
# *Waterslide Dispatch Control System*
# *Cable Installation Guide*

# ***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*.

**Contents**

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.

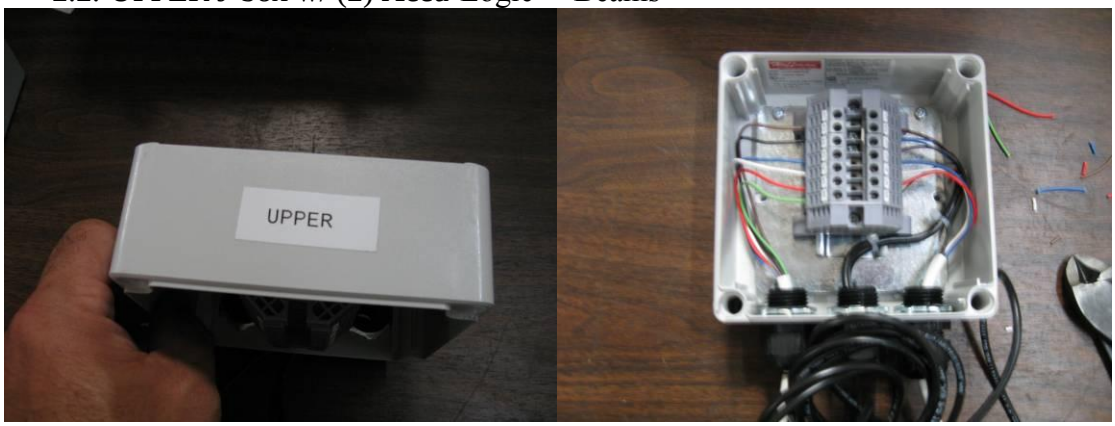
2. DESCRIPTION OF HARDWARE

**(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, and with additional button presses will display the previous "Slide Time".
A reset button on the front of the panel provides a way for the operator to reset the system in the case of a fault.

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



The UPPER J-box provides a localized connection point for the Launch Light 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 and receive a beam of light across the slide path, when the beam is blocked by a guest passing in front of them, the Accu-Logic™ Beam sends a signal to the main control panel indicating that a guest has passed.

2.3. Launch Light

*The RYG Style*

*The RG Style*

**RYG Style**

The "Launch Light" is controlled by the SmartRelay. It features a red "X", a yellow "Ball", and a green "Arrow". Each indicator has a specific function and meaning:

**Red "X"** – When the red "X" is visible and solid the slide is occupied, when the red "X" is visible and flashing a rider has not exited in the predetermined "MAX TIME".

**Yellow "BALL"** – The yellow "BALL" is visible whenever either of the Accu-Logic™ Beams is blocked.

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

**RG Style**

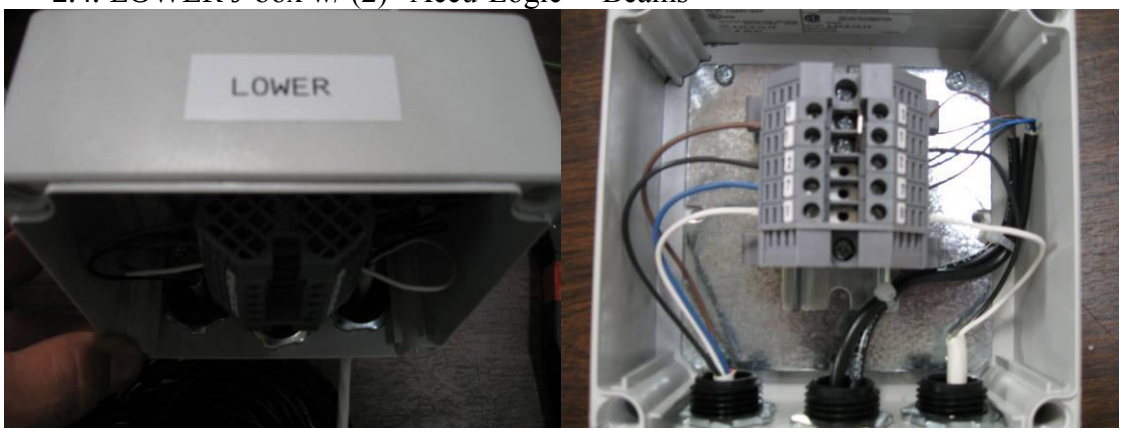
The "Launch Light" is controlled by the SmartRelay. It features a red light and a green light. Each indicator has a specific function and meaning:

**Red** – When the red light is solid the slide is occupied, when the red light is flashing a rider has not exited in the predetermined "MAX TIME".

