



***Waterslide Dispatch Control System  
Cable Installation Guide  
V2.6***



## **WELCOME...**

...and thank you for purchasing the *Launch Logic Slide Monitoring System*. The following pages will assist you in the installation of your *Launch Logic Slide Monitoring System*.

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## 1. THEORY OF OPERATION

The Launch Logic system is designed to assist an operator in metering a slide's launch cycle by monitoring the status of the slide and by using a visual signal to prompt the operator. Accu-Logic™ Beams are installed at the slide's entry and exit for this purpose (to determine when a guest enters and/or exits the slide). Based on predefined rules, the system implements timers and logic to indicate when a slide is occupied. The system also indicates to the operator when a malfunction has occurred, either in the monitoring hardware or in the expected passage of a guest through the slide.



## 2. DESCRIPTION OF HARDWARE

### (1) Main Control Panel

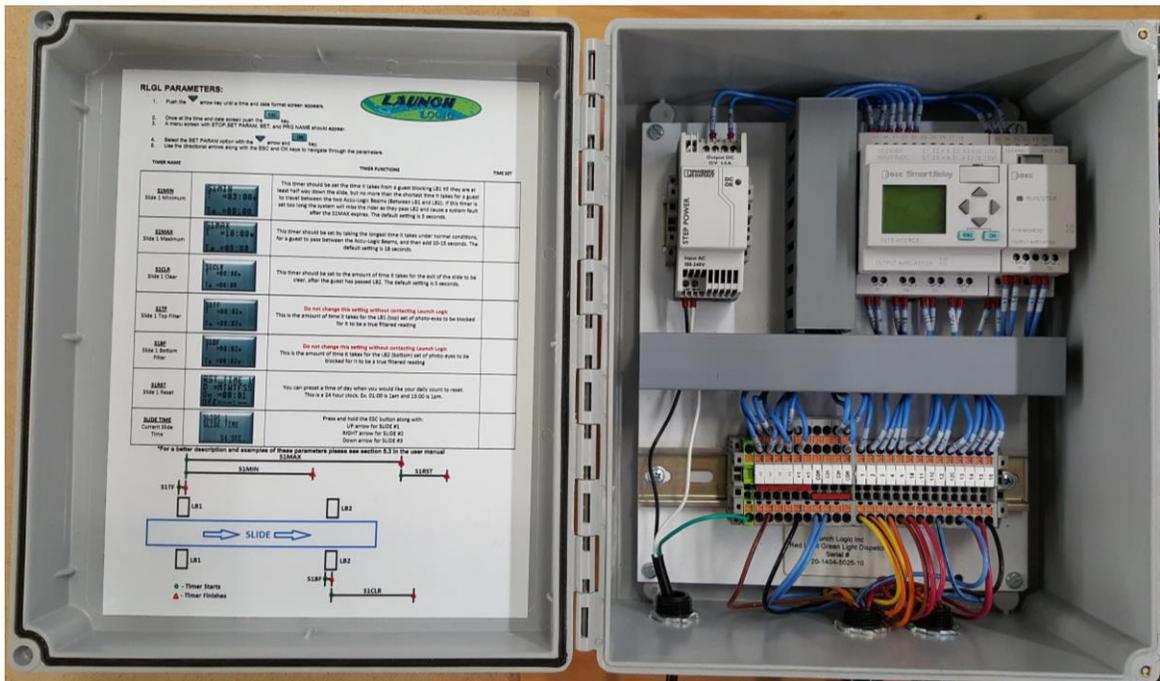
### (1) UPPER J-box w/ (2) Accu-Logic™ Beams

### (1) Launch Light

### (1) LOWER J-box w/ (2) Accu-Logic™ Beams

### (1) PAUSE Button

### 2.1. Main Control Panel



The Main Control can house equipment for 1-2 slides based on the configuration ordered. The system is controlled by a SmartRelay, which has an onscreen display feature that is visible when the control panel door is opened. This screen displays the software version currently running on your system, the number of riders which have occupied the slide, and with additional button presses will display the previous “Slide Time”.



## 2.2. UPPER J-box w/ (2) Accu-Logic™ Beams



The UPPER J-box provides a localized connection point for the Launch Light with reset button and the upper Accu-Logic™ Beams. A single cable will connect the UPPER J-box to the Main Control Panel.

The Accu-Logic™ Beams send a beam of light across the slide path. When a slide rider passes in front of the beam, a signal is sent to the main control panel indicating that a guest has passed.

