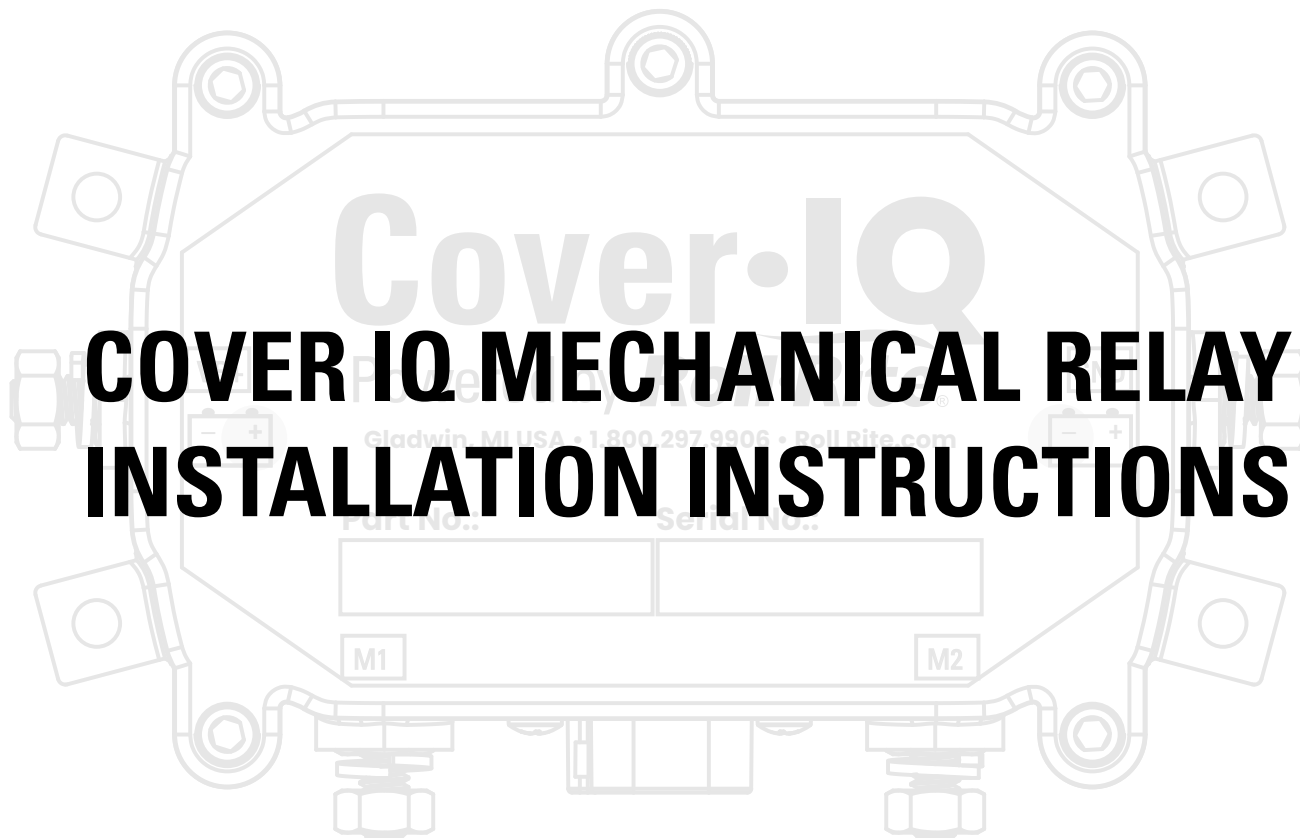




# COVER IQ MECHANICAL RELAY INSTALLATION INSTRUCTIONS



Part #: 110017

Revised: 10/07/26 - WLH



## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

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## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Safety Requirements

# WARNING

**Failure to comply with requirements outlined in this document may result in serious injury or property damage**

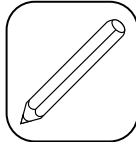
The following requirements shall be met when installing or servicing electrical components in Roll-Rite Automated Tarp Systems:

