awning assembly against original purchase order.
  2. Quantity of 4 per awning is standard for item 2-mounting brackets. Some Original Equipment Manufacturer (OEM) installations may specify a different quantity. Mounting brackets are ordered separately and not included with awning.

Two mounting plate kits are available. Flat plates are used to mount to roofs with a 6° pitch. The 3° brackets are used with roofs with a 3° pitch.

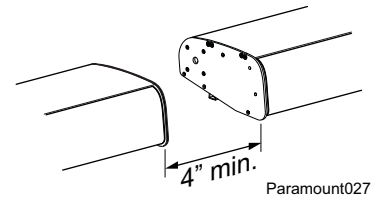


3. Electronic components are not interchangeable between systems.
4. Mounting screws are included with switches and switch plate.
5. Additional remotes can be ordered separately.
6. 60" cable (item 22) is furnished with items 7, 20 and 24 and one additional cable is furnished with the 4-awning control boxes (items 16, 17).
7. The optional ignition lockout and splitter (items 24, 25) must be ordered separately.
8. The LED lighting switch kit (item 26) is optional and must be ordered separately.

## INSTALLATION – MECHANICAL

The following instructions are for the physical installation of one Paramount awning. Repeat the instructions for each awning to be installed.

**NOTE:** When installing a multiple awning system, the awnings must be separated by a minimum of 4".



### REQUIRED PRE-INSTALLATION PARAMETERS

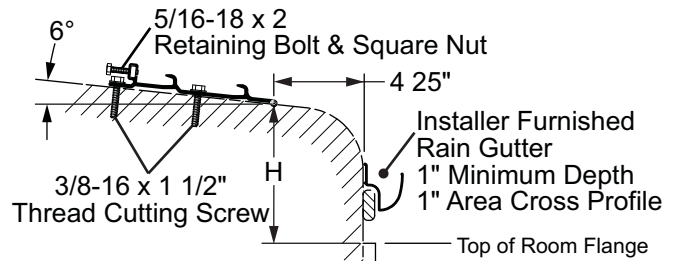
Prior to installing the awning system, the installer must determine the layout of the system and provide specific construction elements to successfully assemble the awning components.

- Determine the location, size and type of awning to be mounted.
  - There must be structure at the awning mount locations. Fiberglass or sheet metal alone is **NOT** strong enough to support the weight of the awning!

**⚠ WARNING** The Paramount awning has significant weight. The awning and attaching brackets **must** be securely fastened to the **structural frame** of the roof. Consult the coach manufacturer to determine the type and position of the roof's structural members and the structure's ability to support the weight. Failure to heed this warning can result in serious injury and property damage.

- Determine the mounting locations for the control box and switch assemblies.
  - For 110VAC installations, the installer must provide enclosed junction boxes for all wire splices. Boxes are required in conformance with prevailing construction codes.
  - At the control box location, AC input is required. It is recommended that the installer provide a dedicated AC circuit for the awning system that is protected by an appropriate sized fuse/circuit breaker. Each patio awning draws a maximum of 3 amps.
  - The motion sensor for the *Direct Response* system is mounted on the patio awning. 10 feet cable is available from the awning wall mount, and will require a routing path to the control box. If the control box is located at a distance greater than 10 feet, the installer must provide a terminated jumper cable from the box location to the cable end.

- For installations over a slide-out room, an installer furnished gutter is recommended between the awning and room to prevent runoff spilling from under the awning onto the top of the room.



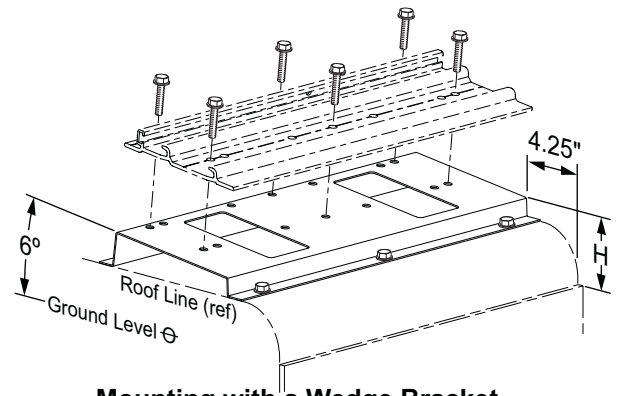
**Directly Mounting to the Coach Roof**

- For proper water runoff, the mounting plate must be mounted a minimum 6° to the ground. If the coach roof is not at the minimum angle, the installer must furnish a mounting wedge bracket under the mounting plate to achieve the correct angle.

- For proper clearance above a slide-out room, the leading edge of the mounting plate must be mounted with the minimum height clearance value (H).

- When a mounting bracket is used, it **must** be securely fastened to the **structural frame** of the roof. The installer must determine the correct screws to attach the brackets.

- For assistance in developing a suitable bracket, contact the Carefree of Colorado engineering department.



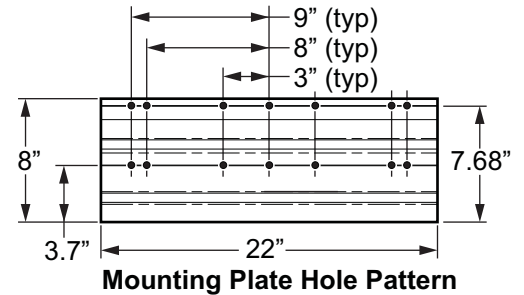
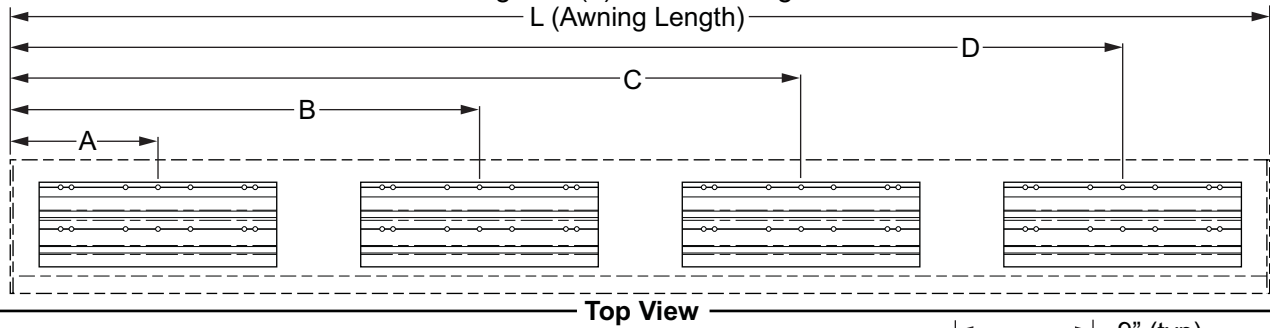
**Mounting with a Wedge Bracket**

Extension	12"	18"	24"	30"	36"
H (min.)	5.25"	6.5"	7.5"	8"	8.25"

Paramount026

## MOUNTING PLATE LAYOUT AND INSTALLATION

The Paramount Patio Unit is mounted using four (4) 22" mounting brackets.



L (feet)	A (inches)	B (inches)	C (inches)	D (inches)
14' -- 16'11"	13"	55"	L-55"	L-13"
17' -- 19'11"	14"	65"	L-65"	L-14"
20' -- 21'	25"	76"	L-76"	L-25"

Mounting Plate Hole Pattern

Paramount003

- Determine the location of the awning mounts:
  - Mounting area must be flat and clear of obstacles,
  - The awnings have appreciable weight; the mounting screws MUST fasten into the structure.
- Position the mounting plates on the coach roof. Horizontally position the plates using the dimensions in the chart. Use a chalk line or similar method to keep plates aligned.
- Position a mounting plate and use the plate as a template to drill one 11/32" pilot hole into the structure. Attach the plate using a 3/8-16 x 1 1/2 thread cutting screw.
- Confirm position of plate and repeat step 3 on the opposite end of the mounting plate.
- Continue to drill and attach using the 3/8-16 x 1 1/2 thread cutting screws for a minimum of 6 mounting holes per plate.
- In the rear track of each mounting plate, start one (1) 5/16-18 screw and square nut through hole in back of mounting plate. Do not tighten at this time.
- At the motor location, drill one (1) 1/2" hole through outer surface. The position may be under or behind the awning position.

