

# valveLINK

## Precision 8-Channel Irrigation Control System

### Contents

- Specifications ..... 01
- Overview ..... 02
- Warnings and Notices ..... 03-04
- Installation Instructions ..... 04-06
- Device Registration ..... 07-08
- Device Connections ..... 09-12
- Technical Information ..... 13-14
- Warranty ..... 14



### Specifications

Input Power	Max 2.7A@24VDC
Max Switching Current	1A per port / 2.7A combined
Max Switching Voltage	24VDC@50% PWM (simulated 24VAC)
Device (Outputs)	Eight Sourcing FETS
Status Indicators	LED
PWM Specification	1kHz, 50% Duty
Minimum Cycle Time	One Second
Interface	HUB Connection Port

 **KEEP THESE INSTRUCTIONS**

## Overview

The valveLINK allows for control of 24VAC irrigation valves in your growing environment. This device features eight (8) outputs for directly driving 24VAC irrigation valves. valveLINK valve controllers will operate any standard 24VAC 2-wire diaphragm valve or 24VAC motorized ball valve that meet the device's maximum current draw specifications.



## External Features

**Wi-Fi LED Status Indicator:** Indicates Wi-Fi connection status.

**Setup Button:** Initiates setup mode and readdresses the valveLINK module.

**Channel LED Status Indicators (x8):** Displays valve channel activity.

**Terminal Block-A:** Sourcing FETS for 24VAC Valve Control 1A Max. per Output Channels 1-4.

**Terminal Block-B:** Sourcing FETS for 24VAC Valve Control 1A Max. per Output Channels 4-8.

**Power Input:** Input for 24VDC from included 24VDC power adapter.

**HUB Connection Port:** RJ-45 connector port for power & data.

**HUB LED Status Indicator:** Indicates device power and HUB communication status.

## Warnings and Notices

This is a precision electronic instrument that requires careful handling and maintenance to ensure reliability. Failure to read, understand, and comply with warnings and installation requirements may result in property damage, personal injury, or death.

### WARNING

READ & UNDERSTAND THE ENTIRE MANUAL BEFORE INSTALLATION OR OPERATION.

#### **Danger: Electrocuting Hazard**

Disconnect power before performing maintenance or service on the system or its components to prevent equipment damage or electrical shock. Ensure proper grounding at the marked chassis ground terminal for continued protection against electric shock. All electrical equipment and wiring must be installed in compliance with national and local electrical codes. This product is for indoor use only in dry locations (0–75% RH, non-condensing). Use caution when servicing plumbing and drain the system away from electrical components and connections. Connect the system and components to GFCI fault-protected energy sources to reduce the risk of electric shock. Replace serviceable parts only with manufacturer-recommended components.

### IMPORTANT SAFETY INFORMATION

#### **This Product Is Not Intended for Life Safety Applications**

Do not install in hazardous locations. Do not rely on this equipment as the sole control mechanism for life safety applications.

#### **Installation Requirements**

Follow all applicable plumbing and electrical codes when installing this product. This manual is intended for individuals with adequate electrical and mechanical experience who comply with federal, state, and local laws governing the installation, service, and repair of electrical, HVAC, and related equipment. Incorrect installation, service, or repair may result in personal injury and/or property damage. The manufacturer and seller assume no liability for misinterpretation or improper use of the information provided.

## Indoor Use Only

This product is designed for indoor mounting only and must be protected from weather and direct sunlight.

## Prevent Overheating

Maintain adequate airflow around the system to prevent overheating of system components.

## Power Supply Warning

Only use the intended or included power supply. Do not exceed the maximum ratings specified on the product's serial label or in this manual. Any power supply exceeding specified energy levels must be current-limited or fused to prevent overcurrent damage.

## RJ-45 Connection Warning

Do not connect the RJ-45 port to Ethernet networks—this port is for LINK HUB use only.

## Dielectric Grease Recommendation

In humid environments, apply dielectric grease to RJ-45 HUB connections to prevent moisture-related corrosion. Recommended products include Loctite LB 8423 Grease, DuPont Molykote 4/5, CRC 05105 Di-Electric Grease, Super Lube 91016 Silicone Dielectric Grease, and other silicone or lithium-based insulating greases. Apply a small amount of grease to RJ-45 plug contacts before inserting them into the HUB connection port.