- All connections to vehicle battery systems, vehicle battery chargers, and external power supplies shall be disconnected during all installation procedures
- Prior to installing wiring on positive terminals, check voltage on all wires and connection points using a voltmeter.
- The following personal protective equipment shall be worn at all times while installing components:
  - » Safety Glasses or Prescription Glasses with Side Shields
  - » Steel or Composite Toe Protective Shoes

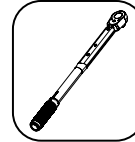
### Recommended Tools and Equipment



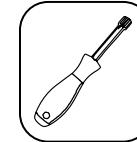
Safety Glasses and Gloves



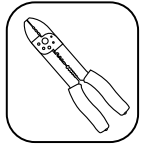
Pencil or Marker



Torque Wrench w/ 20 to 50in lbs



Nut Driver Set



Wire Cutters / up to 2AWG



Wire Insulation Stripping Tool  
2 to 8 AWG



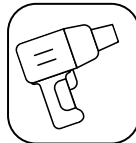
Wire Insulation Stripping Tool  
16 to 18 AWG



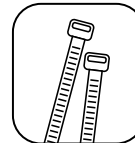
Wire Terminal Crimping Tool  
2 to 8 AWG



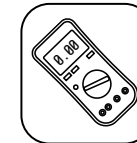
Wire Terminal Crimping Tool  
16 to 18 AWG



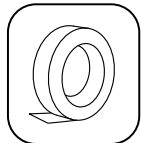
Heat Gun for  
Heat Shrink Insulation



Tie Straps



Multi-meter w/ DC voltage  
measurement capability



Electrical Tape



## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Vehicle Battery Connection Requirements

#### Main Power to Roll-Rite System

- Source Voltage Line to Cover IQ Mechanical Relay shall be connected directly to the vehicle battery system.
- The Source Voltage Line shall include an in-line Roll-Rite supplied manually resettable circuit breaker. The circuit breaker should be 12" max from the positive terminal of the vehicle battery system.

#### Main Ground to the Roll-Rite System

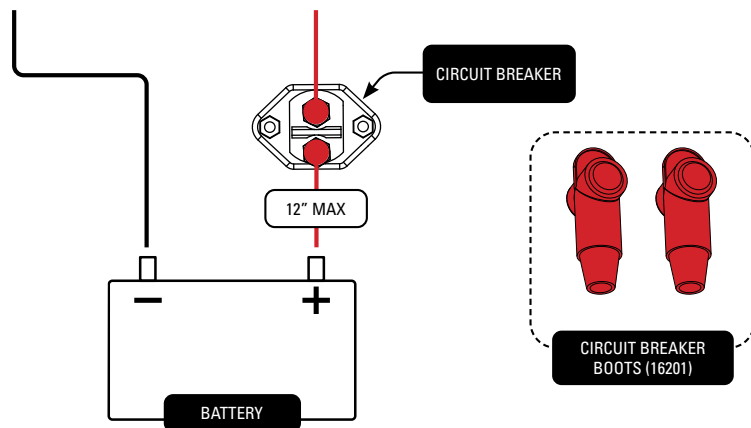
- Ground line to the Cover IQ Mechanical Relay shall be connected directly to the negative terminal of the vehicle battery system
- Battery terminals shall be coated with dielectric grease to prevent corrosion
- Appropriate ring terminal or battery terminal at the vehicle battery connection are required

#### System Circuit Breaker Requirements

- Only Roll-Rite supplied Circuit Breakers shall be installed with Roll-Rite Automated Tarp Systems
- The manually resettable circuit breaker shall be installed on the main positive wire, 12 inches max from the positive terminal of the vehicle battery system
- The circuit breaker shall be installed with red protective boots covering the input and output terminals
- Terminals of the circuit breaker shall be no less than 2 inches from any surface on the vehicle in all directions

## CAUTION

Failure to properly follow all requirements may result in present or future property damage from Cover IQ Mechanical Relays contain a hot at all times connection to the vehicle battery system. Care must be taken to prevent contact between battery supply terminals and conductive surfaces of the chassis.