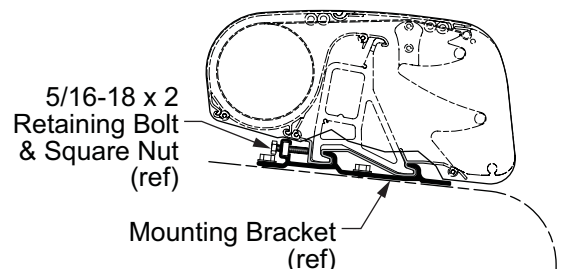
## MOUNTING THE AWNING UNIT



**The Apex awning is extremely heavy. Moving and/or lifting the awning requires a minimum of 3 people. The use of a lifting device is strongly recommended.**

- While lifting the awning, route the awning motor wires through the 1/2" hole drilled previously.
 

**NOTE:** It is necessary to first insert the sensor cable and connector through the hole then insert the motor wires.
- Set the awning into the hooks of the mounting bracket. Pull the case forward to fully engage the bracket.
- Adjust the horizontal position of the awning as required. Ensure that the brackets are located beneath the arm case connectors.
- Tighten the securing bolts. Torque to 10 ft-lbs.
- Seal the wires and access hole with a quality silicone sealant.



Paramount004

## INSTALLATION – ELECTRICAL

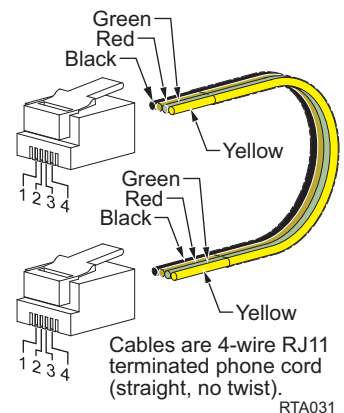


**WARNING** Shock Hazard. Always disconnect battery or power source before working on or around the electrical system.

### IMPORTANT NOTICES:

- Failure to follow the wiring instructions in this publication may void the warranty.
- All wiring must conform to NEC (National Electrical Code) and local codes.
- Do NOT wire two or more motors to one motor controller.
- The SO cable from the 110VAC awning motor can only pass directly through a wall, it can not be laid up in the wall and must be connected to NM wire or individual wires in conduit no more than 6 inches past the point of entry.
- The installer must provide enclosed junction boxes for all 110VAC wire splices. Boxes are required in conformance with prevailing construction codes. Installers are required to furnish the UL approved electrical boxes where required.
- At the control box location, 110V power is required. It is recommended that the installer provide a dedicated AC circuit for the awning system that is protected by an appropriate sized fuse/circuit breaker. Each patio awning draws a maximum of 3 amps.
- The motion sensor for the *Direct Response* system is mounted on the patio awning. 10 feet of cable is available from the awning wall mount, and will require a routing path to the control box. If the control box is located at a distance greater than 10 feet, the installer must provide a terminated jumper cable from the box location to the cable end.
- Terminated cable is a 4-wire RJ11 terminated phone cord (straight, no twist).

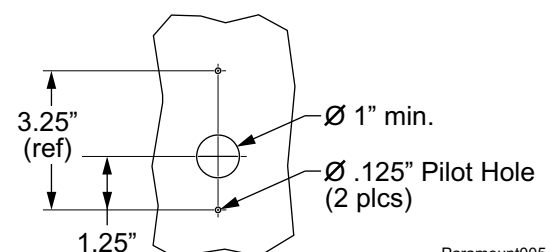
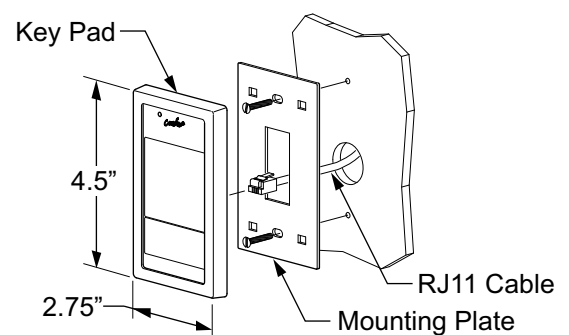
**NOTE:** Cable lengths of the furnished cables are listed in the chart with the system wiring diagram. If a connection requires a length greater than the supplied cable, the installer must provide a terminated cable from the box location to the cable end.



## KEY PAD INSTALLATION

1. Locate the mounting location of the key pad. The key pad requires a flat area approximately 2 3/4" wide by 4 1/2" tall.
2. Use the mounting plate as a template and mark the location of the two mounting holes.
3. Remove the plate, mark and cut a 1" hole in the position shown.
4. Mount the plate to the surface using the included screws.
5. Route the 10 foot RJ11 cable from the control box location through the wall and mounting plate.
6. Attach the cable to the back of the key pad then attach the key pad to the mounting plate.

**NOTE:** The key pad attaches to the plate with magnetic latches. No additional attaching hardware is required.



Paramount005



## CONTROL BOX INSTALLATION

**NOTE:**

- a) *For Multiple Awning Installations:* The awning motor connected to the controller board marked "motor #1" will correspond with "Awning 1" on the key pad control and remote. The awning motor connected to "motor #2" will correspond with "Awning 2" on the controls etc.
- b) The control boxes are not suitable for exterior installations and must be mounted in the INTERIOR of the vehicle.

For Single Awning installations: refer to wiring diagram on page 8.

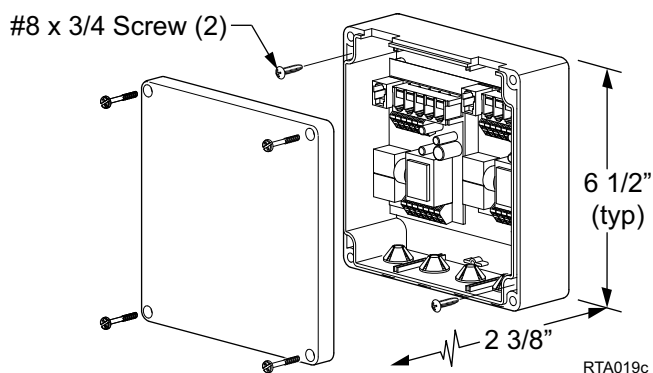
For 2- Awning installations: refer to wiring diagram on page 11.

For 4-Awning installations: refer to wiring diagram on page 13.

1. Locate the mounting location of the control box(es). Each box requires a flat area approximately 6 1/2" x 6 1/2" with a clearance depth of 2 3/8".

*For 4 awning installations:* A 60" jumper cable is used between the two control boxes. This allows approximately 55" of cable between the boxes. Position the boxes to allow the jumper to be connected and routed with some slack in the cable.

2. Remove the lid. Attach the box to the mounting surface using a minimum of two (2) #8 x 3/4 screws each. The screws must be mounted in opposite corners.
3. Route a 2-conductor 14AWG NM wire with ground from the AC power source to the box. It is recommended that the installer provide a dedicated AC circuit that is protected by an appropriate sized fuse/circuit breaker. Each patio awning draws a maximum of 3 amps.  
**NOTE:** Each board must have a 110VAC supply. The diagram shows a separate power source for each box; each power source is spliced with wire nuts to power both boards in a box.
4. Connect the wires to the control box circuit boards as shown in the wiring diagram (Detail A).
5. Route the motor wires from awning #1 to controller #1 (motor#1); attach the wires to the terminals as shown.

