



# CENTER PIVOT CONTROLLER GEN 2

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INSTRUCTION MANUAL

# Welcome to the Hydro-Rain Family

*Congratulations on the purchase of the Gateway Controller*

Time is money, so Hydro-Rain products are designed to save you both. Whether it is programming a controller, installing a device, or adjusting the system, Hydro-Rain products are simply faster and easier to use.



The device must be installed by a trained professional.

## B-hyve Ag

*The B-hyve Ag app is designed for both growers and dealers to easily manage connected irrigation controllers, users, and accounts.*

Download the B-hyve Ag app to get started.



## Need Help?

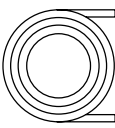
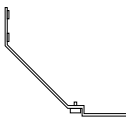
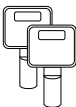
*Contact B-hyve Ag Product Support : 1-801-407-5255*

For help setting up or operating the Gateway Controller please call the Hydro-Rain Product Support team. Our friendly staff is here to assist with all the technical needs of the installer or maintenance crew.

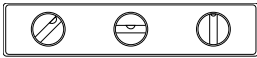
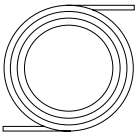
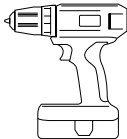
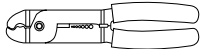
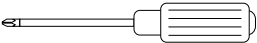
## Getting Started

Prior to installing the new B-hyve Center Pivot Controller Gen 2, make sure the product is intact and undamaged. If any parts are missing or broken, please call 1-801-407-5255 as soon as possible.

### Part List

|                                                                                    |                                         |                                                                                    |                                                |                          |
|------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------|--------------------------|
|   | 1x B-hyve Center Pivot Controller Gen 2 |                                                                                    | 1x 3 ft (1m) 3/4 inch flexible conduit         | 2x 3/4 inch conduit ends |
|   | 1x LoRa antenna                         |   | 4x Mounting screws                             | 2x Glands                |
|   | 1x 10ft (3.3m) antenna cable            |                                                                                    | 1x 10ft (3.3m) Outdoor, shielded, CAT-5E cable | 10x Zip Ties             |
|  | 1x Antenna mounting bracket             |  | 1x Door Keys                                   | 10x Lever Nuts           |

### Recommended Tools

|                                                                                     |                     |                                                                                      |                    |
|-------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------|--------------------|
|  | Level               |   | Miscellaneous Wire |
|  | Power Drill         |  | Wire Stripper      |
|  | Philips Screwdriver |                                                                                      |                    |



**IMPORTANT: TURN OFF ALL POWER TO THE CONTROLLER BEFORE BEGINNING THE INSTALLTION PROCESS.**

## Mounting Options

Using the mounting holes located at the top and bottom of the controller, attach the unit to the pivot point or panel using the provided self-tapping screws and nut driver. Some pivot point frames may require a pilot hole.

