Sliding Door Automatic Control Device

Installation Instructions

ABSTRACT: Use this in conjunction with the site prep guide. Install the door prior to installing the motor. The following instructions assume the installer has prior product and installation training before attempting to install the device.

IMPORTANT

The motor and control box are complete units and must not be disassembled in the field.

⚠WARNING!

Always practice safety! Wear the appropriate eye, ear, and hand protection, especially when working with power tools.

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Tools Needed

- 14 gauge cable crimper
- Wire stripper
- Power drill/driver
- 1 1/4" drill bit
- 7/64" drill bit
- 9/64" Allen Wrench
- 3/32" Allen wrench
- Measuring tape
- Heavy duty shear (for cutting the belt)
- Extended #2 Phillips bit
- Safety glasses

Wiring Included

The following supplies are included with your motor but may be supplied locally. If CAT5e cables are locally supplied they MUST be shielded.

- 18" system power cable
- 100’ 14-2 motor power cable (cable crimps included)
- 100’ and 10’ of red CAT5e "Super Cable"
- 75’ and 10’ of blue CAT5e cable
- 25’ of yellow CAT5e cable

Door/Stud/Motor Cavity Prep

There are two options to consider when prepping the stud cavity to accept the drive belt.

1. Option A: Drill into the stud adjacent to the interior most track of the door with a 1 1/4" hole saw. See Figure 1.

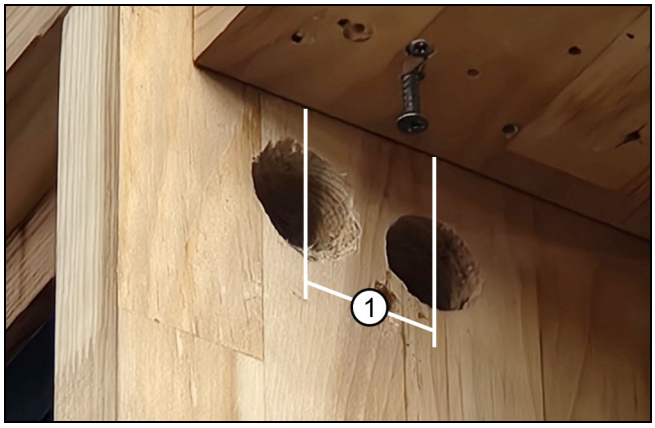

Figure 1

1	1 3/4" on center lined up with the corner key.

2. Option B: Measure the height of your door and cut a 1 1/4" x 2 1/2" deep notch lined up with the belt pass-through on the corner key. When installation is complete cover the notch with a steel tie plate. See Figure 2.

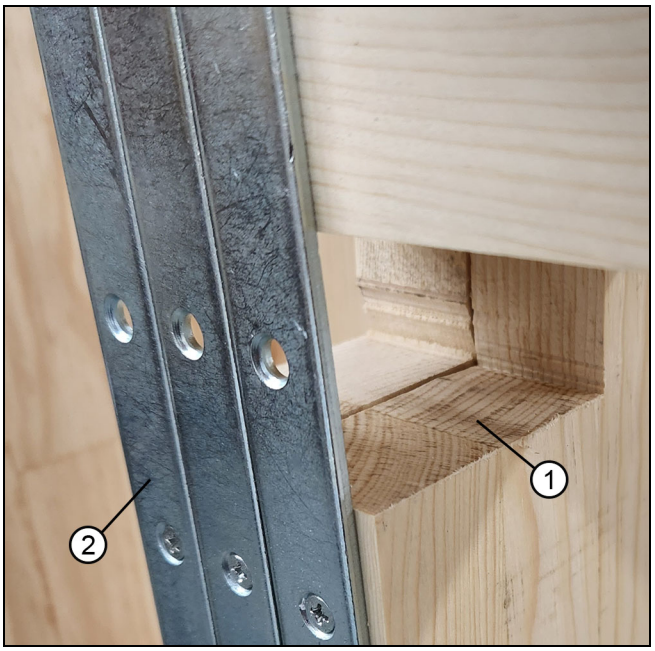

Figure 2 Notched stud

1	Steel stud tie
2	Notch

Wiring Prep

Use the image and table below as a reference for the sections that follow in order to understand how the different components are connected.

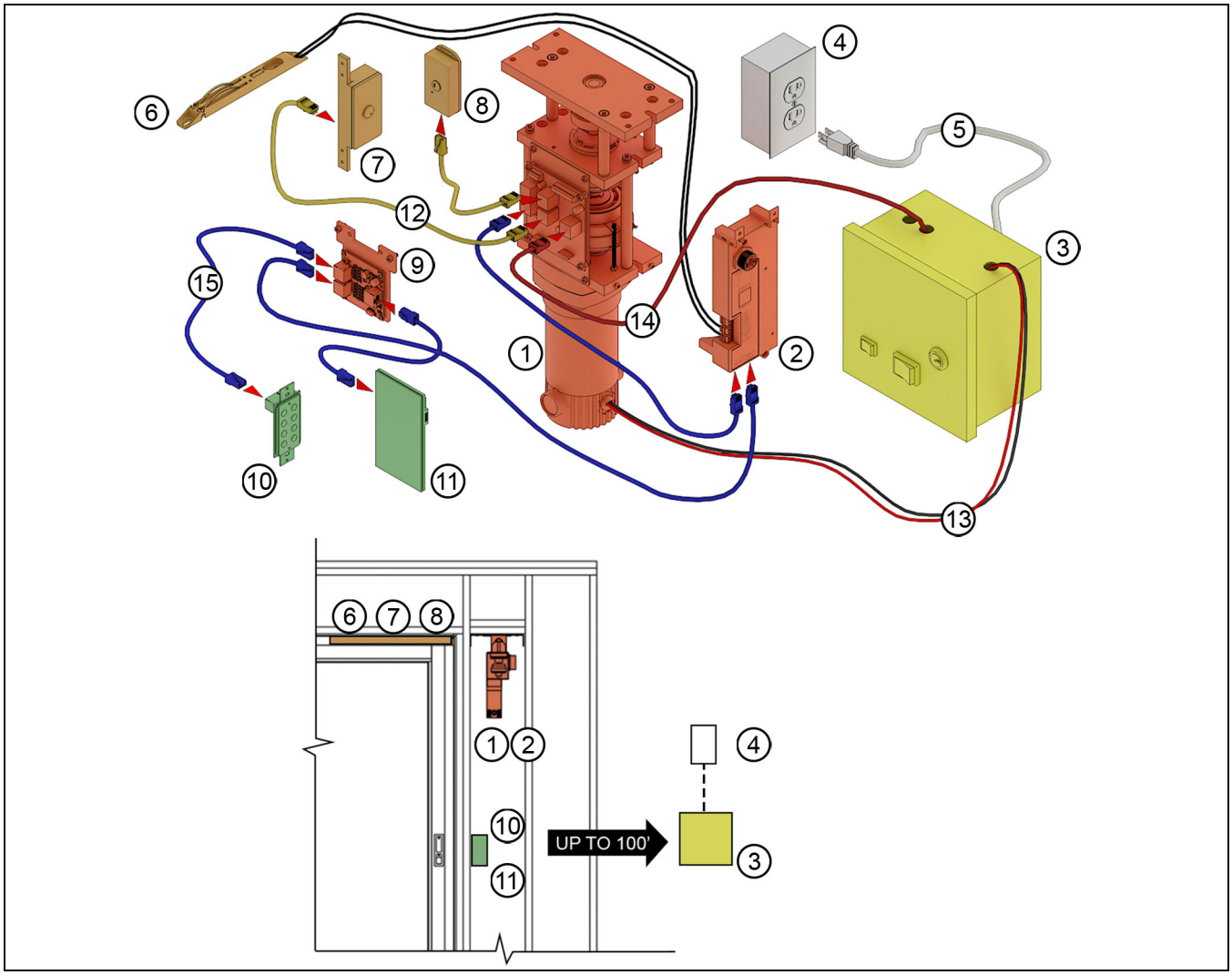

Figure 3

1	Motor
2	Module
3	Control Box
4	110 volt outlet dedicated 15 amp circuit
5	Power cable from outlet to control box (if recessed, the control box must be hardwired)
6	Power Transfer Device (PTD) (located above the primary panel locking stile)
7	Sensor 1 (optional add on located in interior ceiling)
8	Sensor 2 (located above the primary panel behind the head jamb cover)
9	12 in 1 Daughter Board
10	Exterior wall switch
11	Interior wall switch
12	Yellow CAT5e cables ran from each sensor to the motor
13	14-2 Power cable run from control box to motor
14	Red CAT5e “Super Cable” run from the control box to motor
15	Blue CAT5e cable ran from the interior and exterior wall switches to the motor or controller. (Can be daisy chained)

Install the Pulley Corner Key

1. On ultimate MSD only: Remove the cover with a 9/64” Allen wrench. See Figure 4. Remove the bottom washer, the pulley and top washer and set aside. See Figure 5. This will give you access to the side screw holes. Attach the pulley base with two #8 x 3" screws into the side RO. See Figure 6. Replace the washers, pulley and cover in the reverse order you removed them.

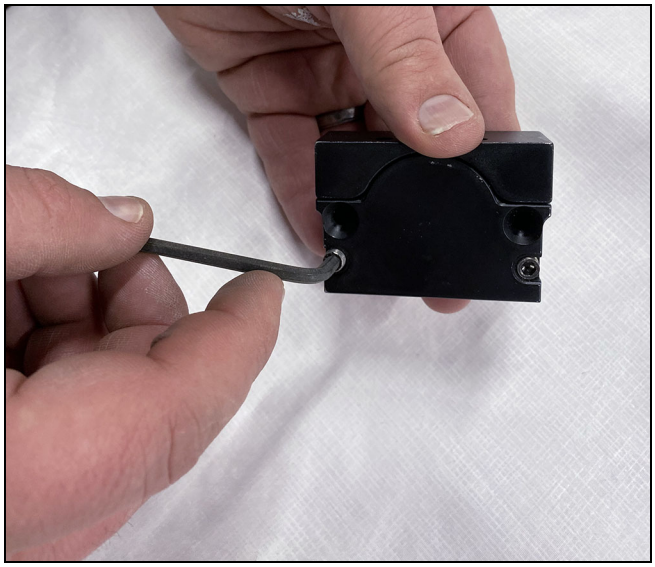

Figure 4

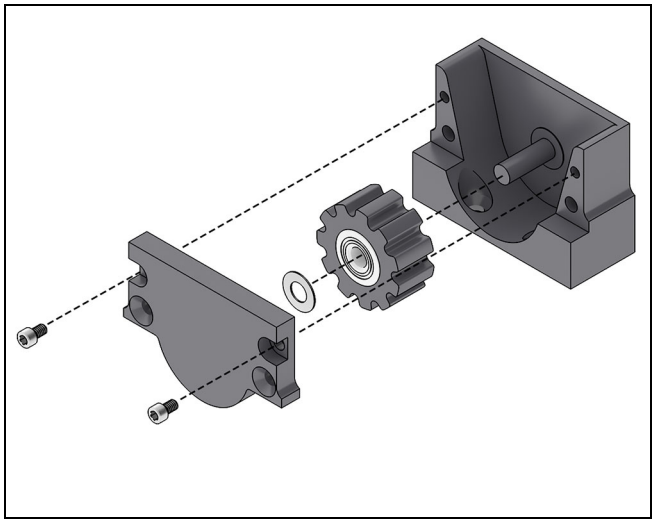

Figure 5

Figure 6

2. Make sure the corners are properly shimmed near the corners to support the corner key pulley fasteners.

3. Fasten the pulley corner key into the head jamb rough opening with two #8 x 3" screws. provided. See Figure 7.

Figure 7

1	#8 x 3" screws

Install the Power Transfer Device (PTD)

IMPORTANT

All screw terminals must be tightened to 2lb-in.