**NOTE: For LH motor configurations:**

**RED WIRE goes to terminal (1);**

**BLACK WIRE goes to terminal (2).**

**For RH motor configurations:**

**RED WIRE goes to terminal (2);**

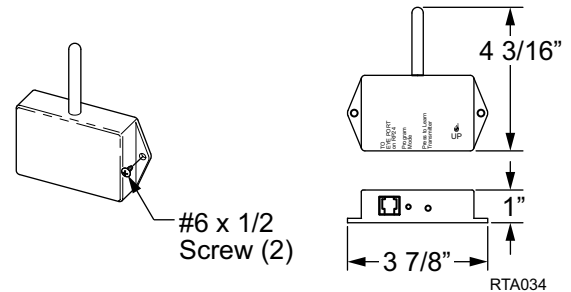
**BLACK WIRE goes to terminal (1).**

6. Attach the RJ11 cable from the sensor of awning #1 to the "AMD" receptacle of controller #1.
7. Repeat step 5 and 6 for the other awnings.
8. After testing connections, use Loctite 29005 or equivalent to secure screws in terminal block.
9. Attach the remaining RJ11 cables as shown in the wiring diagram. Use the slot cutouts in the box to route the phone cables.

**NOTE:** The key pad and RF receiver only attach to controller #1.

## INSTALLING THE REMOTE RECEIVER

1. Determine the location of the RF receiver:
  - 1.1 Do not mount the unit near heat producing elements such as LP appliances or engine exhaust components.
  - 1.2 For best reception, do not mount the unit near or on a metal surface.
  - 1.3 Mount the unit with the antenna pointing up.
  - 1.4 The included cable is approximately 60 inches long. Mount the unit close enough to the splitter or control box so that the cord can be connected without stressing the connections.
  - 1.5 Allow adequate room below the box to access the connector jack, programming button and indicator light.



2. Position the control box and secure using two (2) #6 x 1/2" screws.

**NOTE:** If the box is mounted on a surface that is less than 1/2" thick, the screws will protrude through the opposite side of the surface.

3. Connect the cable to the receiver.
4. Route the cable to the control box and connect to any open "EYE" port.

### *Programming the Receiver for the Remote*

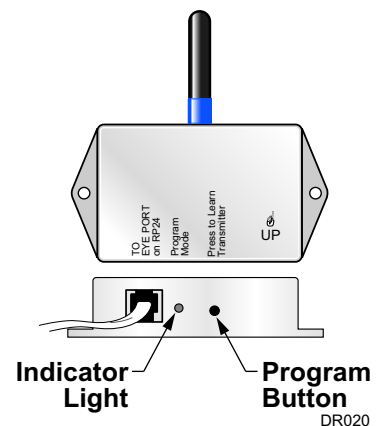
1. Power to the control box must be on.
2. Press and release the "Press to Learn Transmitter" button on the bottom of the receiver box. The receiver is in program mode when the red light comes on.
3. Press and release the STOP button on the remote. The red light will go out after the receiver learns the remote signal.

**CAUTION** When the receiver learns the transmitter signal, the system will perform the operation of the button pressed. Example: Pressing an "Extend" button during the learning phase will cause the awning to extend when the receiver learns the signal. Use caution to avoid unexpected movement by the awning.

4. Repeat steps 2 and 3 for each additional remote.

### OPERATIONAL NOTES:

- Transmitter and receiver operate on a frequency of 433MHz.
- The receiver exits the program mode after ten seconds.
- If the light does not come on in step 2, check the continuity of the cord between the boxes and repair or replace as required. Pin 1 of the 1<sup>st</sup> connector goes to pin 1 of the 2<sup>nd</sup> connector etc. If the light still does not come on, the memory is full and must be cleared.
- If the light does not go out in step 3, the receiver already knows the transmitter's signal or the battery in the remote needs to be replaced.
- To clear the memory: **PRESS AND HOLD** the transmitter learn button. While holding the button, the indicator light should be OFF for the full 5 seconds then come on.
- The system may be programmed for up to 5 remotes. Additional remotes may be ordered separately.



## IGNITION LOCKOUT SENSOR INSTALLATION (OPTIONAL)

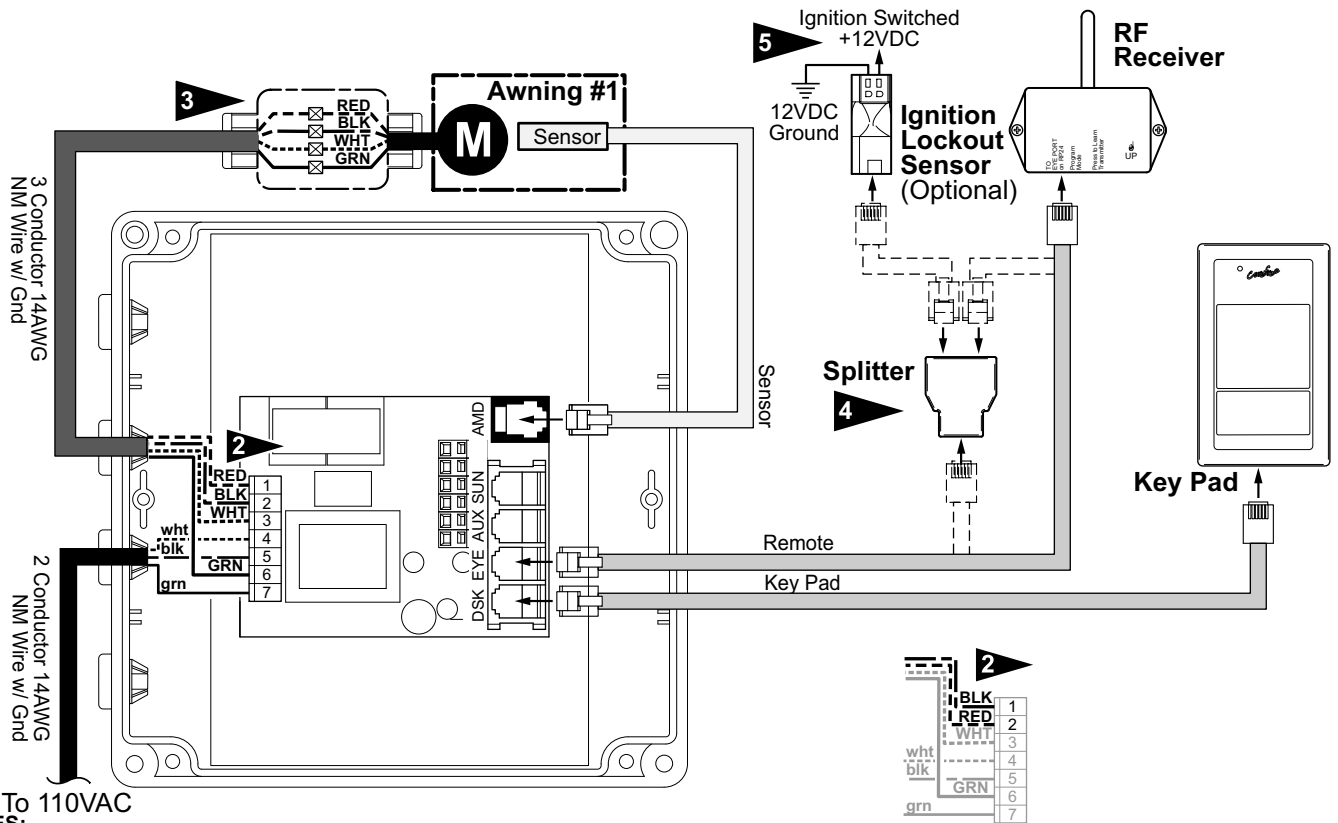
Two ignition lockout sensors are available with the Direct Response System.

- The STD ignition lockout module disables the extend function when the module receives a current through a switched 12VDC circuit..
- The RTL ignition lockout module will fully retract the awning and disable the extend function when the module receives a current through a switched 12VDC circuit.

A switched 12VDC source is a line that is "hot" when the ignition switch is in the on position; or, a 12VDC circuit through a relay that is "hot" when a specific condition is met (i.e. releasing the parking brake). Relays are not furnished with this kit.