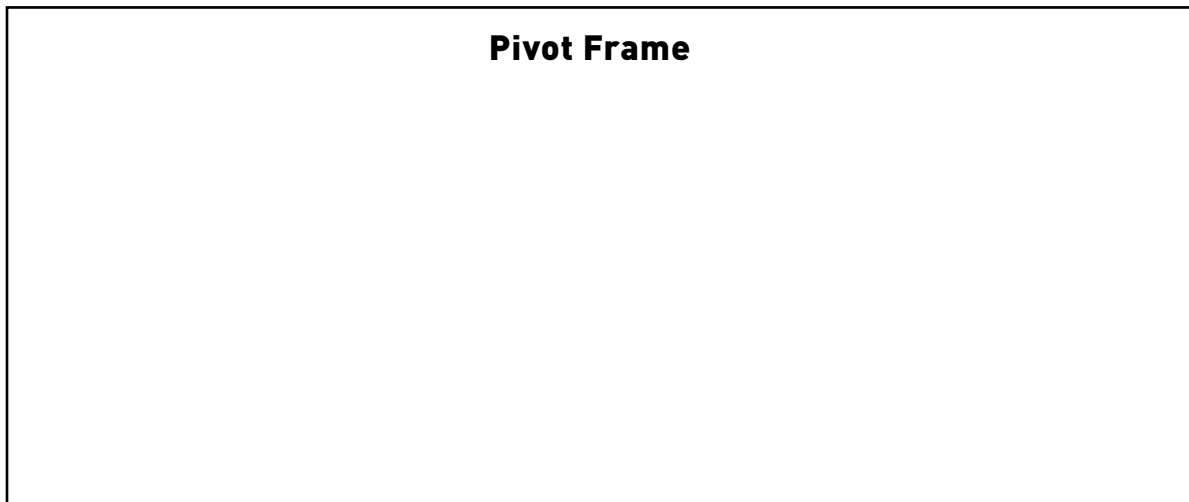


Figure 1a. *Mounting the Gateway Controller to a Pole*

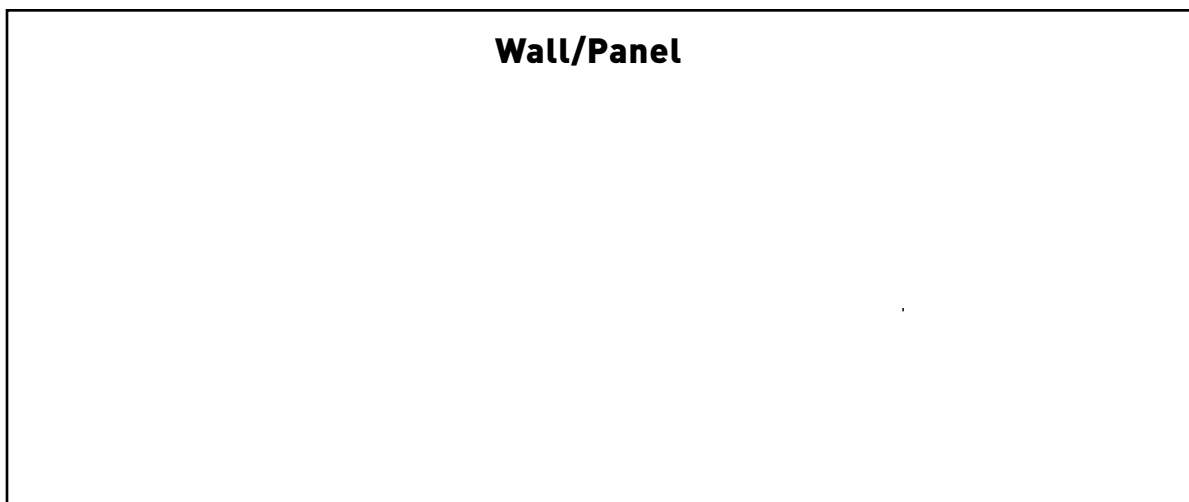


Figure 1b. *Mounting the Gateway Controller to a Wall or Panel*

**Note:** The conduit is 3 feet long. Ensure the controller is mounted close enough to the panel to reach. It is best to install the confuit near the center of the panel so all wires will reach.

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## Antenna Options

Locate the antenna connector at the top of the enclosure, thread antenna onto the controller.

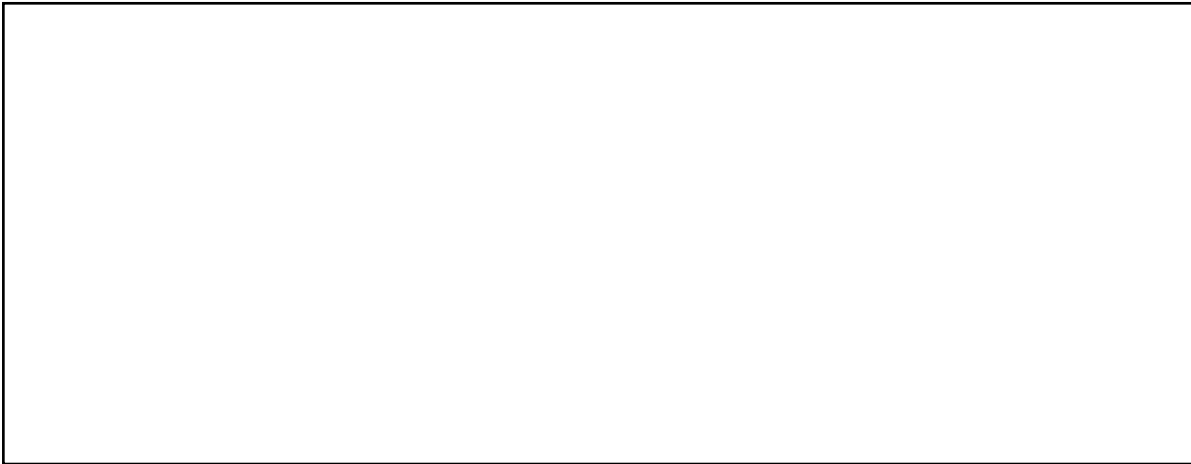


Figure 2a. *Standard* Antenna Installation

**Step 1:** Fasten the antenna bracket as high as possible to the pivot center. Ensure once the antenna is installed, the pivot will clear the assembly as it rotates.

**Step 2:** Bend the bracket to level the antenna platform.

**Step 3:** Thread the antenna cable to the antenna connector at the bottom of the enclosure.

**Step 4:** Push the antenna cable through the bracket platform.

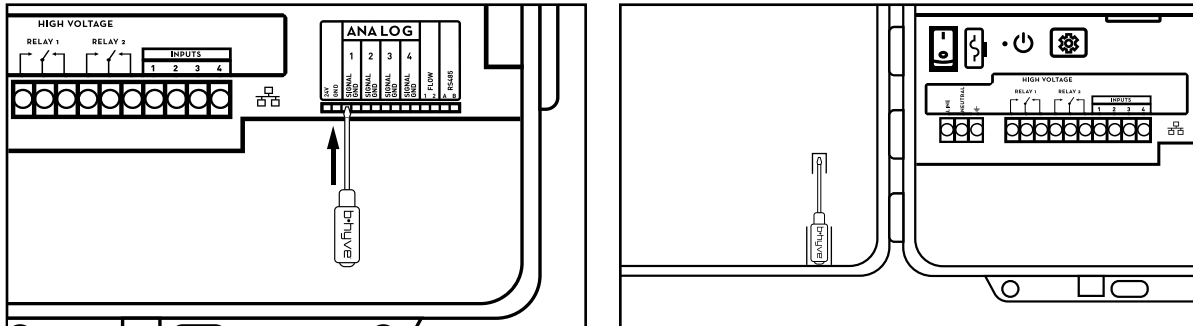
**Step 5:** Thread the antenna onto the antenna cable.

**Note:** The antenna cable is 10 feet (3.3 m) long. Ensure the cable will reach between the bottom of the enclosure and the antenna bracket.