**NOTE: If the vehicle is equipped with a Battery Disconnect Switch, refer to the manufacturers requirements for integration.**



## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Vehicle Battery Connection Requirements

#### Cover IQ Mechanical Relay Requirements



The positive terminal of Cover IQ Mechanical Relay is hot at all times, breaker connected to the positive terminal of the vehicle battery energy system. Care must be taken to ensure the positive terminals meet the following:

1. Connected only with the supplied fasteners to the correct torque (35 in-lbs) to prevent a loose, high-resistance connection, and strain relieved to prevent wire torque and vibration from loosening connection
2. Completely covered with the proper Red terminal boot
3. Failure to comply may result in excessive heat in the connection due to high resistance

#### Cover IQ Mechanical Relay Requirements

- Use the terminal boots supplied with the Cover IQ Mechanical Relay, according to the following color codes:
- B+ is RED indicating the terminal is un-switched, fused, and hot at all times
- B- is Black
- M2 is Yellow
- M1 is Blue
- All terminals shall be coated with dielectric grease to prevent corrosion and long term connection from debris between electrical terminals
- Install the motor reversing relay such that the terminals are facing the vertical mounting surface on the vehicle body
- The Cover IQ Mechanical Relay shall be attached to the surface using only threaded fasteners with torque specification consistent with the fastener size and type
- All terminal wires shall be strain relieved using insulated C-clamps attached to vehicle body to prevent wire vibration and torque loading from loosening electrical connections
- Route all electrical wires from the Cover IQ Mechanical Relay in a manner that will avoid wire insulation chafing, pinching, and wear from other items on the truck chassis or wear from the environment
- Torque all electrical connection fasteners to 35 in-lbs



**WARNING: DO NOT USE COVER IQ MECHANICAL RELAY IF DROPPED FROM 1 METER (3.2 FT) OR HIGHER!**



## INSTALLATION INSTRUCTIONS

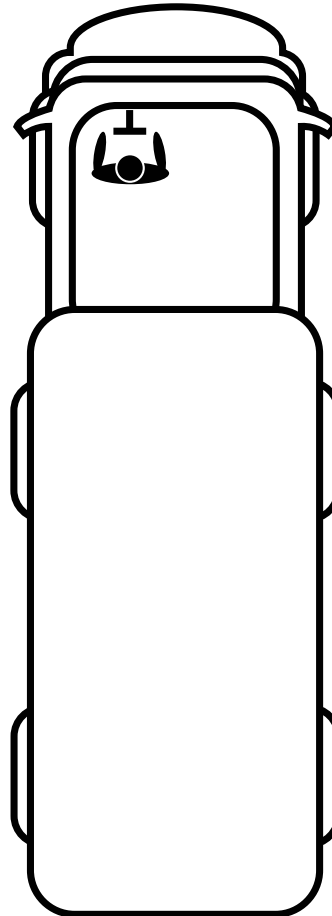
Cover IQ Mechanical Relay

### Tarp System Orientation for Side to Side Systems

#### Street/Roadside Uncovering

Tarp System is fully uncovered and the axle is on the left side of the driver.

Tarp System is fully covered and the axle is in lock-down position on to the right of the driver.



#### Curbside Uncovering

Tarp System is fully uncovered and the axle is on the right side of the driver.

Tarp System is fully covered and the axle is in lock-down position on to the left of the driver.



FOR FRONT TO BACK, FLIP STYLE TARP SYSTEMS, FOLLOW THE ORIENTATION OF THE CURBSIDE OPENING SIDE TO SIDE SYSTEMS (REFERENCE PAGE 6).