1. Disconnect power to the awning. Shut off the power source or pull the appropriate circuit breaker.
  2. Locate the control box for the Direct Response System.
  3. Open the cover of the control box.
  4. For Single Awning Applications:
    - 4.1. Disconnect the remote receiver cable from the "EYE" port in the control box. Do not disconnect the cable from the receiver box.
    - 4.2. Connect the supplied 6" cable to "EYE" port in the control box.
    - 4.3. Attach the splitter to the other end of the cable.
    - 4.4. Plug the cable from the remote receiver into the splitter.
    - 4.5. Attach the Lock-Out Sensor to the end of the 60" cable. Route the cable as desired and connect the cable to the splitter.
    - 4.6. Proceed to step 6.
  5. For Multiple Awning Applications:
    - 5.1. The module may be connected to the control box as described for single awning applications.  
OR
    - 5.2. The module may be directly connected to any open "EYE" port on any of the control boards. It is not necessary to use the short cable or splitter.
    - 5.3. Proceed to step 6.
- NOTE:** Wires to the module are not pin specific.
6. Attach one 18-gauge wire to a terminal of the sensor and route the wire to a suitable 12VDC ground.
  7. Attach a second 18-gauge wire to the second terminal of the sensor and route the wire to a SWITCHED 12VDC source.
  8. Bundle and secure the sensor, cable and wires as required.
  9. Reattach the control box cover.
  10. Restore power to the awning.

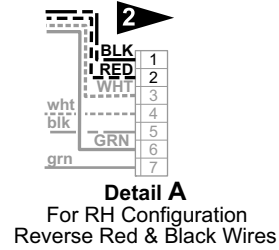
WIRING DIAGRAM – SINGLE AWNING



To 110VAC

NOTES:

- 1 Wire Legend:
  - Red
  - Black
  - White
  - Green (Ground)
- 2 For LH Motor Configurations:  
 Motor Red goes to Pin (1); Motor Black goes to Pin (2)  
 For RH Motor Configurations:  
 Motor Red goes to Pin (2) Black; Motor Black goes to pin (1)
- 3 The SO cable from the 110VAC awning motor can only pass through a wall, it cannot be laid up in the wall and must be connected to NM wire or individual wires in conduit no more than 6 inches past the point of entry.
- 4 Splitter is used only when Optional Lock-Out Sensor is installed. Connect RF Receiver directly to "EYE" if Lock-Out is not installed.
- 5 Wires for the Ignition Lock-Out Sensor are not pin specific.



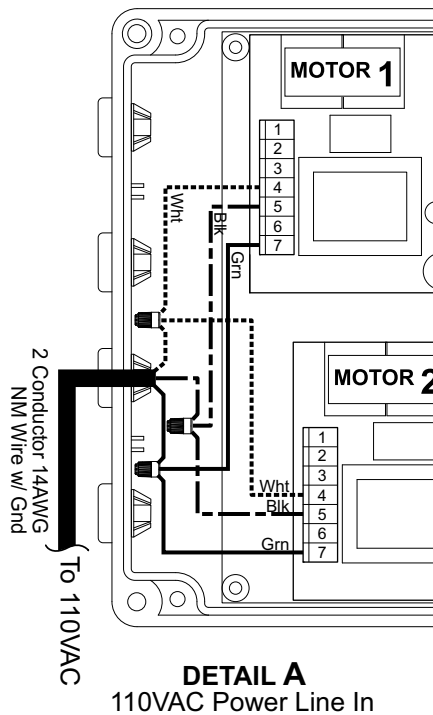
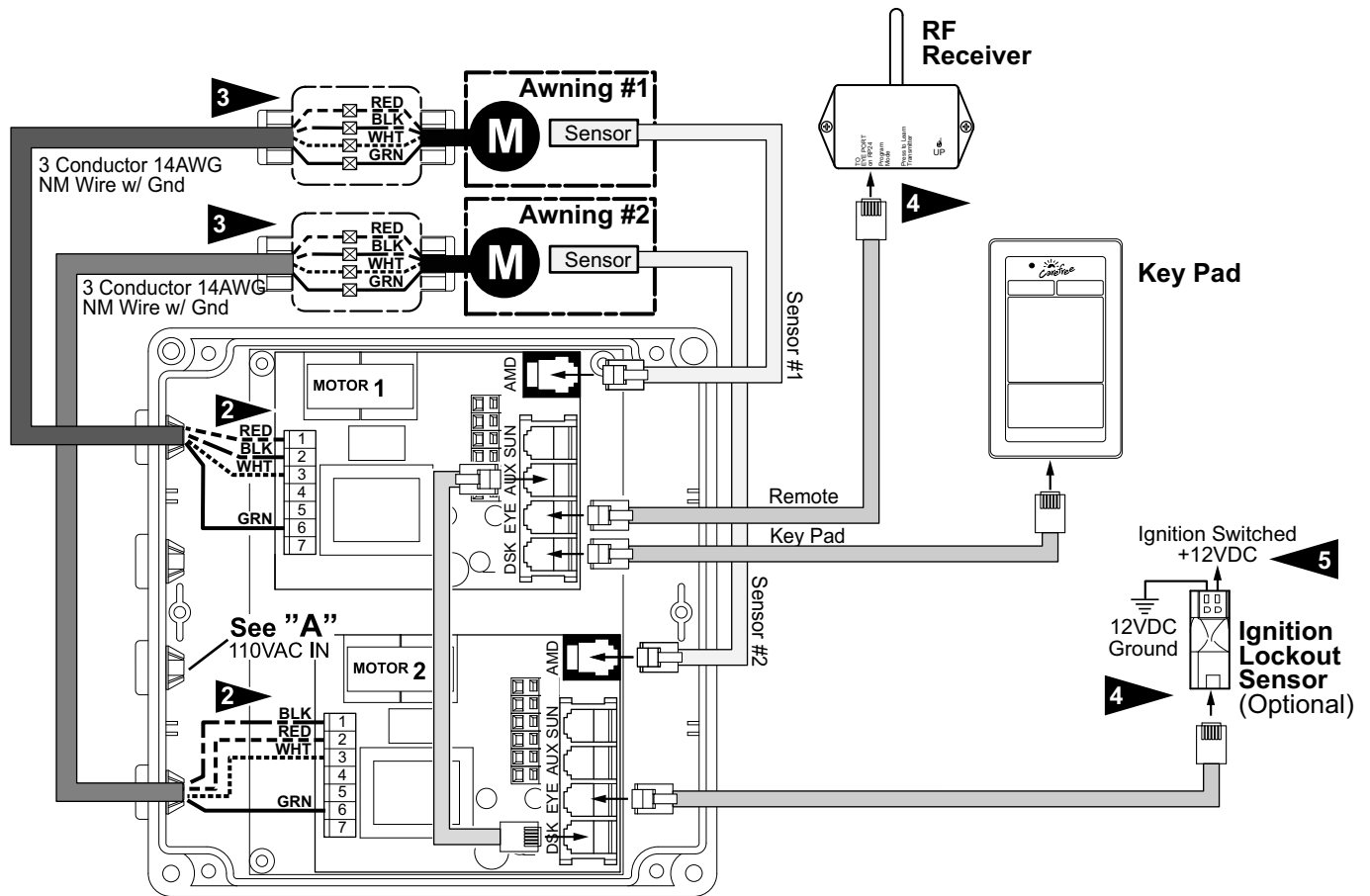
**Detail A**  
For RH Configuration  
Reverse Red & Black Wires

DR013

	FROM	To (RH CONFIGURATION)		To (LH CONFIGURATION)	
		Control Box		Control Box	
Motor	Black	Control Box	1	Control Box	2
	Red		2		1
	White		3		3
	Ground		6		6
AC Power Source	White	Control Box	4	Control Box	4
	Black		5		5
	Ground		7		7
Awning Sensor	10' Cable	Control Box	"AMD"	Control Box	"AMD"
Key Pad	60" Cable	Control Box	"DSK"	Control Box	"DSK"
Splitter	60" Cable	Control Box	"EYE"	Control Box	"EYE"
RF Receiver	60" Cable	Splitter	"EYE"	Splitter	"EYE"
Ignition Lockout	60" Cable	Splitter	"EYE"	Splitter	"EYE"

- Notes:
- 1. Cable lengths are the lengths of the furnished cables. If a connection requires a length greater than the supplied cable, the installer must provide a terminated jumper cable from the box location to the cable end.
  - 2. Splitter is only required for single awnings only. RF Receiver and Ignition Lockout may be directly connected to any open "EYE" port for multiple awning configurations.

