

ISIMET

DLA

HV (120V) / LVL (12V Latching)

Installation Manual



ISIMET DLA
Installation Manual

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Patent 6,757,589 B1, 6,990,393 B2, 8,543,225, Other Patents Pending

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There are three options for mounting the DLA: [Retrofit Surface Mount \(page 3\)](#), [Standard Surface Mount \(page 7\)](#), or the recommended [Flush Mount \(page 6\)](#). Skip to the required section for installation instructions.

The DLA-HV system is designed to be installed either over an existing single-gang light switch or standalone. It uses 120VAC line voltage and 120VAC solenoids (240W Max).

The DLA-LVL system comes as a complete package with the solenoids and 12VDC latching solenoid coils included. This system requires 120VAC line voltage and provides its own power for the solenoids.

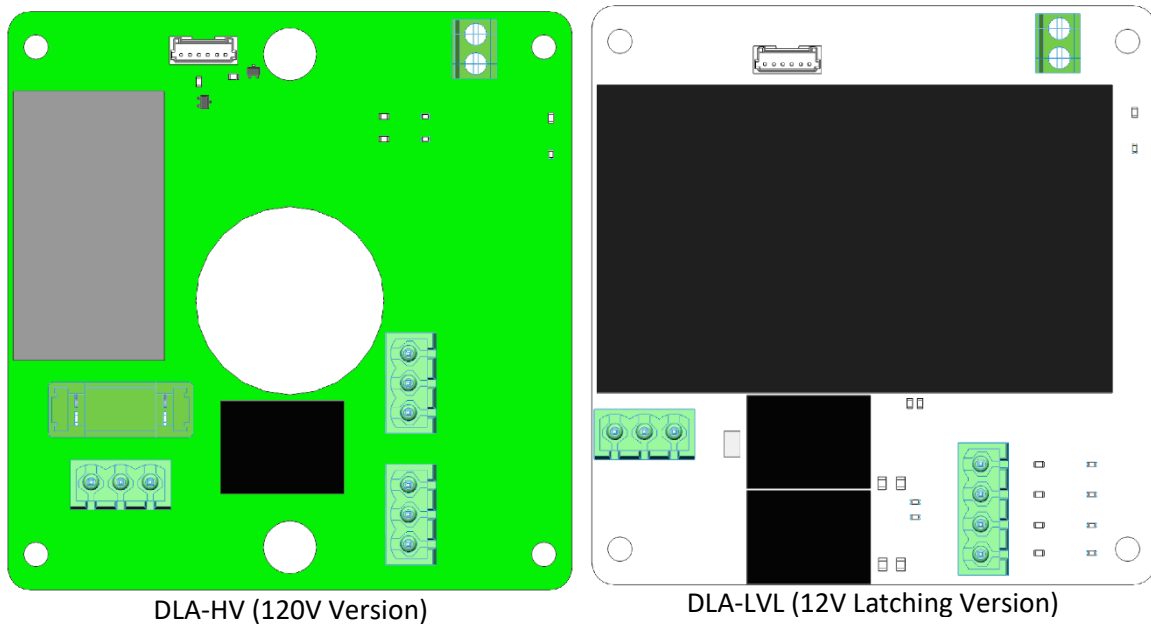


Figure 1: DLA-HV vs DLA-LVL

DLA-HV	DLA-LVL
120VAC (60Hz) Line Voltage Input	100-240VAC (50/60Hz) Line Voltage Input
120VAC Solenoid Output (Max 240W)	12VDC Latching Solenoid Output
12VDC Water Off Beacon (Max 10W)	12VDC Water Off Beacon (Max 10W)
120V – 2A Fuse	Short-Circuit Protection (No Fuses)
Separate Solenoids/Complete Assembly	Complete Assembly

Retrofit the DLA-HV over existing Single Light Switch

Retrofit Surface Mount Installation (HV ONLY) - Retrofit over an existing light switch

Note: Normally Open (NO) 120VAC Solenoids are recommended, as they will only be powered when the water is off, and included as default for the DLA-HV.

1. For retrofit installations, disconnect power to the light switch by turning off its respective circuit breaker.
2. Remove the light switch cover and light switch from the single-gang box.

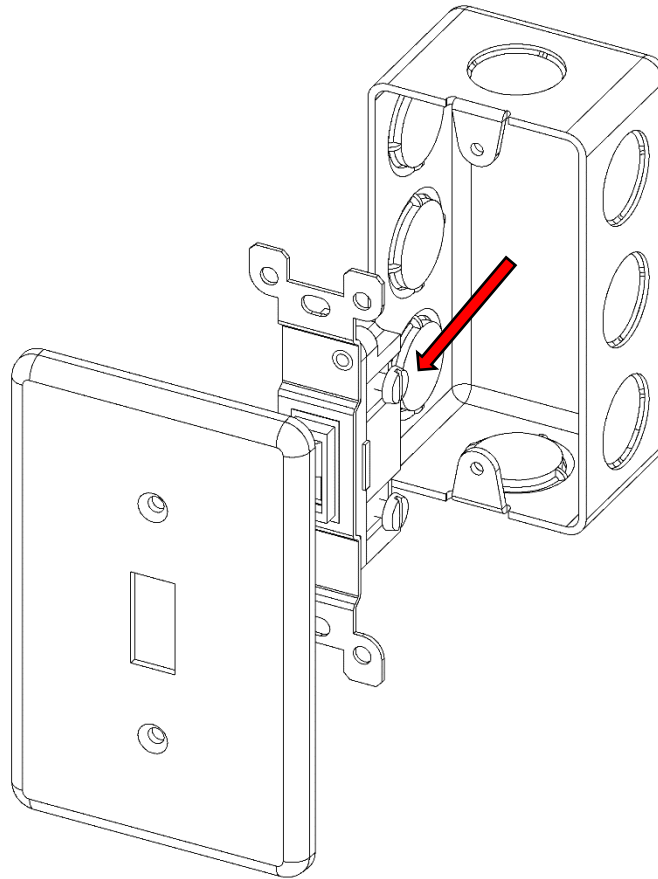
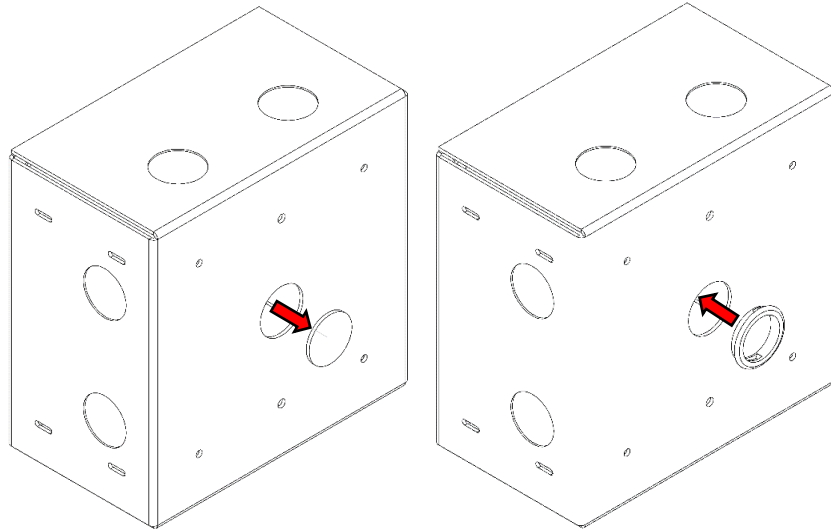