1. Install the frame PTD in the head jamb prior to panel installation. First, label your wire bundles. Label the reed switch bundle as “closed”. Label the leaf spring bundle as "lock".

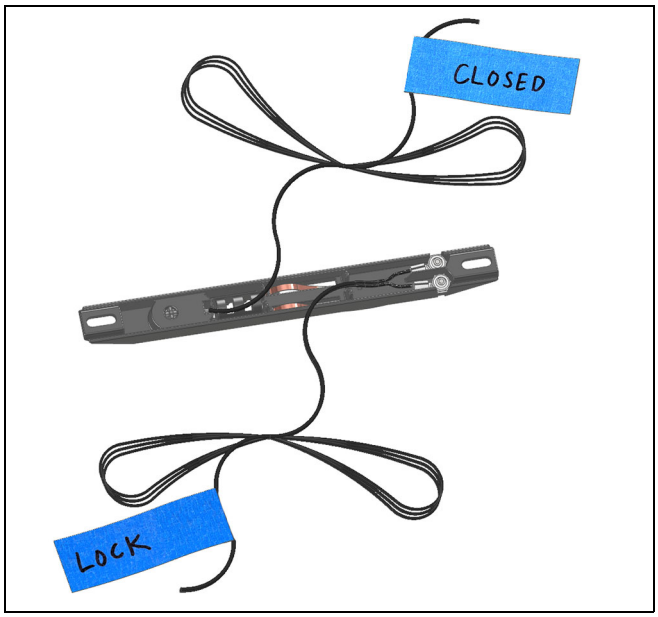

Figure 8 Label the reed switch and leaf spring wire bundles.

ATTENTION

Run PTD wires through the frame fabrication and into the RO prior to completing the installation (before any insulation is applied).

2. If necessary (as in bi-parting configurations) splice the **un-stripped** wires with the connectors included and re-label the ends as "Closed" and "Lock".

IMPORTANT

Do not strip the wires when using the connectors. If the wires are stripped, trim the exposed wire back. The orange button on the connector must be flush to the housing when compressed.

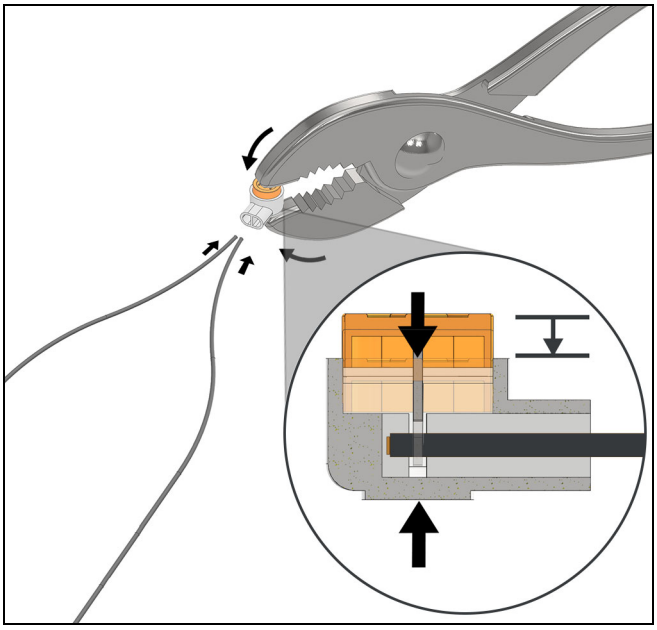

Figure 9

3. Shim the frame at the frame PTD location take care not to bow the head jamb.

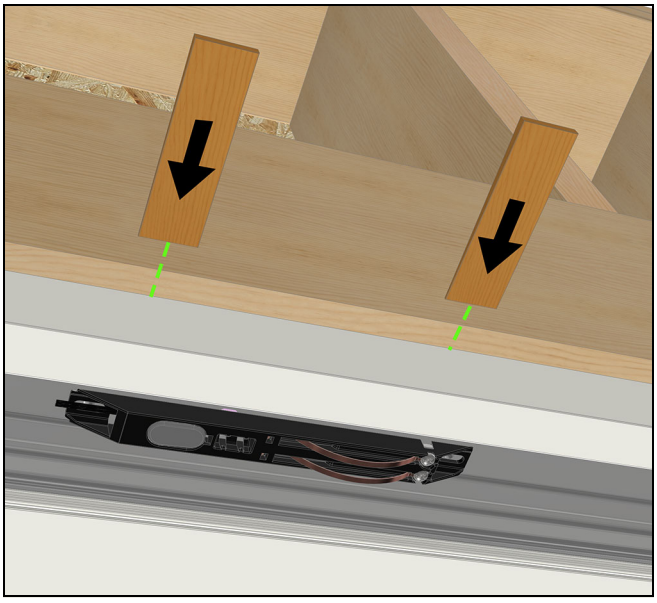

Figure 10

4. Install the frame PTD with #10 x 3" screws provided. Center the screws in the slots to position the PTD initially. When the PTD is positioned where you want it, drive the screws into the RO framing. DO NOT OVER-TIGHTEN SCREWS

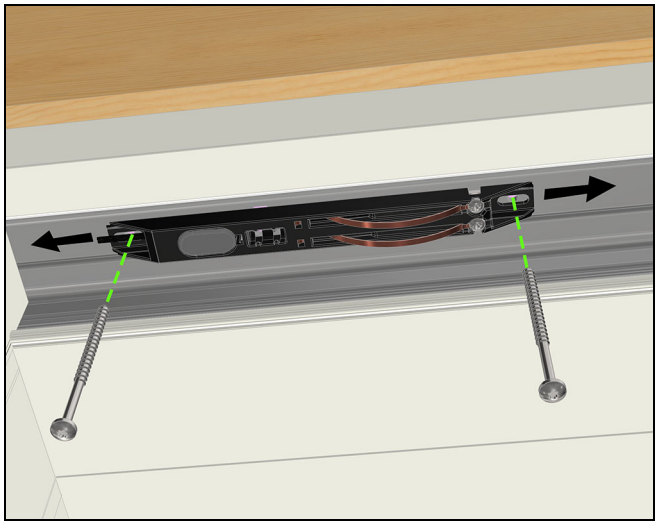

Figure 11

NOTE: The Modern Multi-Slide door uses a power transfer device (PTD) on the panel and in the frame. The PTD on the panel is installed at the factory. Take caution not to bend the springs when installing the panel.

NOTE: If adjustment is needed after installation, loosen the screws and slide the PTD left/right then tighten.

Install the Motor

IMPORTANT

Check the door for proper operation before proceeding. Make the sure the panels are square and operating smoothly. Make sure you have proper head jamb clearance above the panels for the belt to travel. Make sure the locking hardware locks and engages properly.

Hint

You will align the motor so it is centered on the lead panel. Mark a centerline in the motor cavity to aid installation. The front of the motor is the side with the single stand-off at the top of the motor. See Figure 13.

1. Install a screw on their centerline within 3" of the stud and leave the head proud about 3/4"-1".

Figure 12

2. Hang the motor by the slotted hole on the front edge of the mounting plate. See Figure 13.

3. Pre-drill with a 7/64" drill bit and fasten the four corners with #8x 3" screws provided.

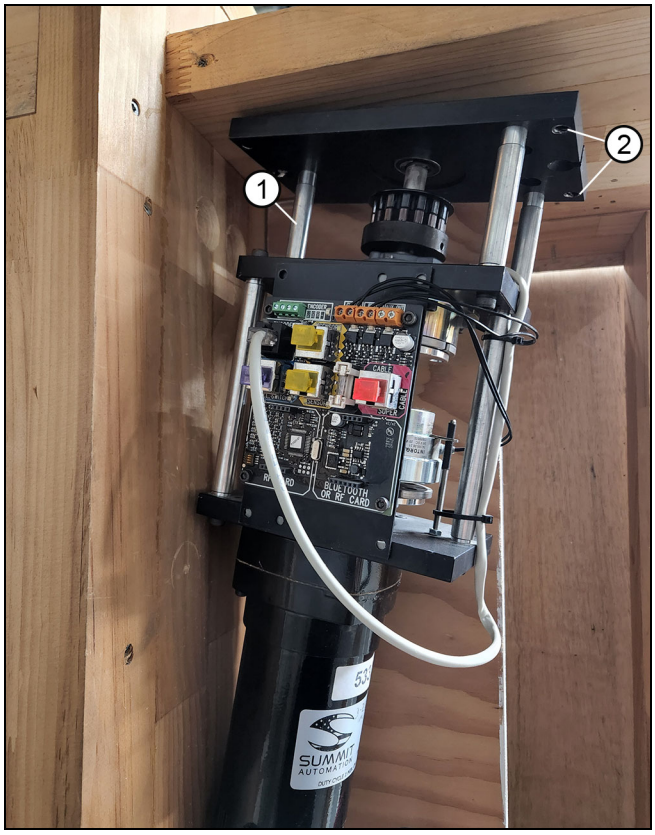

Figure 13

1	Single stand-off oriented toward belt holes.
2	Installation holes at the corners of the motor

4. Set the motor drive pulley in line with the belt holes and secure the two set screws with a 3/32" Allen wrench. Adjust the pulley up or down until aligned. Then tighten the set screws. This pulley can be adjusted later to avoid belt rub.

IMPORTANT

Make sure there is clearance below the drive pulley. (Note the area marked with a red arrow in Figure 14 (next page).