## California Proposition 65 Warning

This product may contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Wear skin and eye protection when handling hazardous chemicals.

# Installation Instructions

## Before Installation

For optimal protection, install the unit with the connections facing downward to minimize the risk of water entering the enclosure. This product is designed for indoor installation only, as the enclosures are not waterproof.

Before connecting or disconnecting any cables, disconnect power from all devices to prevent potential damage to components.

## Mounting the Enclosure

For optimal performance, mount equipment outside of the growing environment to allow better service access and reduced exposure to humidity. If a valveLINK is to be installed in a humid environment, use a sealed enclosure.

### Follow these tips for best results:

- Install the valveLINK in a dry location away from drips or condensation.
- Install the valveLINK in the designated mounting area, ensuring there is sufficient space for all necessary connections.
- Ensure the valveLINK is accessible for service.
- Use a weatherproof enclosure for high humidity conditions (<70% continuous).
- To prevent dust or contamination during installation, cover jacks with masking tape.

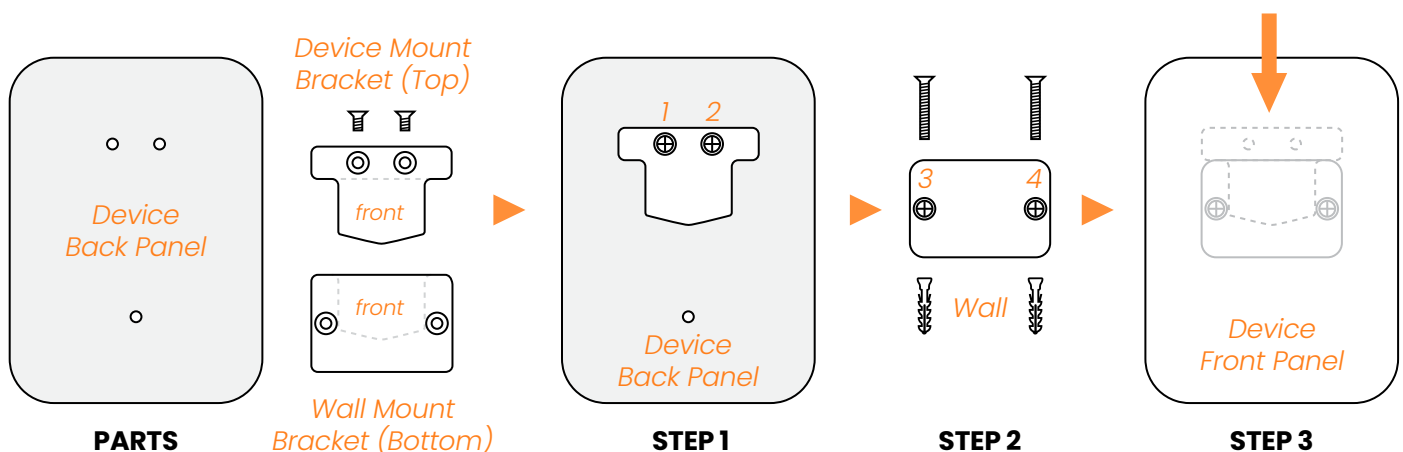
## Wall Mounting

### See Instructions and Diagram Below

**Parts:** LINKS Device, LINK Hardware Kit (Mounting Bracket, Screws, Anchors, Mini-Screwdriver).

**Tools Needed (if necessary):** Level, Marking Tool, Drill

1. Attach the **Device Mount Bracket (Top)** with the provided screws. Ensure the counter-sunk holes face forward. Do not over-tighten.
2. Position the **Wall Mount Bracket (Bottom)** on the wall. Mark the hole locations and install anchors or pre-drill holes if necessary.
3. Slide the **Device** into place, aligning the **(Top) Device Bracket** with the **(Bottom) Wall Mount Bracket**.



## DIN rail Mounting

These sturdy DIN rail mounting clips come in handy where standard DIN rail is used for mounting devices. The flat mounting surface and a variety of mounting holes make these clips versatile for mounting LINK devices.

