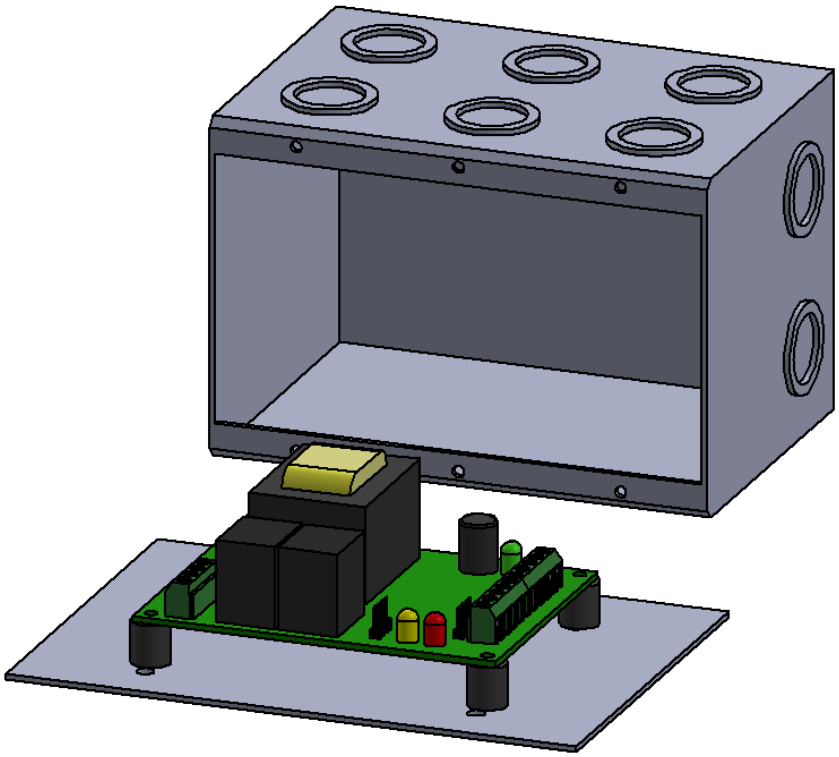
READ THIS MANUAL CAREFULLY. OBSERVE WARNINGS AND PRACTICE CAUTION WHEN INSTALLING, OPERATING, OR MAINTAINING YOUR GOFF'S PRODUCT.

SMART MOTOR CONTROLLER (SMC)

ELECTRICAL CONNECTIONS AND MOTOR ADJUSTMENTS

USED WITH 600, 1200, 1800 and BASIC SERIES IN-TUBE MOTORS



FEATURES:

- Mounts in standard 3 gang electrical box (provided)
- 250mA 12V supply for accessories
- Diagnostic LEDs for quick, easy troubleshooting
- Supports Normally Open (N/O) and Normally Closed (N/C) inputs from reversing detectors/safety devices
- Supports 2 and 4 wire safety devices
- Timed run vs continuous pressure is selectable via JP1/JP2
- Sequencing capable

MOTOR AND LINE-IN WIRING:

- In figure 1, you will see your AC Input, and your motor output wiring
    1. see top right and left corners respectively
- Colors for motor input:
    1. Green = Ground
    2. White = Neutral
    3. Black = Up
    4. Red = Down

    } Reverse for Left-Handed Doors
- When using an SMC, a Push Button Station (PBS) is used to operate the door
- If using a Goff's supplied Push-Button Station, the stop button will be N/O
    1. See Figure 2 for wiring of PBS