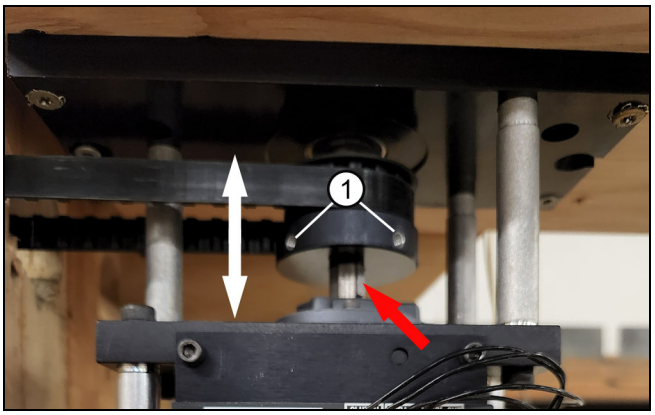

Figure 14 Drive pulley shown with belt attached

1	Set screws (2) are located at 90 degrees from each other

Install the Control Box

The control box can be located within 100’ of the motor. Use an accessible, well lit location in an A/V closet or utility room separate from the motor cavity. Mount the control box chest high in a well lit space.

1. On the front of the control box, make sure the AC and Battery switches are in the off position. See Figure 15.

Figure 15

2. Mount the box from the side or back using the installation keyholes on the control box and the installation screws provided. Use an extended #2 Phillips bit to aid in installation. When mounting on the back start with the bottom left screw first. Fasten all screws to securely mount the control box (4 screws for rear mount, 2 screws for side mount). See Figure 16.

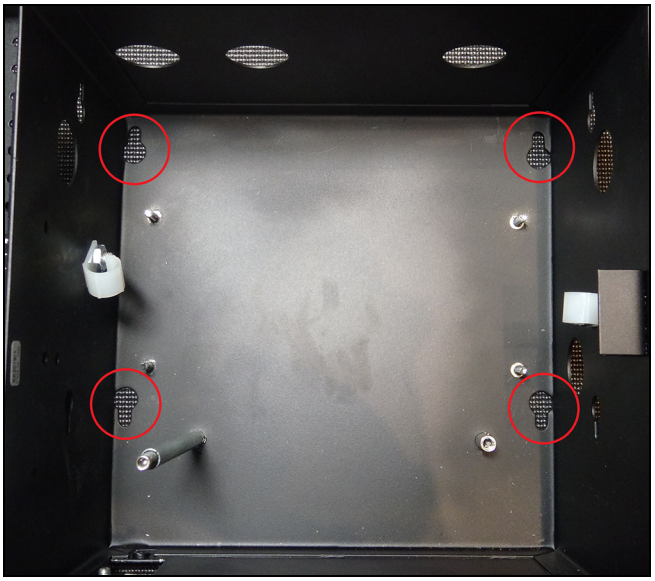

Figure 16 Rear mounting holes. Controller removed for illustrative purposes only.

3. Determine which knockouts to remove to allow power and CAT5e cables to enter the control box.

IMPORTANT

Make sure you leave some slack in the cables before connecting to the control box. Make sure there are no tight bends in any cable.

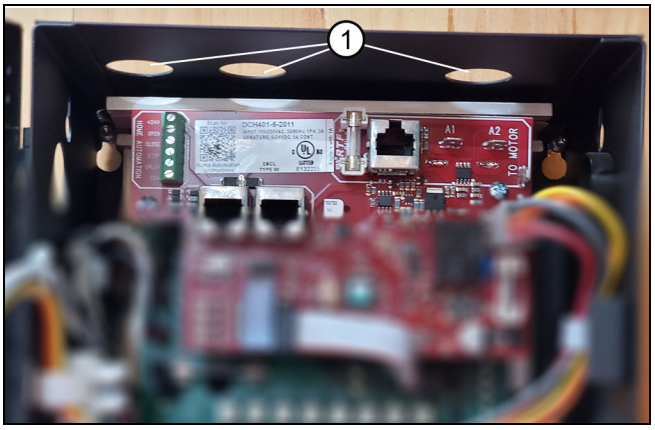

Figure 17

1	Knockouts

4. Pass the cables through the knockout and connect to the correct receiver. Make the following connections in the control box:

- Connect the white14 gauge wire to the A1 port and the black 14 gauge wire to the A2 port.
- Connect the red CAT5e supercable to the corresponding connectors from the motor.
- Connect the yellow CAT5e cable to the yellow port on the motor.
- Connect the blue CAT5e cable to the blue port on the control box or motor, whichever is more accessible.

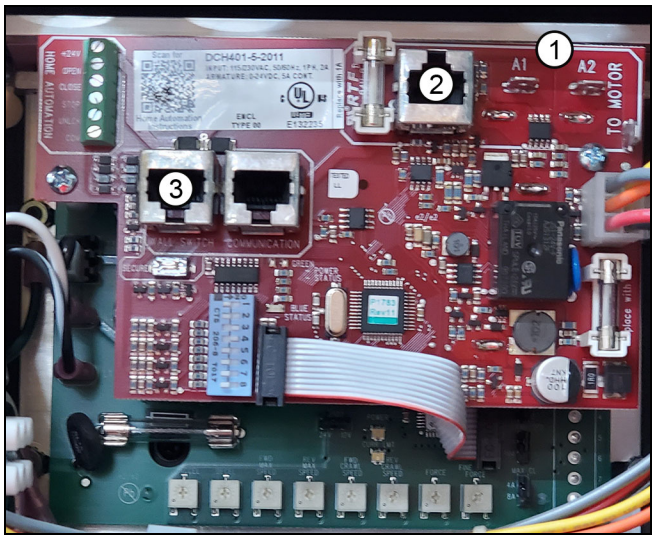

Figure 18 Control Box connections.

1	A1 and A2 ports--14 gauge wires from motor
2	Red CAT5e from motor
3	Blue CAT 5e (can be connected to control box or motor)

5. Remove the battery cover and battery from the control box. Connect the two loose red battery cables together to complete the circuit. Replace the battery and battery cover/nut. See Figure 19 and Figure 20.

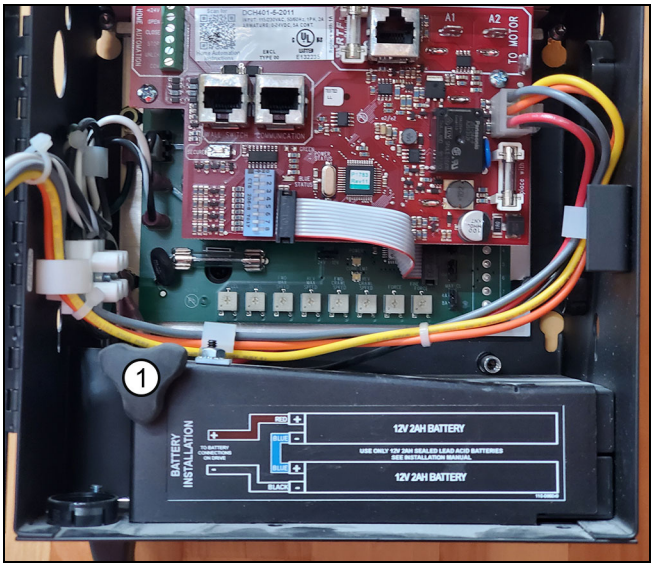

Figure 19

1	Battery cover nut

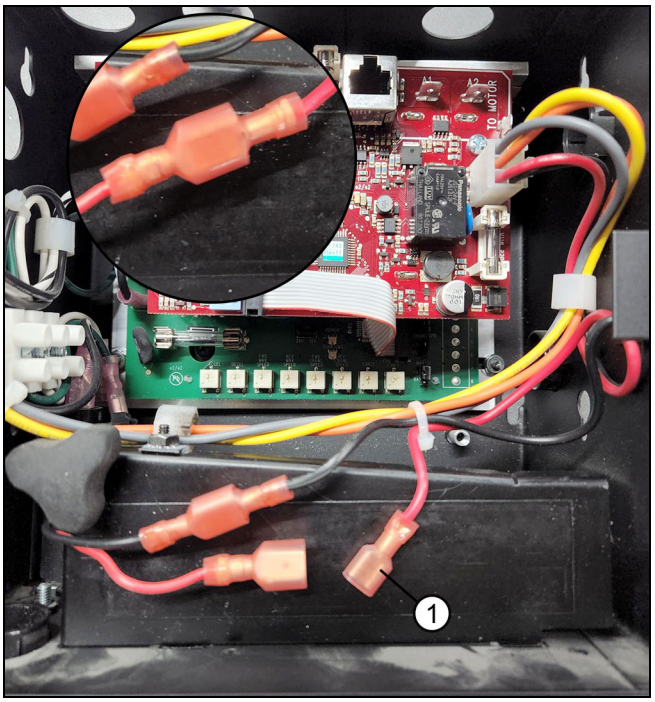

Figure 20

1	Battery cables.

6. Attach the blue female cable crimp connectors to the 14-2 cable from the control box. See Figure 21.

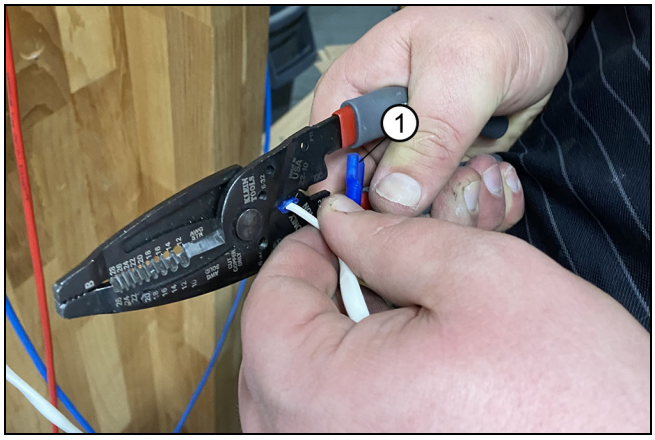

Figure 21

7. Control Box to Motor: the red Super Cable connects to the corresponding port on the motor. Red and black female leads from the motor to the black and white male leads from the control box. See Figure 22.

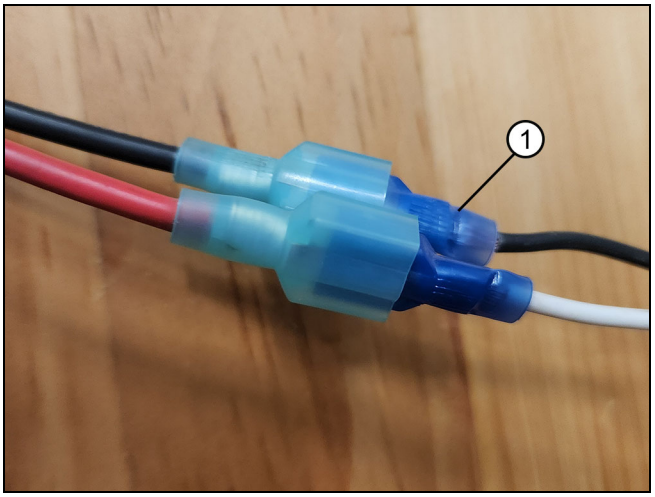

Figure 22

1	Ensure a solid crimp

Connecting to Power Source

1. Insert the AC power cord into the bottom of the control box and plug the other end into a standard 110v/ 15 amp dedicated circuit.