## Helpful Hints

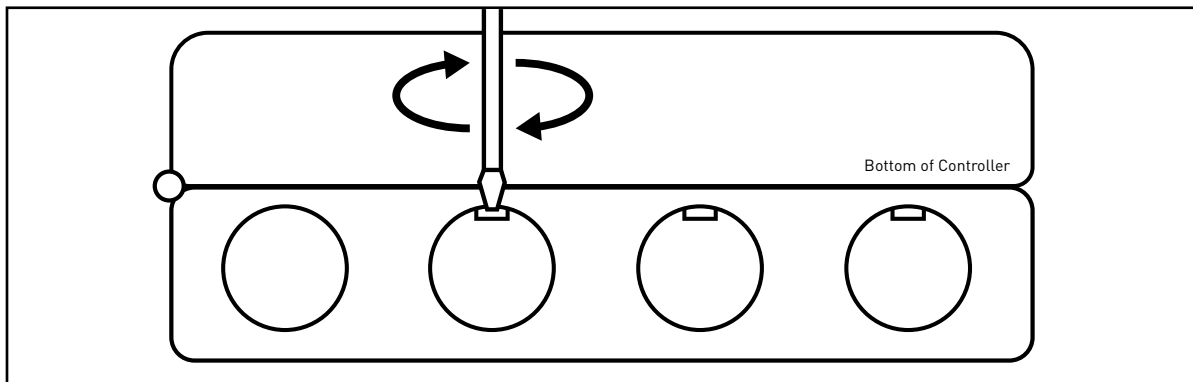
### Mini Screwdriver

A mini screwdriver is provided to be used on the low-voltage green terminals. It can be housed in the provided slot on the door.



### Knockout

The knockouts on the controller can easily be removed by inserting a flathead screwdriver into the slot and rotating.



### Coil Cell Battery

Insert the provided coil cell battery into the designated slot on the Gateway Controller.

### Accessory Adapter

An accessory adapter is provided to allow B-hyve accessories to be added to the Gateway Controller. There is no need to install the accessory adapter if accessories will not be added.

**Step 1:** Remove the far-right knockout on the Gateway Controller.

**Step 2:** Connect the accessory adapter into the 4-pin receptacle.

**Step 3:** Remove the paper on the accessory adapter and insert the accessory adapter into the far-right knockout.

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## Connectivity Options

The app will help you configure the connectivity during setup.

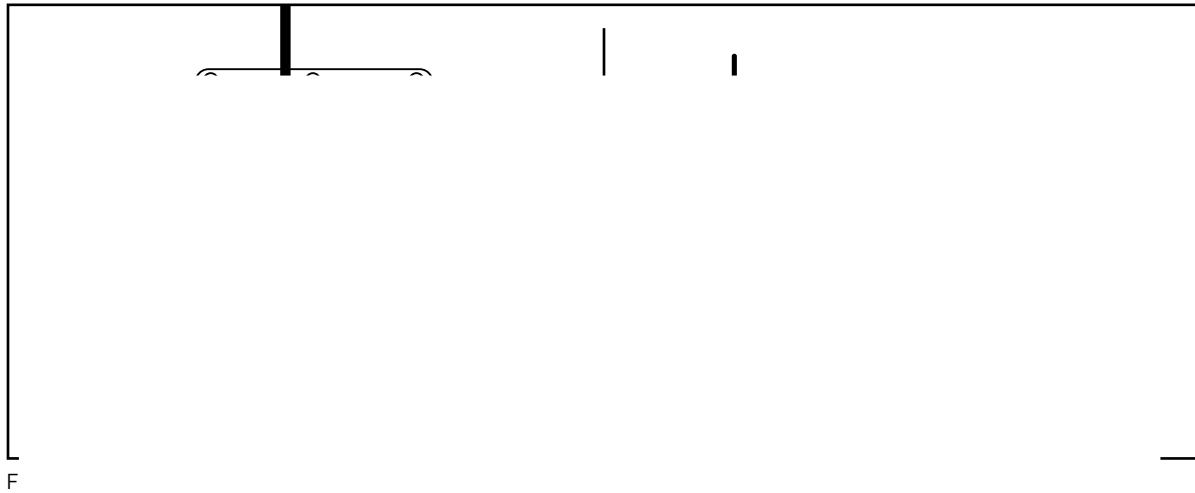
### Ethernet

Insert ethernet cable into the marked slot on the controller.

### Client Radio\*

Insert cable into the marked slot on the controller. (Client Radio Sold Separately)

\* Requires AG-CPB (Sold Separately SKU: 25024)



## Wire Harness Installation

**Step 1:** Connect the included conduit end to one end of the included flexible conduit.

**Step 2:** Feed the conduit end through the right hole on the enclosure and secure it with the nut.

**Step 3:** While keeping the conduit straight, feed the wire harnesses through the conduit so the ends are inside the enclosure. Taping is not required if the conduit can be kept fully or partially straight.

**Step 4:** Connect the labeled wire harness connectors to the corresponding labeled sockets on the controller.

**Step 5:** Connect the remaining conduit end to the other end of the flexible conduit.

**Step 6:** Feed the wires and conduit end through a 3/4" knockout on the main control panel and secure it with the nut.

Wire harnesses are sold separately and can be purchased for specific brands of pivots. See part numbers below.