## 2.3. Launch Light



*The black enclosure    The yellow enclosure*

*The reset push button*

The “Launch Light” is controlled by the SmartRelay. It features a red light and a green light. Each indicator has a specific function and meaning:



**Solid Red** – When the red light is solid the slide is occupied. This means that the top sensor beam has been broken. The light can be manually indicated red by pressing the pause button.

**Flashing red**– When the red light is flashing a rider has not exited in the predetermined “MAX TIME”. The “MAXTIME” variable is set on the SmartRelay. “MAXTIME” should be determined for each slide application. It should be set long enough such that it accounts for the slowest possible rider plus a small additional time.

**Green** – The Green light is visible when the slide is unoccupied and it is OK to dispatch a guest.

**Solid green and red**– This condition indicates that one or both of the sensors are not aligned properly or one or both beams are broken for some reason.

**RESET** – The RG light has an integrated reset button to clear the system after a “MAXTIME” fault.

#### 2.4. LOWER J-box w/ (2) “Accu-Logic™ Beams”



The LOWER J-box provides a localized connection point for the PAUSE button and the lower “Accu-Logic™ Beams”. A single cable will connect the LOWER J-box to the Main Control Panel.

The “Accu-Logic™ Beams” send and receive a beam of light across the slide path. When the beam is blocked by a passing guest, the Accu-Logic™ Beam sends a signal to the main control panel.