ATTENTION

The next step on hard wiring should only be done by a licensed electrician.

2. Optional Hardwire: Remove the two screws from the power port on the control box to access internal wiring.

Install the Module

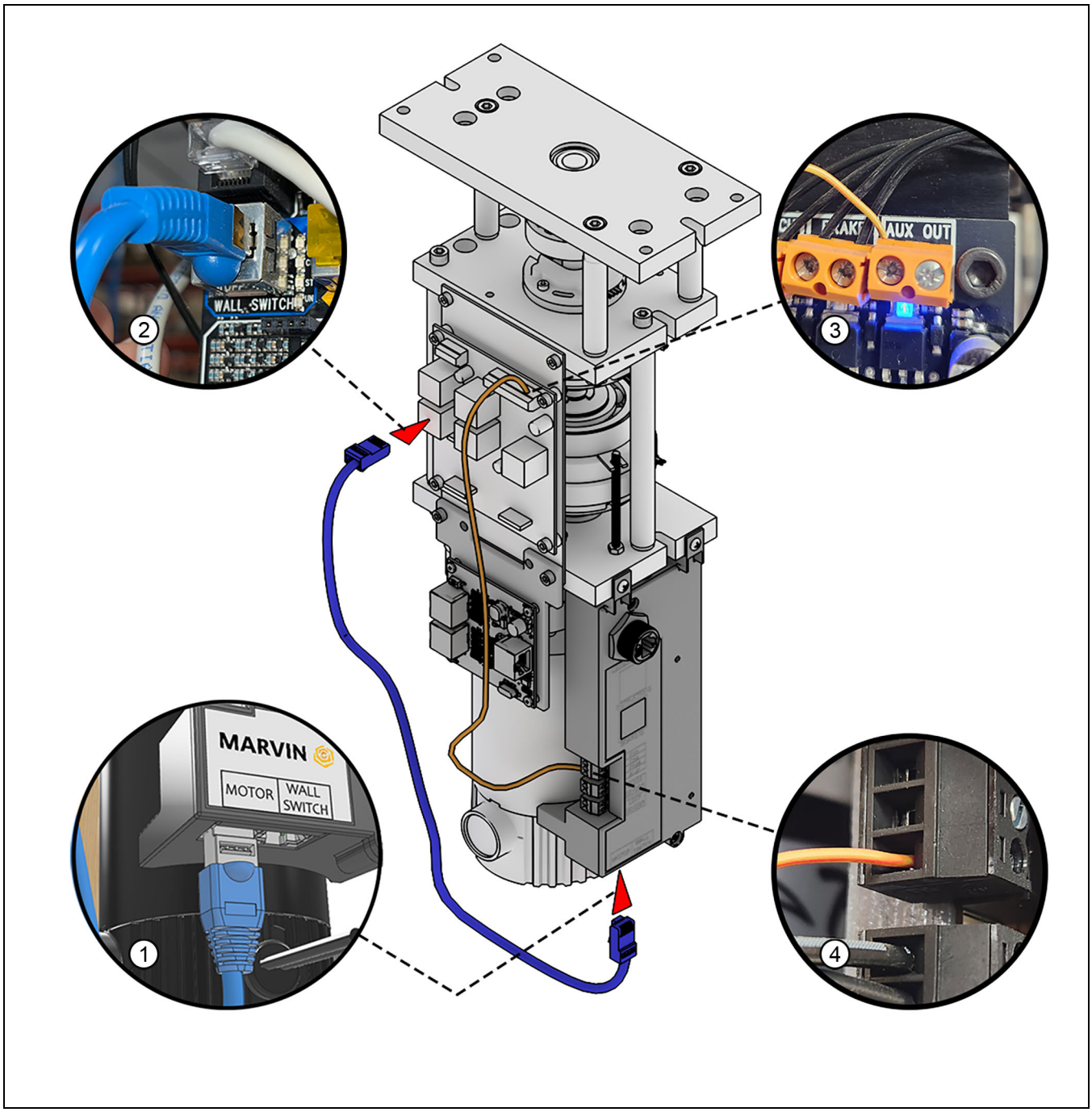

Figure 23 Motor with MCH control module installed

1	Motor port on control module
2	Wall switch on motor circuit board
3	AUX port on the motor circuit board
4	AUX port on control module

⚠ WARNING!

Power should be off before making any connections.

1. Peel the backing from the VHB tape on the module. See Figure 24.

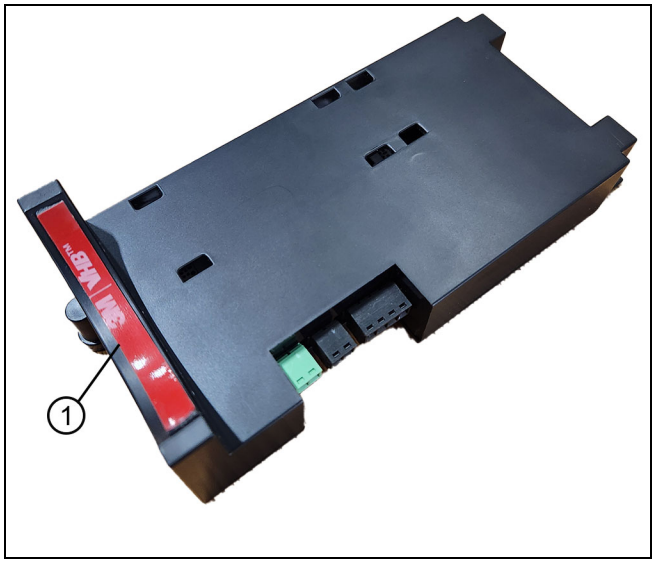

Figure 24

1	VHB tape

2. Line the module up so that the holes align with the threaded holes under the single post of the motor. See Figure 25.

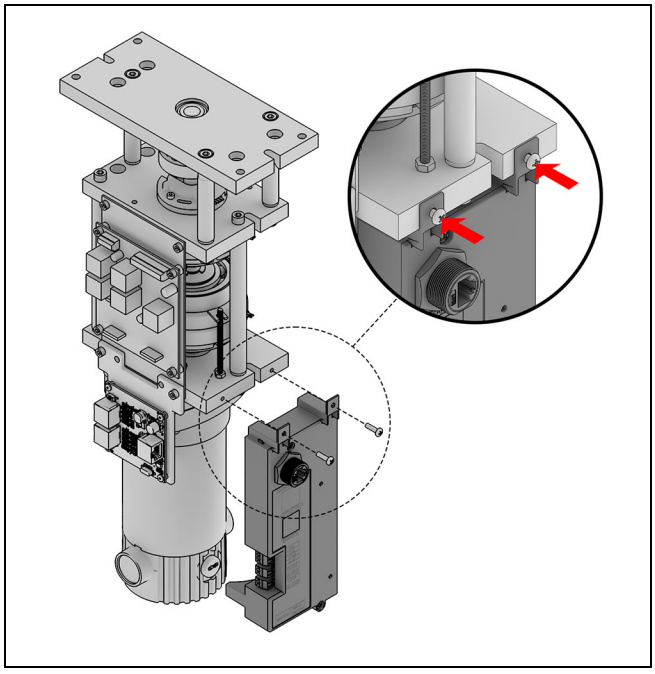

Figure 25

3. Insert and tighten provided screws. Press firmly against the bottom of the module to secure the VHB tape to the motor.

4. Connect the "Wall Switch" port on the motor and the "Motor" port on the Marvin Control Module with the 2 ft. Cat5E cable.

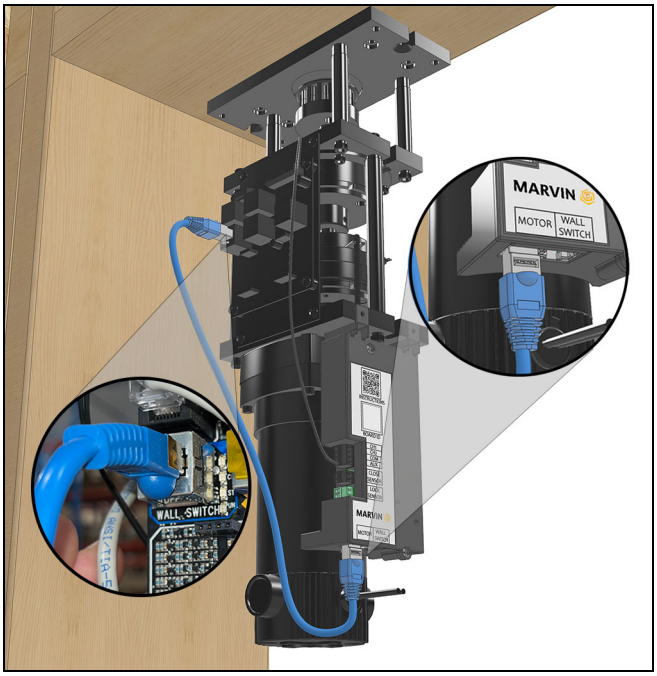

Figure 26

Installation of 12 in 1 Daughter Board

1. Use a 9/64" hex wrench to remove the hub plate screws on the motor.

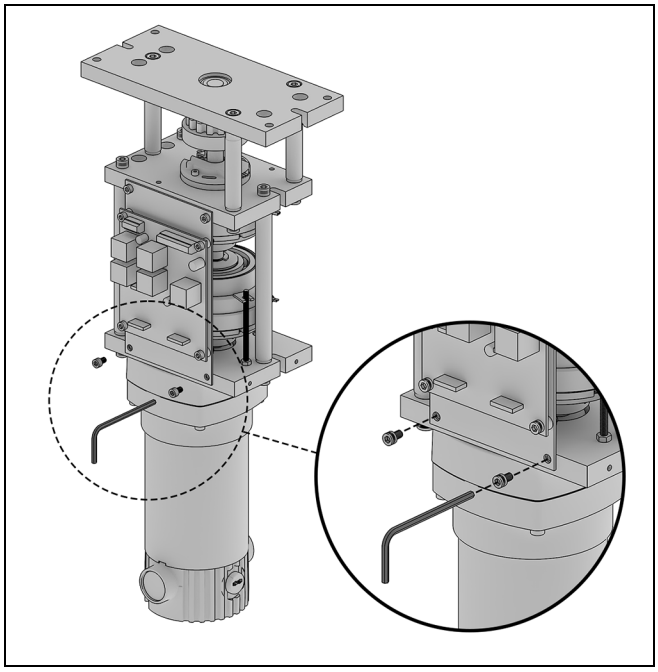

Figure 27

2. Attach the "Daughter Board" to the motor using the same holes and included fasteners.

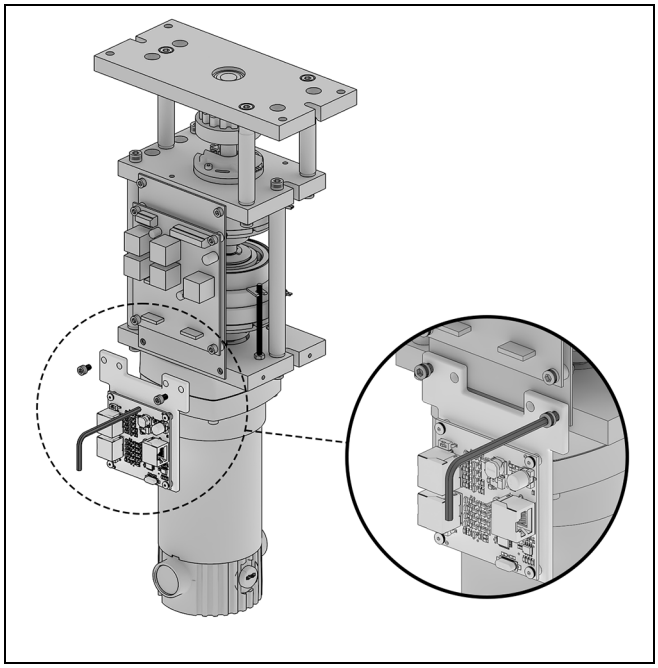

Figure 28

3. Attach the "OUT" port on the daughter board to the "WALL SWITCH" port on the Marvin Connected home module with a 12 inch CAT5e cable.