Valley Wire Harness: **25015**

Zimmatic Wire Harness: **25016**

Reinke Wire Harness: **25017**

All other brands: Use the Valley Wire Harness **25015**

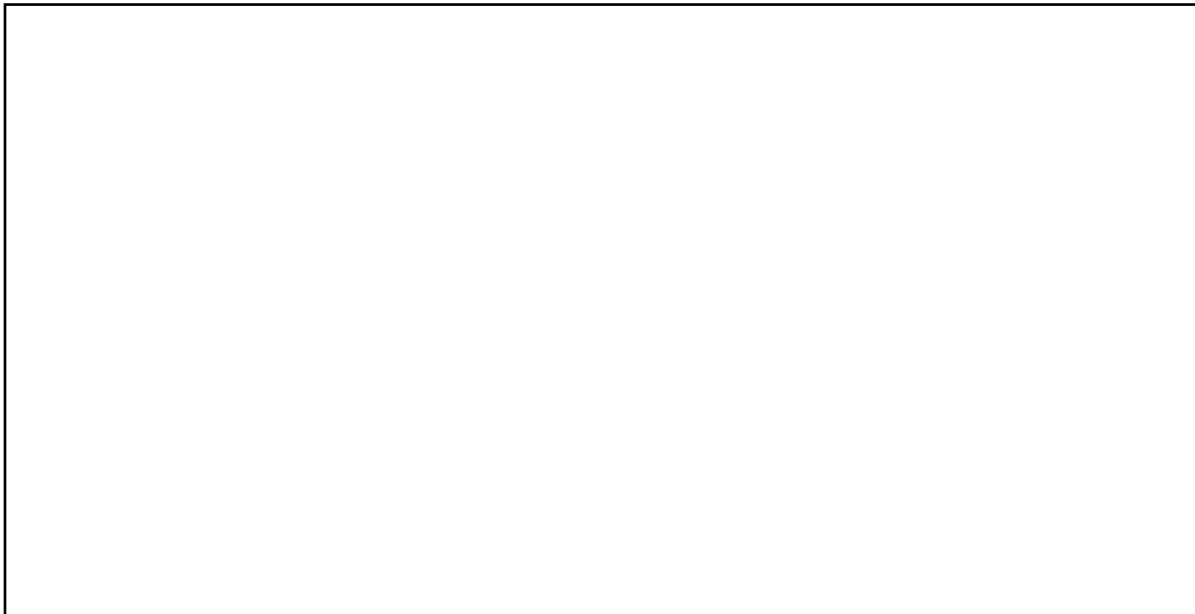


Figure 2a. *Standard Antenna Installation*



## Connectivity Options

The app will help you configure the connectivity during setup.

### Ethernet

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### Client Radio\*

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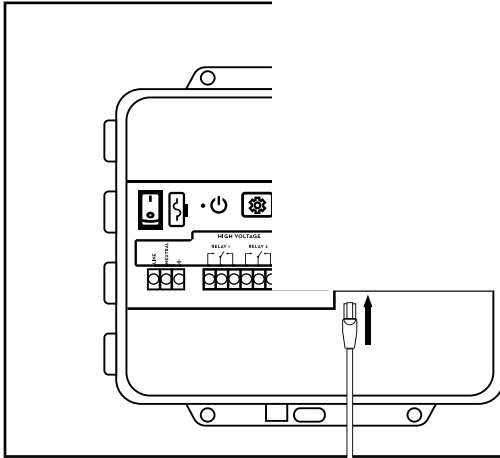