### See Instructions and Diagram Below

**Parts:** LINKS Device, DIN rail Clip Kit, (Sold Separately)

**Tools Needed (if necessary):** Phillips Screwdriver

#### 1. Position at an Angle

Hold the device at a slight angle with the top part of the DIN rail clip hooking onto the top edge of the rail first. Ensure proper alignment to avoid unnecessary force on the clip.

#### 2. Snap into Place

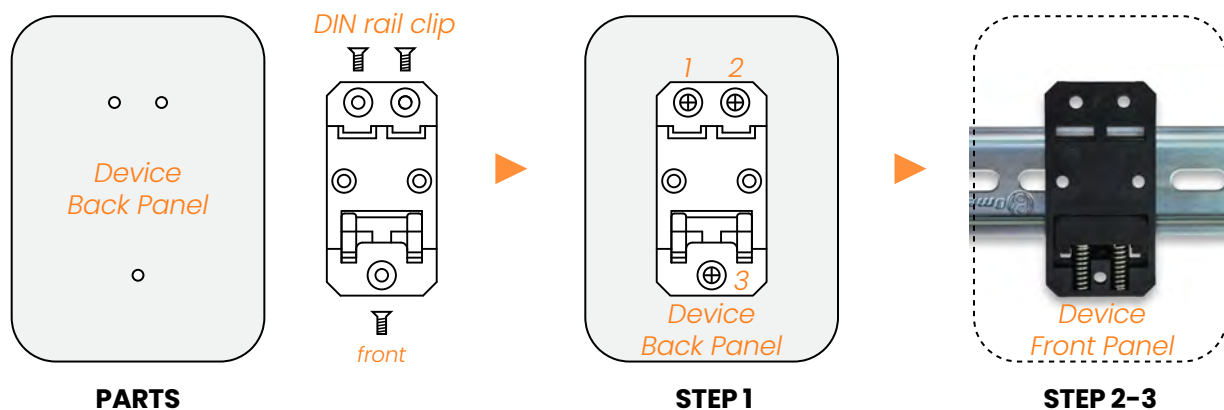
Gently rotate the bottom of the device toward the rail while applying light pressure. The spring-loaded or flexible lower clip should compress slightly and then snap into place once fully engaged.

#### 3. Verify Secure Fit

Check that the device is firmly seated on the rail by giving it a gentle tug. It should not shift or wobble excessively.

#### 4. Careful Removal: Lift and Pivot

To remove, compress the spring of the mount by gently pressing the device upwards. Once spring is compressed, tilt the top of the device outward at an angle. Then, once top is free, guide device downwards to release from DIN rail completely. Do not force or twist to prevent breaking plastic parts.



## Device Registration

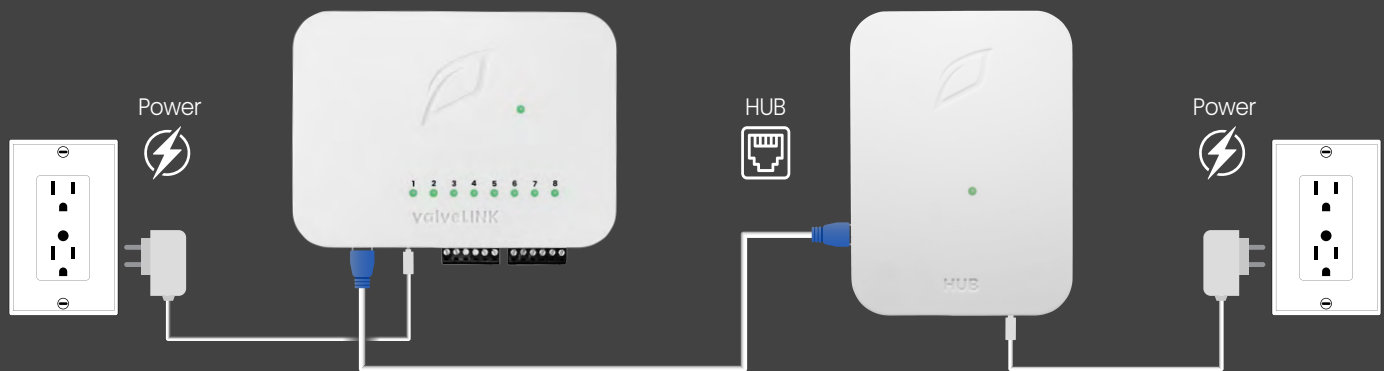
All LINKS devices require an internet connection and registration through the Growlink App.