Figure 2: Remove Light Switch for Retrofit Installations

3. Remove the ½” Knockout from the back of the DLA Enclosure Box and install the included ½” Knockout Bushing.



4. Attach the DLA Enclosure Box to the single-gang box while routing the wiring through the ½” knockout.

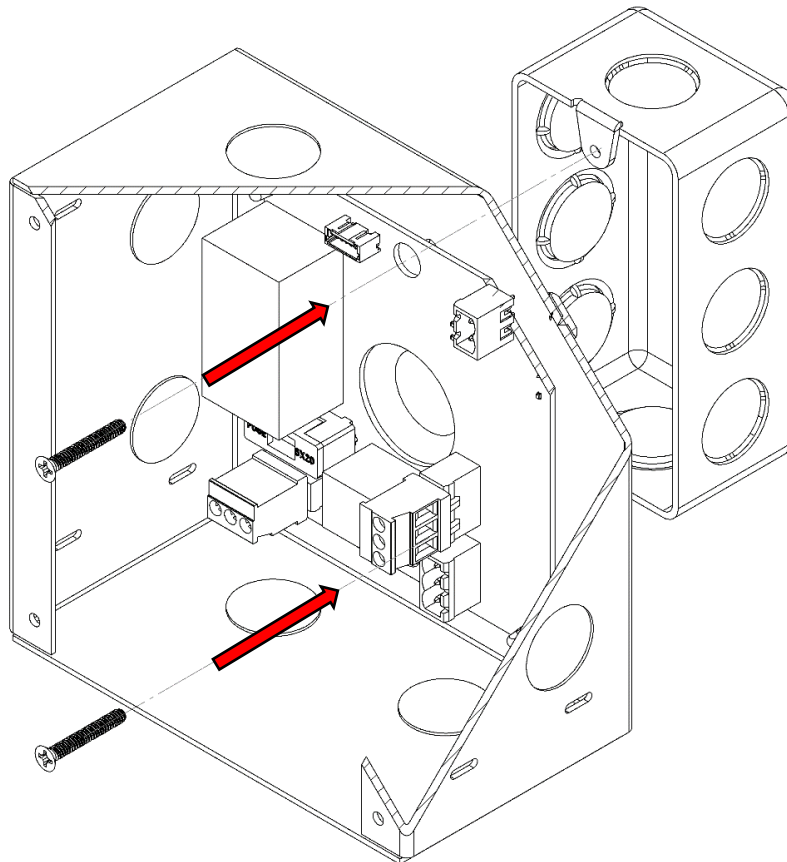


Figure 3: HV Retrofit Installation

5. Attach the DLA Enclosure to the Light Switch Enclosure.

- Use a small flathead screwdriver to connect the solenoid wiring and line voltage as shown:
Note: Terminal Blocks are removable to aid in wire installation.

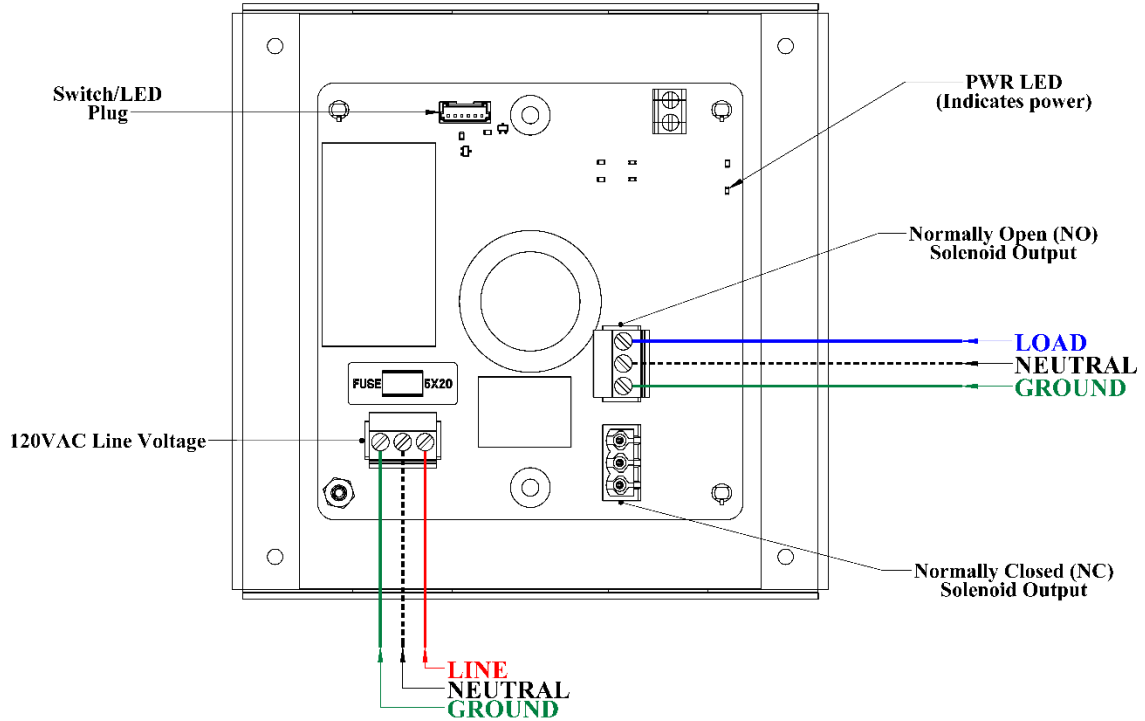


Figure 4: DLA-HV Retrofit Connections and Wiring Diagram

- Turn on the circuit breaker to the DLA and verify the PWR LED illuminates.