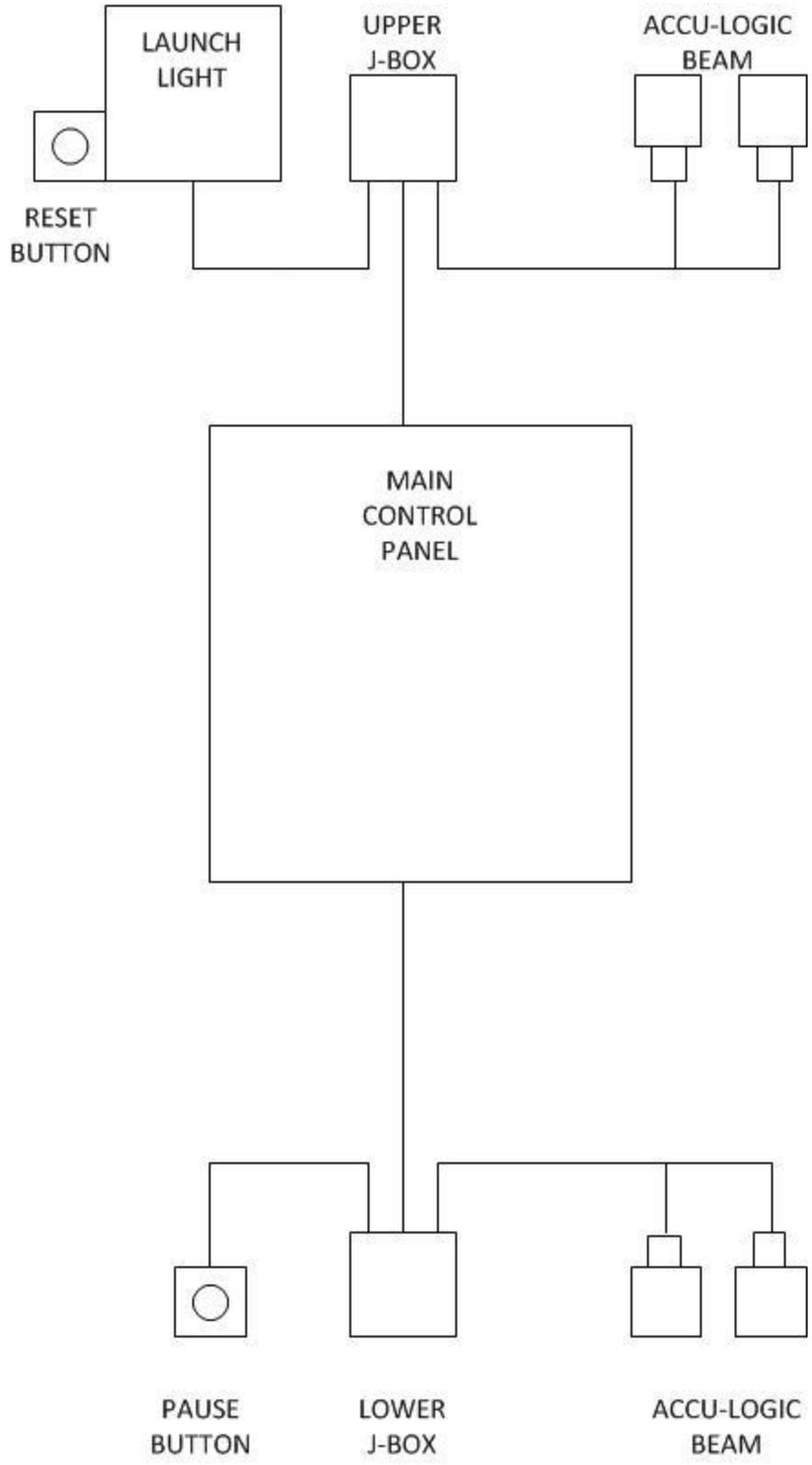
## 2.5. PAUSE button



The PAUSE button provides a means for a Lifeguard in the exit area of the slide to PAUSE dispatch by pressing the button. While the PAUSE button is pressed the Launch Light is overridden and will display red. The PAUSE button connects to the LOWER J-Box with a single Cable.

## 2.6. Cabling Layout

The figure on the following page shows a detailed cabling layout for a single slide. The “Accu-Logic™ Beams” come pre-wired from the factory to the J-Boxes, all other cabling will be field installed by the customer.





### 3. DETAILS OF CABLING INSTALLATION

Installation can be performed in any order desired; the following steps are a general outline of what is required for installation of the cabling.

#### 3.1. Mounting The Launch Light

3.1.1. Select your desired location for the Launch Light

3.1.2. Remove the U-Shaped Launch Light Bracket



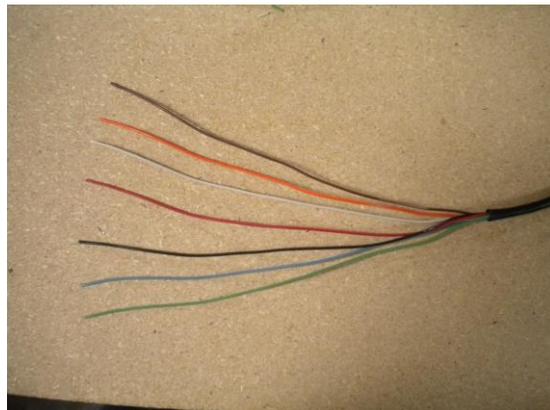
3.1.3. Use provided hardware to mount the bracket in the desired location.

3.1.4. Once the bracket is securely attached replace the Launch Light on the Bracket. Be sure to tighten the wing nuts.

#### 3.2. Install Cabling for Launch Light

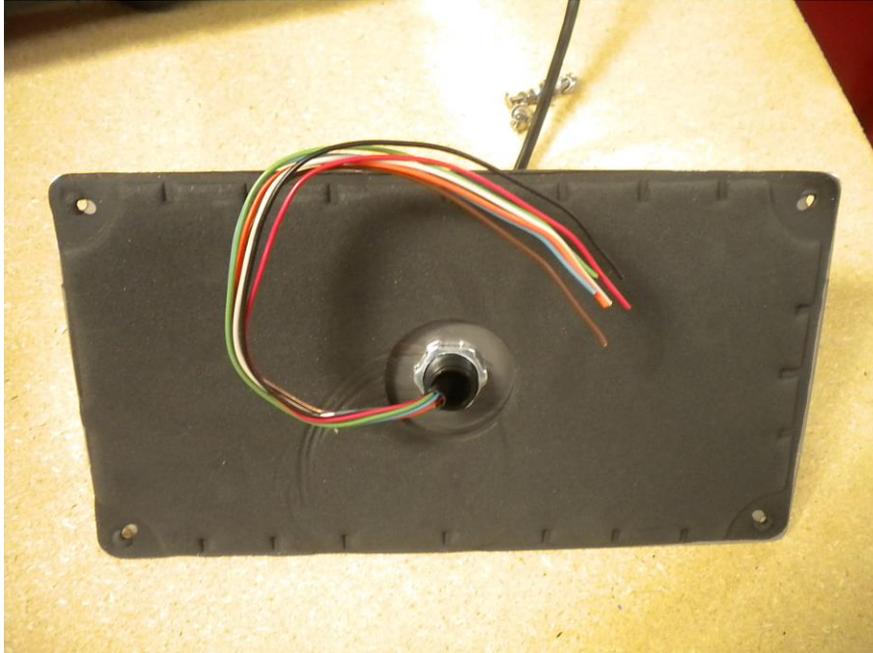
3.2.1. It is recommended to use 18AWG, 8 conductors low voltage sprinkler wire. This multi strand wire is rated for direct burial. It features solid copper strands and a standard color scheme which will ease in installation.