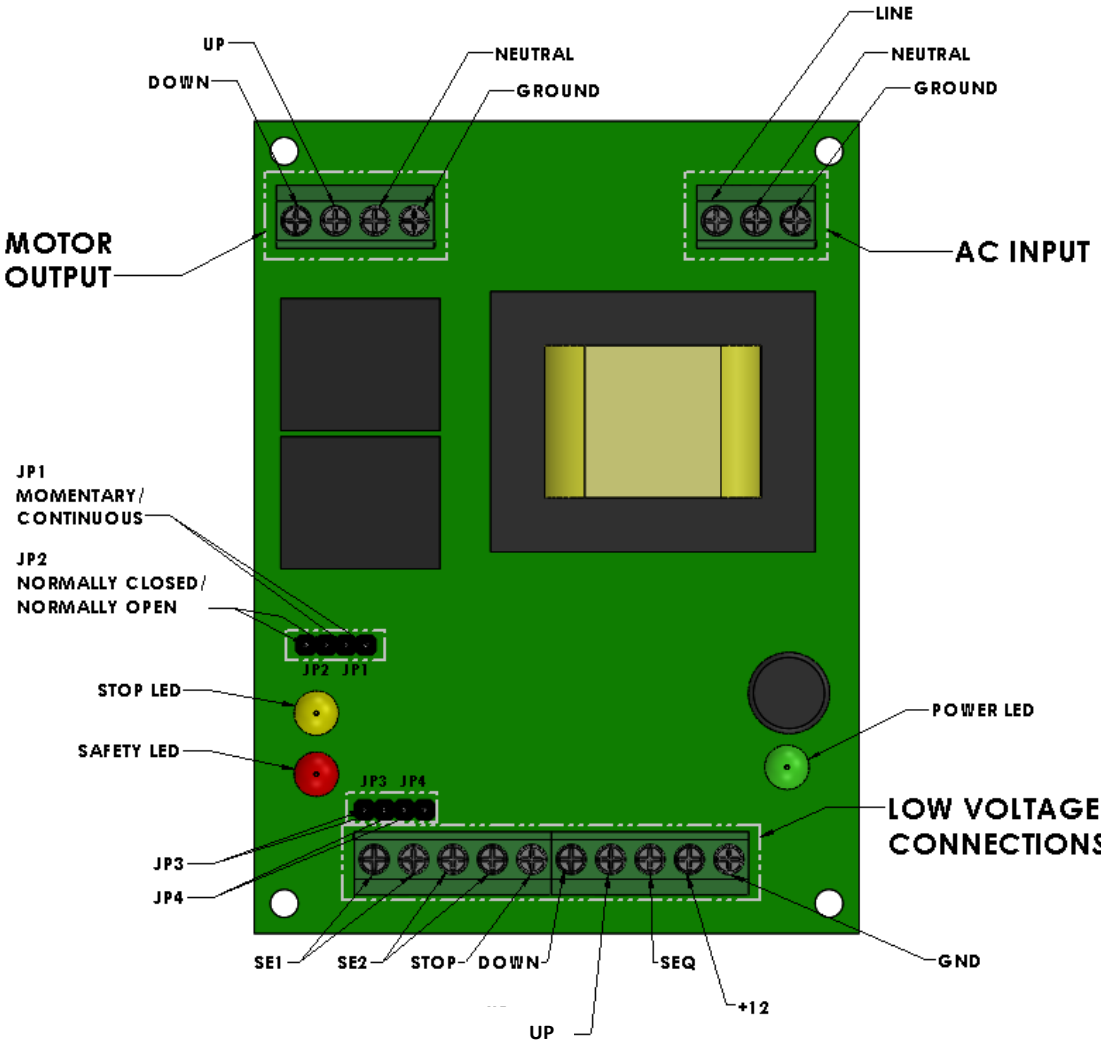


Figure 1: SMC Controller Schematic

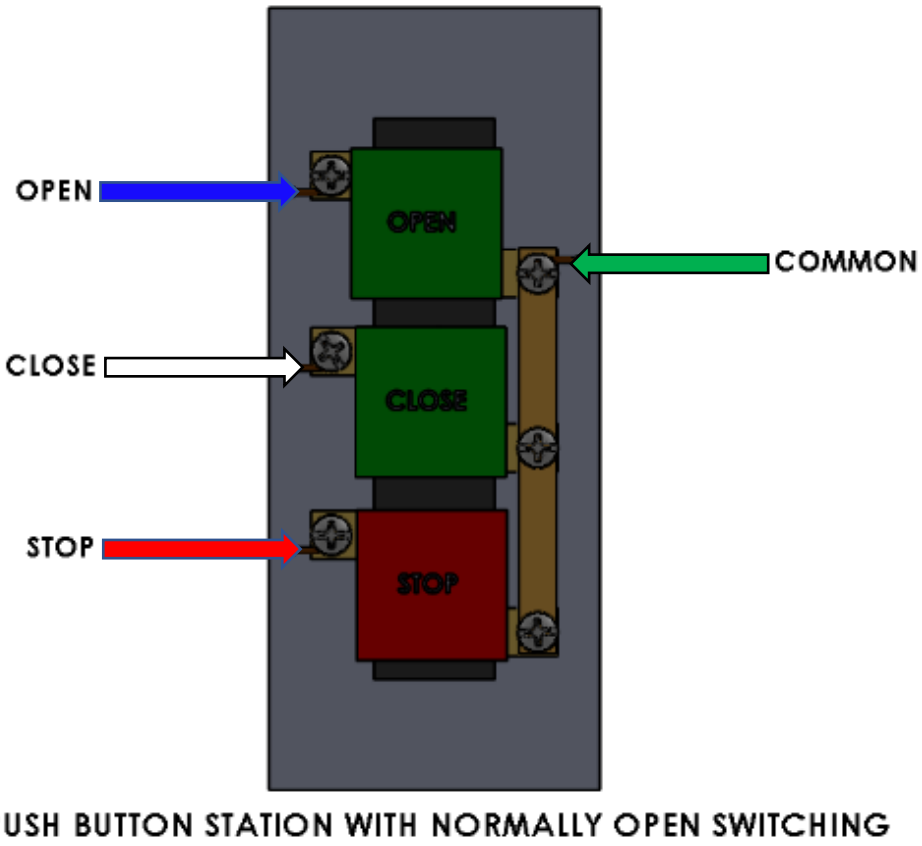
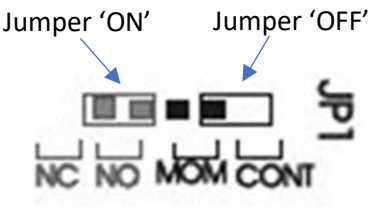


Figure 2: NEMA-1 Push-Button Wiring with SMC

PUSH-BUTTON STATION WIRING:

- ***Jumper JP2 must be 'ON'***
- Reference Figure 1
- The blue 'OPEN' wire goes to terminal labeled 'UP' on the SMC
- The white 'CLOSE' wire goes to terminal labeled 'DOWN' on the SMC
- The red 'STOP' wire goes to terminal labeled 'STOP' on the SMC
- The green 'COMMON' wire goes to the terminal labeled 'GND' on the SMC



MODE SETTINGS / JUMPERS: (*Reference Figure 1)*

- ***Jumper 'ON' = connecting/shorting two pins***
- ***Jumper 'OFF' = covering one or no pins***
- JP1 → Run-Time
    1. JP1 'On' (covering both pins) = Momentary run time
        - Door only moves if the up or down button is held
        - Safety Devices and Sequencing *deactivated* in this mode

2. JP1 'OFF' = Continuous run time
    - Motor will run for 1 minute or until it hits a limit when a command is given
    - Must be in this mode for sequencing and reversing detectors

- <u>JP2 → N/O vs N/C 'STOP' Button</u>
    1. Normally Open vs Normally Closed 'STOP' button
    2. JP2 will need to be 'ON' while using Goff's button station
    3. Must be in 'ON' position if not using a stop switch
    4. JP2 'OFF' = N/C stop switch

- <u>JP3/JP4 → Reversing detectors/Safety Device</u>
    1. JP3 and JP4 'OFF' = 4 wire safety device
        - Improper configuration will cause safety LED to light and door to lock in open position
    2. JP3 and JP4 'ON' = 2 wire safety device or N/O detector
    3. JP3 'ON' and JP4 'OFF' = N/C Reversing Detector
        - With JP4 'OFF', a N/C contact must be connected to terminal labeled 'SE1" or door will be locked in open position