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

**RESET** – The RG style has an integrated Reset Button to clear the system after a 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 guest passing in front of them, the Accu-Logic™ Beam sends a signal to the main control panel indicating that a guest has passed.

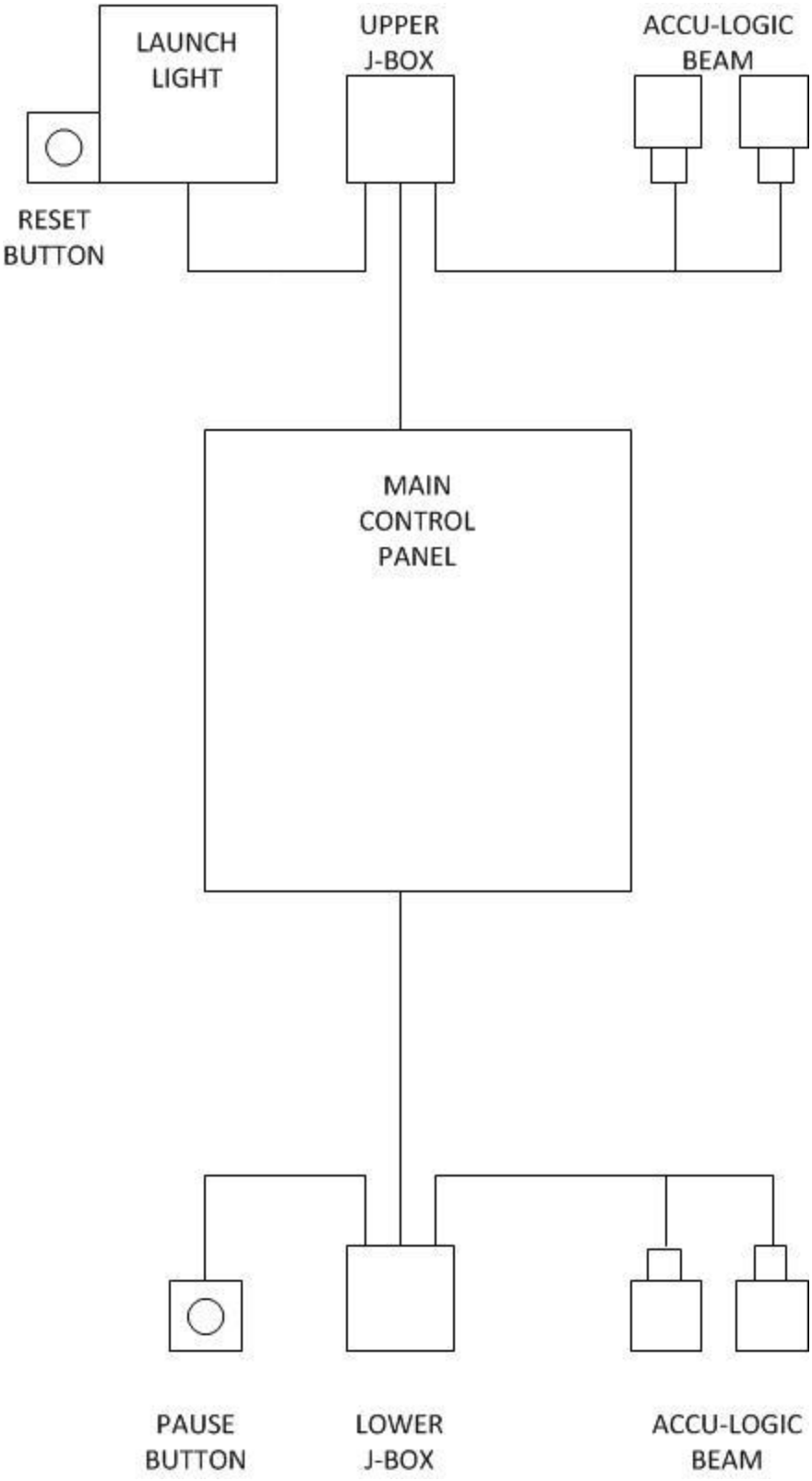
2.5. PAUSE button

2.6. 


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 a red X. The PAUSE button connects to the LOWER J-Box with a single Cable.

2.7. 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.


LAUNCH
LIGHT
UPPER
J-BOX
ACCU-LOGIC
BEAM
RESET
BUTTON
MAIN
CONTROL
PANEL
PAUSE
BUTTON
LOWER
J-BOX
ACCU-LOGIC
BEAM

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

*RYG Style*

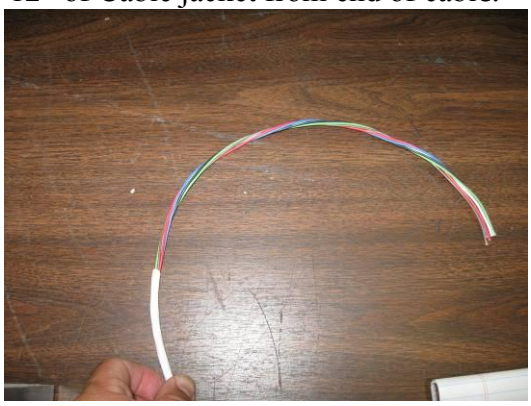
*RG Style*

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.

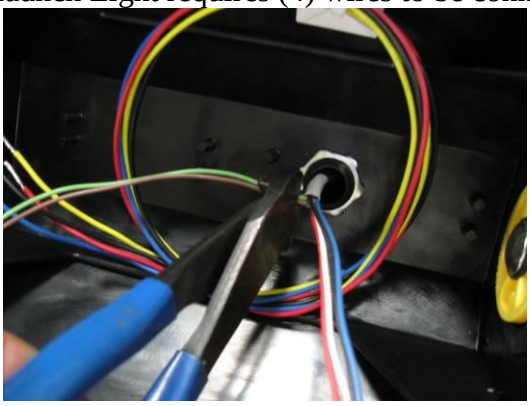
3.2. Install Cabling for Launch Light