3.2.2. Strip approx. 12" of Cable jacket from end of cable.

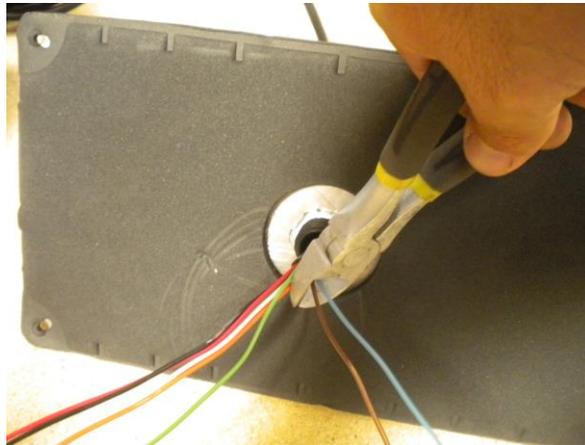




- 3.2.3. Remove the 4 screws and nuts at the corners of the RLGL. Remove the back plate taking care not to damage or lose the gasket. Feed the short cable back through the cable gland. Insert Cable in cable gland located on the back of the Launch Light until the jacket can be seen coming through the fitting. Tighten cable gland.

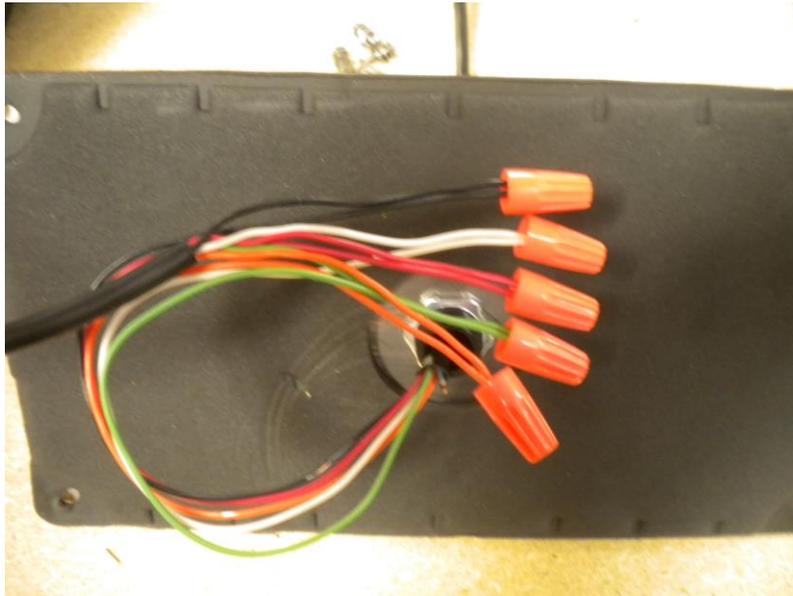


- 3.2.4. The Launch Light requires (5) wires to be connected. Cut back the brown and blue wire.



- 3.2.5. Cut the pre wired launch light cable back to about 12" in length. Strip back about 4" and cut out the blue and brown wire. The existing cable may be very near this length and may not need to be trimmed and stripped.

- 3.2.6. Use wire nuts to connect the wires to the wires in the Launch Light. The connection scheme is as follows:



3.2.7. *RG Style*

CABLE WIRES	LAUNCH LIGHT WIRES
+1	+1 (WHITE)
COM	COM (BLACK)
1	1 (ORANGE)
9	9 (GREEN)
10	10 (RED)

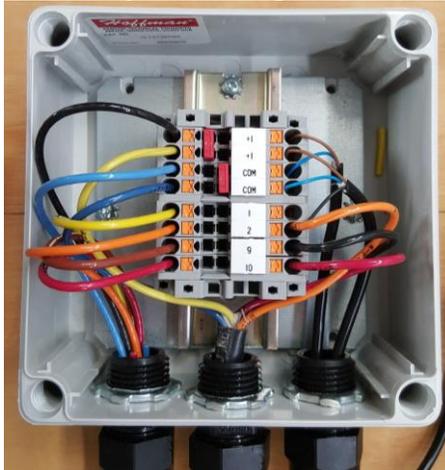
3.2.8. Close lid, ensuring that none of the wires are caught between the lid and the launch light enclosure. Tighten the (4) screws to prevent water from entering into the Launch Light.