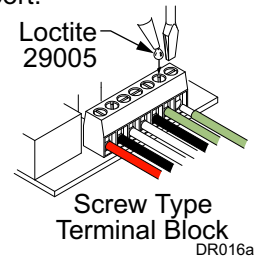
WIRING DIAGRAM - 2-AWNINGS



DR014a

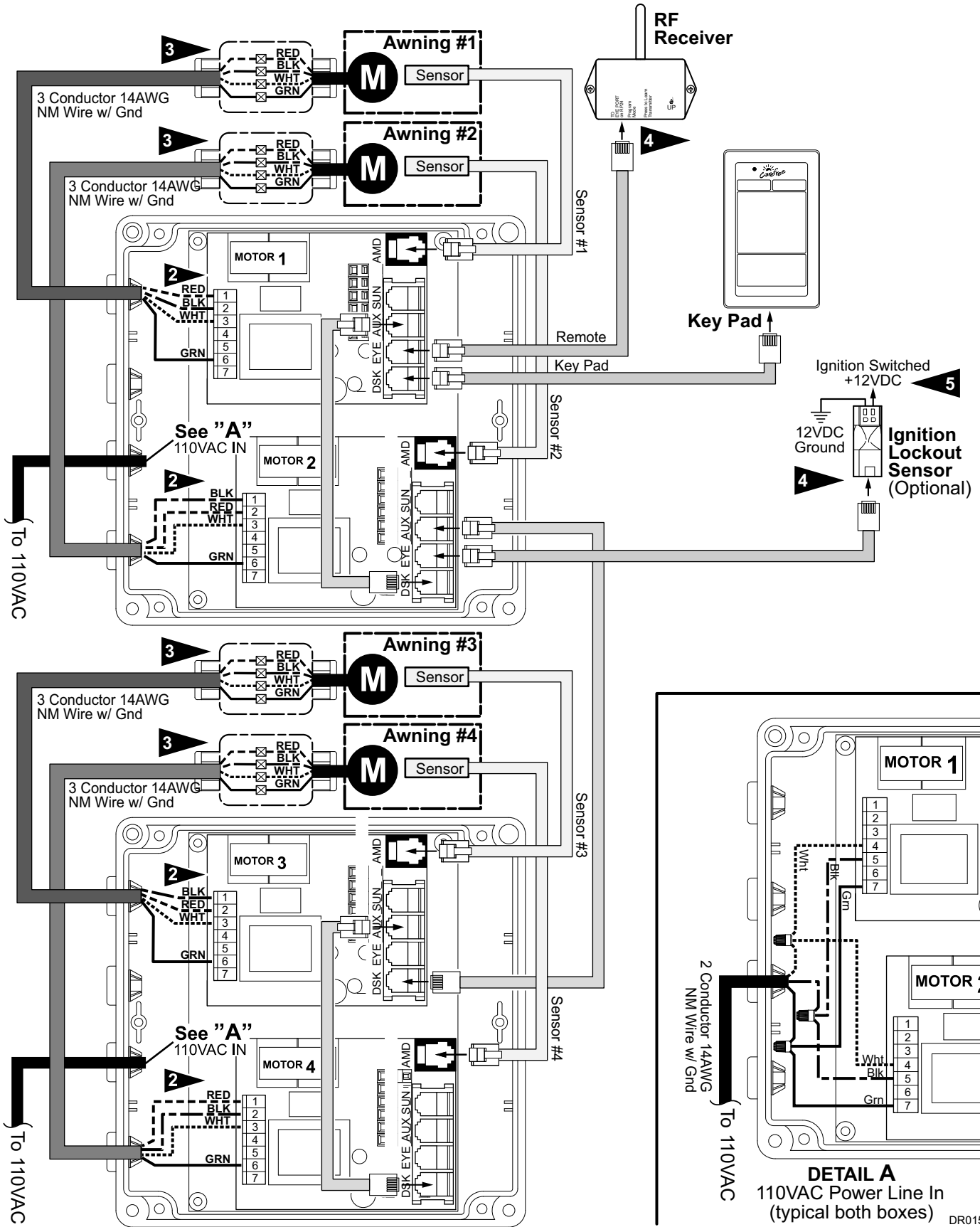
**NOTES:**

- 1** Wire Legend:   
 ----- Red   
 ----- Black   
 ----- White   
 ----- Green (Ground)
- 2** Awnings #1 & #4 shown as LH Motor, Awnings #2 & #3 shown as RH Motor   
**For LH Motor Configurations:**   
 Motor Red goes to Pin (1); Motor Black goes to Pin (2)   
**For RH Motor Configurations:**   
 Motor Red goes to Pin (2); Motor Black goes to pin (1)
- 3** The SO cable from the 110VAC awning motor can only pass directly through a wall, it cannot be laid up in the wall and must be connected to NM wire or individual wires in conduit no more than 6 inches past the point of entry.
- 4** The RF Reciever and the optional Ignition Lockout may be plugged into any open "EYE" port.
- 5** Wires for the Ignition Lock-Out Sensor are not pin specific.
- 6** For screw type terminals: After testing connections, use Loctite 29005 or equivalent to secure screws in terminal block.
- 7** Cables are 4-wire RJ11 terminated phone cord (straight, no twist)
- 8** Terminal block designations are for reference only. Actual boards may not be marked.



FROM		To (MOTOR #1)	To (MOTOR #2)	
AC Power Source	White	4	4	
	Black	5	5	
	Ground	7	7	
Awning #1 Motor	Black	<b>Refer to Flag Note 2</b>		
	Red			
	White			3
	Ground			6
Awning #2 Motor	Black		<b>Refer to Flag Note 2</b>	
	Red			
	White			3
	Ground			6
#1 Sensor	10' Cable	"AMD"		
#2 Sensor	10' Cable		"AMD"	
Key Pad	25' Cable	DSK		
RF Receiver	60" Cable		"EYE" see note 4	
Ignition Lockout	60" Cable		"EYE" see note 4	

WIRING DIAGRAM - 4 AWNINGS



**NOTES:**

**1** Wire Legend:   
 ----- Red   
 ----- Black   
 ----- White   
 ----- Green (Ground)

**2** Awnings #1 & #4 shown as LH Motor, Awnings #2 & #3 shown as RH Motor

**For LH Motor Configurations:**

Motor Red goes to Pin (1); Motor Black goes to Pin (2)

**For RH Motor Configurations:**

Motor Red goes to Pin (2); Motor Black goes to pin (1)

**3** The SO cable from the 110VAC awning motor can only pass directly through a wall, it cannot be laid up in the wall and must be connected to NM wire or individual wires in conduit no more than 6 inches past the point of entry.

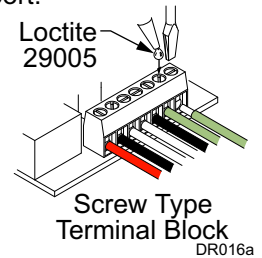
**4** The RF Receiver and the optional Ignition Lockout may be plugged into any open "EYE" port.

**5** Wires for the Ignition Lock-Out Sensor are not pin specific.

**6** For screw type terminals: After testing connections, use Loctite 29005 or equivalent to secure screws in terminal block.

**7** Cables are 4-wire RJ11 terminated phone cord (straight, no twist)

**8** Terminal block designations are for reference only. Actual boards may not be marked.



FROM		TO CONTROL BOARD				
		MOTOR #1	MOTOR #2	MOTOR #3	MOTOR #4	
AC Power Source	White	4	4	4	4	
	Black	5	5	5	5	
	Ground	7	7	7	7	
Awning #1 Motor	Black	<b>Refer to Flag Note 2</b>				
	Red					
	White					3
	Ground					6
Awning #2 Motor	Black		<b>Refer to Flag Note 2</b>			
	Red					
	White					3
	Ground					6
Awning #3 Motor	Black			<b>Refer to Flag Note 2</b>		
	Red					
	White					3
	Ground					6
Awning #4 Motor	Black				<b>Refer to Flag Note 2</b>	
	Red					
	White					3
	Ground					6
#1 Sensor	10' Cable	"AMD"				
#2 Sensor	10' Cable		"AMD"			
#3 Sensor	10' Cable			"AMD"		
#4 Sensor	10' Cable				"AMD"	
Key Pad	25' Cable	"DSK"				
RF Receiver	60" Cable	"EYE" see note 4				
Ignition Lockout	60" Cable	"EYE" see note 4				

Notes: 1. Splitter is used w/ Ignition Lock-Out only. If Lock-Out is not installed, connect the receiver directly to "EYE".  
 2. Cable lengths are the lengths of the furnished cables. If a connection requires a length greater than the supplied cable, the installer must provide a terminated jumper cable from the box location to the cable end.