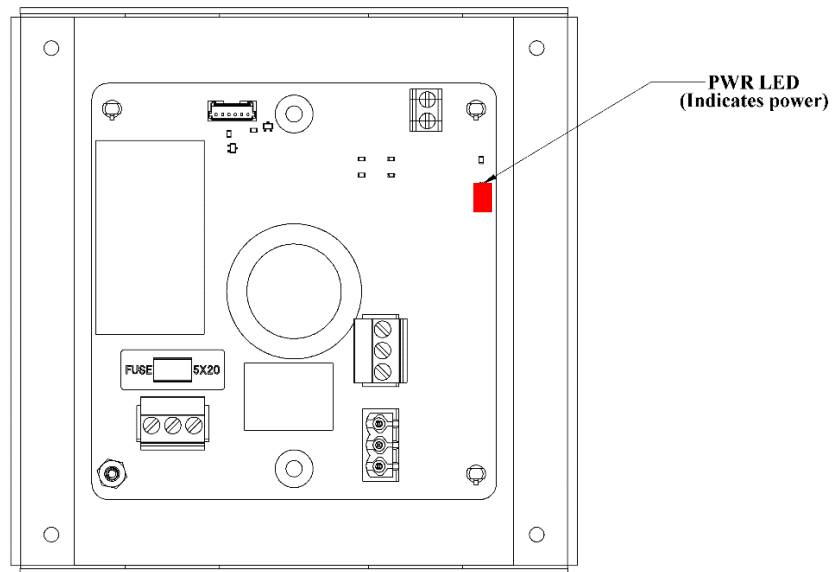


Figure 5: Power LED Location

- Skip ahead to [Surface Mount Completion \(page 14\)](#).

Standard Installation Instructions

Flush Mount Installation (Recommended)

1. Place the DLA Enclosure Box next to the stud taking into consideration the finished wall thickness. (The front of the DLA Enclosure Box should be installed flush with the finished wall)

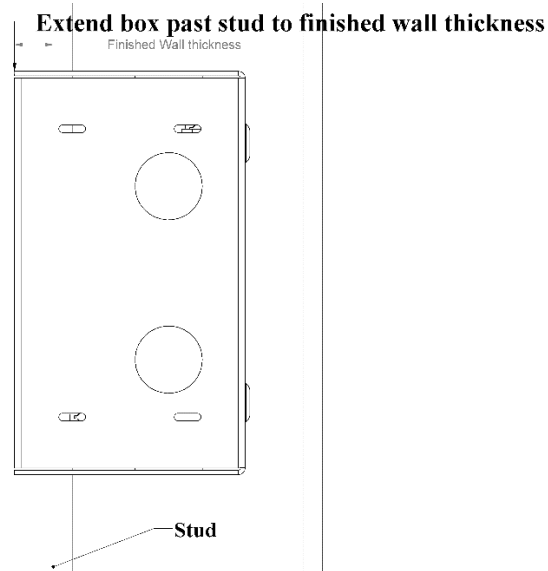


Figure 6: Flush Mount Installation (Protrude to finished wall thickness)

2. Attach the DLA Enclosure Box to the stud through the slotted cutouts using appropriate screws.

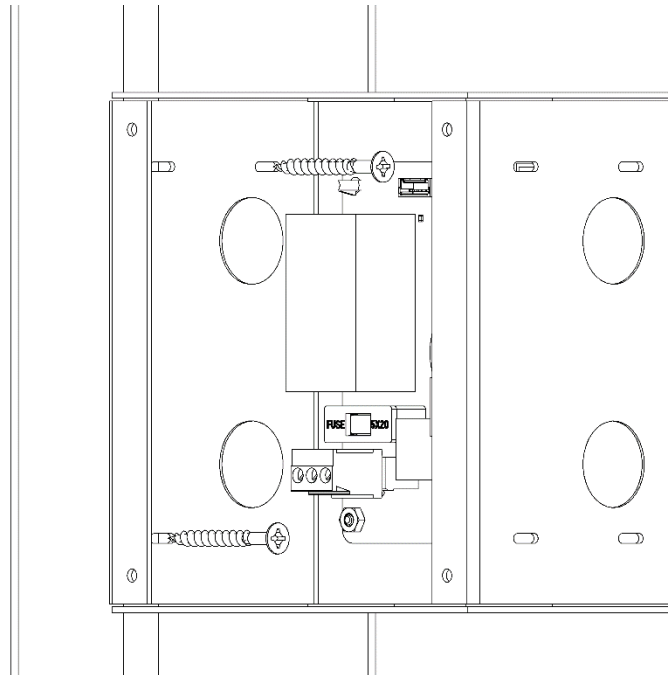


Figure 7: Mount DLA to Stud

Surface Mount Installation

1. Attach the DLA-HV Enclosure to the wall through the predrilled holes using the appropriate mounting screws.

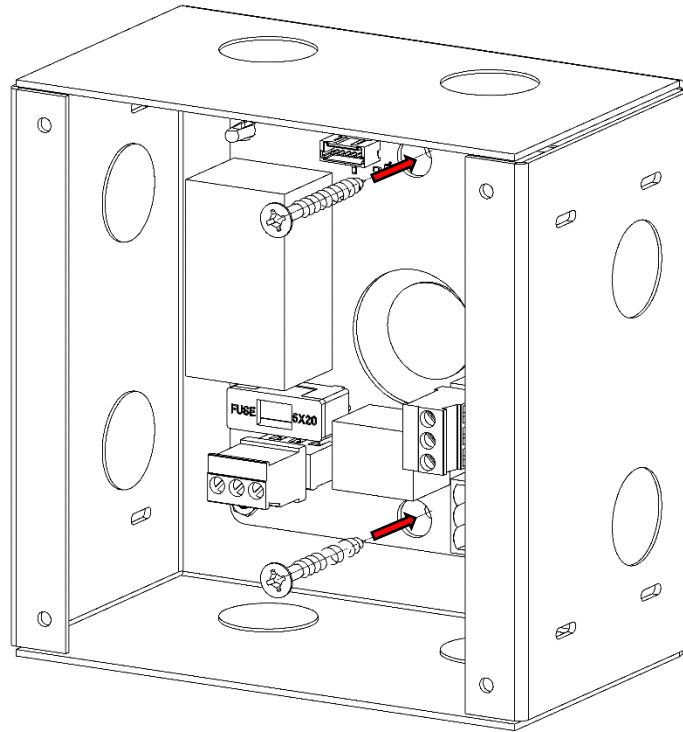


Figure 8: Surface Mount Installation (DLA-HV)