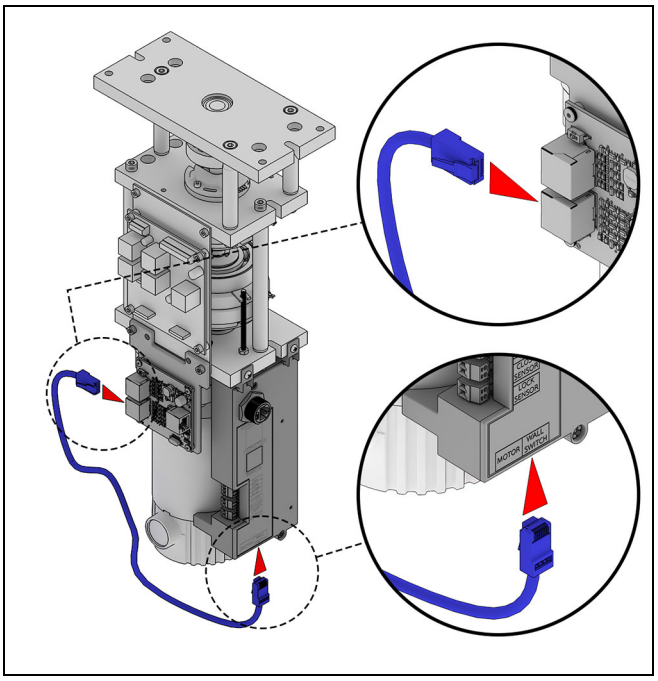

Figure 29

Install the 12 in 1 Wall Switch

1. Connect PORT 1 on the 12-in-1 touch screen to the port labeled, "12-in-1 Only".

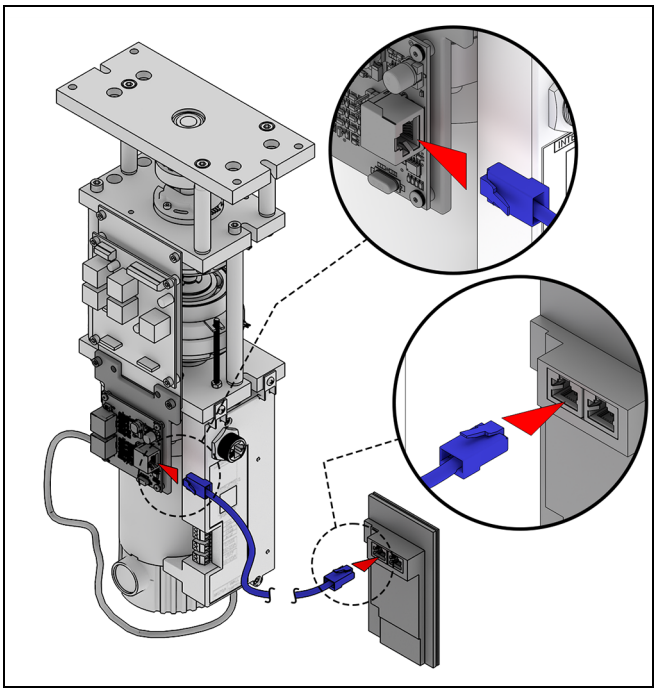

Figure 30

External Secure Keypad

1. Turn off power to the system (AC and Battery).

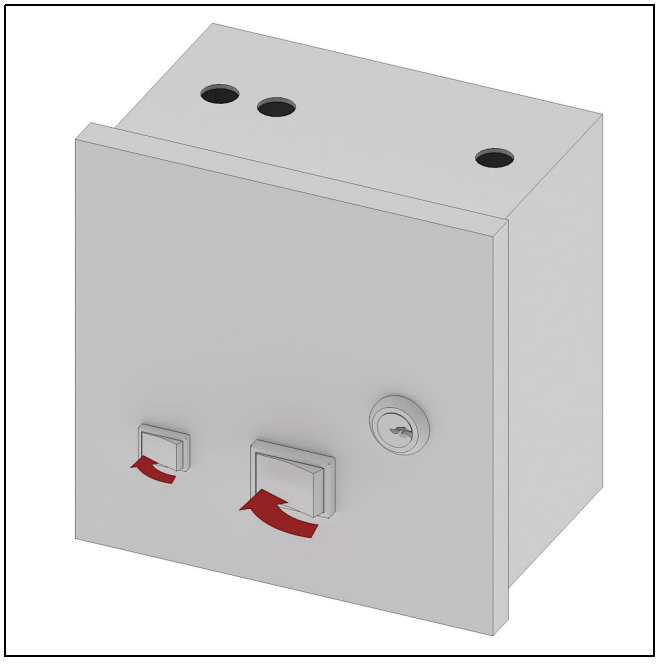

Figure 31

2. Connect the "OUT" port on the exterior wall switch to the "IN" port on the 12-in-1 daughter board.

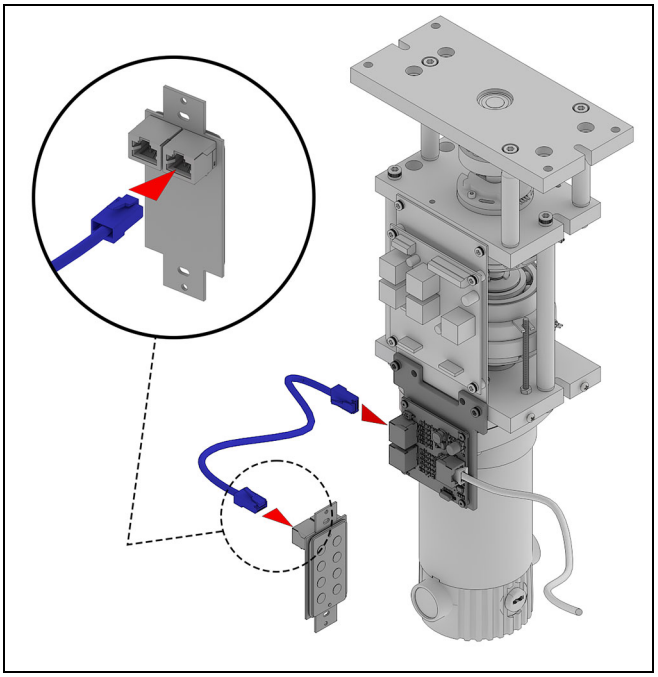

Figure 32

3. Move the Security DIP switch on the "Out" area of the Exterior Wall switch to the "ON" position.

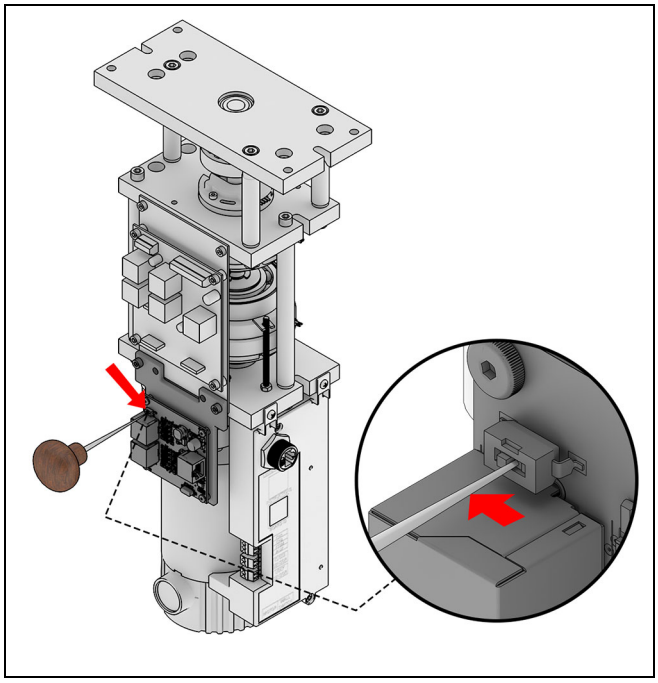

Figure 33

4. Move the Security DIP switch on the Daughter Board "IN" port to the "ON" position.

5. Power the system ON.

6. On the keypad, enter the default PIN (1,2,3,4). The lights will rapidly flash when the code is accepted.

7. Press "UNLOCK" and fully close the door.

8. Press "CLOSE" on the keypad".

9. To change the code, enter the previous code (default is 1,2,3,4) then hold down the "1" and "2" buttons simultaneously until the lights blink slowly.

10. Enter a new 4 digit code two times (2X). The lights will flash rapidly when the new code is accepted.

Install the Motion Sensor

1. Use double sided tape to attach to the sensor to the head jamb cover nearest the primary panel. The sensor eye will fit through the hole in the cover. See Figure 34.

Figure 34 Inset shows sensor eye through head jamb cover

1	Sensor through head jamb cover

IMPORTANT

All steps must be completed with the motor powered down and unplugged.