**Note:** Some LINKS devices can be standalone or require additional modules.

### HUB Connection Method

The valveLINK **DOES NOT** draw power from the HUB. The valveLINK requires a 120VAC power source from a 15A branch protected circuit. A built-in DC power supply operates the electronics in the valveLINK from the 24VDC input.

**Note:** A HUB must be registered with the Growlink App before connecting any additional devices. After completing the HUB setup, each device must be connected and registered one at a time to ensure proper addressing and system integrity.



### Wi-Fi Connection Method

The valveLINK requires only the included power supply. During device registration, a strong signal is recommended, and a password-protected connection is required.

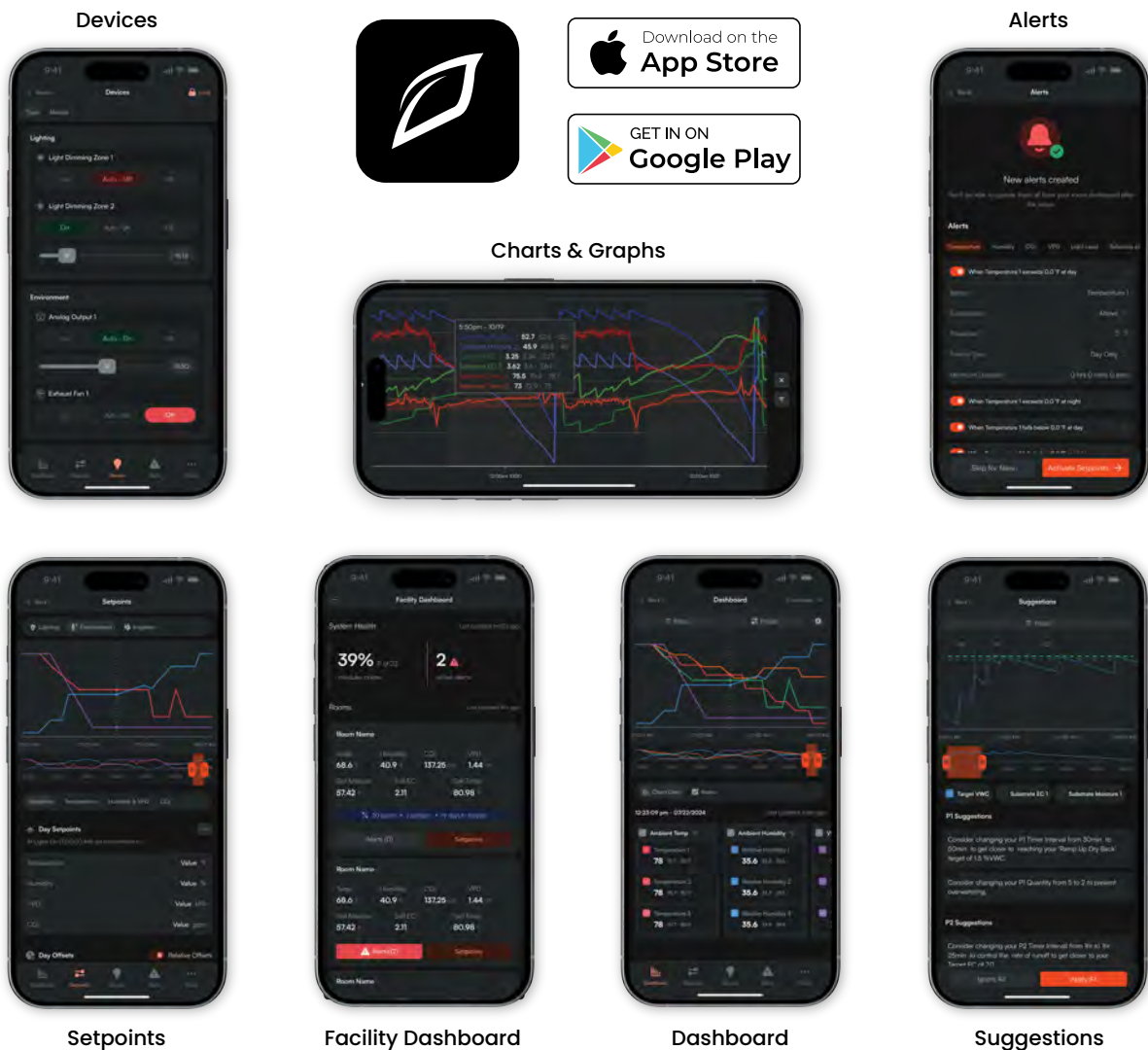


## Connection to the Growlink App

The Growlink Mobile App provides remote access to your grow operation, allowing real-time monitoring, system adjustments, and automation of climate, lighting, and irrigation. The app features advanced analytics, push notifications for alerts, and an intuitive interface for efficient management.