3.2.1. Strip approx. 12” of Cable jacket from end of cable.



3.2.2. 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.

3.2.3. The Launch Light requires (4) wires to be connected



3.2.4.

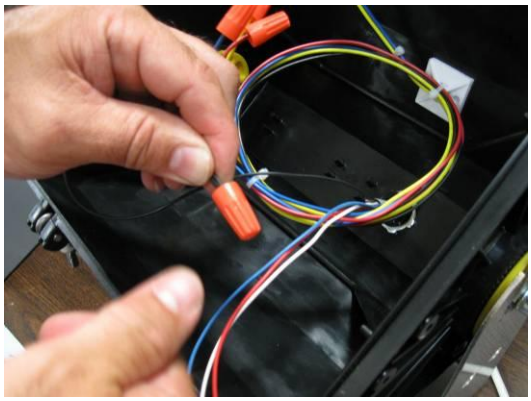
3.2.5. Use the included wire nuts to connect the wires to the wires in the Launch Light. The connection scheme is as follows:

*3.2.6. RYG Style*

| CABLE WIRES | LAUNCH LIGHT WIRES |
|---|---|
| Black | Black |
| Blue | Blue |
| Red | Red |
| White | Yellow |

*1.1.1. RG Style*

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



1.1.2. Close lid, ensuring that none of the wires are caught between the lid and the back box. Tighten the (2) wing nuts on the front to prevent water from entering into the Launch Light. (If you find that the arrow on the light is pointing in the wrong direction, you can open the enclosure and loosen the (4) screws that hold the light down, you can then rotate the light to fit as you desire.)