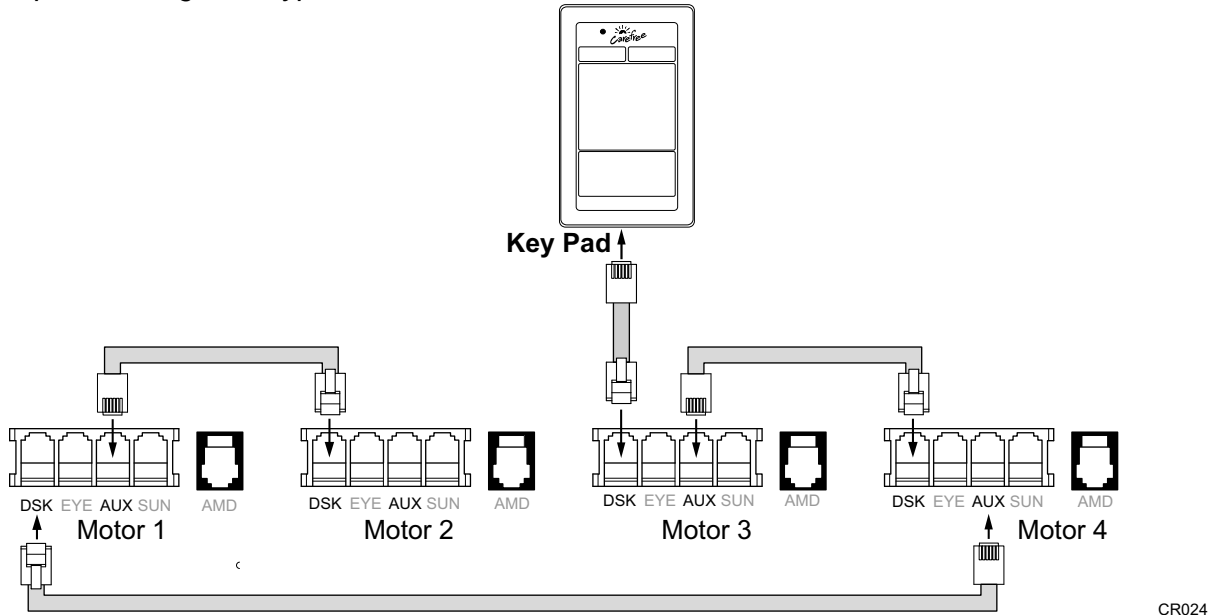


## CONNECTION FLEX W/ "110VDR" CONTROL BOXES

The wiring diagrams show the standard installation for multiple awning configurations. For control boxes marked w/ "110VDR", the installer may adjust the cable interconnections for greater flexibility during installation.

1. The key pad may be installed in the unused DSK port of any board with the jumper cables sequentially connected from the AUX port to the DSK port of the next board.

*Example: Placing the keypad in the DSK of Board 3.*



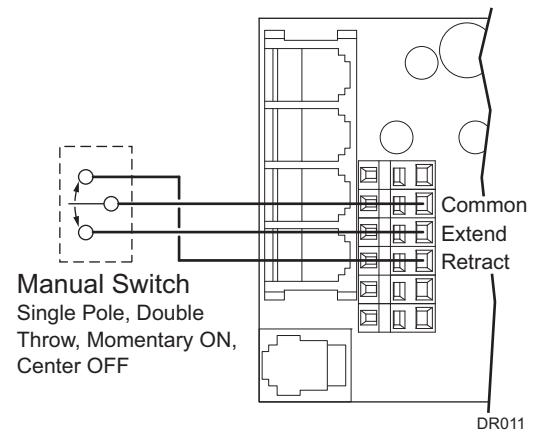
2. The RF Receiver and the optional ignition lock-out can be plugged into any unused "EYE" port. It is not necessary to use the splitter as shown in the diagrams.
3. The "110VDR" control boxes are compatible with integrator interfaces. Contact Carefree engineering for information and system requirements.

## OPTIONAL MANUAL BYPASS SWITCH

Installers may elect to install a manual bypass switch for testing or emergency operation of the awning. The simple switch allows the operator to extend or retract the awning without using the keypad control panel. For multiple awning installations, a separate switch must be installed for each awning.

1. Open the control box and identify the terminal block next to the phone cord jacks.
2. Connect the switch to the terminal block as shown in the diagram.

The switch is a single pole, double throw, momentary ON, center OFF. Components are installer furnished.



## SWITCH INSTALLATION - LED LIGHTING

Optional factory installed LED light strips are available for the Paramount awning. A strip can be mounted in the lead rail or in the case or both. For lead rail installations, the harness is routed through the awning with the Direct Response cable.

Each LED strip may be attached to an individual switch or two LED strips can be hooked in parallel to a single switch.

**NOTE:** Installers may choose to furnish the control switch. The installation requires that the power line (+12VDC) be attached to a dedicated 2A circuit breaker; or, a 2A in-line fuse must be installed between each switch and power source. For easy access, locate the fuse close to the switch.

1. Route the harness into the vehicle with the Direct Response cable and the motor power cable.
2. Determine the location of the switch.
3. At the switch location, cut a 1 1/8" x 1 1/2" hole.

4. Wire the switch as shown below. Wire terminals at the switch are .187, 18-24 awg female disconnects.

**NOTE:** Allow adequate slack in the 12VDC power line so that the in-line fuse (installed in step 4) can be accessed from behind the switch.

5. Install the in-line fuse:

- 5.1. Near the switch, cut the red 12VDC power line to the switch. Do not strip the insulation.

- 5.2. Insert a wire end into one of the wire channels until it butts up against the stop.