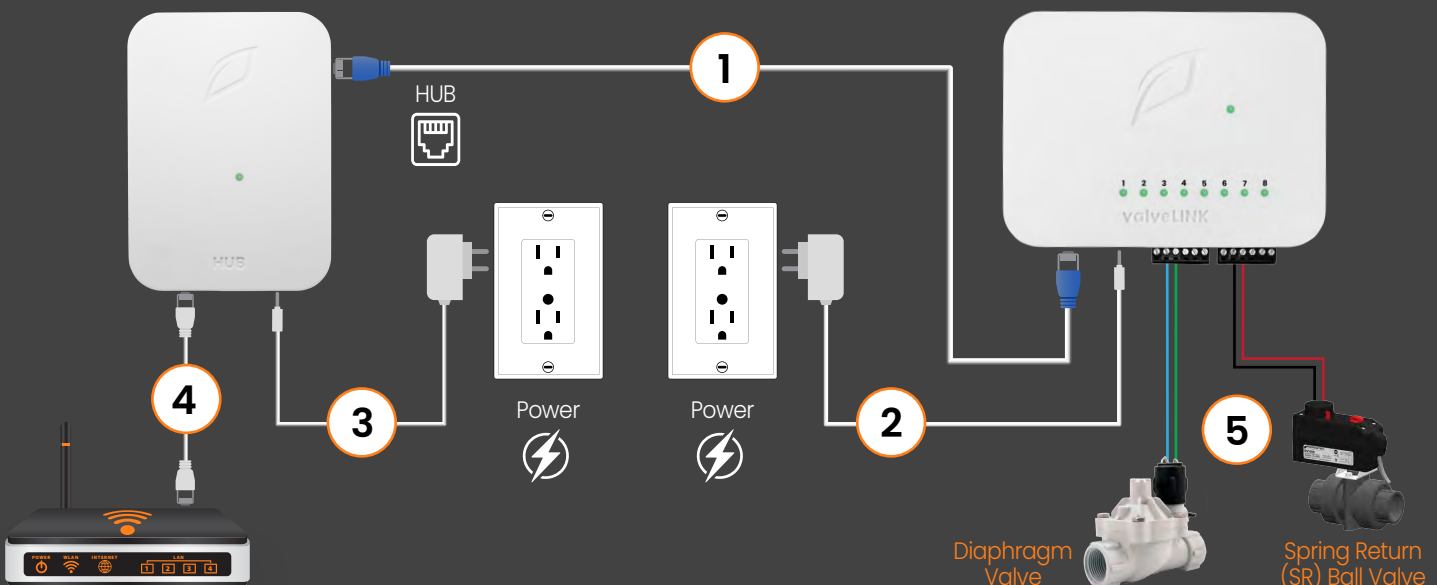
The Growlink Mobile App enables remote control over your LINKS devices for:

- Firmware Updates
- Manual Device Operation
- Creating Automation Rules
- Viewing Data
- Sending Alerts
- Various Other Features



## Device Connections

The valveLINK 8-Channel controller connects easily to Growlink's Copilot system to enable fully automated irrigation and crop steering. Each of the eight output channels can be independently controlled, supporting up to 1 amp per channel (2.7 amps total). Once connected, users can configure the controller through Copilot for manual, scheduled, or sensor-based operation. This allows for zone-specific irrigation strategies, maximizing efficiency and crop consistency. Ensure all wiring matches channel specifications and Copilot settings are properly assigned before initiating operation.