1.2. Connecting the Launch Light Cable to the UPPER J-Box.
With the Launch Light properly installed and the wires properly terminated you can now route the wires to the UPPER J-Box.

1.2.1. 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.)

1.2.2. 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!)

1.2.3. With the cable at the proper length cut the cable so that there is at least 6" that can be routed into the J-Box. Once cut, strip approx. 6" off of the end of the cable and route through cable gland.

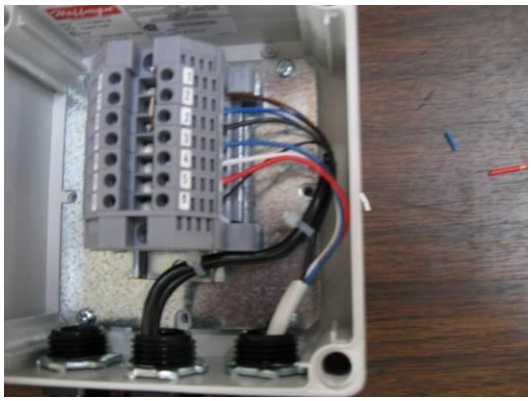

1.2.4. Once the cable is inserted until the cable jacket can be seen inside the J-box, tighten the cable gland. You will then cut each wire to length based on which terminal they will be routed to. Strip approx. ½" off of each wire, insert in proper terminal and tighten screw using the screw driver provided.

*RYG Style*

| LAUNCH LIGHT CABLE WIRES | J-Box Terminals |
|---|---|
| Black | 2 |
| Blue | 3 |
| White | 4 |
| Red | 5 |

*RG Style*

| LAUNCH LIGHT CABLE WIRES | J-Box Terminals |
|---|---|
| +1 | +1 |
| COM | COM |
| 1 | 1 |
| 9 | 9 |
| 10 | 10 |



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

1.3.1. Now you are ready to connect the UPPER J-Box cable to the Main Control Panel.

1.3.2. Following the guidelines at 3.3.4 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.

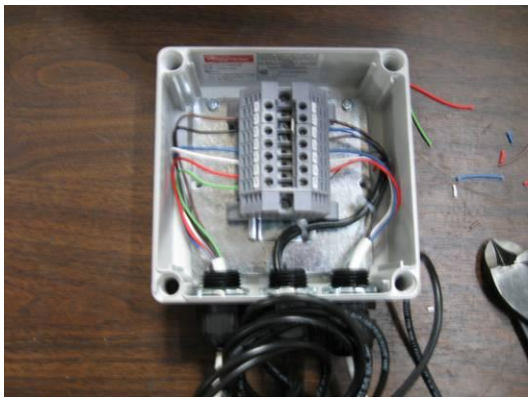
1.3.3. This cable will be routed through the other cable gland and will use the following connection scheme:

*RYG Style*

| MAIN CONTROL PANEL CABLE | J-Box Terminals |
|---|---|
| Brown | 1 |
| Black | 2 |
| Blue | 3 |
| White | 4 |
| Red | 5 |
| Green | 6 |

*RG Style*

| MAIN CONTROL PANEL CABLE | J-Box Terminals |
|---|---|
| +1 (WHITE) | +1 |
| COM (BLACK) | COM |
| 1 (ORANGE) | 1 |
| 2 (BROWN) | 2 |
| 9 (GREEN) | 9 |
| 10 (RED) | 10 |



1.3.4. Once all connections are made give a slight tug on each wire to ensure that they all are properly terminated. If any wires pull out or seem loose, re-

insert and/or re-tighten the screws. At this point the cover for the j-box may be replaced, be sure to tighten the (4) cover screws.

1.3.5. 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!)