Figure 5a. Ethernet Connection

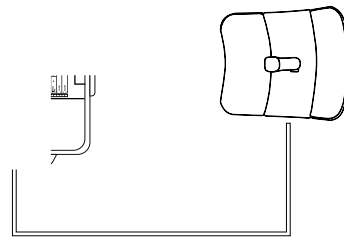


Figure 5b. Client Radio Connection

## VALLEY WIRING

### Power

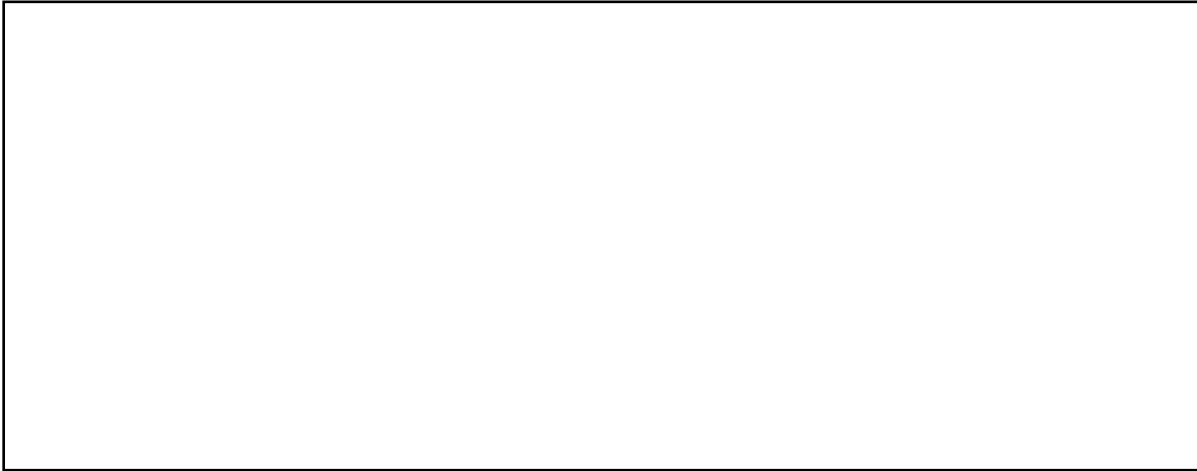


Figure 6. Wiring the Gateway Controller - Line Power

**Step 1:** Install the AG-CPC green/yellow wire into the Earth Ground bar with the Valley ground wires.

**Step 2:** Install the AG-CPC white wire into the neutral terminal with the Valley neutral wires

**Step 3:** Install the AG-CPC black wire into the 120VAC terminal with the Valley 120VAC wires.

### Safety Return - Mechanical

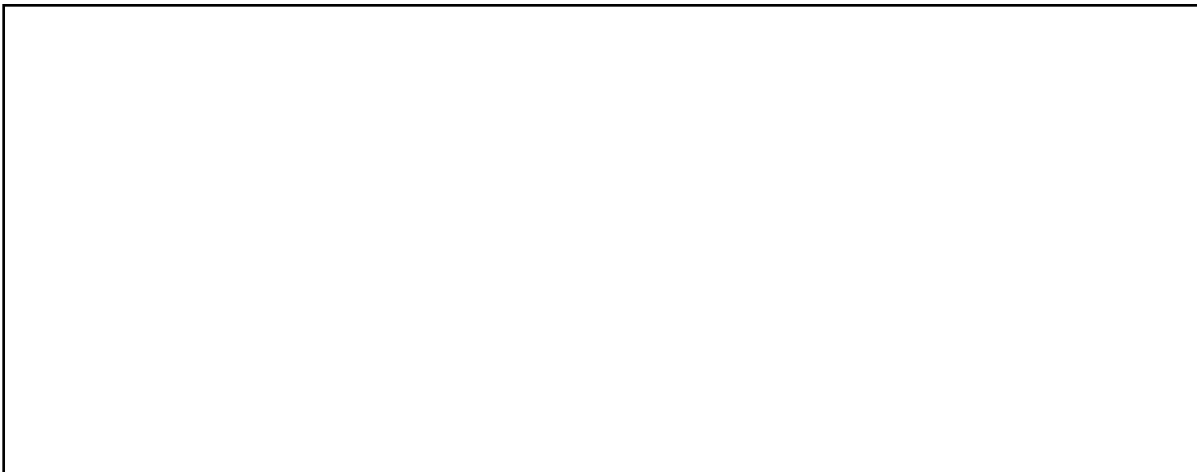


Figure 6. Wiring the Gateway Controller - Line Power

**Step 4:** Remove the Valley yellow (Safety Return) wire from the Safety Relay in the panel box and install the AG-CPC yellow wire labeled Safety Return Terminal in its place.

**Step 5:** Use an enclosed lever nut to connect the AGCPC yellow wire labeled Safety Return Span Wire to the Valley yellow (Safety Return) wire that was removed from the Safety Relay in step 4.

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## Safety Return - Non-Mechanical

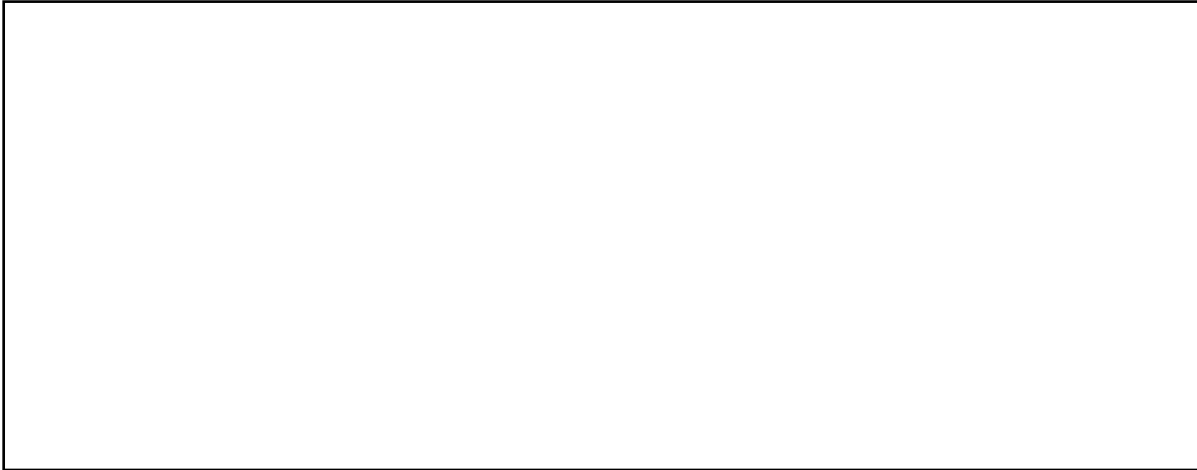


Figure 6. Wiring the Gateway Controller - Line Power

**Step 4:** Remove the Valley yellow (Safety Return) wire from the terminal strip in the panel box and install the AG-CPC yellow wire labeled Safety Return Panel Terminal in its place.

**Step 5:** Use an enclosed lever nut to connect the AGCPC yellow wire labeled Safety Return Span Wire to the Valley yellow (Safety Return) wire that was removed from the terminal strip in step 4.

## Safety Out

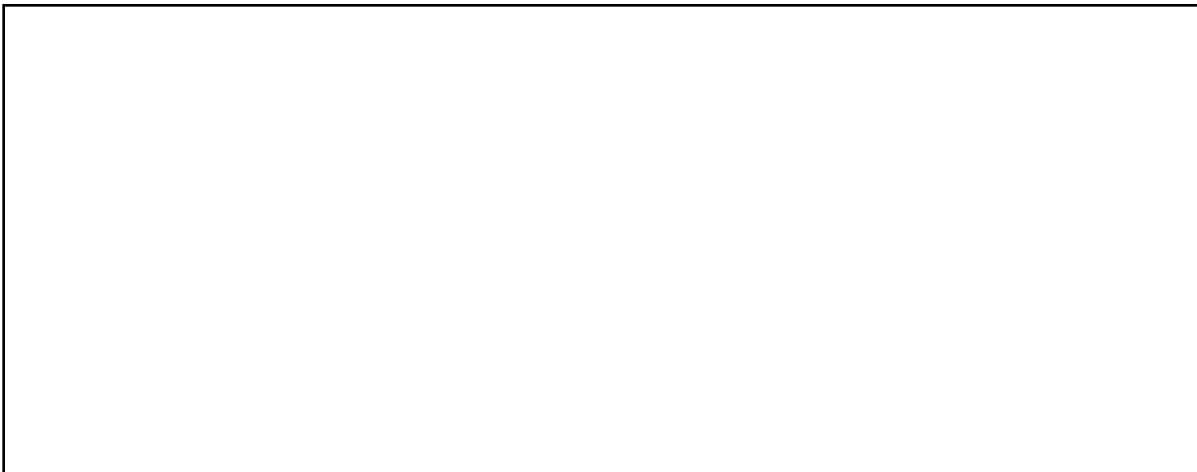


Figure 6. Wiring the Gateway Controller - Line Power

**Step 6:** Remove the Valley yellow/red (Safety Out) wire from the terminal strip in the Panel box and install the AG-CPC yellow/red wire labeled Safety Out Panel Terminal in its place.

**Step 7:** Use an enclosed lever nut to connect the AGCPC yellow/red wire labeled Safety Out Span Wire to the Valley yellow/red (Safety Out) wire that was removed from the terminal strip in step 6.