- 1. Device Cable:** Connects the valveLINK to a HUB connection port.
- 2. valveLINK Power Supply:** 24VDC/2.7 Amp power supply is required to operate the valveLINK.
- 3. HUB Power Supply:** 24VDC/1 Amp power supply is required to operate the HUB.
- 4. HUB Ethernet Cable:** Connect the HUB to the local network (Optionally, utilize 2.4GHz Wi-Fi).
- 5. valveLINK Outputs:** Terminal connections for connecting valves.  
(Refer to wiring diagrams for detailed connection instructions).

All HUB connection cabling uses standard 8-conductor RJ-45 straight-through wiring with no cross-over. T568B pattern recommended.

**Safety Note:** Always power off the valveLINK before connecting or disconnecting devices. Ensure all connections are secure and dry before powering on.

## Terminals

Terminals are provided for connecting to the valves.



### Terminal Specifications:

Acceptable Wire Size: 26-14 AWG  
Tightening Torque: 0.35-0.40 Nm

## Outputs

There are eight (8) transistor outputs for driving solenoids with four common ground terminals. Two valves share a ground terminal.

### 24V Power

Eight (8) terminals are provided for controlling 24VAC valves via a 50% PWM 24VDC signal.

Standard irrigation valves operate on 24V "AC" power which is "flickering" on and off at 50-60hz. The valveLINK controllers mimic this flickering on and off by providing the power to the valve in a pulsed fashion (pulse width modulation, or "PWM").

### Notes:

1. A multimeter may not detect 24VAC or 24VDC, however, this voltage is sufficient for operating 24VAC valves.
2. The valveLINK driver will deliver a continuous DC voltage for 1 second when opening valves to provide sufficient inrush current to magnet coils in diaphragm valves.

## Power Connections

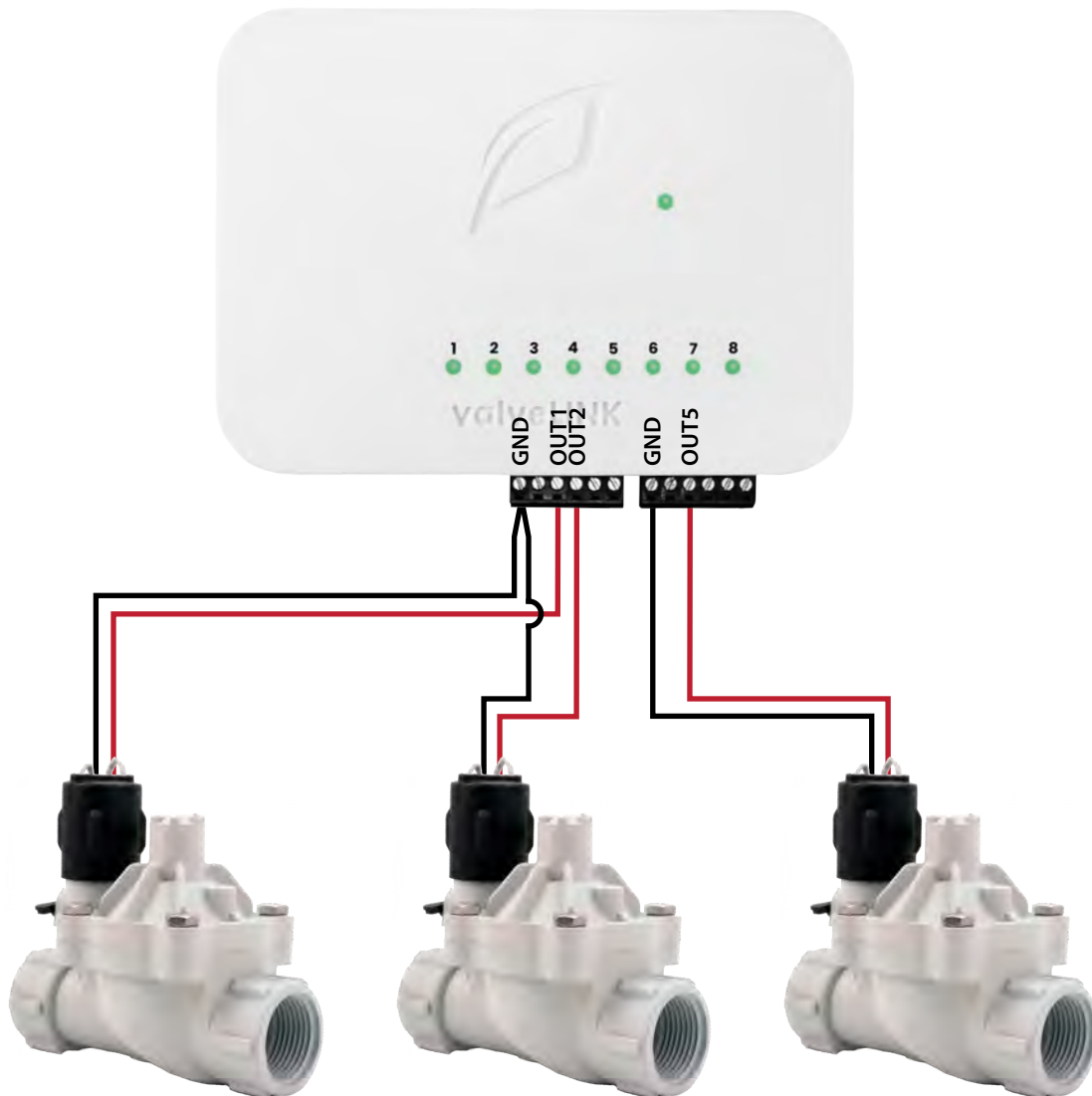
Input Power: 24 VDC, 2.7A is required to operate the unit which will be supplied via the 24VDC power adapter included with the valveLINK.