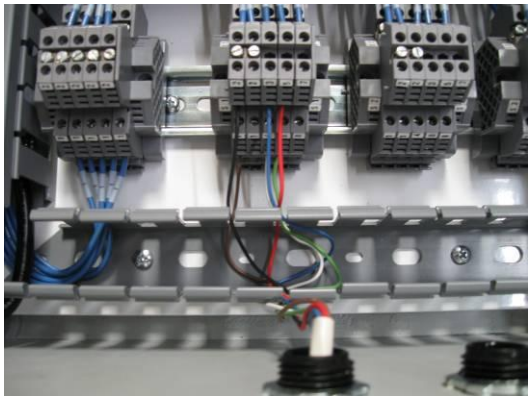
1.4. Connect UPPER J-Box cable to Main Control Panel.

1.4.1. With the cable properly routed to the Main Control Panel, strip back approx. 12" of the cable jacket and insert it into the cable gland on the Main Control Panel. DO NOT tighten this gland yet as you will be inserting the cable for the LOWER J-Box next.

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

NOTE: For Multi Slide Main Control Panels be sure that you are using the proper set of terminals in the Main Control Panel. Each set of terminals is marked on the end anchor with #'s indicating which slide it is for. The numbers are:
S1 – Slide #1
S2 – Slide #2

What is critical is that each Slide has the Proper UPPER and LOWER connections on the same set of terminals; it is not critical which slide is which.



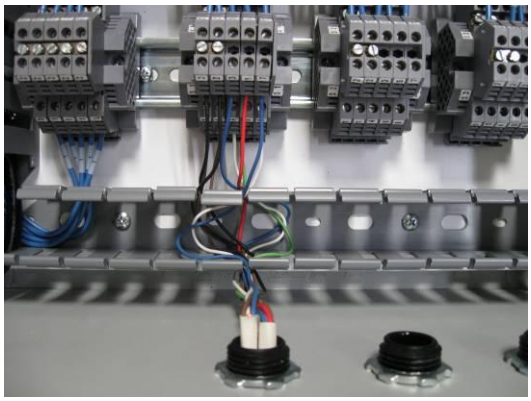
1.5. Connecting LOWER J-Box Cable to Main Control Panel

1.5.1. 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".

1.5.2. 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 same cable gland as the UPPER J-Box cable.

1.5.3. This cable only requires (4) wires to be used, therefore cut the Red, Orange and Green wires off at the jacket. Then cut to length, strip, and terminate the remaining wires as follows:

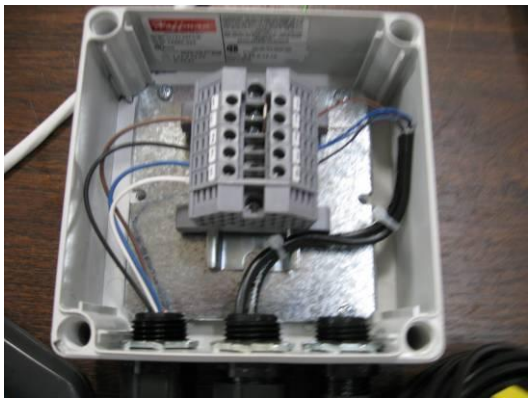
| LOWER J-BOX CABLE | Main Control Panel Terminals |
|---|---|
| +1 (WHITE) | +1 |
| COM (BLACK) | COM |
| 3 (BROWN) | 3 |
| 4 (BLUE) | 4 |



1.6. Connecting the Main Control Cable to the LOWER J-Box

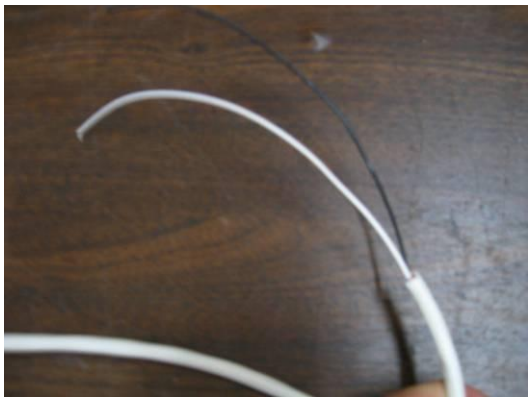
1.6.1. Now we will run this cable from the Main Control Panel to the previously installed LOWER J-Box ensuring that you have sufficient length to dress the cable in a manner that there are no loose loops, and such that you have the ability to secure it properly to surrounding supports. (Remember too long is ALWAYS better than too short!)

