

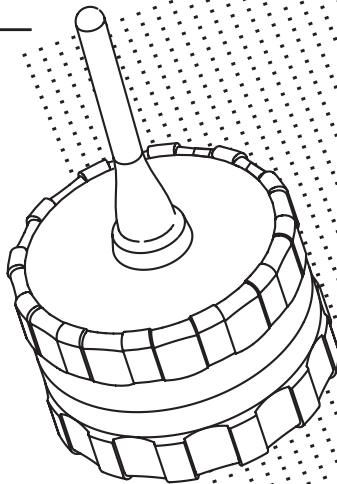
# WVC

## Wireless Valve Controller

Multiple Station Battery Powered  
Irrigation Controller

Owner's Manual and  
Installation Instructions

**Hunter®**





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## **INTRODUCTION** .....

The Hunter Wireless Valve Controller (WVC) is a battery-powered, radio programmable controller that can operate up to two (WVC-200) or four valves (WVC-400). Hunter's Wireless Battery powered irrigation systems are ideal for commercial/municipal applications such as street and highway landscaping, medians, parks, construction sites, and other areas that do not have access to power.

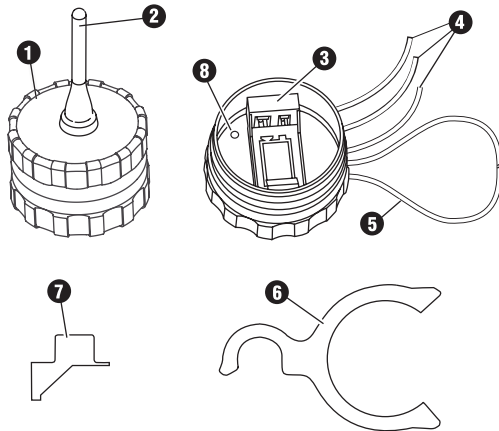
All programming and manual operations with the WVC are accomplished with the Wireless Valve Programmer (WVP). The WVP is a hand-held programmer that allows you to create programs and conduct manual operations with WVC controllers in the field. Because the WVP retrieves and transmits data via radio signals, you never have to open a valve box to check the status or program your controllers.

The following instructions provide information on installing and setting up your WVC. Additional programming instructions can be found in the WVP Owner's Manual.

## WVC COMPONENTS.....

This section provides a brief overview of some of the components of the WVC. Each item will be discussed in further detail later, however, this section can be helpful in getting acquainted with the different options available.

1. **WVC Body** – The WVC controller is designed to be dirt tolerant, waterproof, and submersible to 12 feet.
2. **External Antennae** – Flexible rubber antennae for radio communication.
3. **9-Volt Battery Holder** – The WVC is designed to operate on a single 9-volt alkaline battery. The battery easily snaps into the battery holder.
4. **Wires for DC Latching Solenoids** – Leads are provided for wiring DC latching solenoids. The red wires are numbered on top of the WVC to provide station identification. The black wire is the common wire.
5. **Weather Sensor Wires** – A Hunter Mini-Click® or other micro-switch type sensor can be connected to the WVC.
6. **Valve Mounting Clip** – Allows the WVC to be mounted directly to any Hunter valve. The clip can also be used in conjunction with the Universal Mounting Adapter.
7. **Universal Mounting Adapter** – Allows for alternate methods of mounting the WVC. It can be used to mount the WVC to the side of the valve box or on a ½" (13 mm) diameter section of plastic pipe.
8. **LED Indicator Light** – Used when setting the WVC address.



## INSTALLING THE BATTERY.....

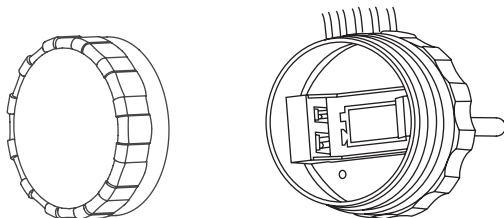
The WVC uses a standard 9-volt alkaline battery to operate the valve and program the controller. Battery life is affected by the number of valve actuations, along with the distance the solenoids are from the controller. Under normal service conditions the battery should provide at least one full year of service.