2. Sensors: connect the yellow CAT5e to the corresponding sensor port on the motor. See Figure 3 and Figure 35.

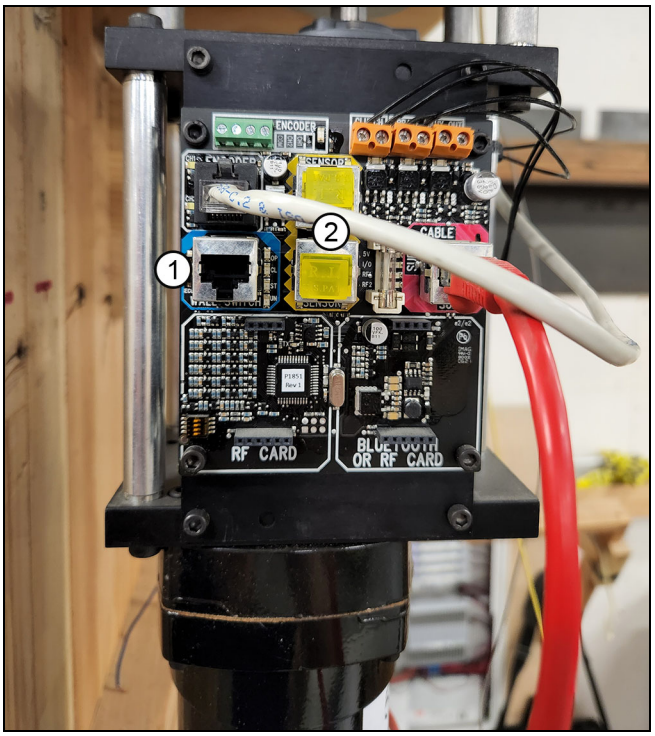

Figure 35

1	Wall switch port on the motor
2	Sensor ports on the motor

Connecting Components

1. The terminal blocks are designed to accept #16-30AWG strand or solid copper wires. Strip both ends of the provided yellow 18" Wire (AWG-18) 1/4" (6.5).

IMPORTANT

All screw terminals must be tightened to 2lb-in"

2. Connect one end to the screw terminal labeled AUX on the motor circuit board and tighten to 2 in-lbs torque. See Figure 36 on page 17(3).

3. Connect to the other end to the AUX port on the black 4 pin connector on the Marvin control Module and tighten to 2 in-lbs torque. See Figure 36 on page 17(4).

IMPORTANT

The wire MUST be in the AUX port and not in one of the unused ports on the 4 pin connector, otherwise damage to the control board may occur.

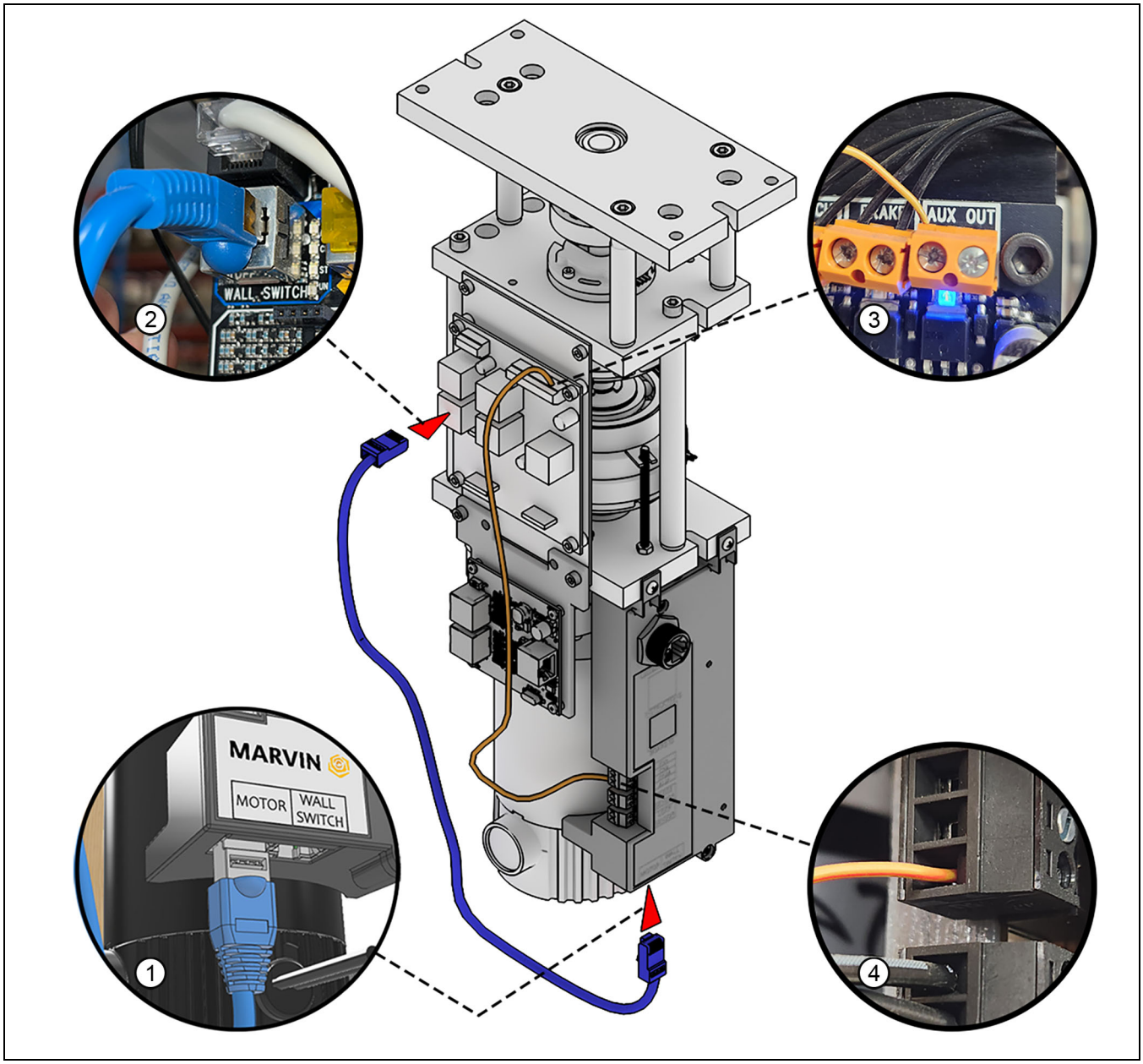

Figure 36 Motor with MCH control module installed

1	Motor port on control module
2	Wall switch on motor circuit board
3	AUX port on the motor circuit board
4	AUX port on control module

4. Remove the black 2 pin connector marked "Close Sensor" and the green 2 pin connector marked "Lock Sensor" from the control module.

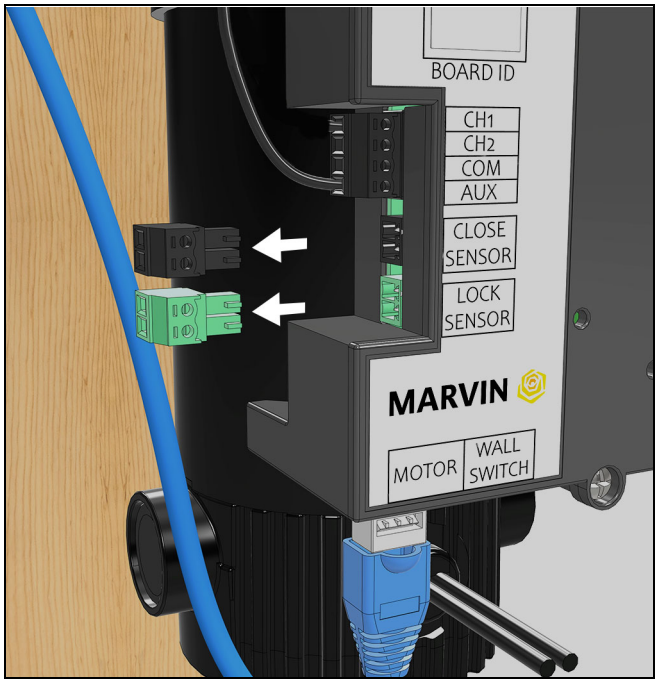

Figure 37

5. Connect the "closed" wire to the to the screw terminal on the black "Close Sensor". Connect the "locked" wire to the screw terminal on the green 2 pin connector marked "Lock Sensor". Re-install the black and green 2 pin connectors on the control module.

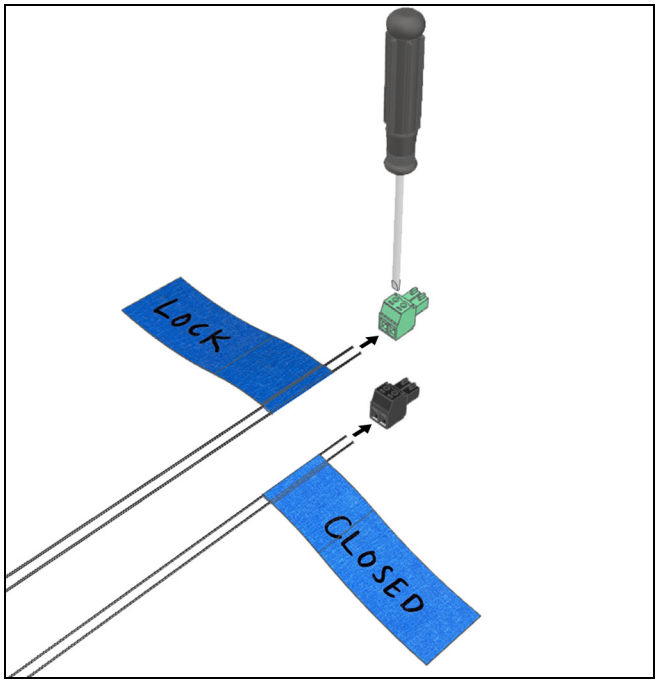

Figure 38

Threading the Belt

IMPORTANT

Ensure there are no twists in the belt throughout installation.