3.3. Connecting the Launch Light Cable to the UPPER J-Box.

- 3.3.1. Mount the UPPER J-box in a position that is sufficiently close to where the upper “Accu-Logic™ Beams” will be placed in the slide. (See the Launch Logic RLGL Installation Set for details on mounting the sensor brackets.)
- 3.3.2. Route the cable from the Launch Light to the UPPER J-Box ensuring that you have sufficient length to dress the cable in a manner that there are no loose loops, and such that you have the ability to secure it properly to surrounding supports. (Remember too long is ALWAYS better than too short!)
- 3.3.3. Cut the cable to length allowing for 6” terminating in the UPPER J-Box. Strip back 5-6” of the outer jacket to expose the conductors.



- 3.3.4. Insert the cable until the cable jacket can be seen inside the J-box. Tighten the cable gland. Strip approximately ½” off the ends of the wires. Press the stripped ends of the cable into the appropriate terminal. Once inserted, gently pull on the wire to confirm that the wire is secure. If you need to remove or reposition any wire, use a small screw driver to depress the orange spring cage lever.

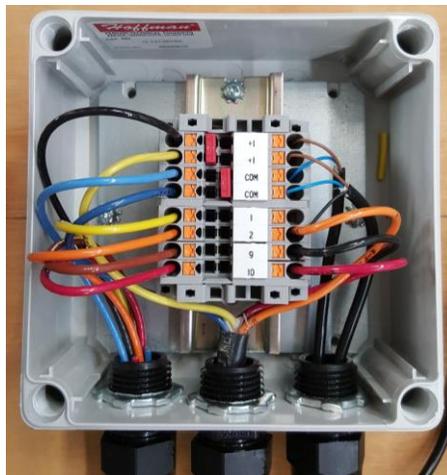
LAUNCH LIGHT CABLE WIRES	J-Box Terminals
+1 (White)	+1
COM (Black)	COM
1 (Orange)	1
9 (Green)	9
10 (red)	10

3.4. Connect Main Control Panel Cable to UPPER J-Box



- 3.4.1. Following the guidelines 3.3.4 to install the end of a new cable into the UPPER J-Box. It is not necessary to cut any of the wires off on this cable. The blue wire is not connected, but can remain bundled at both ends as a spare conductor.
- 3.4.2. This cable will be routed through the other cable gland and will use the following connection scheme:

MAIN CONTROL PANEL CABLE	J-Box Terminals
+1	+1
COM	COM
1	1
2	2
9	9
10	10

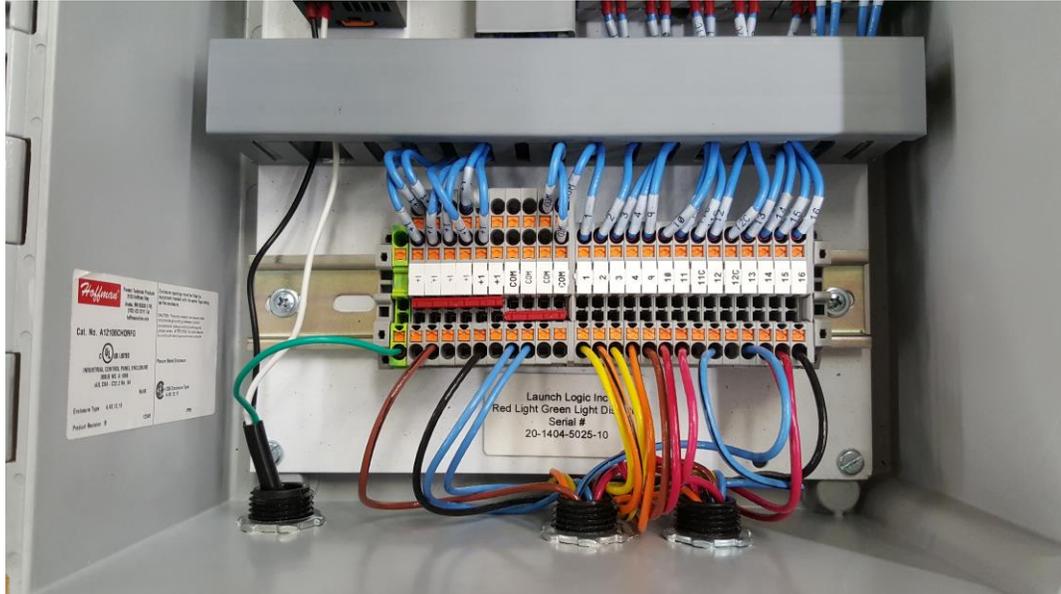


- 3.4.3. Once all connections are made give a slight tug on each wire to ensure that they all are secure. If any wires pull out or seem loose, re-insert. At this point the cover for the j-box may be replaced. Be sure to tighten the (4) cover screws. New dispatch systems are shipped with spring cage terminal blocks. These blocks are designed to insert the wire with no tools. If the wire is not stiff enough to insert, you will need to use a small screw driver to press down on the release mechanism to insert the wire. Take care that the spring cage doesn't clamp down on the insulation.
- 3.4.4. Route this cable from the UPPER J-Box to the Main Control Panel, again ensure you have sufficient length to dress the cable in a manner that there are no loose loops, and such that you have the ability to secure it properly to surrounding supports. (Remember too long is ALWAYS better than too short!)



### 3.5. Connect UPPER J-Box cable to Main Control Panel.

- 3.5.1. With the cable properly routed to the Main Control Panel, strip back approx. 12" of the cable jacket and insert it into one of the cable glands on the Main Control Panel. Tighten the gland securely on the jacket of the cable.



- 3.5.2. Route the wires into the provided wire duct in the panel, and then cut each wire to length based on the terminal it will connect to.



### 3.6. Connecting LOWER J-Box Cable to Main Control Panel

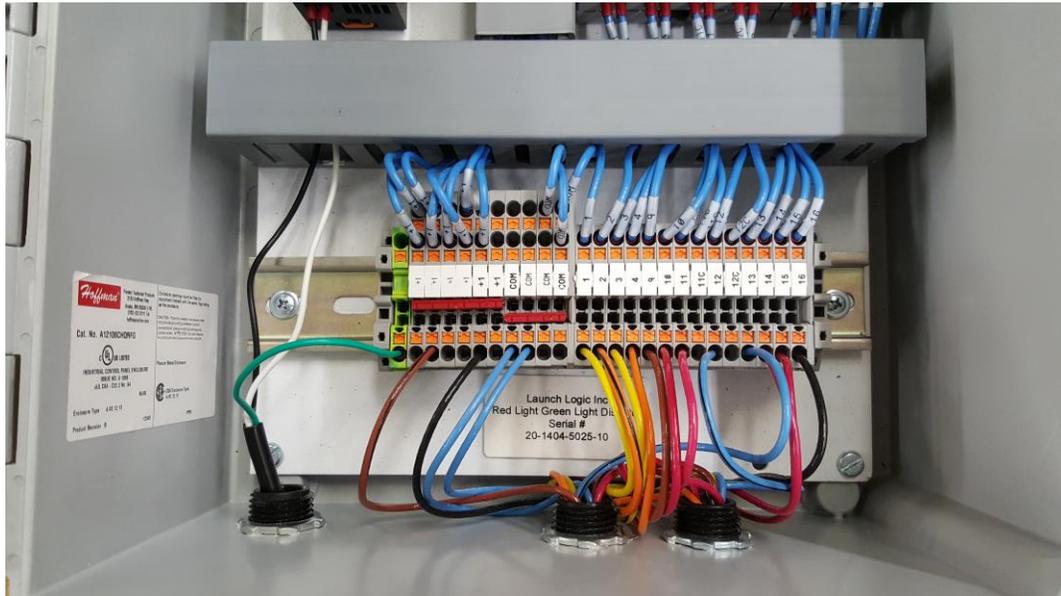
3.6.1. Now we are ready to install the cable between the Main Control Panel and the LOWER J-Box. The LOWER J-Box should be mounted in a similar fashion to the UPPER J-Box, such that is close to the mounting location of the LOWER “Accu-Logic™ Beams”.

3.6.2. Using a new cable end from the reel of cable, use the previously described method for stripping the jacket and inserting the cable into the Main Control Panel. You will be using the second cable gland provided for upper and lower J box termination.