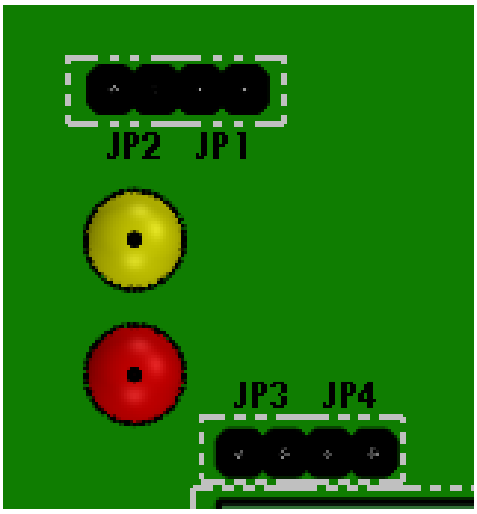


Figure 3: Jumper Locations (Jumpers shown in 'ON' positions)

SETTING THE LIMITS:

- With everything complete, take a moment to check all your hardware, and all the components for horizontal and vertical alignments.

- ***Goff's Enterprises ALWAYS recommends having a qualified Electrician mount the Switch Control Box, route, and connect all wiring before applying power to the Door Assembly. Goff's is not responsible for issues that are a result of poor and/or improper installation or electrical work.***

- Observe which type of limit adjustment mechanisms you have:
    1. 600 Series Doors have button limits
        - Top Button = Close Limit
        - Bottom Button = Open Limit

        - Buttons 'IN' = Limit Disengaged (no limit)
        - Button 'OUT' = Limit Enabled (limit on)

    2. 1200/1800/Basic Series Doors have dial limits
        - Top Dial = Close Limit
        - Bottom Dial = Open Limit

        - Clockwise Turn = Adding Door Travel
        - Counter-Clockwise Turn = Removing Door Travel

For 600 Series Doors:

- Always, FIRST JOG THE DOOR DOWN toward the closed position. Observe where the lower limit stops the door and adjust accordingly by depressing the upper button at the end of the motor. (See Figure 4 on page 6) Run the door partially upward, stop, and then close again a few times up and down to make finer adjustments for the closed position as desired.

- Now open the door and note the upper stop point. Adjust in the same way using the lower button at the end of the motor. (See Figure 4 on page 6) Repeat a few times until the desired upper stop position is finally achieved.

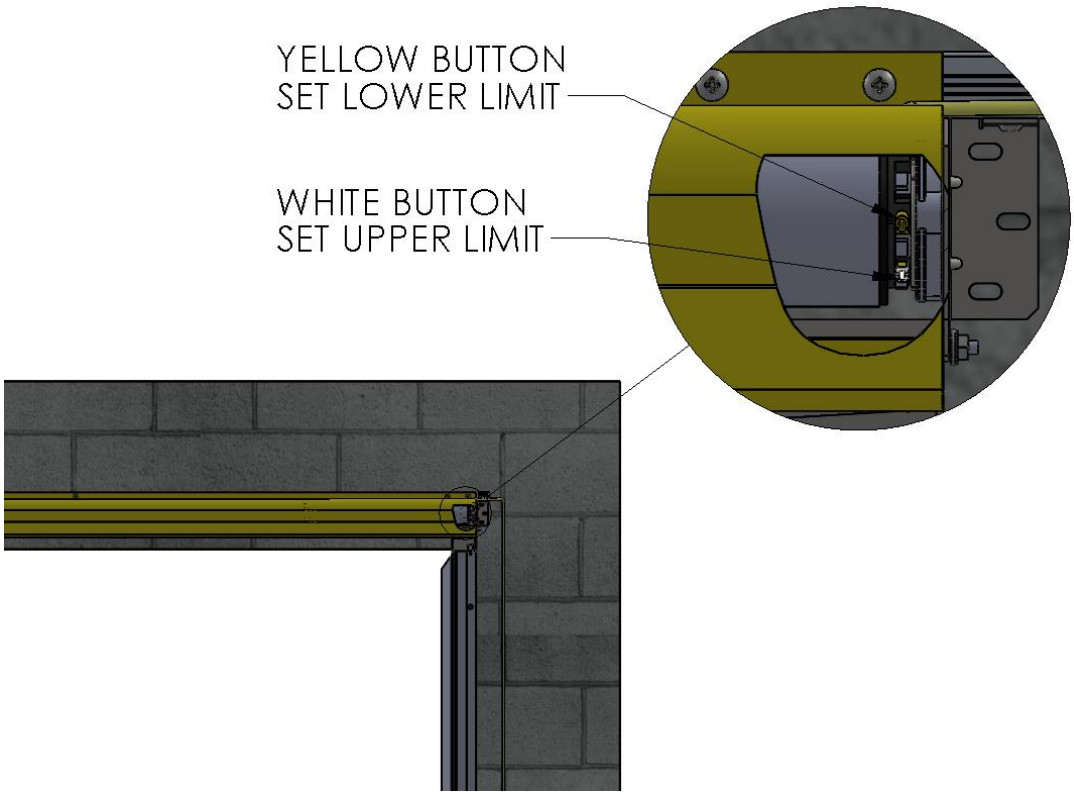


Figure 4: 600 SERIES DOOR RAISE/LOWER DOOR ADJUSTMENT

For 1200/1800/Basic Series Doors:

- Begin by placing your door in Momentary Run time by placing the JP1 jumper in the 'ON' position (see 'MODE SETTINGS / JUMPERS' on page 3). Always JOG THE DOOR DOWN FIRST, toward the closed position. If the door stops somewhere on its own on the way down, we can begin the limit setting process from that point. If the door does not stop on its own, manually stop the door about 1 to 2 feet above the desired closed position. Now, turn the top dial on the end of the motor counter-clockwise (ccw) to remove travel from the close limit (See Figure 5 on page 7). Keep turning ccw until you feel or hear a slight bump/click in the dial as you turn. Once you reach this point, whether your door stopped on its own, or you stopped it yourself and removed travel manually from the dial, we are ready to set the limit at our desired closed position.