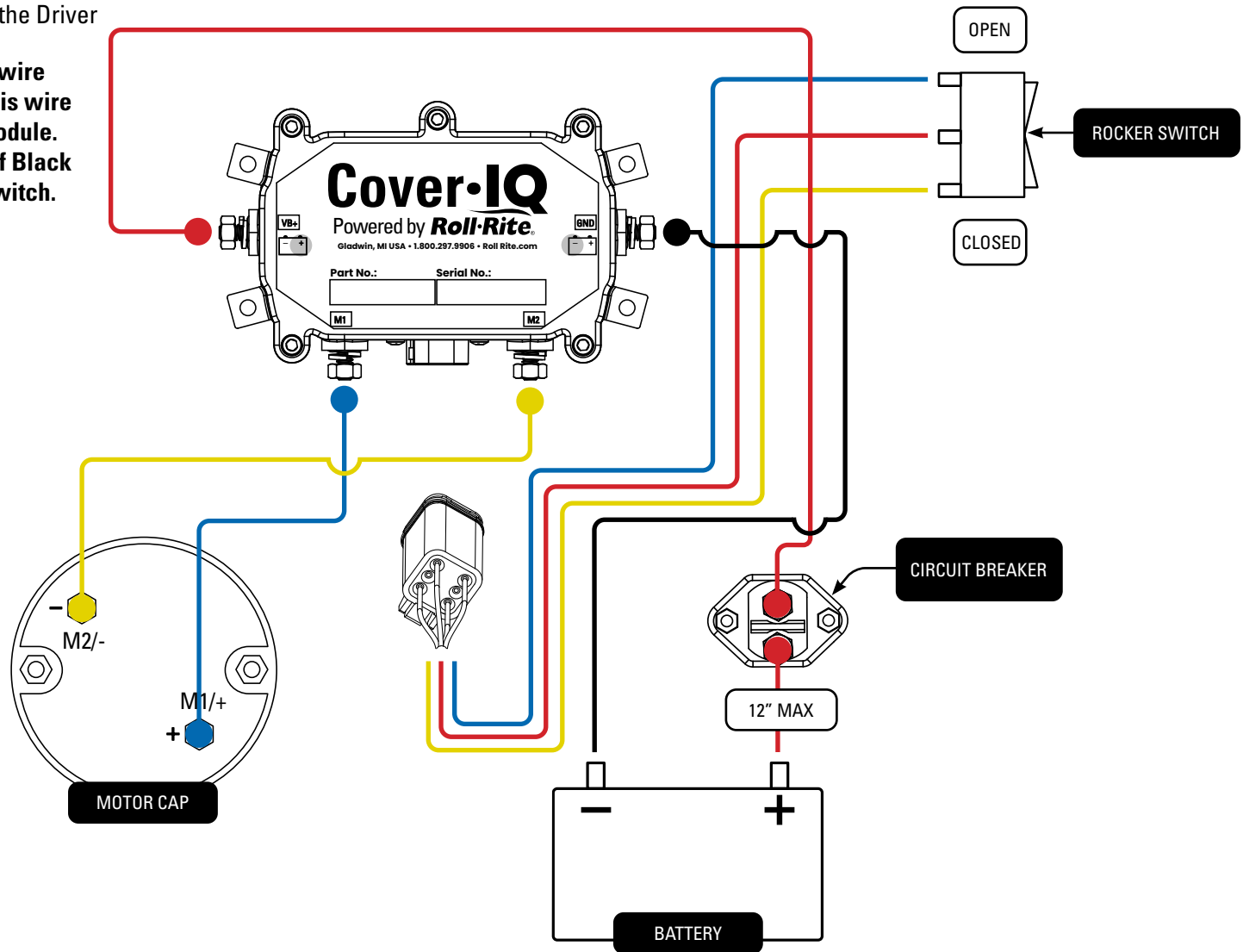
## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Cover IQ Mechanical Relay with Rocker Switch or Rotary Switch

Tarp Uncovering to Street/Roadside of the Driver

**Note:** The wiring harness has a Black wire that will not be used for the switch. This wire will be used when installing the RF Module. In Rocker Switch applications, tape off Black wire to harness after wiring Rocker Switch.