3.6.3. This cable only requires (8) wires to be used. Then cut to length, strip, and terminate the remaining wires as follows:

LOWER J-BOX CABLE	Main Control Panel Terminals
+1	+1
COM	COM
3	3
4	4
13	13
14	14
15	15
16	16



### 3.7. Connecting the Main Control Cable to the LOWER J-Box

- 3.7.1. Now you will run this cable from the Main Control Panel to the previously installed LOWER J-Box ensuring that you have sufficient length to dress the cable in a manner that there are no loose loops, and such that you have the ability to secure it properly to surrounding supports. (Remember too long is ALWAYS better than too short!)
- 3.7.2. Once the cable is installed use the previously described method of stripping the jacket and inserting into the cable gland on the J-Box.



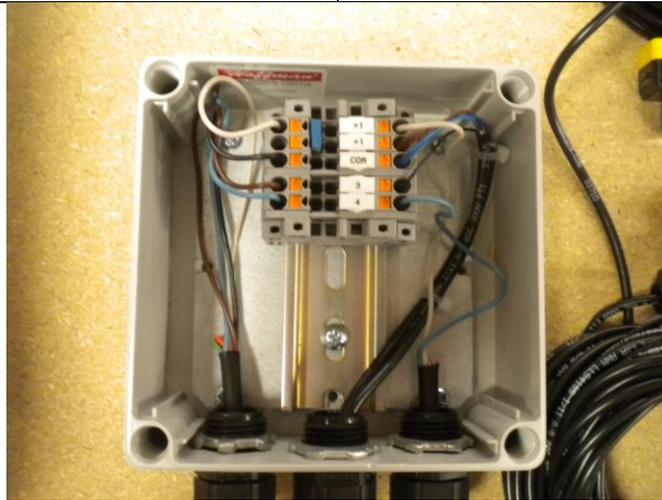


### 3.8. Connecting the PAUSE button

3.8.1. The PAUSE button only requires (2) wires so we will be cutting off the Black, Brown, Red, Orange, and Green Wires, and using only the Blue and White Wires.

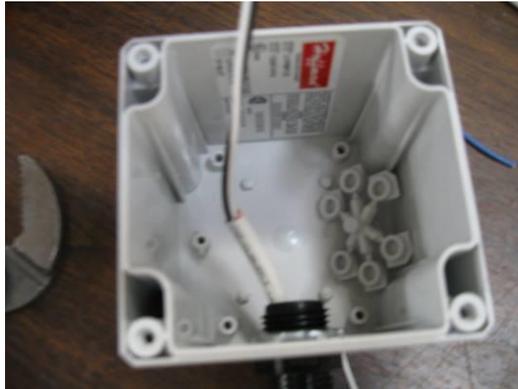
3.8.2. Use the methods described previously to insert the cable into the LOWER J-Box and terminate the wires as follows:

PAUSE BUTTON CABLE	LOWER J-Box Terminals
+1 (WHITE)	+1
4 (BLUE)	4



3.8.3. Now run the cable to the PAUSE button location. The PAUSE button should be located in a place that is readily accessible to a lifeguard at the exit of the slide. This button is used to stop people from entering the slide at the top if there is a problem at the exit of a slide. Use the same guidelines as before for running the cable, ensuring that you have sufficient length to dress the cable in a manner that there are no loose loops, and such that you have the ability to secure it properly to surrounding supports. (Remember too long is ALWAYS better than too short!)

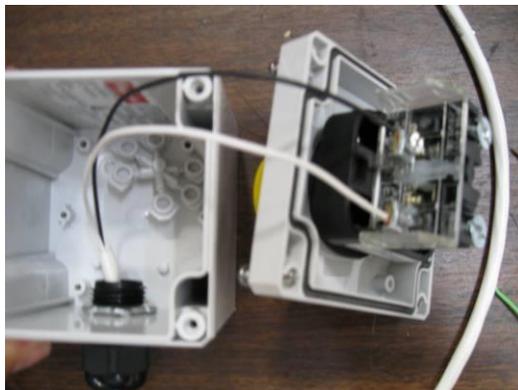
3.8.4. Once the cable is installed, use the previous steps for inserting the cable into the PAUSE button cable gland.



3.8.5. The PAUSE button has two screw terminals, it does not matter which wire is on which terminal.



3.8.6. Connect the two wires to the two terminals



3.8.7. Close the box, ensuring to tighten each of the four screws that hold the cover on.