- Press and hold the close button. The door SHOULD NOT MOVE. If it does, add more ccw turns to the top dial. Once there is no movement, we can now move the JP1 jumper to the 'OFF' position. Once you do this, press the close button, and immediately add clockwise turns to the top dial. As you turn the dial clockwise, the door will inch itself down. Continue to add clockwise turns to the top dial until the door inches itself into your desired closed position.

- To set the Open limit, place the JP1 jumper back in the 'ON' position. Jog the door up and stop it 1-2 feet shy of the desired open position. Adjust this limit in the same fashion as you did the close limit, using the lower dial on the motor (See Figure 5 on page 7).

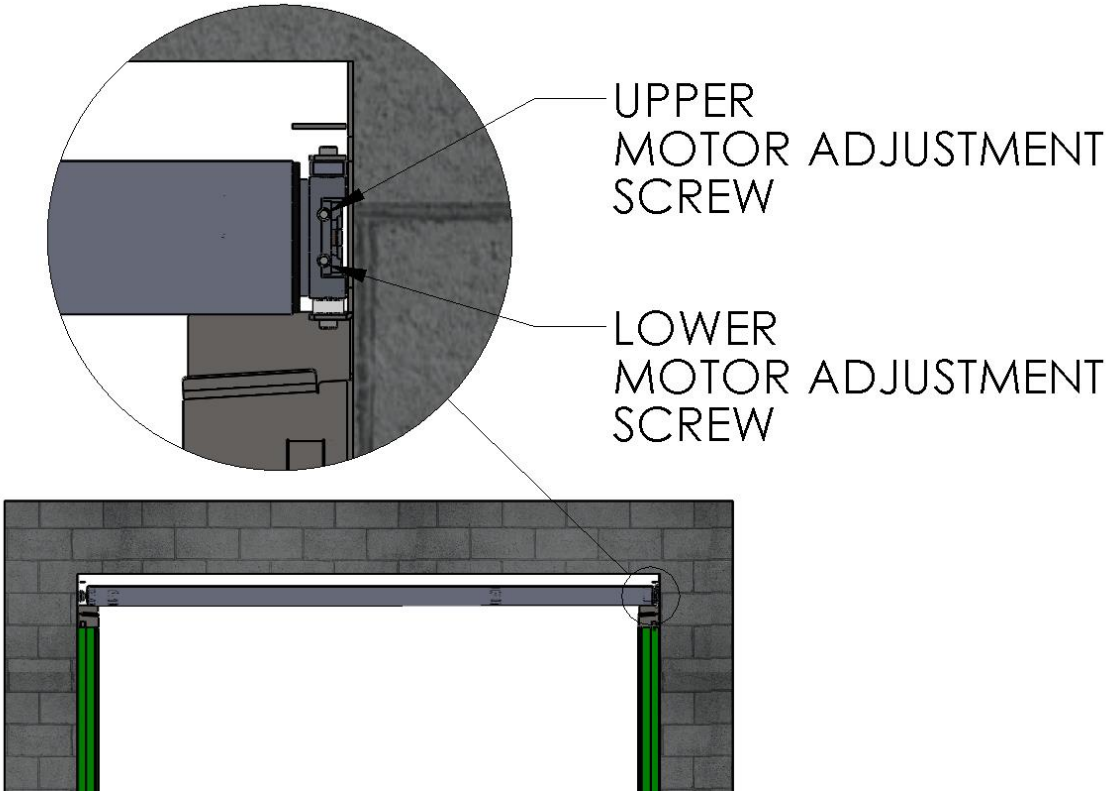


Figure 5: 1200/1800/Basic SERIES DOOR RAISE/LOWER DOOR ADJUSTMENT

TROUBLESHOOTING:

- Door stuck in open position
    1. If it is an emergency and/or door needs to be closed immediately, place JP1 jumper in 'ON' position (momentary run time), then press and hold the close button until the door closes completely
    2. Ensure photo-eye/safety device wiring is correct
        - Double check jumper configurations for your setup
    3. If not using photo-eyes or button station, place JP1 in 'ON' position
    4. If using a N/C stop switch, ensure JP2 is 'OFF'
    5. Ensure that if JP4 is 'OFF' that a N/C contact wire is connected to SE1 terminal on SMC