1.6.2. Once the cable is installed use the previously described method of stripping the jacket and inserting into the cable gland on the J-Box.

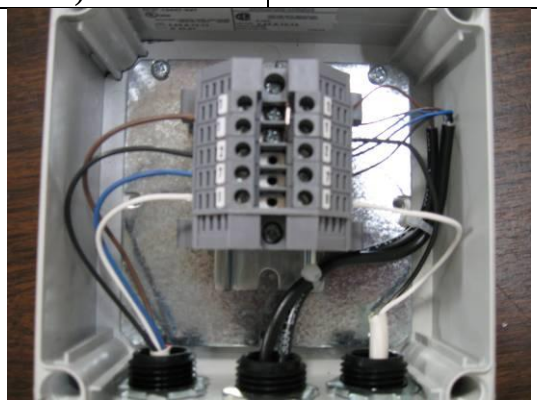
1.7. Connecting the PAUSE button

1.7.1. 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.



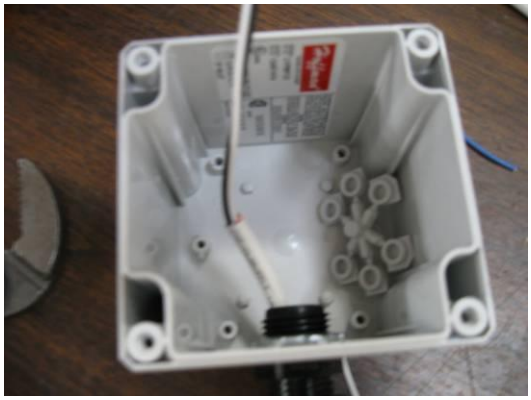
1.7.2. Use the methods described previously to insert the cable into the LOWER J-Box and terminate the wires as follows:

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

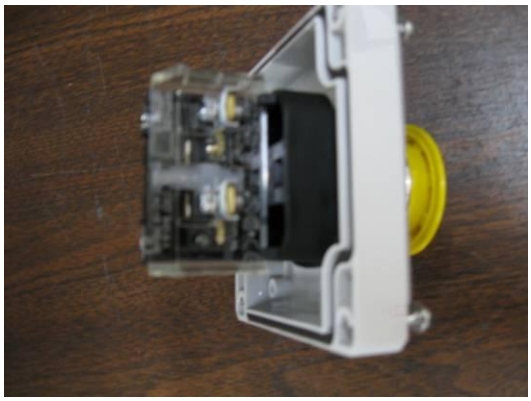


1.7.3. Now run the cable to the PAUSE button location. The PAUSE button should be located in a place that is readily accessible to a lifeguard at the exit of the slide. This button is used to stop people from entering the slide at the top if there is a problem at the exit of a slide. Use the same guidelines 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!)

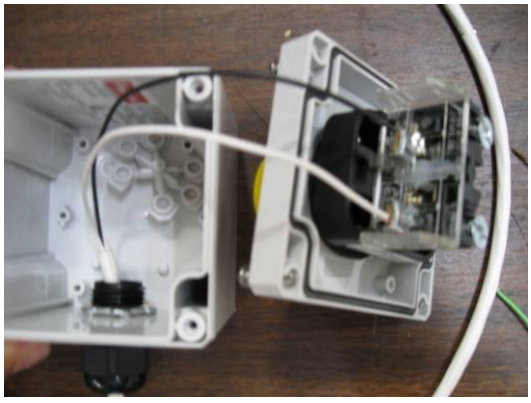
1.7.4. Once the cable is installed, use the previous steps for inserting the cable into the PAUSE button cable gland.



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



1.7.6. Connect the two wires to the two terminals



1.7.7. Close the box, ensuring to tighten each of the four screws that holds the cover on.