## Forward Span

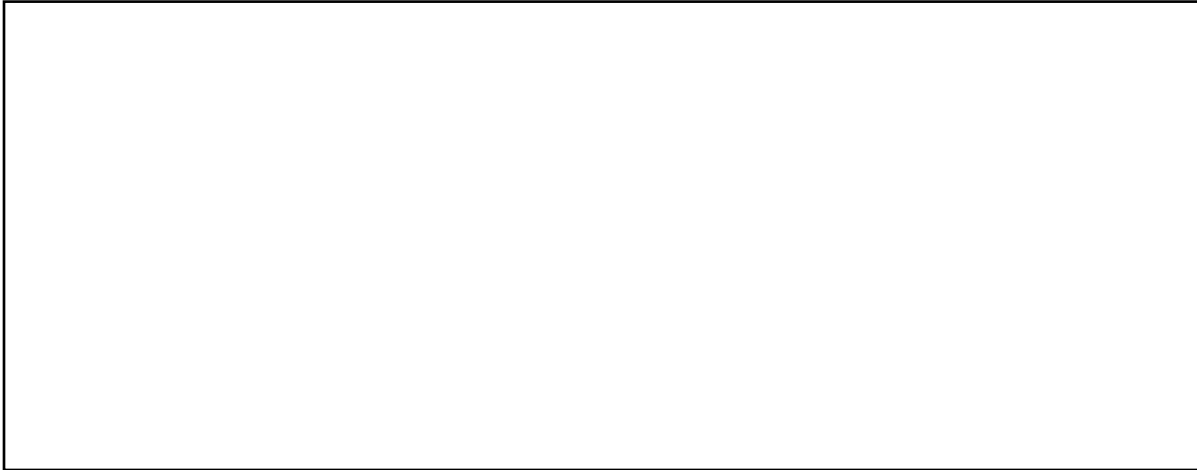


Figure 6. Wiring the Gateway Controller - Line Power

**Step 8:** Remove the Valley brown (Forward) wire from the terminal strip in the panel box and install the AG-CPC brown wire labeled Forward Panel Terminal in its place.

**Step 9:** Use an enclosed lever nut to connect the AGCPC brown wire labeled Forward Span Wire to the Valley brown (Forward) wire that was removed from the terminal strip in step 8.

## Reverse Span

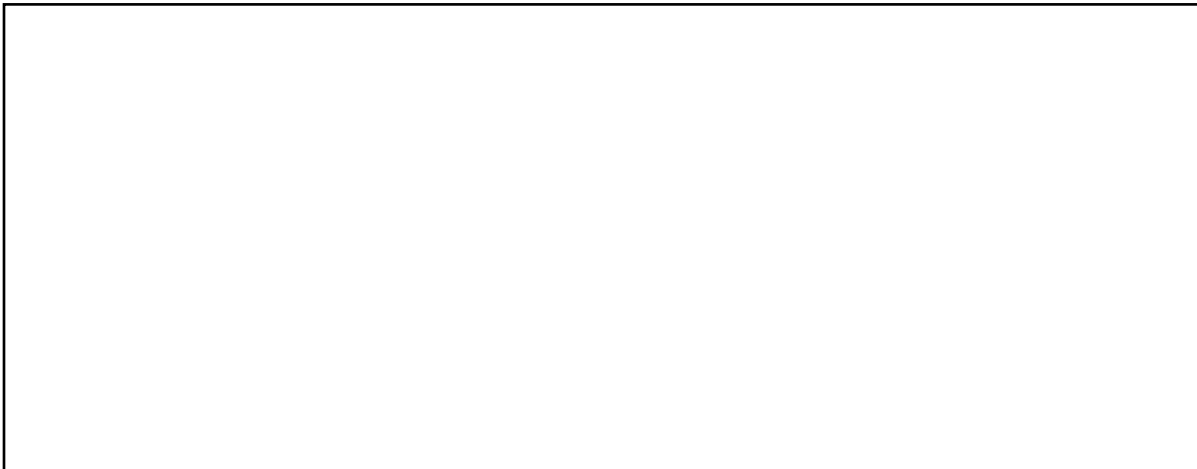


Figure 6. Wiring the Gateway Controller - Line Power

**Step 10:** Remove the Valley orange (Reverse) wire from the terminal strip in the panel box and install the AG-CPC orange wire labeled Reverse Panel Terminal in its place.

**Step 11:** Use an enclosed lever nut to connect the AGCPC orange wire labeled Reverse Span Wire to the Valley orange (Reverse) wire that was removed from the terminal strip in step 10.