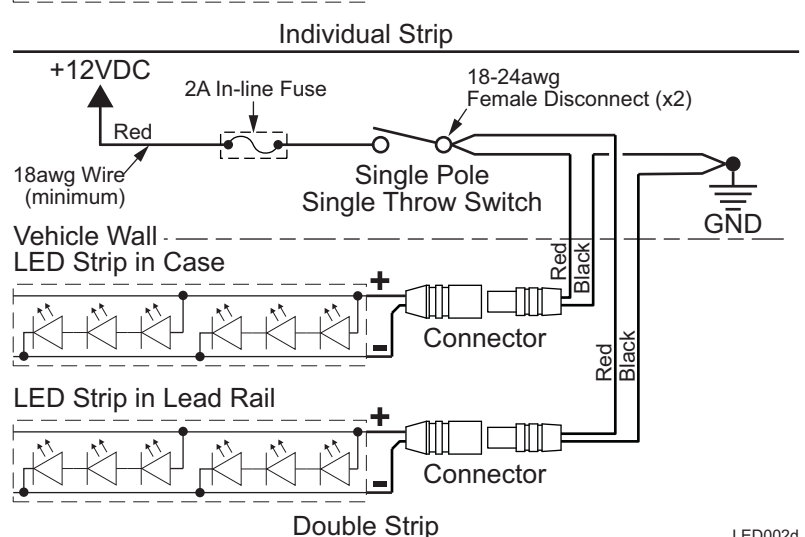
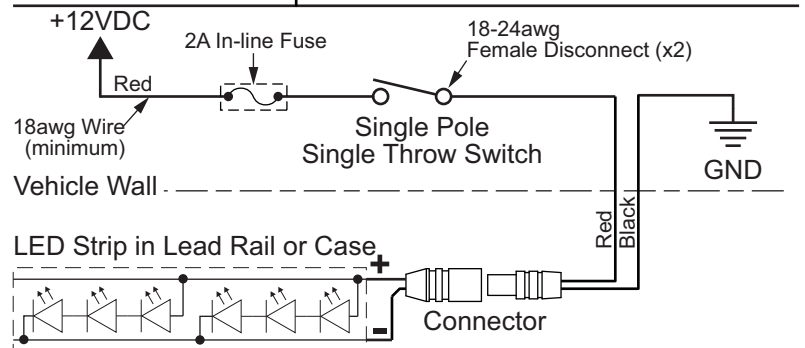
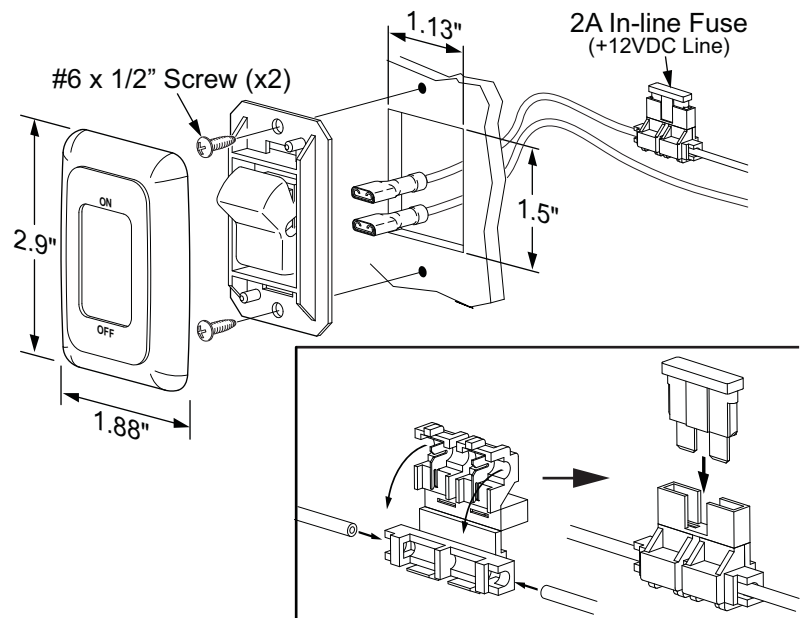
- 5.3. Fold that half of the connector body over until the element contacts the wire. Use pliers to crimp the connector closed.

- 5.4. Repeat for the second wire end.

- 5.5. Slide the fuse into the fuse port. Ensure that is firmly seated.

6. Press the in-line fuse, wires and switch into the mounting hole. Secure the switch using two (2) #6 x 1/2" screws.

7. Snap the switch bezel over the switch frame.



LED002d

## TESTING THE SYSTEM

All function buttons are press ON. The auto-functions continue until the awning is fully extended or retracted. Pressing the button a second time will stop the function (does not apply to the "Extend All" or Retract All" commands). It is not necessary to hold the button while the function is active.

1. While observing the control panel, have a second person initiate 110VAC power to the coach and awning system. The following should occur:
  - 1.1 The System Indicator and Sensitivity Level LEDs will briefly illuminate.
  - 1.2 The system then goes to the default settings: The default settings are the last known state when the AC power source was suspended. Example: If power was "ON" and the sensitivity was set to "2", when AC power is applied, power will be on and sensitivity will be set to "2".
2. If ON, press the POWER "OFF". ALL LEDs should be extinguished. The POWER ON/OFF button disables all functions including Auto-Retract and the RF remote. It does not disconnect the 110VAC power.

**NOTE:** If the awning moves opposite the label markings, the red and black MOTOR wires are reversed in the control box.

3. Check the extend function.
  - 3.1 Press the POWER "ON".
  - 3.2 Press the Awning #1 EXTEND button. The awning should extend.
  - 3.3 Press the extend button again. The awning should stop
  - 3.4 Press the extend button a third time. Observe the awning, it should fully extend. The system performs an auto-tension action when the awning is fully extended. The awning rolls in reverse to tension the fabric. The auto-tension feature works only with the extend function when the awning is fully extended.
4. Check the retract function.
  - 4.1 Press the Awning #1 RETRACT button. The awning should retract.
  - 4.2 Press the retract button again. The awning should stop
  - 4.3 Press the retract button a third time. Observe the awning; it should fully retract to the closed position.

**NOTE:** It is normal for the lead rail to slightly relax after the awning closes completely.

5. Repeat steps 3 and 4 for each of the Extend/Retract button combinations.
6. Test the mid-position functions. Press and release each mid position button (Slide-Out cover and Window). The awning should extend or retract to the specified position.
7. Test the Auto-Retract function:
  - 8.1 Fully extend awning #1.
  - 8.2 Set the WIND SPEED to the lowest setting.
  - 8.3 Create a firm but gentle vertical rocking motion with the leading edge of the awning. The awning should retract after 2-3 seconds of the motion. The awning will retract to the slide-out position.
8. Repeat step 6 for each of the awnings.
9. *If the optional Ignition Sensor is installed:*
  - 10.1 Partially retract the awning.
  - 10.2 Turn the vehicle ignition key ON.
  - 10.3 If the RTL lockout is installed, the awning(s) will retract.
  - 10.4 Press the EXTEND button. The awning(s) should not extend.

## STANDARD SYSTEM ADJUSTMENTS

### AWNING CALIBRATION PROCEDURE

For multiple awning installations, if the awnings do not align at the intermediate positions (slide-out and window), it is necessary to run a calibration routine to adjust the run and stop times for the awning.

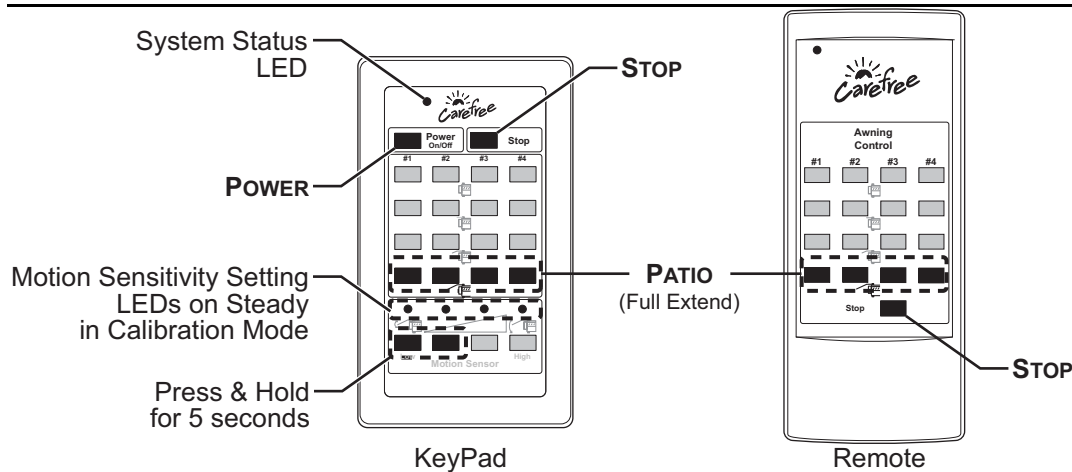
1. The controls are programmed with default awning calibration values; this allows full awning operation out-of-the-box.
2. The default calibration values are based on the average run times for the Paramount awning; these values are close but not perfect.
3. The Slide-Out Cover and Window awning intermediate positions are set as a percentage of the awning run time, 29% for Slide-Out Cover and 70% for Window.
4. Performing an awning calibration collects the actual extend and retract run times to allow the most accurate awning operation.
5. For multiple awning installations, adjacent awnings must be aligned in the full extension position before initiating awning calibrations, otherwise, a calibration will lock-in the difference in run times and will cause misalignment at the intermediate positions.
6. For multiple awning installations, it is recommended that all awnings be calibrated at the same time while operating on the same power source, i.e. do not calibrate one awning while operating on the inverter and another while operating on the generator.
7. If a calibration is started and fails (stops) for any reason, the system resets the travel time and maximum run time to the default values.

#### *Procedure*

Prior to starting the procedure, ensure that the motor limits are set correctly (refer to page 20).