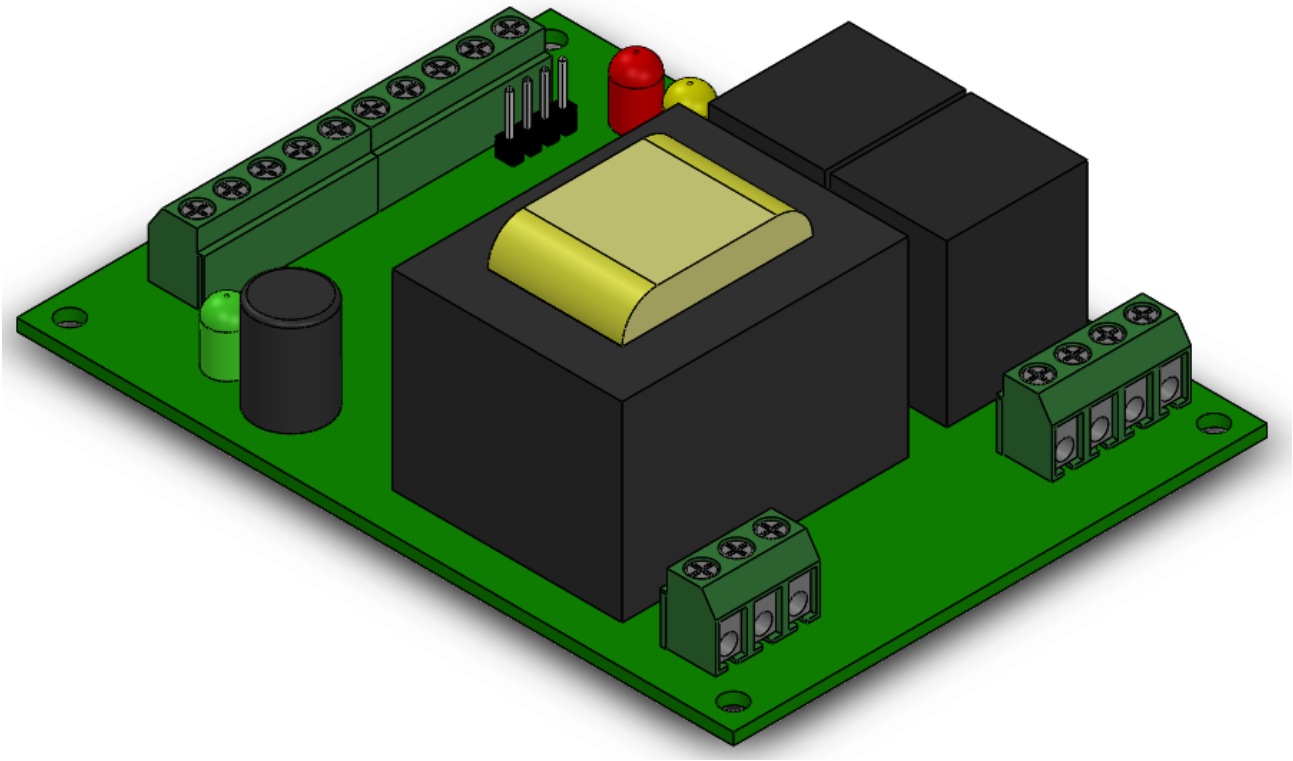
- Red 'SAFETY' LED is illuminated
    1. Confirm if using 2 or 4 wire safety device(s)
    2. If using 2 wire, or N/O device, place JP3/JP4 'ON'
    3. If using 4 wire edge, place JP3/JP4 'OFF'
    4. If using a N/C device, place JP3 'ON' and JP4 'OFF'

READ THIS MANUAL CAREFULLY. OBSERVE WARNINGS AND PRACTICE CAUTION WHEN INSTALLING, OPERATING, OR MAINTAINING YOUR GOFF'S PRODUCT.

SMART MOTOR CONTROLLER (SMC)

WIRING INSTRUCTIONS - ACCESSORIES

USED WITH 600, 1200, 1800 and BASIC SERIES IN-TUBE MOTORS WITH A 3-BUTTON STATION



OPTIONAL ACCESSORIES:

NEMA-1 (3) Button Station (Primary/Secondary PBS)

- Refer to Figure 1 on page 2 for SMC terminal locations
- The blue 'OPEN' wire goes to terminal labeled 'UP' on the SMC
- The white 'CLOSE' wire goes to terminal labeled 'DOWN' on the SMC
- The red 'STOP' wire goes to terminal labeled 'STOP' on the SMC
- The green 'COMMON' wire goes to the terminal labeled 'GND' on the SMC

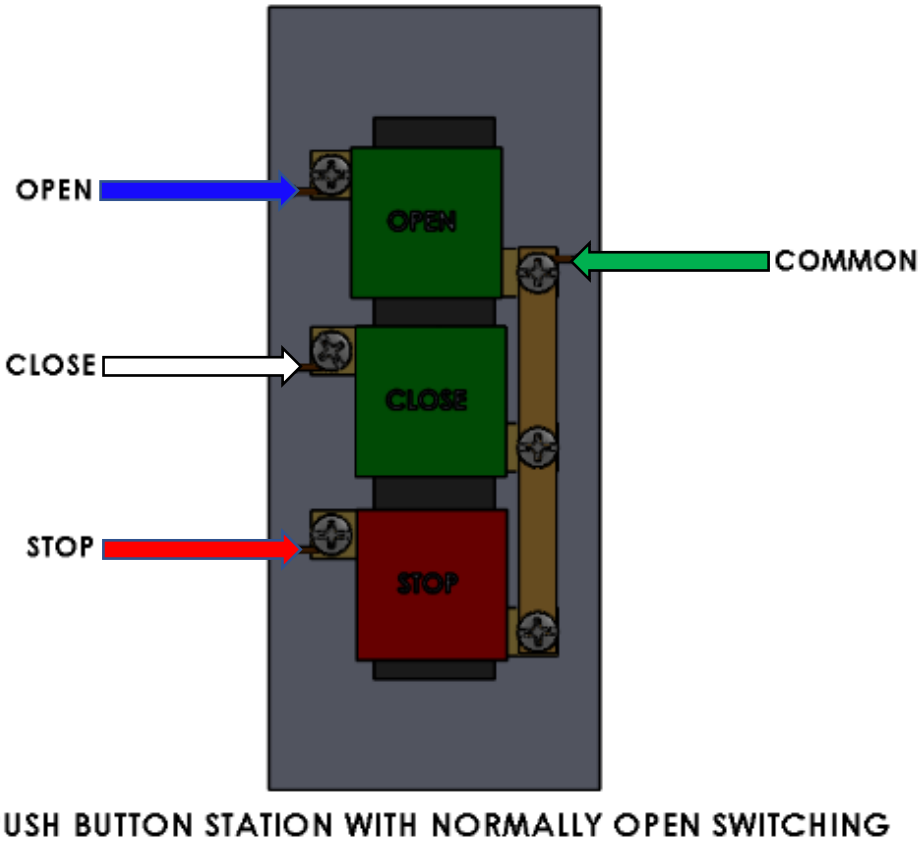


Figure 6: NEMA-1 Push-Button Wiring with SMC

Retro-Reflective Photo Eye

- ***Jumper JP1 must be 'OFF'***
- ***Jumper JP3 must be 'ON' and JP4 must be 'OFF'***
- See below if wiring direct to terminal block, otherwise see page 14
- The Black Photo-Eye wire goes to terminal labeled 'SE1' on the SMC
- The Orange Photo-Eye wire goes to terminal labeled 'SE2' on the SMC
- The Brown Photo-Eye wire goes to terminal labeled '+12' on the SMC
- The Blue Photo-Eye wire goes to terminal labeled 'GND' on the SMC
- ***ON THE EMITTER UNIT, REMOVE THE RUBBER CAP, OPEN THE CLEAR PLASTIC DOOR, AND SET THE SLIDE TO 'DARK OPERATION' (DK)***