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## End Tower Span

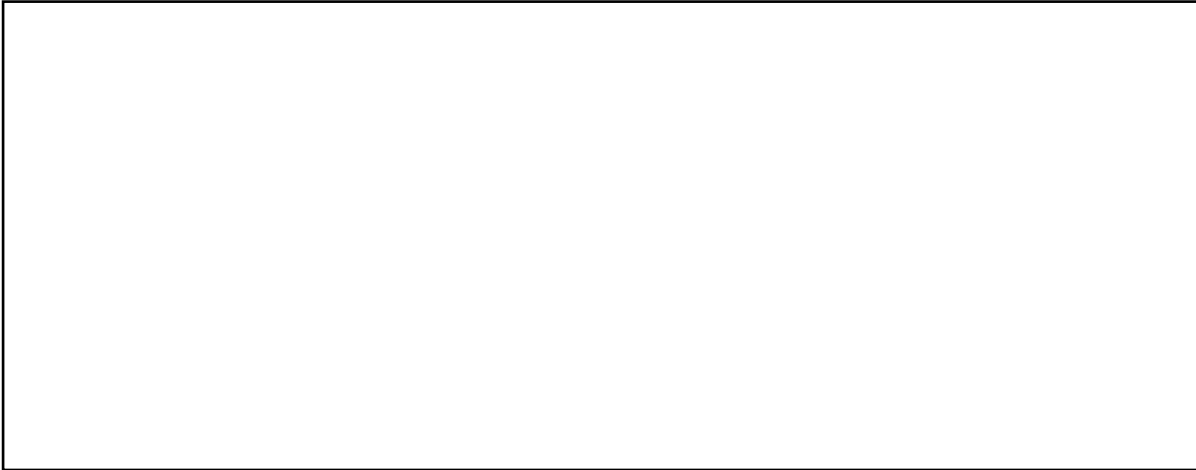


Figure 6. *Wiring the Gateway Controller - Line Power*

**Step 12:** Remove the Valley purple (End Tower) wire from the terminal strip in the panel box and install the AG-CPC purple wire labeled End Tower Panel Terminal in its place.

**Step 13:** Use an enclosed lever nut to connect the AGCPC purple wire labeled End Tower Span Wire to the Valley purple (End Tower) wire that was removed from the terminal strip in step 12.

## CONTACTORS

Determine if your panel has an interlocking contactor.

### Interlocking Contactor

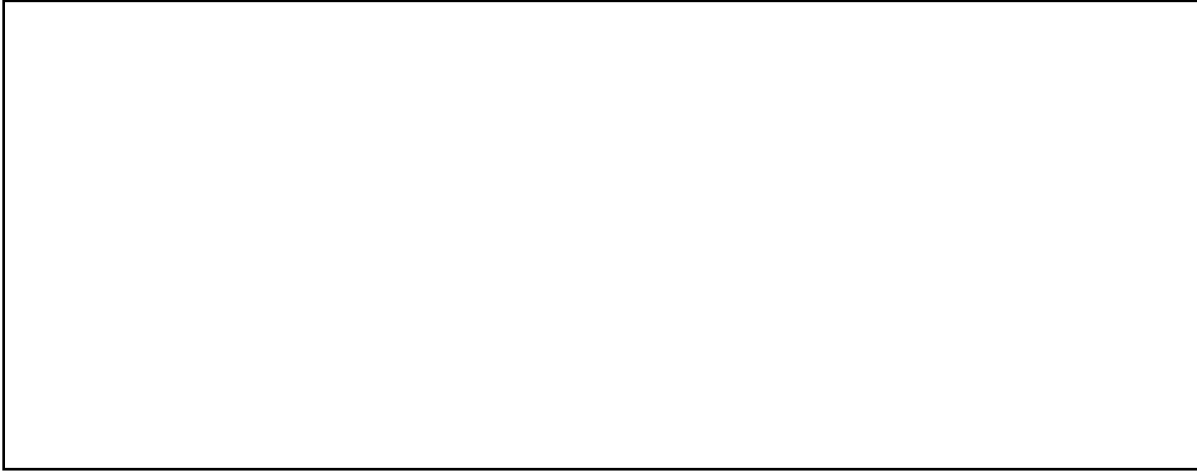


Figure 6. Wiring the Gateway Controller - Line Power

**Step 14:** Remove the Valley brown/white wire from the Reverse Contactor interlocking terminal and install the AG-CPC brown/white wire labeled "Forward Contactor Terminal" in its place.

**Step 15:** Use an enclosed lever nut to connect the AG-CPC brown/white wire labeled "Forward Contactor Wire" to the Valley brown/white wire that was removed in step 14.

**Step 16:** Remove the Valley orange/white wire from the Forward Contactor interlocking terminal and install the AG-CPC orange/white wire labeled "Reverse Contactor Terminal" in its place.

**Step 17:** Use an enclosed lever nut to connect the AGCPC orange/white wire labeled "Reverse Contactor Wire" to the Valley orange/white wire that was removed in step 16.

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## Non-interlocking Contactor

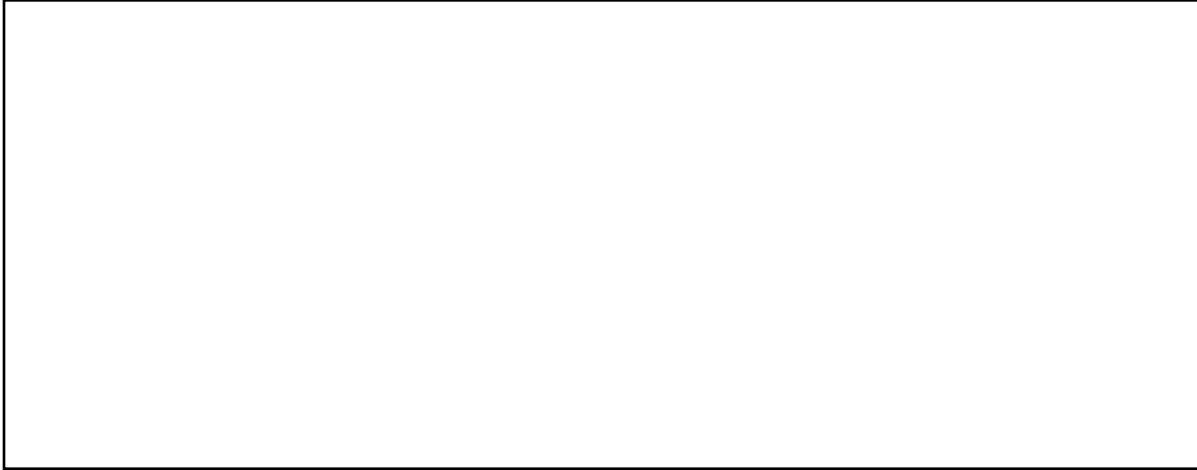


Figure 6. *Wiring the Gateway Controller - Line Power*

**Step 14:** Remove the Valley brown/white wire from the Forward Contactor coil terminal and install the AG-CPC brown/white wire labeled “Forward Contactor Terminal” in its place.