Maximum 2.7A power supply current.

Input power protection required to prevent damage to the unit from overloading.

## Output Connections: Diaphragm Valves

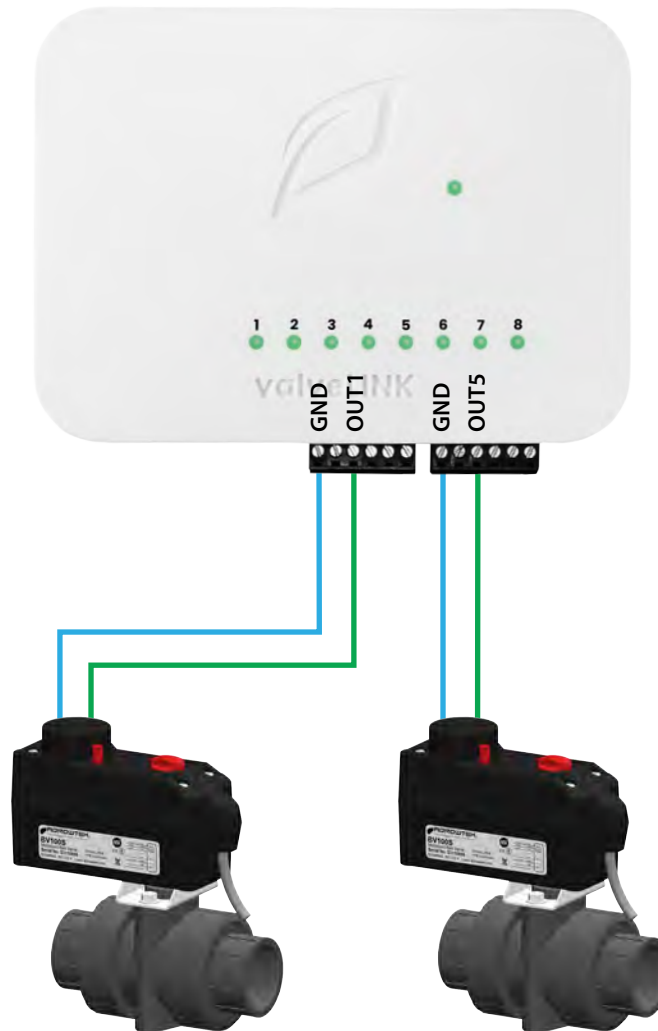
Standard 24VAC irrigation valves—which require a pressure differential to seal the diaphragm closed—can be connected directly to the valveLINK outputs. Up to eight (8) valves may be connected.