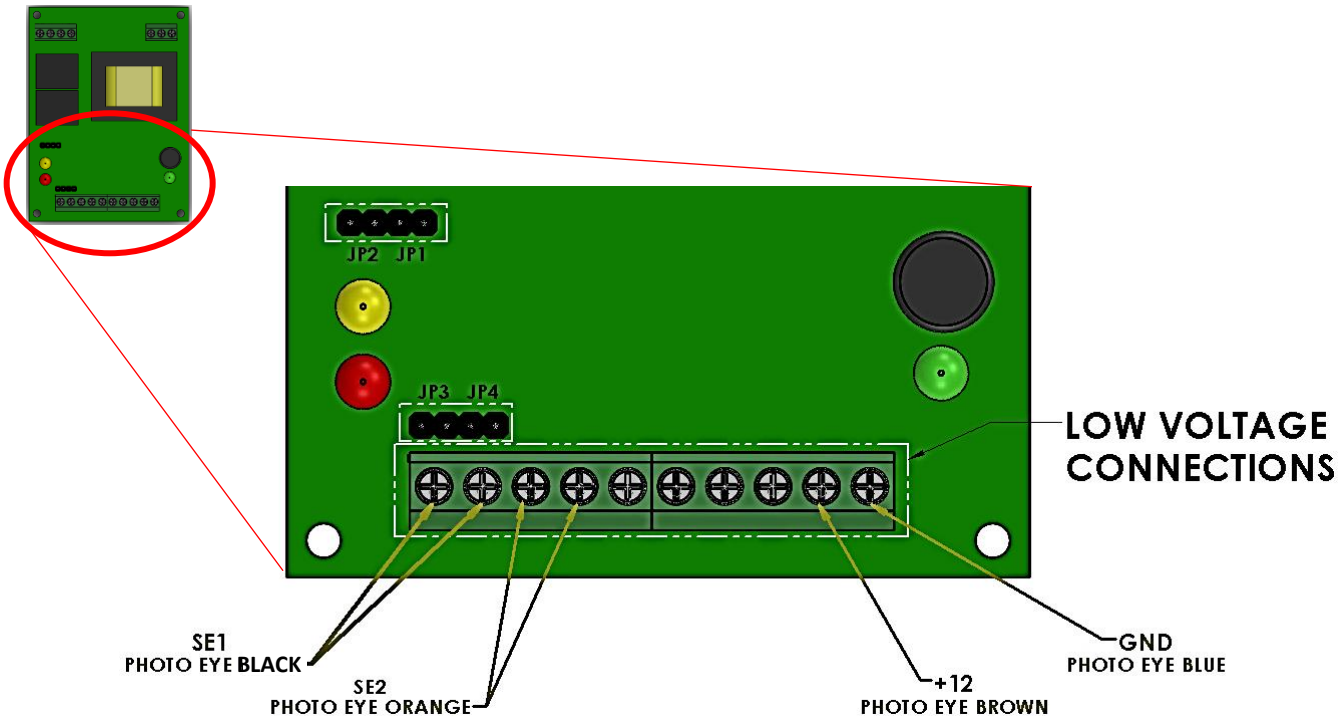


Figure 7: Retro-Reflective Photo Eye Wiring with SMC

Ceiling Pull Cord

- ***Jumper JP1 must be 'OFF' and JP2 must be 'ON'***
- See Figure 8
- The White Pull-Cord wire goes to terminal labeled 'GND' on the SMC
- The Red Pull-cord wire goes to terminal labeled '+12' on the SMC

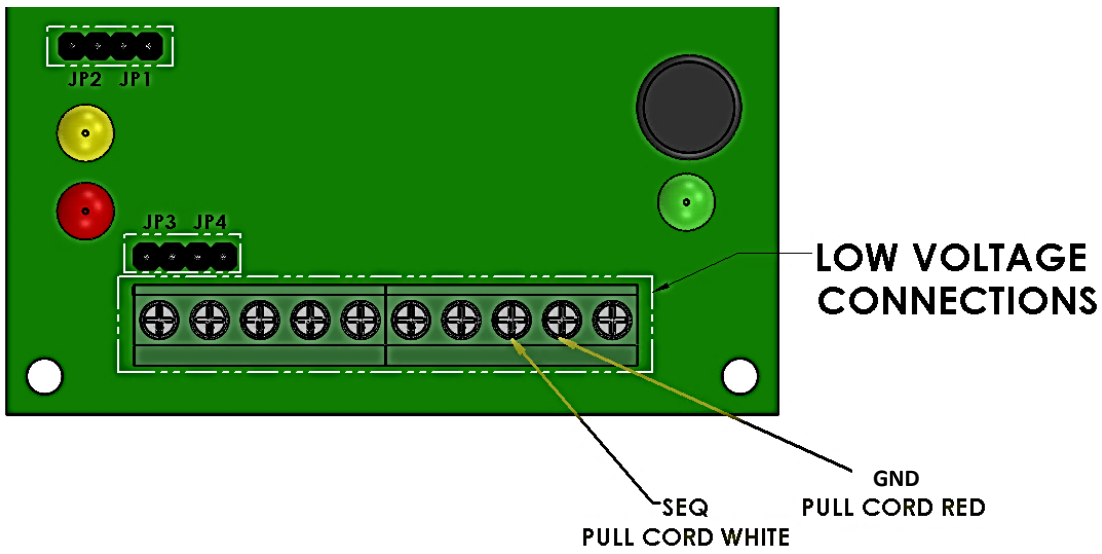


Figure 8: Ceiling Pull Cord Wiring with SMC

Falcon XL Motion Detector

- ***Jumper JP1 must be 'OFF'***
- See Figure 9
- The Green Motion Detector wire goes to terminal labeled 'UP' on the SMC
- The Red Motion Detector wire goes to terminal labeled '+12' on the SMC
- The Black and the White Motion Detector wires go to terminal labeled 'GND' on the SMC