1. Loosen turnbuckle until there are 5 threads of engagement on each side. See Figure 39

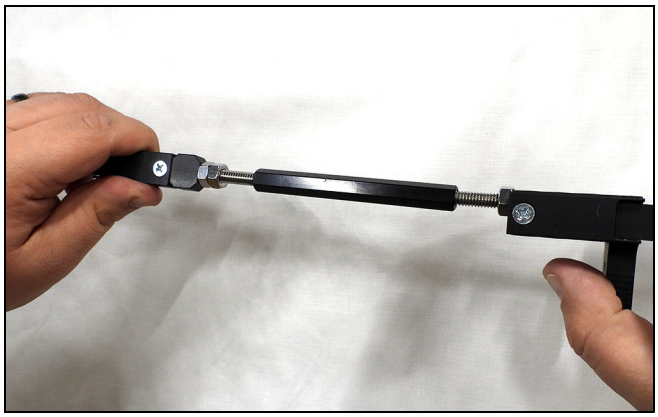

Figure 39

2. Insert belt through belt clamp. See Figure 40

Figure 40

3. Attach belt on panel bracket and fasten with #8- 32 x 3/8" screw. See Figure 41, Figure 42, and Figure 43.

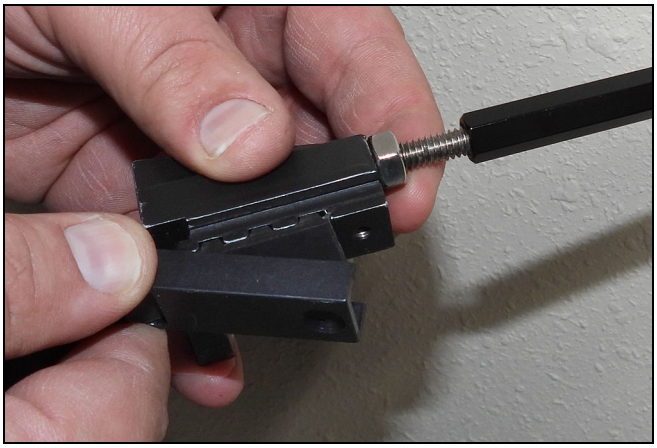

Figure 41

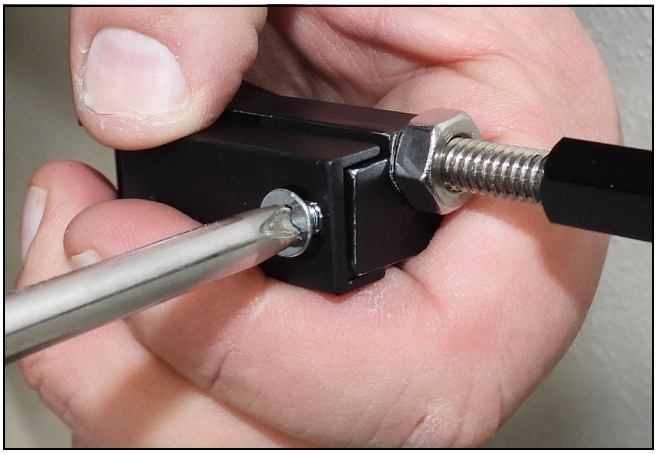

Figure 42

4. Thread belt through exterior side of return pulley. Ensuring no twists in belt, thread belt over top of panel with teeth facing up. See Figure 43

Figure 43

IMPORTANT

On bi-parting units, belt must run above the structural bracket with teeth facing up. See Figure 44.

Figure 44

1	Structural bracket

5. Thread the belt through the pass through corner key and around motor drive sprocket. Continue to thread the belt back over the panel tooth side up. See Figure 45

Tip

Ensure that termination of the belt is on the exterior side of the door.

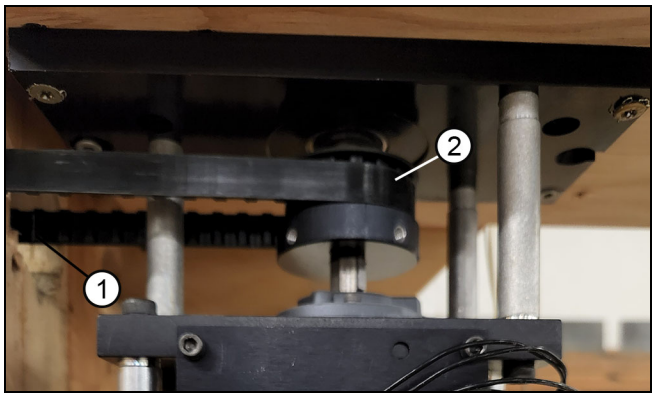

Figure 45

1	Holes in stud to access corner key
2	Belt

6. Pull the belt tight against the turnbuckle. Mark the belt to ensure there are 3 teeth of engagement on the turnbuckle. Cut the belt with a heavy shear. See Figure 46.

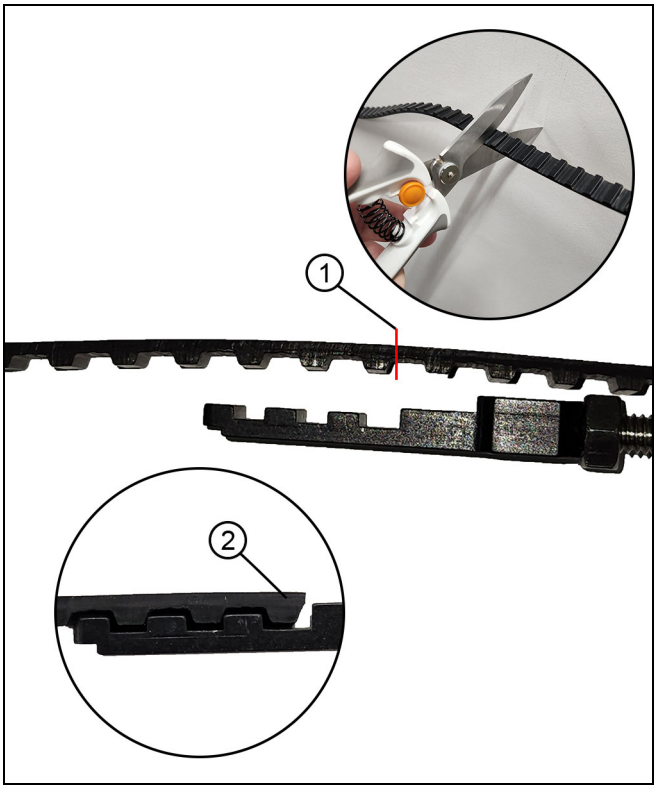

Figure 46

1	Cut next to the "tooth"
2	End tooth is fully engaged with clamp

7. Fasten belt to turnbuckle, completing the loop. See Figure 47.

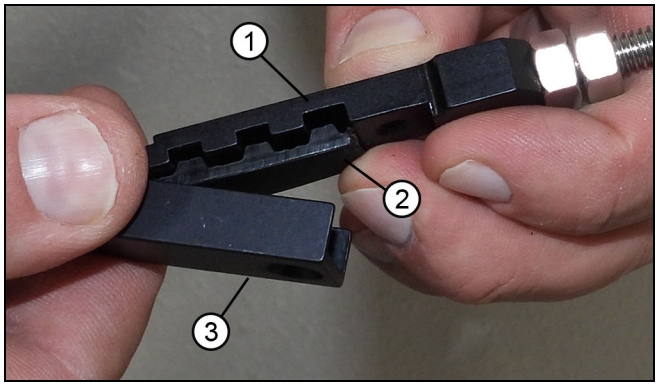

Figure 47

1	Turnbuckle
2	Belt
3	Clip

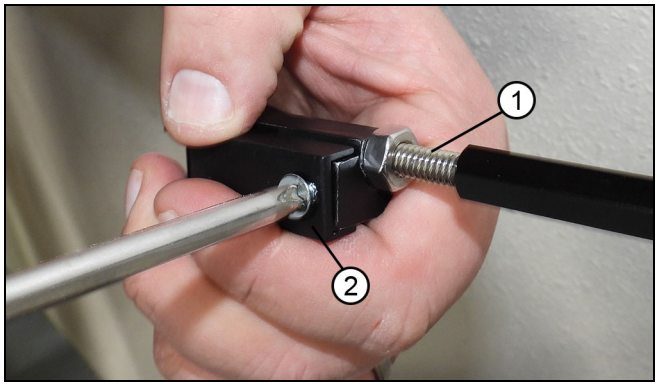

Figure 48

1	Turnbuckle
2	Set screws

8. Tighten turnbuckle nut until belt is taut, ensuring turnbuckle ends don't spin (twisting belt).

9. Tighten the lock nut against the turnbuckle barrel. See Figure 49.

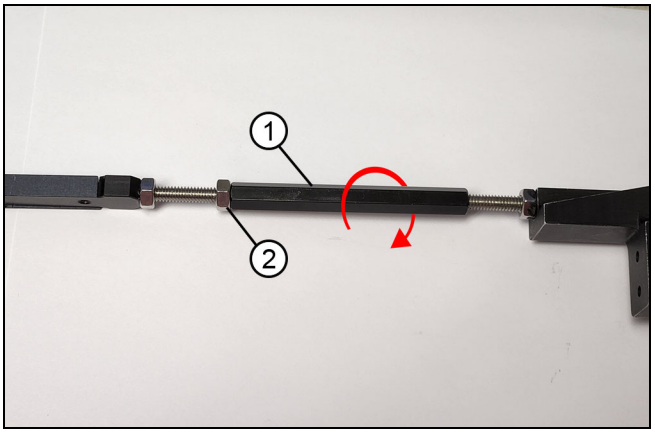

Figure 49

1	Barrel
2	Lock nut

10. Fasten the turnbuckle to the pulley side of the panel with two screws. See Figure 50

Figure 50

NOTE: Follow the next step and step 12 on page 22 for Bi-Parting units only.

11. Hook the bi-parting clamp on the interior side of the belt with the teeth facing upwards. See Figure 51

Figure 51

12. With panels in locked position, slide the clamp into the route and fasten with two screws. Ensure the clamp is engaged with the teeth on the belt. See Figure 52

Figure 52

Installing the Optional Closing Ramp

Using a smartphone or similar device, scan the QR code or click here to play a video of this procedure.

NOTE: the closing ramp is mounted to the frame, and helps apply force to the back side of the panel to ensure the panel fully seats into the jamb. It is typically needed on narrow and tall panels.

1. Fully close the door.

2. Locate the pre-drilled hole 1" behind the interlocking stile. See Figure 53.

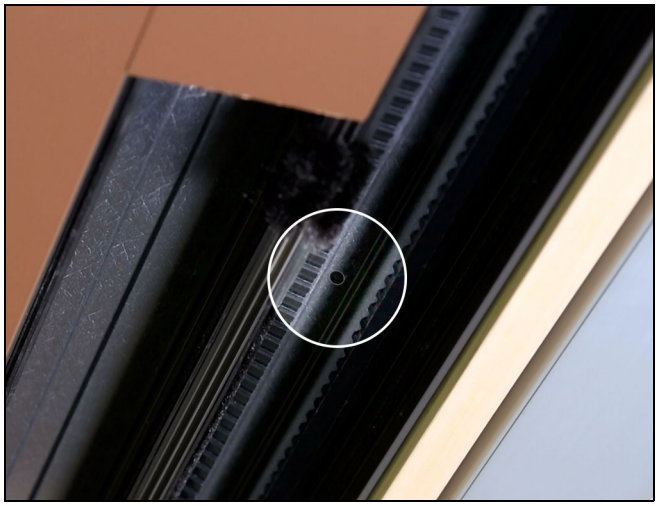

Figure 53

3. Open the primary panel(s) past 1 full panel width.

NOTE: If you have an OX, XO, or OX-XO unit, leave the panel(s) fully closed.