## Output Connections: Spring Return (SR) Ball Valves

Spring Return (SR) irrigation ball valves can be connected directly to your valveLINK outputs. When activated, these valves open to allow flow; when deactivated, a mechanical spring returns the ball to the seated (closed) position, stopping the flow.

Up to eight (8) SR ball valves may be connected to the valveLINK. Motorized SR ball valves typically draw more electrical current than standard irrigation solenoid valves, so users should ensure they do not operate or activate enough valves simultaneously to exceed the 2.7A valveLINK maximum current limit.



**Note:** If you don't see a component in the wiring diagram that matches your brand of valve, contact the manufacturer.

## Technical Information

### Troubleshooting

#### Wi-Fi LED Status Indicators



#### Standard Startup Flow

- Firmware Startup  
*Solid white*
- Wi-Fi Connecting  
*Slow flashing green*
- Network Waiting on IP Address  
*Fast flashing green*
- Network Connected, Connecting to Cloud  
*Fast flashing cyan*
- Loading Configuration and Detecting Probes  
*Fast breathing green*
- Connected to Cloud and Running  
*Slow breathing green*

#### Other Modes

- Wi-Fi Configuration Mode  
*Slow flashing blue*
- Safe Mode  
*Slow breathing magenta*
- Safe Mode Requested  
*Fast flashing magenta*
- Firmware Updating  
*Slow flashing magenta*
- Module Mode  
*Breathing cyan*
- Wi-Fi Error  
*Flashing yellow*

### Support

If your device requires troubleshooting beyond what is outlined in this manual, please contact our customer support team at 800.432.0160 or at [support@growlink.com](mailto:support@growlink.com) for assistance with any hardware issues.

You can also visit our knowledge base for additional support and resources.

<https://knowledgebase.growlink.ag>

### Maintenance & Service

#### Exterior Cleaning

Wipe the exterior with a damp cloth and mild dish detergent, then dry thoroughly. **Disconnect power before cleaning** to prevent equipment damage.

#### Storage

Store equipment in a **clean, dry environment** with an ambient temperature between 50-122°F (10-50°C).

## Disposal

This industrial control equipment may contain traces of lead, metals, or other environmental contaminants. **Do not discard as municipal waste.** Dispose of the equipment through proper recycling or hazardous waste collection channels. **Wash hands after handling internal components or PCBs.**

## Warranty

### Growlink Limited Warranty

Growlink warrants that all its manufactured products are, to the best of its knowledge, free from defects in materials and workmanship. This product is warranted for one (1) year from the date of purchase. This warranty is extended to the original purchaser from the date of receipt.

This warranty does not cover damages resulting from abuse, accidental breakage, or modifications, alterations, or installations that do not comply with the provided installation instructions. The warranty applies only to products that have been properly stored, installed, and maintained in accordance with the installation and operation manual and used for their intended purpose.

This limited warranty does not cover products installed or operated under unusual conditions or environments, including but not limited to excessive humidity or extreme temperatures beyond specified limits.

Prior to returning a product, Growlink must be contacted to obtain a return authorization. Returns will not be accepted without prior authorization. For products not purchased directly from Growlink, proof of purchase is required; otherwise, the purchase date will be considered the date of manufacture.

Products that meet the warranty conditions outlined above will be repaired or replaced at Growlink's sole discretion at no charge. This warranty is provided in place of all other warranties, express or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose, and is limited to the specified warranty period.

Under no circumstances shall Growlink be liable to the claimant or any third party for damages exceeding the purchase price of the product. Growlink is not responsible for any loss of use, inconvenience, commercial loss, lost time, lost profits, lost savings, or any other incidental, consequential, or special damages arising from the use or inability to use the product. This disclaimer is made to the fullest extent permitted by law and explicitly states that Growlink's liability under this limited warranty, or any extension thereof, is limited to repairing or replacing the product or refunding the purchase price.