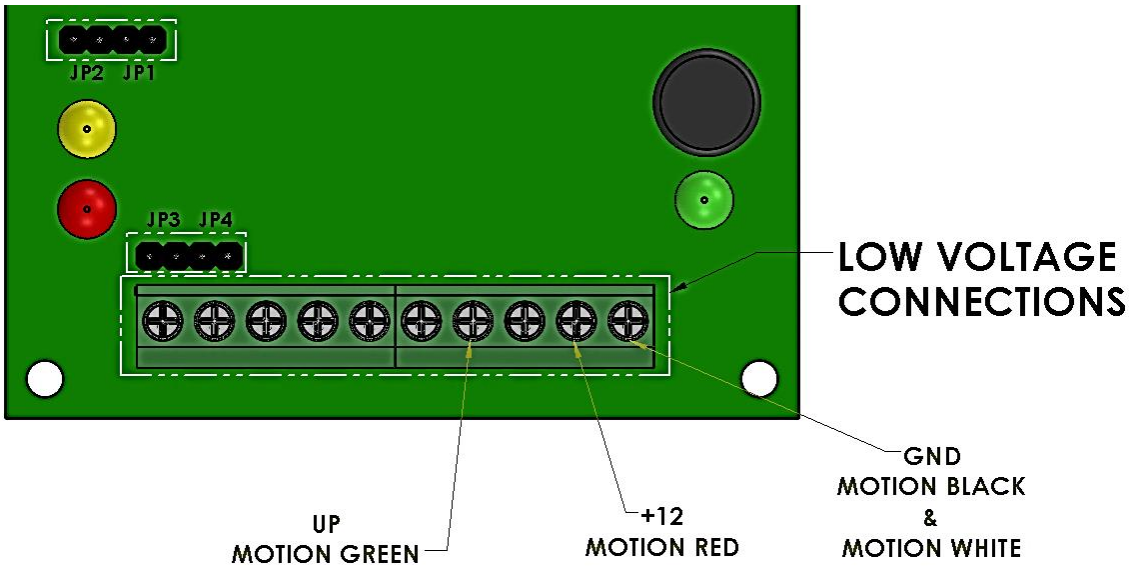


Figure 9: Falcon XL Motion Detector Wiring with SMC

Plug-in RF Receiver

*****ALL OTHER ACCESSORIES SHOULD BE WIRED COMPLETELY BEFORE INSTALLING AN RF RECEIVER*****

- ***Jumper JP1 must be 'OFF'***
- Align the support posts on the RF Receiver with the corresponding mount posts on the SMC
- Ensure the Header Connector on the Receiver is in alignment with the pins on the SMC controller
- Firmly press the Receiver onto the SMC controller
- It may be necessary to slightly tilt or "wiggle" the Receiver for the Header Connector to properly mate with the pins on the SMC controller
- Ensure the Header Connector is fully seated onto the pins on the SMC controller
- Enable the 115VAC power to the SMC controller: Receiver LED should illuminate