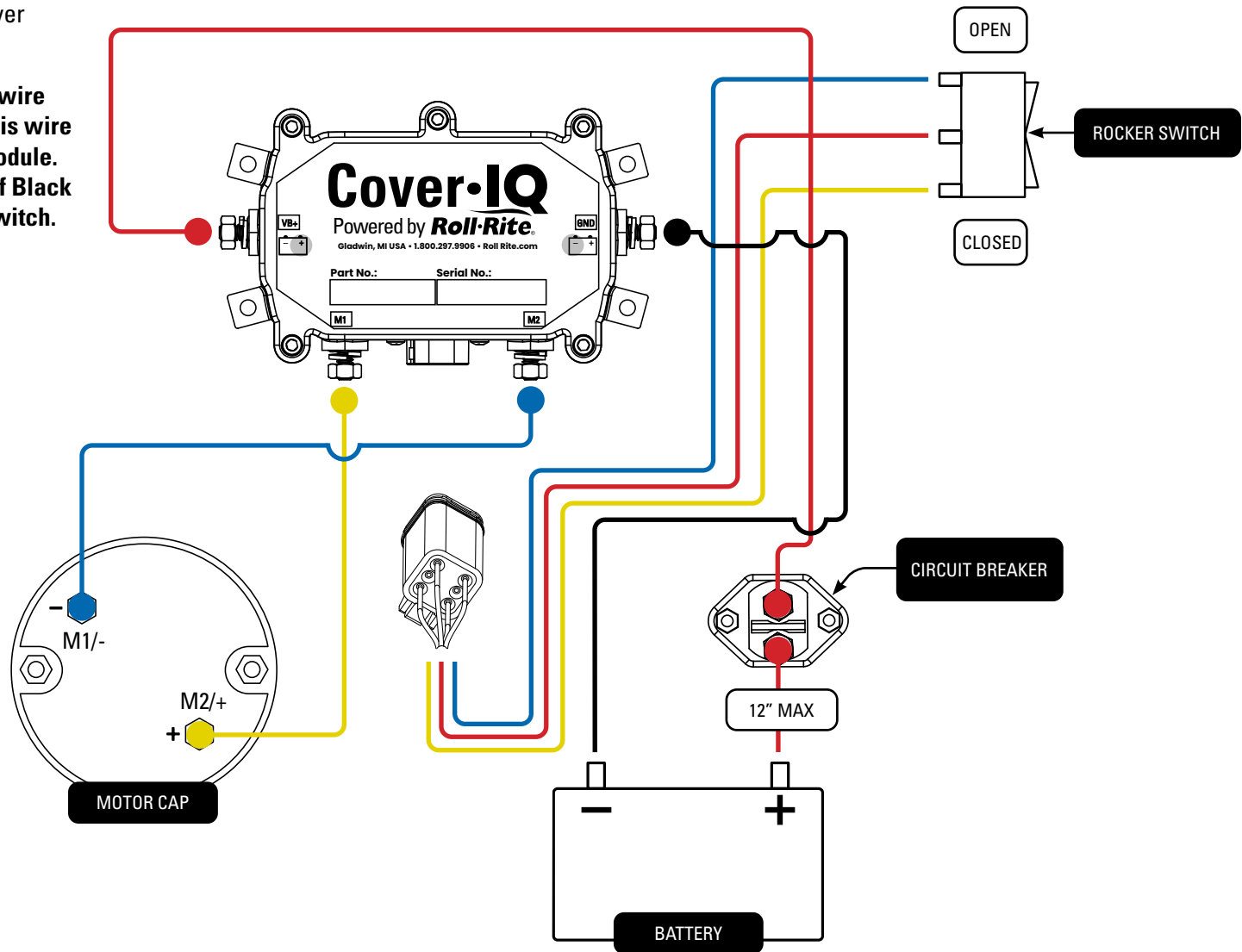
## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Cover IQ Mechanical Relay with Rocker Switch or Rotary Switch

Tarp Uncovering to Curbside of the Driver  
(Front to Back Flip System)

**Note:** The wiring harness has a Black wire that will not be used for the switch. This wire will be used when installing the RF Module. In Rocker Switch applications, tape off Black wire to harness after wiring Rocker Switch.





## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Switch Requirements



**Roll-Rite Rocker and Rotary switches contain hot-at-all-times connection at the center terminal of the switch. No exterior installation of the rocker or rotary switch is permitted. Contamination from an outside environment may connect the switch center input to the command line, resulting in unexpected movement of the tarp system.**

- Use only a Roll-Rite supplied Rocker Switch or Rotary Switch with the Cover IQ Mechanical Relay
- Roll-Rite switches shall be installed inside the cab of the vehicle only, using Roll-Rite switch bracket
- Switch terminals shall be protected from contact with conductive materials
- Switch harness shall be fully insulated
- Switch spade terminal connections shall be fully seated, preventing exposed conductive surfaces

### Gear Motor Installation Requirements

- Gear Motor shall be mounted using all mounting hardware provided
- Electric Motor connections shall be fully coated in dielectric grease
- Yellow and Blue Terminal boots shall be installed, fully covering the motor terminals
- Electric motor connection torque requirement: 22 in.lb



## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Connecting RF Module P/# 101542 to Cover IQ Mechanical Relay

**Step 1:** Remove Ring and Flag Terminals and strip ¼" of jacketing (Fig. 1).

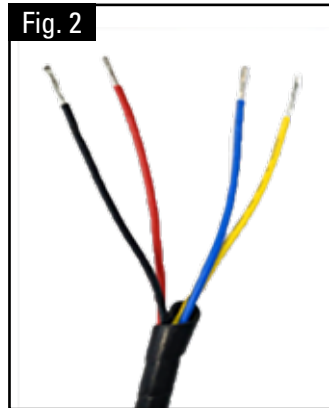
**Step 2:** Strip ¼" of jacketing from each of the (4) wires on the wire harness (Fig. 2).

**Step 3:** Crimp insulated butt connectors to each wire of the RF Unit (Fig. 3). Will require (4) crimp on insulated butt connectors p/# 16126 (Fig.4).

**Step 4:** Attach and Crimp Wire Harness wires to RF Unit with butt connectors (Fig. 5).

- **RED** wire from RF Unit to **RED** wire from harness
- **BLACK** wire from RF Unit to **BLACK** wire from harness
- **BLUE** wire from RF Unit to **BLUE** wire from harness
- **GREEN** wire from RF Unit to **YELLOW** wire from harness

**Step 5:** Heat Insulated Butt Connectors to seal connections.





## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

To Turn RF Module On/Off Press and Hold both large buttons for 3 seconds, this can be done using the two corresponding buttons on the Fob (Fig. 6).

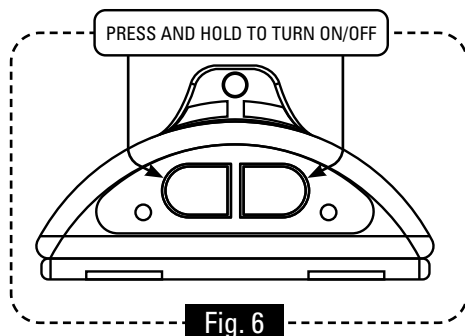


Fig. 6

### Pairing Key Fobs and Receiver

1. Once you have all of the key-fobs you wish to program ready - Turn RF control module on (Press and hold the 2 large buttons for approximately 3 seconds - red light will illuminate when power is on)
2. Push and hold the small round button and the large OPEN/RAISE button (Fig. 7) simultaneously and hold for approximately 6 seconds. The red light will flash rapidly.

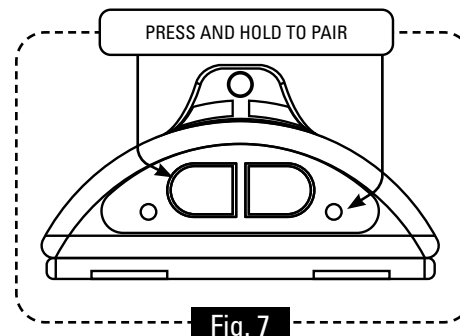


Fig. 7

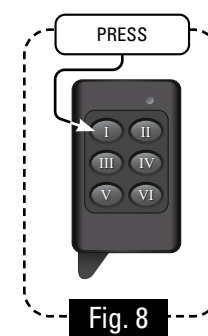


Fig. 8

3. Press the top left\* button on the first key-fob to be programmed for 1 second (Fig. 8). The red light will stop flashing momentarily and then start flashing again.
4. Repeat step 3 for all key-fobs to be programmed before the LED light goes back to solid red .