**Step 15:** Use an enclosed lever nut to connect the AG-CPC brown/white wire labeled “Forward Contactor Wire” to the Valley brown/white wire that was removed in step 14.

**Step 16:** Remove the Valley orange/white wire from the Reverse Contactor coil terminal and install the AG-CPC orange/white wire labeled “Reverse Contactor Terminal” in its place.

**Step 17:** Use an enclosed lever nut to connect the AGCPC orange/white wire labeled “Reverse Contactor Wire” to the Valley orange/white wire that was removed in step 16.

### Setup

Open the B-hyve Ag App to configure the base station.

## Product Warranty

Hydro-Rain warrants to its trade customers that its products will be free from original defects in material and workmanship (commencing on the date of sale to the trade customer) for a period of three-years, or five, (for Premier Contractors). For customers outside of the United States, this warranty may vary by geographical location.

If there are further questions about installation, please contact Hydro-Rain via phone 1-888-493-7672 Monday-Friday MST from 7:00am to 7:00pm and Saturday-Sunday from 7 am to 5 pm.

Or try our website, [www.hydrorain.com](http://www.hydrorain.com).

This warranty applies only to Hydro-Rain products, which are installed as specified and used as intended for commercial irrigation purposes. The warranty applies only to offered products, which have not been altered, converted, damaged, misused, or misapplied. This warranty does not cover products adversely affected by the system into which the products are incorporated, including improperly designed, installed, operated, or maintained systems or systems using water containing corrosive chemicals, electrolytes, sand, dirt, silt, rust, and scale. This warranty does not cover component failure caused by lightning strikes, electrical power surges, or damage caused by freezing environments. Hydro-Rain's liability is limited to the repair and/or replacement at Hydro-Rain's sole discretion, of products that are returned prepaid through the trade customer to the factory and found by Hydro-Rain to be defective, but in no event shall Hydro-Rain's liability exceed Hydro-Rain's selling price of the product. Hydro-Rain makes no other warranties, expressed or implied. No representative, agent, or distributor or other persons have the authority to waive, alter, or add to the printed provisions of this warranty, or make representation of warranty not contained herein.



## FCC & IC Statement



This device complies with Part 15 of the FCC Rules and Innovation, Science and license exempt RSS Economic Development Canada standards. Operation is subject to the following two conditions: (1)

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Warning: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

This device meets the FCC and IC requirements for RF exposure in public or controlled environments. The end user is advised to maintain a distance of 20 cm from the controller and any personnel to ensure compliance with RF exposure regulations.

This Class B digital apparatus complies with Canadian ICES-003

## Déclaration de FCC et L'IC

# IC

Cet appareil est conforme à la Partie 15 des Règles de la FCC et aux normes RSS non soumises à licence du Canada pour l'Innovation, la Science et le Développement économique. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas

causer d'interférences nuisibles, et (2) cet appareil doit tolérer toutes les interférences, dont les interférences pouvant causer un fonctionnement non désiré. Cet appareil numérique de classe B est conforme à la norme canadienne ICES-003.

Remarque: cet appareil été testé et déclaré conforme aux limites d'exposition pour les appareils numériques de classe B, selon la section 15 de la Règlementation de la FCC. Ces limites sont conçus pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet appareil produit, utilise et peut émettre de l'énergie radio fréquence et, si elle n'est pas installée et utilisée conformément aux instructions, peut causer des interférences nuisibles aux communications radio. Cependant, il n'est pas garantie que des interférences ne se produisent pas dans une installation particulière. Si cet appareil cause des interférences gênantes à la réception d'un signal radio ou de télévision, ce qui peut être déterminé en allumant et en éteignant l'appareil, l'utilisateur peut corriger les interférences en suivant une des mesures suivantes :

- Réorientez ou repositionnez l'antenne de réception.
- Augmentez la distance entre l'appareil et le récepteur.
- Branchez l'appareil dans une prise sur un circuit différent du circuit sur lequel le récepteur est branché.
- Consulter le revendeur ou un technicien radio/TV expérimenté pour obtenir de l'aide.

Cet appareil est conforme aux exigences de la FCC et de l'IC concernant l'exposition aux ondes dans un environnement public ou contrôlé. Il est conseillé à l'utilisateur final de maintenir une distance de 20 cm du contrôleur pour assurer la conformité aux réglementations d'exposition RF. Information de conformité pour le Canada

## EU & UK Declaration of Conformity

Gardena, Inc.  
North Salt Lake, UT 84054 USA  
Declares under our sole responsibility, that the product:

Complies with the following:

European Directives 2014/53/EU with reference to the following standards:

ETSI EN & EN 300 220-1 V3.1.1 (2017-02)  
ETSI EN & EN 300 220-2 V3.2.1 (2018-06)  
ETSI EN & EN 300 328 V2.2.2 (2019-07)  
EN 50665:2017  
ETSI EN & EN 301 489-1 V2.2.3 (2019-11)  
ETSI EN & EN 301 489-3 V2.1.2 (2021-03)  
ETSI EN & EN 301 489-17 2.4 (2020-09)  
EN 55032:2015/A11:2020,  
IEC & EN IEC 61000-3-2:2019/A1:2021  
EN 61000-3-3:2013/A1:2019  
EN 55035:2017/A11:2020  
EN 60730-1:2016  
EN 60730-2-7:2020



## Specifications

Input – 120VAC 0.6A OR 240VAC 0.3A; 50/60Hz  
Output – 120VAC 0.6A OR 240VAC 0.3A; 50/60Hz  
IPX4 Rating

### Temperature

Operating: 0-131° F (-18-60° C)  
Storage & transport: -14-158° F (-10-70° C)

### Humidity Operating

Operating: 0-90%  
Storage & transport: 0-90%

# HYDRO-RAIN®