4. Install the closing ramp, using the provided #8 x 3" screw, into the pre-drilled hole.

5. Close and lock the door.

6. Pull the ramp tight so that if fully contacts the turnbuckle. See Figure 54.

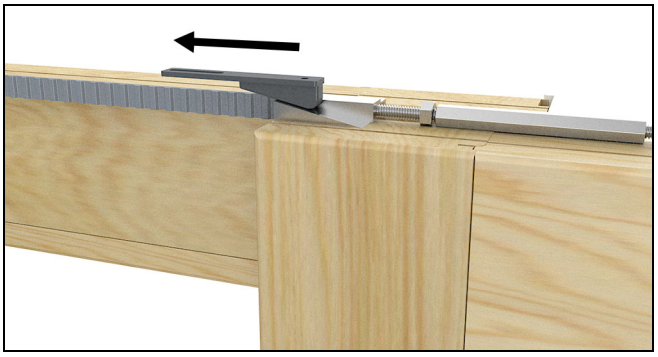

Figure 54

NOTE: If more contact is needed, adjust the set screw in the closing ramp.

7. Open and close the door using Sliding Door Automatic Control System. Ensure the door manually locks. If the door doesn't manually lock, adjust the set screw. See Figure 55.

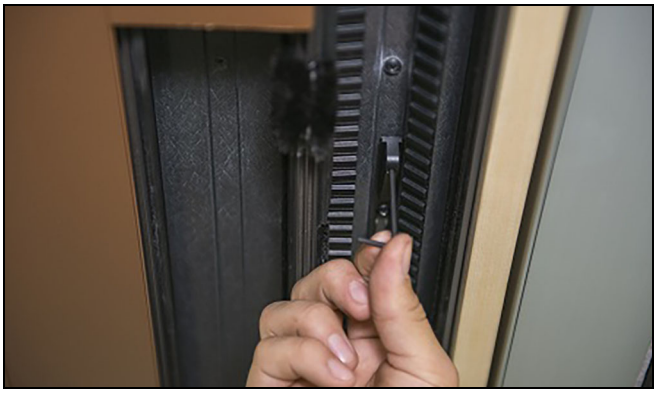

Figure 55

Optional Belt Clips

1. On large units, the belt clips can be installed to eliminate belt sag. Use the belt clip to hold the belt **(opposite of the turnbuckle or bi-parting bracket)** with teeth up against the head track. Fasten the belt clip in the head track with the screws provided. Pre-drilling may be necessary. See Figure 56.

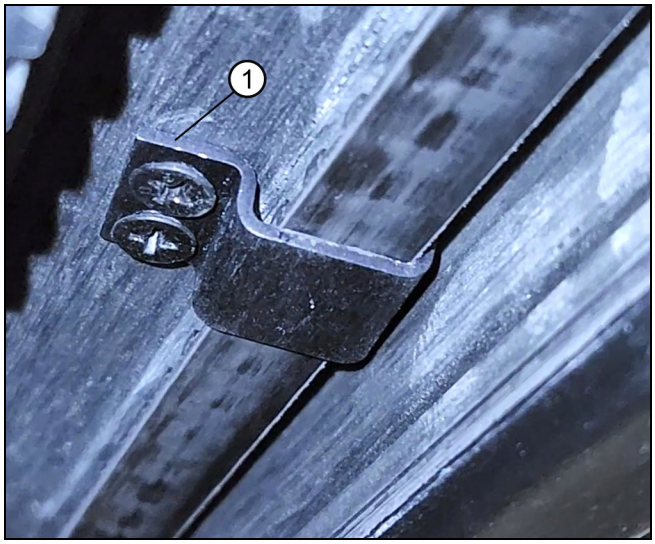

Figure 56

1	Belt clip

Hint

If you are on-boarding the unit to your Wi-fi network, refer to the User and Troubleshooting Guide.

NOTE: Summit will provide documentation on how to properly program the system.

1. Initial Programming: make sure both AC and DC power to the system are turned off on the control box cover. Place the lead panels to the halfway point of the opening. Then turn on both AC and DC power.

2. Press the "OPEN" button on the wall switch. The panel will start to move. If the door is moving to the open position, the polarity is correct. Let the panel move 24" and then press "UNLOCK" on the wall switch. The door will stop. See Figure 57.

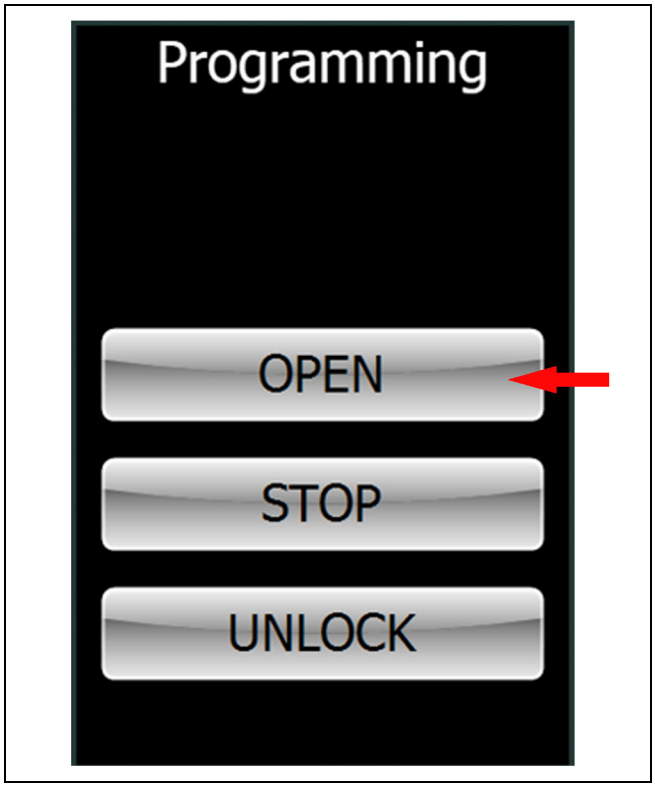

Figure 57

3. If the polarity is incorrect and the door is closing, press "OPEN" a second time and the door will change polarity. Let the panel travel approximately 24" before pressing "UNLOCK" and moving on to the next step.

4. Manually move the door to the fully open position. Press and hold the "UNLOCK" button until the touch screen shows "Release Button!" or red and blue lights blink rapidly (on non-touch screens). See Figure 58.

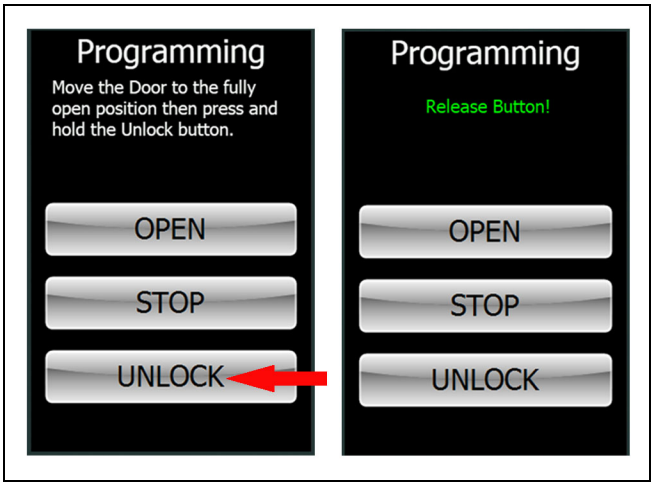

Figure 58

5. Move the door manually to the fully closed position. Press and hold the "UNLOCK" button until the touch screen shows "Release Button!" or red and blue lights blink rapidly (on non-touch screens). See Figure 59.

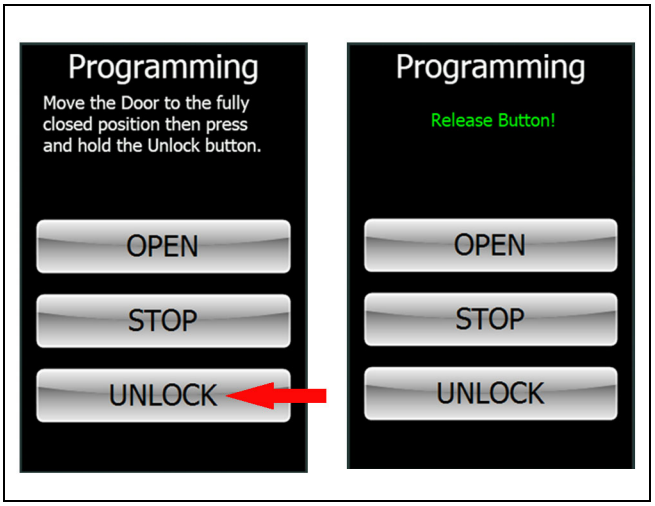

Figure 59

6. Once the "UNLOCK" button is released, the door will automatically cycle in programming mode.

WARNING!

The automatic stop feature is disabled in programming mode. Make sure the opening is kept clear when programming.

7. Once the door stops and is engaged in the closed position, the programming is complete.

Reprogramming

In the event that you replace a panel, experiencing problems with door motorization, run these steps to re-program/reset.

1. With both AC and Battery power off on the control box cover, place the lead panel to the halfway point of the opening.

2. Open the control box and flip dip switch 8 to the right. See Figure 60.

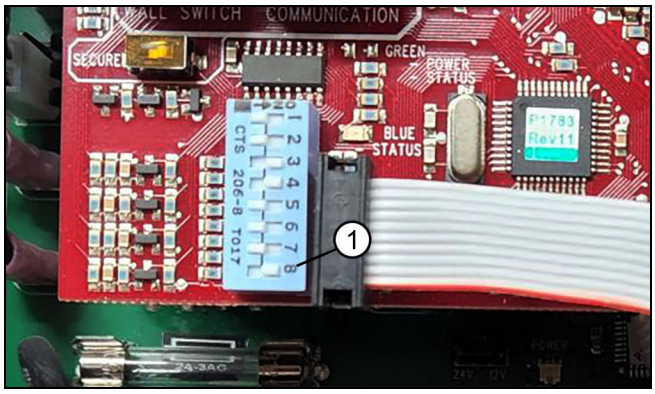

Figure 60

1	Dipswitch 8

3. Turn on both AC and Battery power switches on the control box cover. Open the control box and flip dip switch 8 back to the left. See Figure 61.

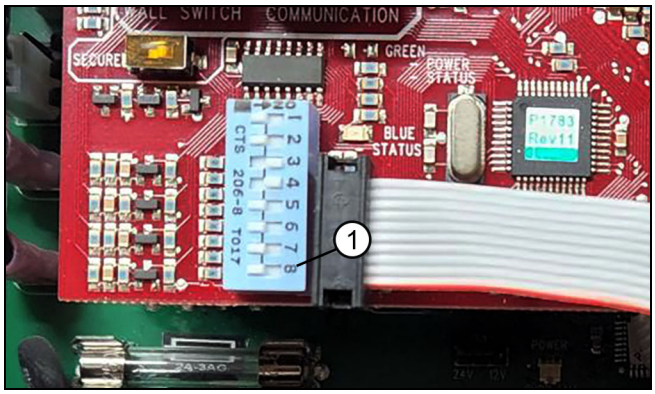

Figure 61

1	Dipswitch 8

4. Refer to Programming on page 25.