Note: The DLA-LVL will have holes drilled in alternate locations as the printed circuit board has a different layout. It is recommended to perform a flush mount installation whenever possible.

Mounting the Solenoids

Solenoid Installation Recommendations:

- A licensed installer should complete this section following all National and Local Codes.
- Ensure that 120VAC solenoids are used in conjunction with the DLA-HV, while 12VDC Latching Solenoids are used exclusively with the DLA-LVL.
- Install the DLA solenoids with ISIMET's Solenoid Assembly (see below), which includes a Y-Strainer, Ball Valve, and Unions.
- The solenoids should be installed with an access panel for maintenance and/or service.
- Remove the solenoid assemblies and flush the piping systems prior to initial startup.

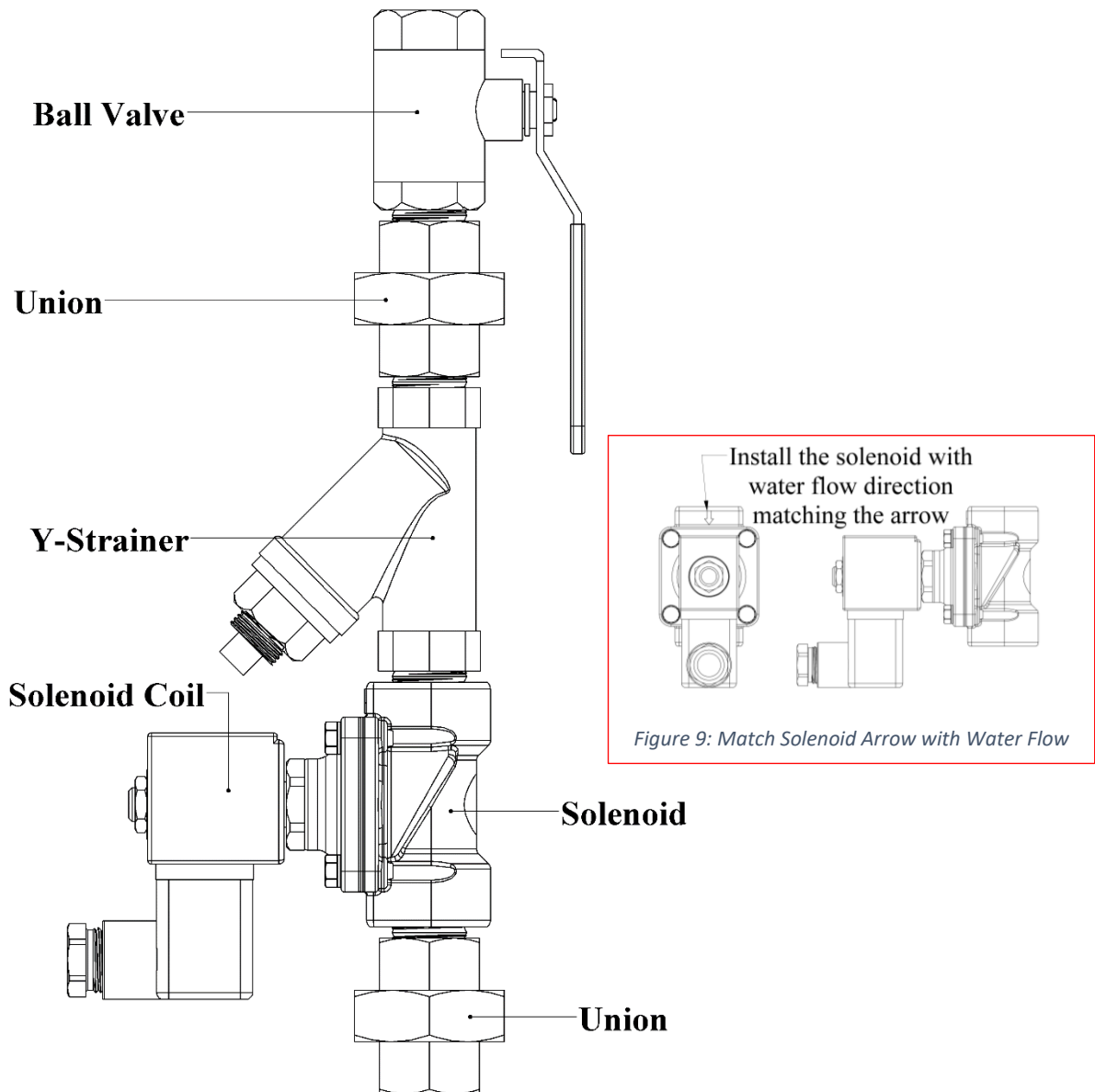


Figure 10: Recommended ISIMET Valve Assembly

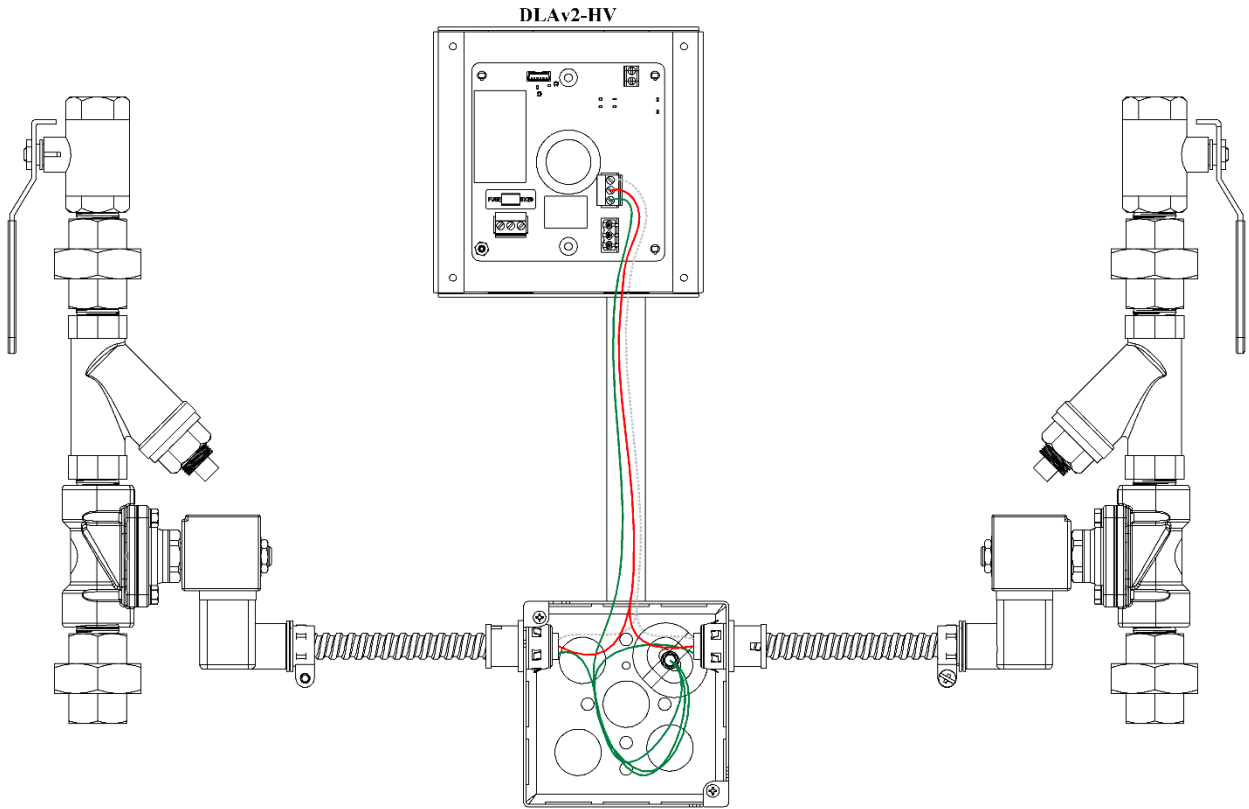


Figure 11: Typical DLA-HV (120V) Stand-Alone Solenoid Installation

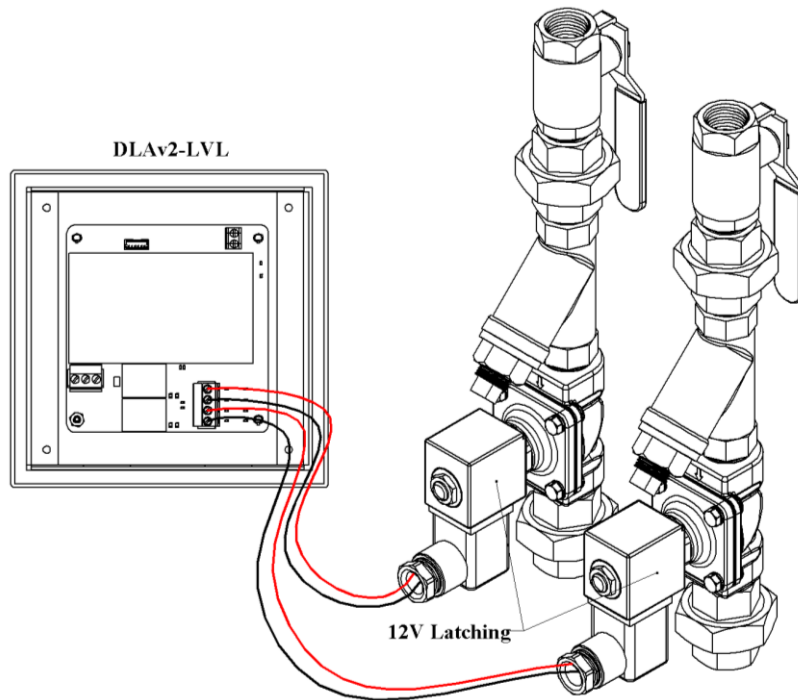


Figure 12: DLA-LVL with 2-Supply Standalone ISIMET Solenoid Assemblies.