- The IN limit switch must be set to allow the motor to stall. Calibration will fail if the switch is set to stop the motor.
- The OUT limit switch is used to align adjacent awnings in the fully extended position before initiating awning calibrations, otherwise, a calibration will lock-in the difference in run times and will cause misalignment at the intermediate positions.

**NOTICE** Do not continuously operate the awning more than 2-3 cycles maximum. The motor is equipped with a thermal protection circuit to protect the motor from overheating. Operating the awning repeatedly over a short time period may cause the circuit to sense an overheat condition and shut off the motor. If this occurs, wait approximately 15 minutes to allow the motor to cool then resume the procedure.



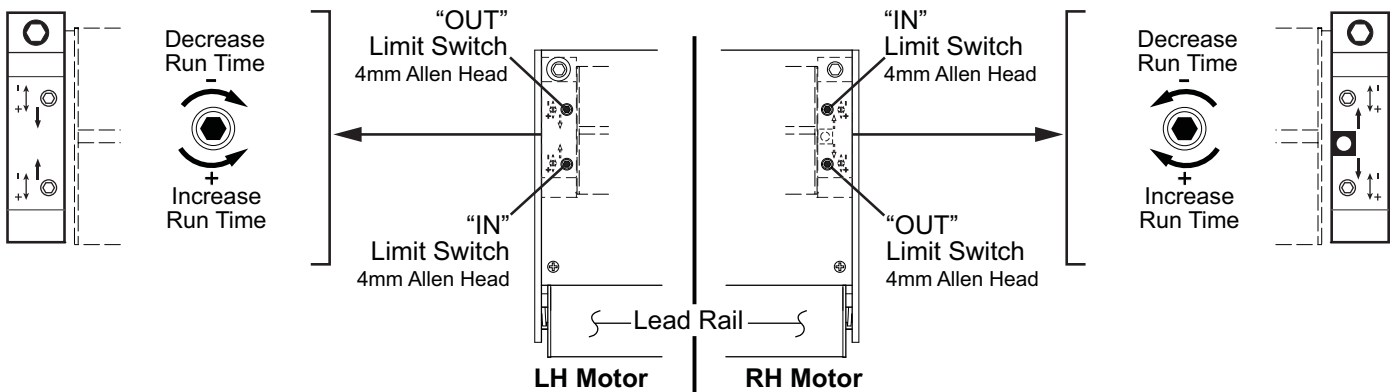
Paramount012

**NOTE:** 4-awning keypad and remote shown. Description and procedures apply to all configurations.

1. Ensure that power is available to the awning control system.
2. Turn the system power on at the keypad.
3. To initiate calibration mode: At the keypad, Press and Hold the two lower value buttons of the sensitivity settings for a full 5 seconds.
  - When the system is in calibration mode, the system status LED will flash and the four (4) sensitivity setting LEDs will illuminate as steady ON.
  - The system will remain in calibration mode for 30 seconds. If an awning is in the calibration cycle when the 30 second window expires, the awning will complete the calibration.
  - In calibration mode, all functions except for the "Patio" and "Stop" commands are disabled.
  - If the "Stop" button is pressed during a calibration, all awning calibrations are halted immediately and the system returns to normal operation. The calibration mode must be reinitialized to continue. Any awnings that were stopped partially through a calibration will be reset to the default values.
  - In calibration mode, any or all awnings can be calibrated and/or re-calibrated.
4. At the keypad or on the remote, press and release the "Patio" button to start the calibration for the selected awning.
  - The awning will partially extend then retract to determine the full retract position. Next, the awning will cycle to the full extend (patio position) then retract to the fully closed position. When the awning has returned to the fully retracted position, the individual awning calibration is complete. Repeat for each awning installed.
  - For multiple awning installations, it is not necessary to wait for one awning to complete the calibration cycle before starting the next awning calibration.
  - In calibration mode, pressing the "Patio" button for an awning that has been calibrated will cause the awning to recalibrate.

## SETTING THE MOTOR LIMITS

The motor limit switches are preset at the factory for best operation. The "OUT" limit switch is used to stop the motor when the awning is fully extended. The "IN" limit is NOT USED with the *Direct Response* system.



The limit switches are located inside the case, near the end plate. To access the switches, remove the rubber plugs on top of the case next to the end plate.

Paramount014a

### Adjusting the OUT Limit Switch

**NOTE:** During normal operation, the awning will extend out then roll back slightly to tension the fabric.

1. Extend the awning out completely.
2. Confirm that the arms are fully extended. The motor should stop and the fabric should be tight. If the motor continues to run, the fabric will sag; or, if the motor quits before the arms are fully extended, it will be necessary to adjust the "OUT" limit switch.

**NOTE:** It is best to make the adjustments in increments of a single turn. 3 full turns of the screw equals approximately 2" of fabric extension.

3. If the fabric sags:
  - 3.1. Retract the awning until the fabric is tight then retract an addition 10"-12".
  - 3.2. Using a 4mm Allen wrench turn the "OUT" limit switch COUNTERCLOCKWISE to reduce the time the motor runs.
  - 3.3. Extend to confirm that the adjustment is correct.
  - 3.4. Repeat the procedure until the awning extends correctly.
4. If the arms do not extend completely:
  - 4.1. Retract the awning approximately 10"-12".
  - 4.2. Using a 4mm Allen wrench turn the "OUT" limit switch CLOCKWISE to increase the time the motor runs.
  - 4.3. Extend to confirm that the adjustment is correct.
  - 4.4. Repeat the procedure until the awning extends correctly.

### Adjusting the IN Limit Switch

**NOTE:** The "IN" limit switch is not adjusted with the Direct Response system. The system electronics monitors the motor and shuts the motor off when the awning is fully retracted.

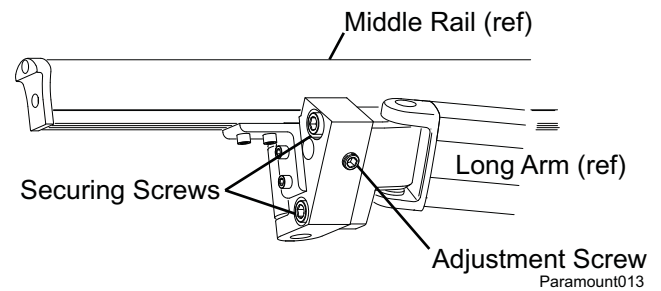
If the IN limit switch is accidentally adjusted, the motor may shut off before the awning is fully closed. If this occurs, turn the "IN" adjustment screw to INCREASE the motor run time. It is not necessary that the screw matches the closed position.

**NOTE:** It is normal for the lead rail to slightly relax after the awning closes completely.

## ADJUSTING THE LEAD RAIL HEIGHT

The Paramount arms are installed and adjusted at the factory to operate at the tallest height possible. For multiple awning installations, the lead rails of adjacent awnings may appear to not align because of installation variables. The height of the high lead rail may be lowered with the procedure below. This is not a pitch adjustment. Maximum height adjustment is approximately 6.38".

1. Fully extend the awnings.
2. On the middle rail, locate the long arm knuckle closest to the adjacent awning.
3. Loosen the securing screws located on the outside of the knuckle. **DO NOT** remove these screws.
4. Turn the adjustment screw counter clockwise to lower the lead rail. Turn the screw in increments of 1/2 turn until the lead rail matches the adjacent awning lead rail.



*Tip: If the screw is hard to turn, have a second person lift up on the lead rail, then turn the screw and let the lead rail down. Repeat until the lead rail is at the desired height.*

5. Tighten the securing screws 30-33 ft-lbs.

## MANUAL OVERRIDE

If 110V power is not available to the coach, the Paramount awning can still be safely retracted using the manual override.

1. The bypass is located inside the case, near the end cap. Remove the large rubber plug on top of the awning located toward the rear of the case on the motor side.
2. Chuck the 7mm hex key into a 3/8" battery powered drill.
3. Insert the hex key into the manual override on the awning.
4. Operate the drill in the direction shown in the diagram to close the awning. Reverse the drill to open the awning.
5. When done, reinsert the rubber plug.