\*Note: If programming one Key Fob to operate multiple receivers in step 3 you will press the **middle left** button for the 2nd receiver and the **bottom left** button for the 3rd receiver.

### Programming Time Out Feature (Table 1 & 2)

1. Push and hold the small round button and the large CLOSE/LOWER button simultaneously and hold for approximately 6 seconds. The light will flash a number of blinks corresponding the chart below to tell you what the current program is.
2. To adjust time out feature, while in program mode, press the left hand large button (OPEN/RAISE) to increase on time or press the large right hand button (CLOSE / LOWER) to decrease on time. Each press will change program, press until flash code matches the desired time and allow unit to sit until light returns to a solid on condition.

| Table 1: Programming Time Out |                              |
|-------------------------------|------------------------------|
| LED Flashes                   | On Time before Auto Shutdown |
| 1                             | On indefinitely (Default)    |
| 2                             | 2 Minutes on time            |
| 3                             | 4 Minutes on time            |

| Table 2: Programming Time Out |                              |
|-------------------------------|------------------------------|
| LED Flashes                   | On Time before Auto Shutdown |
| 4                             | 6 Minutes on time            |
| 6                             | 8 Minutes on time            |
| 6                             | 10 Minutes on time           |



## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Troubleshooting the System

Use Pin Point Tests to Isolate the Fault (Table 3).

Table 3: Mechanical Relay with Rocker Switch Pin Point Tests

| Problem                               | Likely Cause                                                                                                                             | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tarp System will not Cover or Uncover | Vehicle Battery Low                                                                                                                      | Charge Vehicle Battery -or- Start Engine to operate Alternator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Tarp System will not Cover or Uncover | System Breaker is open due to short circuit in system<br>-or-<br>System breaker is open due to motor stall condition for several seconds | Close Breaker and operate the system.<br>If breaker continues to open:<br>(1) Check all positive wires in system are not shorted to the truck or trailer chassis<br>(2) Check that all positive wire terminal connections to the right of the breaker are not shorted to the truck or trailer chassis<br>(3) Check that neither yellow nor blue motor wires are not shorted to truck or trailer chassis<br>(4) Disconnect the battery and ground from the motor controller. Check the continuity [ $\Omega$ ] between and BAT+ terminal of motor controller and GND terminal of the motor controller. If this value of resistance is less than k $\Omega$ replace the Motor Controller.<br>(5) Disconnect the motor terminals. Check the continuity [ $\Omega$ ] between the M1 motor terminal and the motor cap stud. If the value is less than 1 k $\Omega$ replace the motor. Complete the same test between M2 and the motor cap stud. |
| Tarp System will not Cover or Uncover | Motor Relay Rocker or Rotary Switch Failure                                                                                              | Check the rocker or rotary switch continuity [ $\Omega$ ].<br>(1) Check continuity between switch Red Power Terminal and Green Open output. The value should be OL when the switch is open and less than 0.5 $\Omega$ when the switch is closed.<br>(2) Complete the same test between the Red Power Terminal and the Blue Close output. The value should be OL when the switch is open and less than 0.5 $\Omega$ when the switch is closed.<br>If any test fails, replace the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Tarp System will not Cover or Uncover | Motor Relay Rocker or Rotary Switch Harness Failure                                                                                      | Check the rocker or rotary switch harness continuity [ $\Omega$ ].<br>(1) Check continuity $\Omega$ of each of the three wires (1) Red, (2) Yellow and (3) Blue. Resistance values should be less than 0.2 $\Omega$ . If any wire is found to have high resistance, replace the harness.<br>(2) Plug the harness Red, Blue and Green wires into the known good switch.<br>(3) Connect the Positive terminal to a 12V source.<br>(4) Connect a volt meter between the 12V source ground and the end of the green harness.<br>(5) Press the Open switch. The voltmeter should read 12V. If it does not, replace the harness.<br>(6) Repeat steps 3, 4, and 5 on the blue wire, using the Close option on the switch.                                                                                                                                                                                                                         |



## INSTALLATION INSTRUCTIONS

## Cover IQ Mechanical Relay

### Dimensional Information Only