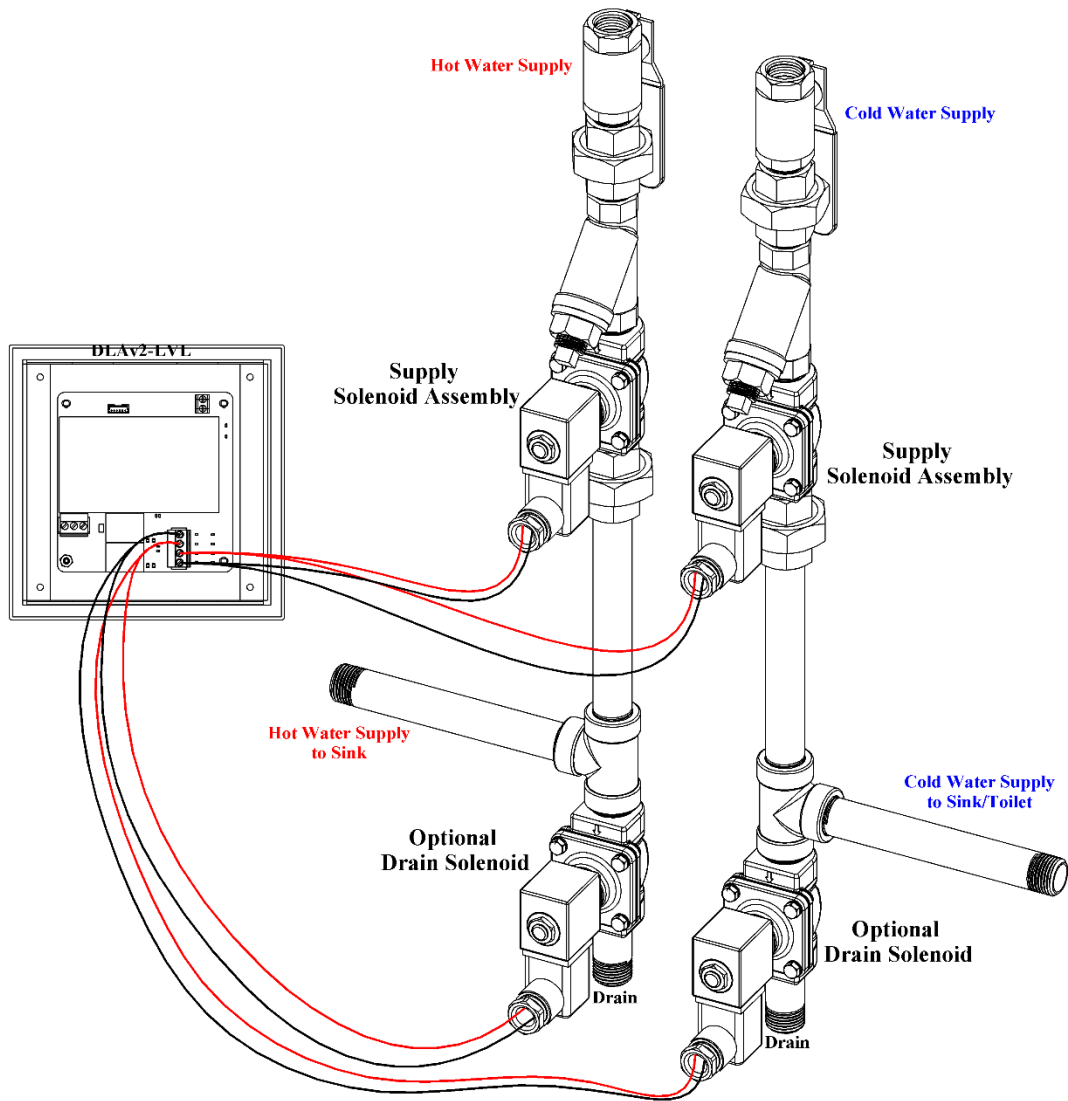


Figure 13: DLA-LVL with ISIMET Supply and Drain Solenoids

Wiring the DLA

A licensed electrical contractor should perform this step following all electrical codes and procedures.

DLA-HV (120V) Wiring Instructions (Skip ahead for the LVL version)

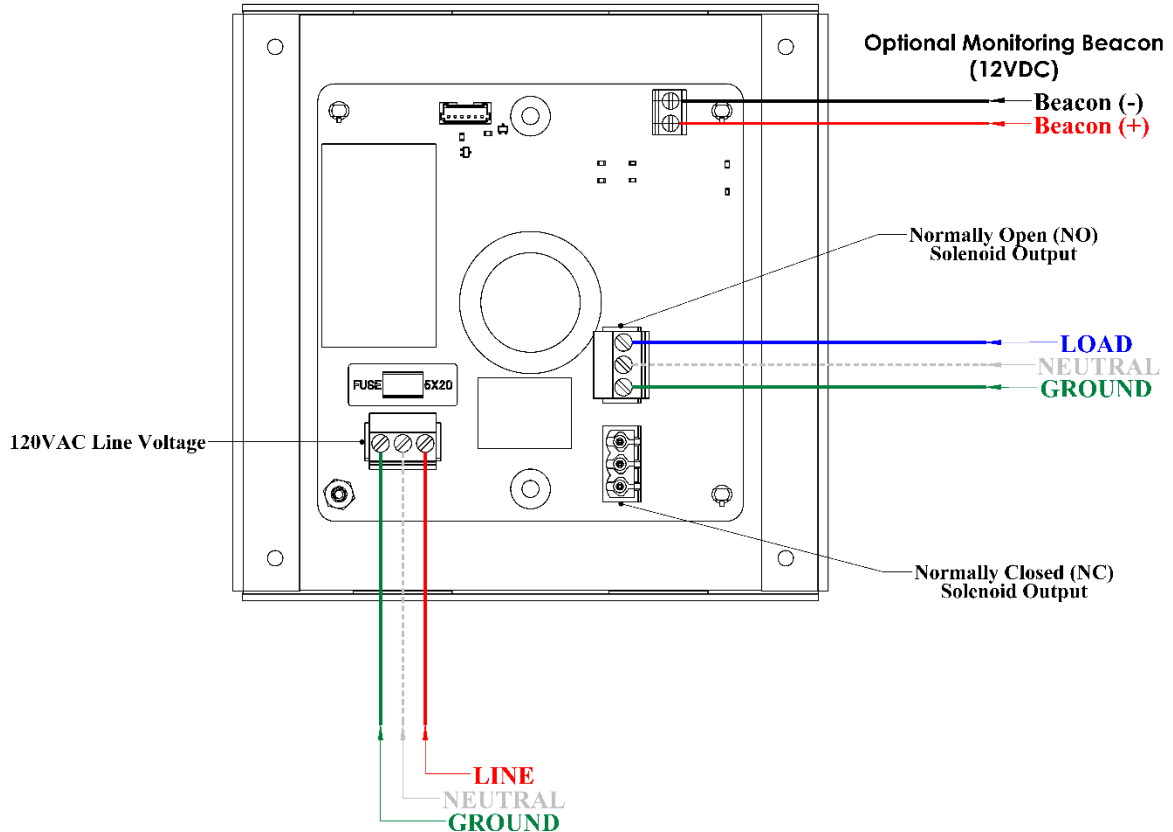


Figure 14: DLA-HV (120V) Wiring Diagram

DLA-HV Label	Description
<i>120V_Input</i>	<i>120VAC Line Voltage Input</i>
<i>Normally Open (120V)</i>	<i>Connect to 120VAC Normally Open Solenoids</i>
<i>Normally Closed (120V)</i>	<i>Connect to 120VAC Normally Closed Solenoids</i>
<i>Beacon Output</i>	<i>Optional 12VDC Output when Water is Off</i>
<i>Switch/LED</i>	<i>Connect to the Key or Push Button Front Cover</i>
<i>120V – 2A MAX</i>	<i>120V Fuse for the Solenoid Outputs (240W Max)</i>