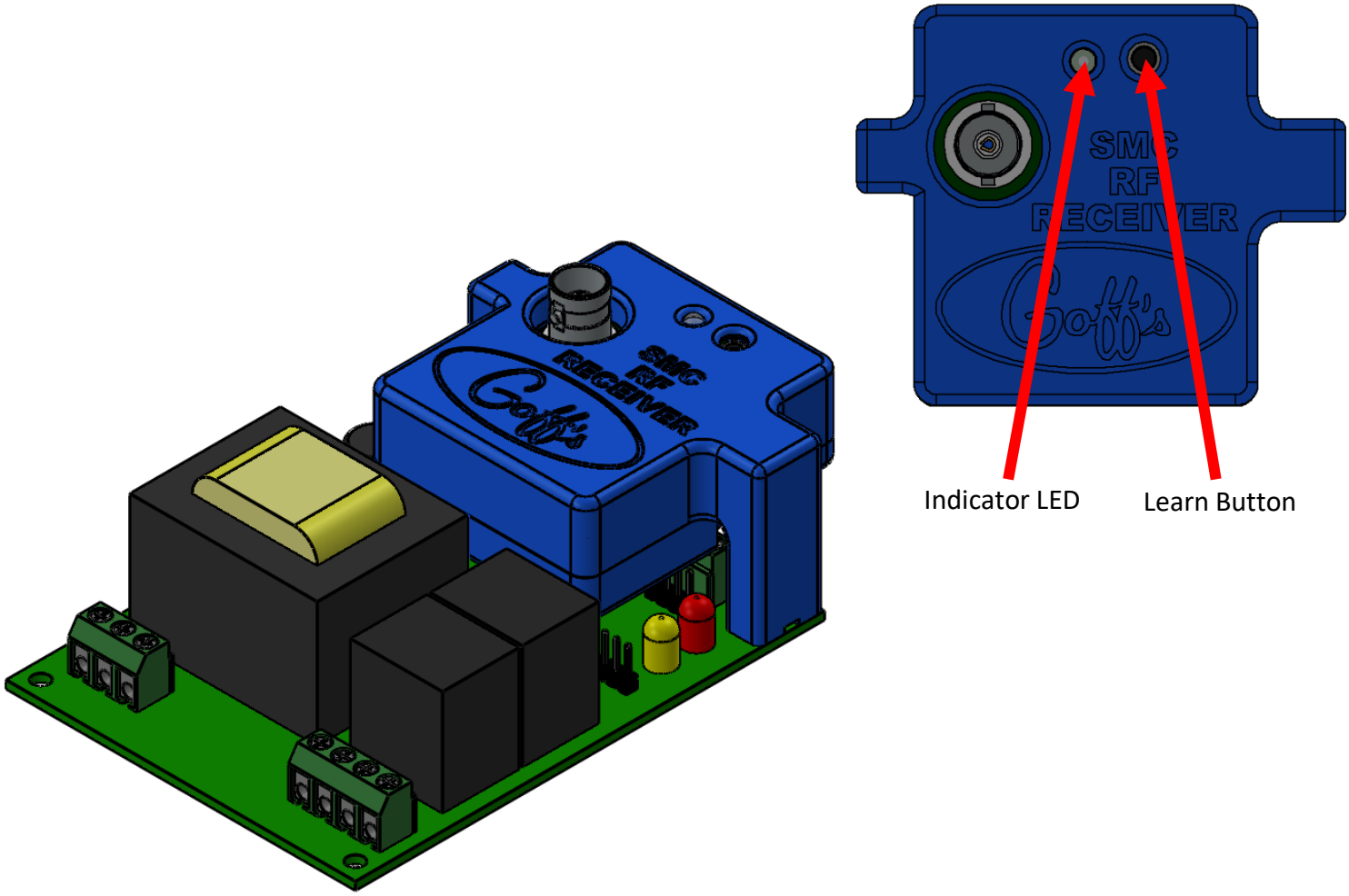


Figure 10: RF Receiver Mounted on SMC Controller

RF Remotes: Programming

- ***SEE TABLE 1 ON NEXT PAGE***
- ***NOTE: you can match 3-Button Remotes and 1-Button Transmitters with the same Receiver. One Receiver will accept up to 50 Remotes***
- Goff's offers single-button and three-button RF remotes
- Three-button remotes are single- and multi-door compatible
    1. Jumper on inside of remote sets mode - SD vs. MD
- To sync remote(s) to an RF receiver:
    1. HOLD the Receiver's **LEARN** button until the LED flashes
    2. HOLD any button on the Remote until the Receiver's LED stops flashing

Remote	Modes	Functions	Programming
 1-Button Remote	Single Button Control (SBC) Alternating Sequence	OPEN / STOP / CLOSE → Button **Door is CLOSED:** - Click Button → Door OPENS **During UPWARD Travel:** - Click Button → Door STOPS **Door is STOPPED:** - Click Button → Door CLOSES **During DOWNWARD Travel:** - Click Button → Door STOPS **Door is STOPPED:** - Click Button → Door OPENS **Note**: If the door has been in the OPEN position for less than one minute it will be necessary to click the button twice in order to start downward travel.	1. None Required
Remote	**Modes**	**Functions**	**Programming**
 3-Button Remote	Three Button Remote	1. OPEN → Small Button 2. CLOSE → Medium Button 3. STOP → Large Button	1. Unscrew the screw on the back of the Remote. 2. Insert a flat screwdriver in the rounded corner of the Remote. 3. Pry open the Remote's cover. 4. Position jumper on **SD** (Single Door). 5. Put the Remote's cover back-on and fasten the screw.
	3 x 1-Button	1. DOOR #1 → Small Button 2. DOOR #2 → Medium Button 3. DOOR #3 → Large Button Each button acts separately as a 1-Button Remote	1. Unscrew the screw on the back of the Remote. 2. Insert a flat screwdriver in the rounded corner of the Remote. 3. Pry open the Remote's cover. 4. Position jumper on **MD** (Multiple Doors). 5. Put the Remote's cover back-on and fasten the screw.

Table 1: RF Remote Programming

Final Assembly:

Install the SMC controller on its enclosure. If using a metal junction box (supplied) the radio range can be substantially improved by routing the free end antenna wire outside of the enclosure.

Supplemental Instructions:

If you received a Retro-Reflective Photo Eye with your SMC controller, and would like to use 8 conductor thermal wire for a cleaner install, please see below:

Using 8-conductor wire allows a cleaner wiring setup in which only 1 bundle runs between the push button station and the operator. You now can use 4 of the wires from your 8-conductor, and run them to the push buttons (open, stop and close), and use the other 4 to connect to your photo-eye wires (inside of the push button station), leaving only 1 wire bundle running up to your controller.

To do so, connect the blue, white, green and red wires to the push button station as outlined (see push button station wiring diagram on page 10).
Using wire nuts, connect your 4 remaining wires (from 8 conductor bundle) to the wires of your photo eye transmitter as follows:

- Black from 8 conductor to Blue from Photo-Eye
- Brown from 8 conductor to White from Photo-Eye
- Yellow from 8 conductor to Brown from Photo-Eye
- Orange from 8 conductor to Orange from Photo-Eye
- The Black wire from the Photo-Eye is not used

Tuck all the wires and wire nuts neatly away inside of the push button station and close the lid carefully, ensuring that there are no pinched or interfering wires.

On the SMC controllers' terminal block, make the following connections with the opposite end of the 8-conductor bundle:

- The Red wire goes to terminal labeled 'STOP' on the SMC
- The Green wire goes to terminal labeled 'GND' on the SMC
- The White wire goes to terminal labeled 'DOWN' on the SMC
- The Blue wire goes to terminal labeled 'UP' on the SMC
- The Brown wire goes to terminal labeled 'SE1' on the SMC
- The Orange wire goes to terminal labeled 'SE2' on the SMC
- The Yellow wire goes to terminal labeled '+12' on the SMC
- The Black wire goes to terminal labeled 'GND' on the SMC

If you did not receive 8 conductor wire, or you would rather run your Photo-Eye directly to the terminal block, follow the wiring instructions on page 10.

WARNING

ALL INSTALLATION INSTRUCTIONS MUST BE FOLLOWED, AND REQUIREMENTS MET. FAILURE TO DO SO WILL ALTER THE PERFORMANCE AND/OR CONSISTENCY OF YOUR DOOR'S OPERATION.