DLA-LVL (Low-Voltage Latching) Wiring Instructions

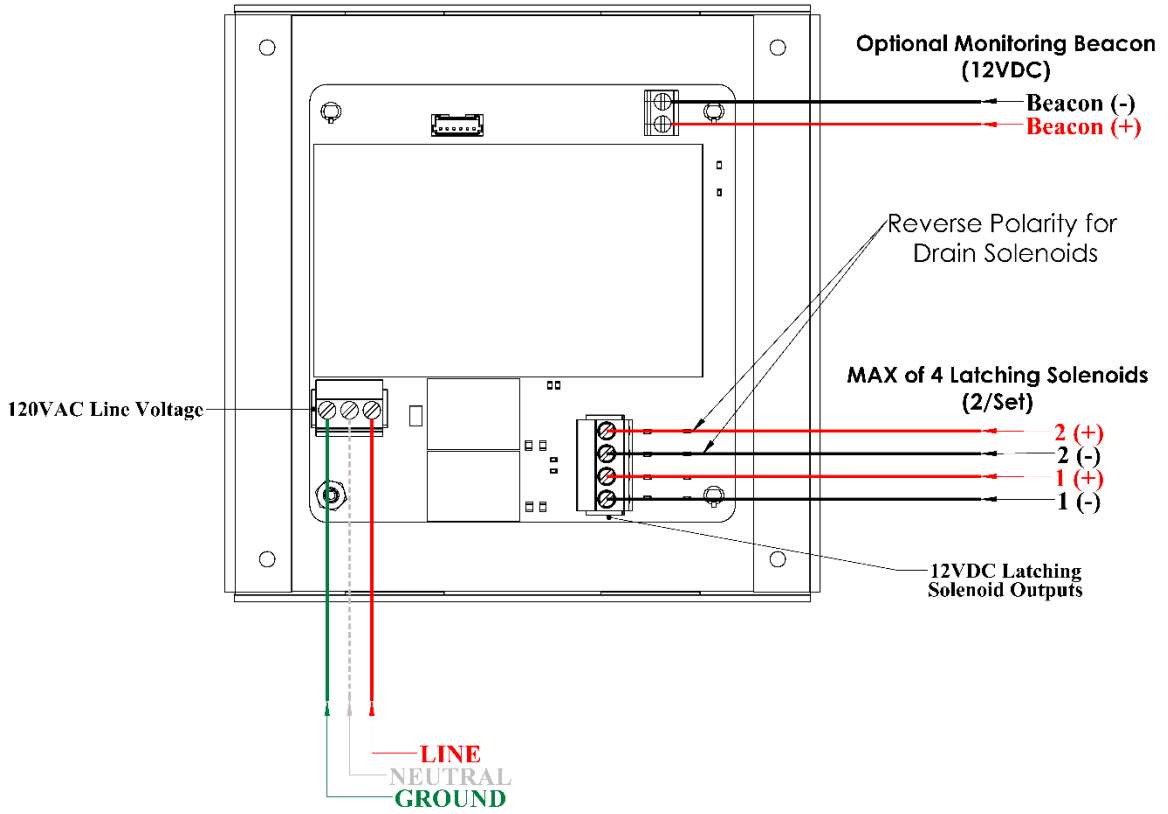


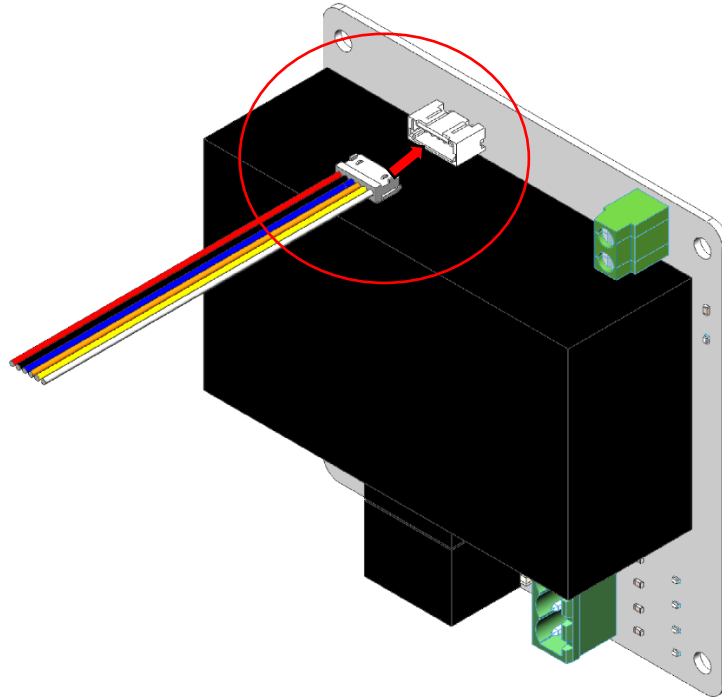
Figure 15: DLA-LVL (Low Voltage Latching) Wiring Diagram

DLA-LVL Label	Description
<i>120V_Input</i>	<i>120VAC Line Voltage Input</i>
<i>Pulse_Out (-_1)</i>	<i>1st Negative 12VDC Latching Solenoid Output (Connect to the -Supply)</i>
<i>Pulse_Out (+_1)</i>	<i>1st Positive 12VDC Latching Solenoid Output (Connect to the +Supply)</i>
<i>Pulse_Out (-_2)</i>	<i>2nd Negative 12VDC Latching Solenoid Output (Connect to the +Drain)</i>
<i>Pulse_Out (+_2)</i>	<i>2nd Positive 12VDC Latching Solenoid Output (Connect to the -Drain)</i>
<i>Beacon Output</i>	<i>Optional 12VDC Output when Water is Off</i>
<i>Switch/LED</i>	<i>Connect to the Key or Push Button Front Cover</i>

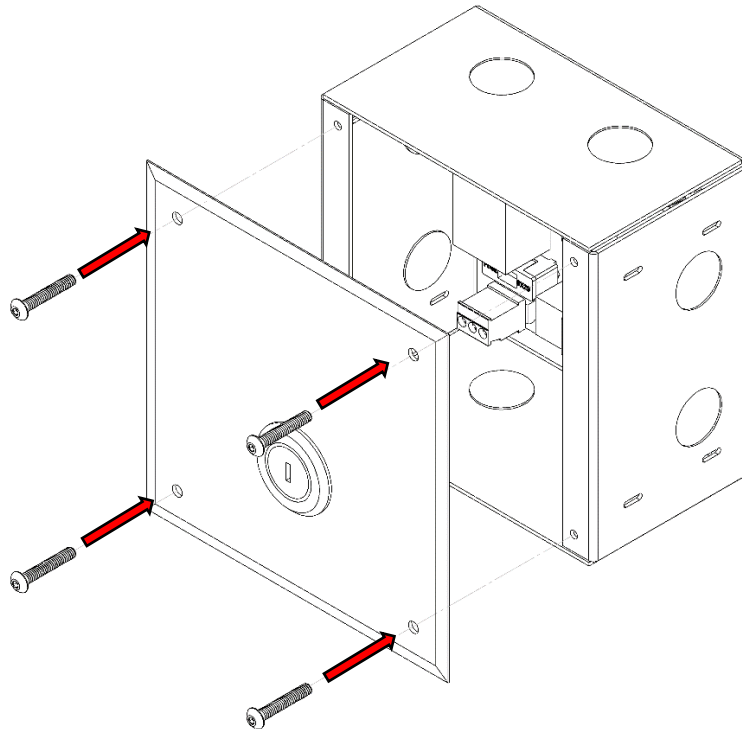
Completing the DLA Installation

Flush Mount Completion (Skip ahead for Surface Mount)

1. After the walls are finished, firmly attach the DLA Key Switch/Plug into the Switch/LED plug.

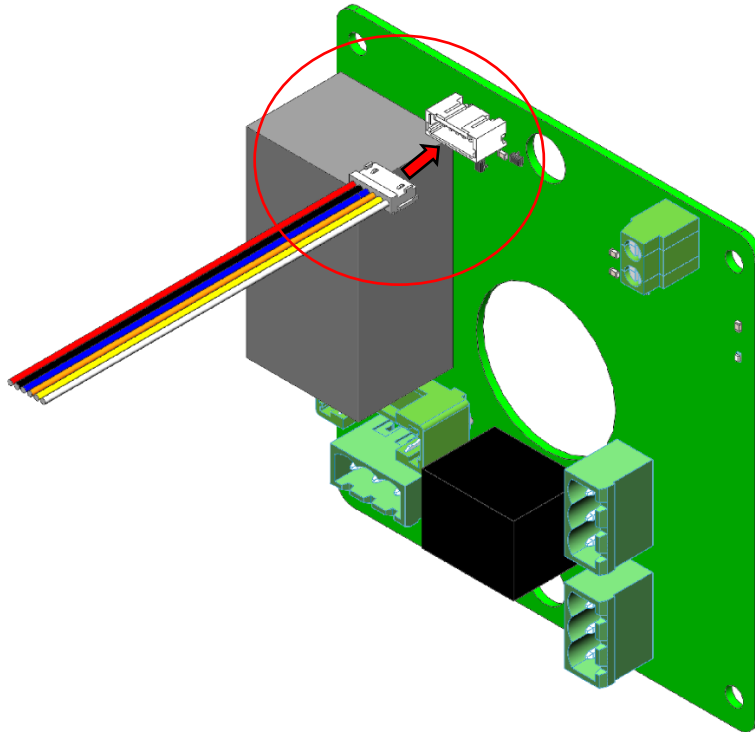


2. Attach the Cover using the included #8-32 SS Screws.

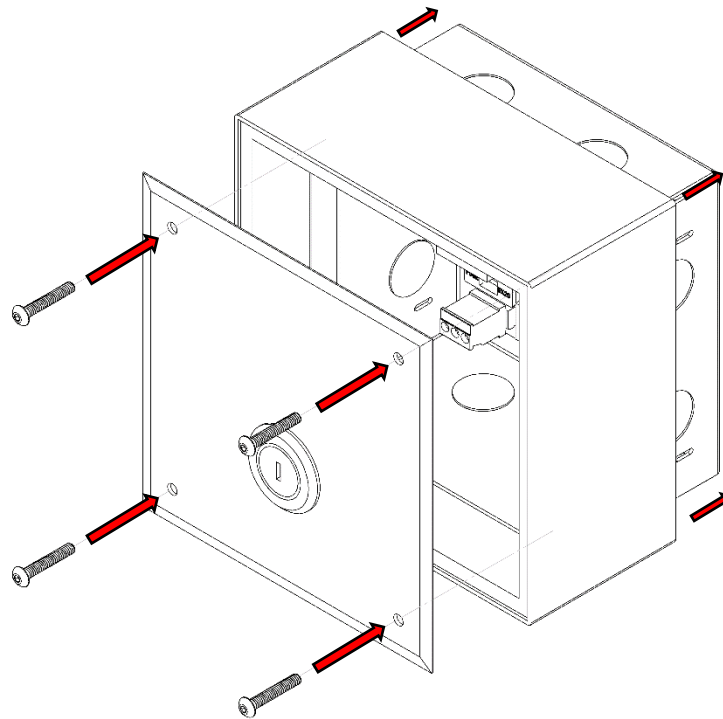


Surface Mount Completion

1. Firmly attach the DLA Key Switch/Push Button into the Switch/LED plug



2. Install the Flush Mount Sleeve and attach the Cover using the included #8-32 SS Screws.



Verify DLA Functionality

1. Test that the water turns on and off with the included key or push button and the front green/red indicators coincide with the water control (Red=Water OFF, Green= Water ON).
2. Test the optional drain solenoids and verify they close when the water is on and open when the water is turned off.
3. Test the optional 12VDC Beacon. This should turn on when the water is off.

Troubleshooting the DLA

DLA-HV Troubleshooting

If the water control does not match the front indicators, the solenoid output header is plugged into the wrong plug and must be swapped (Normally Closed vs Normally Open Solenoid Output).

If the PWR LED is illuminated, but the solenoids are not receiving power, check the fuse.

If the PWR LED is not illuminated, check for proper connections, power, and electrical shorts.

DLA-LVL Troubleshooting

If the water control does not match the front indicators, the polarity of the solenoid coil needs to be reversed. Disconnect the Pulse_Out header of the Solenoid Output and swap wires between the negative and positive terminals. Plug the Pulse_Out header back in and switch the key/push the button.

If the PWR LED is not illuminated, check for 120V input power and verify there are no electrical shorts.