**NOTE: The WVC has non-volatile memory that retains all program information when the battery is removed or in the event the battery is drained.**

### To install the battery:

1. Unscrew the rear half of the WVC body to gain access to the battery compartment.



2. Snap the battery into the battery holder.



**NOTE: The battery holder is designed so that the battery can only be inserted in one direction.**

3. Make sure no water is inside the battery compartment. Make sure that the seals are in good condition. Screw the WVC body halves together to seal the compartment.

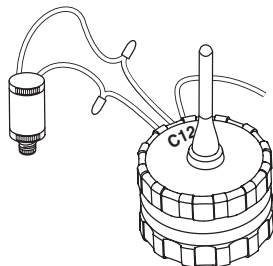
## WIRING DC LATCHING SOLENOIDS TO THE WVC .....

Leads are provided to attach a Hunter DC latching solenoid or other two-wire, low-voltage latching solenoids to the WVC. (Hunter DC latching solenoid part #458200)

Hunter DC latching solenoids have two leads: one colored black and the other red.

### To connect DC latching solenoids:

1. Select the appropriate station wire (red wire) on the WVC Note: Station numbers are identified on top of the WVC. Strip away ½" (13mm) of insulation from the station wire.
2. Remove ½" (13mm) of insulation from the common wire (black wire) on the WVC.
3. Twist the red and black leads from the solenoid to the red and black leads on the WVC as shown in the figure.



4. Make sure that waterproof connectors are used to secure all wire connections.



**NOTE:** The maximum recommended distance from the WVC to any Hunter DC latching solenoid is approximately 100 feet with 18 gauge wire. Long distances between the WVC and the DC latching solenoid will reduce overall 9-volt battery life.

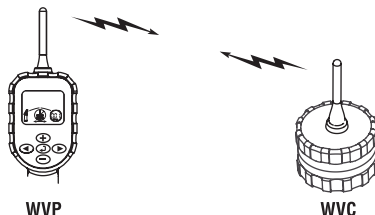


**NOTE:** The black wire from each solenoid must be wired to the single black lead on the WVC controller.



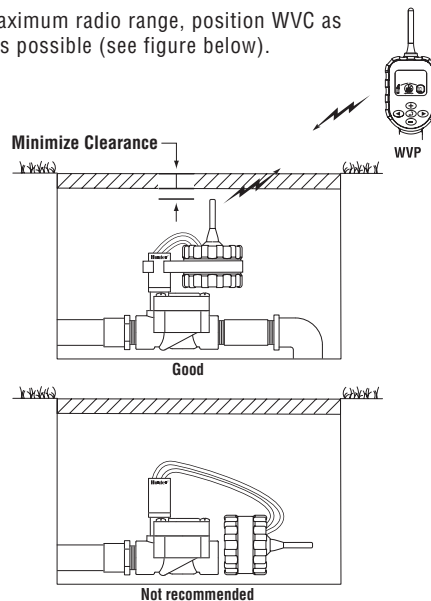
## RADIO COMMUNICATION.....

All programming and manual operations with the WVP can be controlled with the WVC. Actual performance varies depending upon the installation and the surrounding terrain. The WVP can send/retrieve data to/from the WVC up to 100 ft with the WVC installed in the valve box below ground level. Radio range increases when the WVC is installed above ground. (Refer to the WVP Owner's Manual regarding radio communication).



### Below Ground Installation

For maximum radio range, position WVC as high as possible (see figure below).



## ADDRESSING THE WVC WITH THE WVP.....

### (WVP required to perform this function)

Each WVC controller requires a unique identification number for proper radio operation with the WVP. Setting unique addresses for each WVC allows for separate radio programming and manual operations with individual WVC controllers even though other controllers may be in the surrounding area. The unique address is a 3-digit number from 000 to 999. Once the address is set, you must remember the ID for future operation. (Refer to the WVP Owner's Manual for detailed programming instructions).

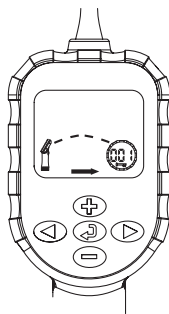



Figure 1

### To set the unique address on the WVC:

1. Press the Transmit/Receive button on the WVP to enter the communications mode. (Lower portion of display).
2. Use the **+** and **=** buttons to change the 3-digit identification number. Use the **▶** button to make sure that the WVP is in the transmit mode with the arrow on the display pointing towards the address icon **000** (see figure 1).

3. Unscrew the rear half of the WVC body to gain access to the battery compartment.
4. Install a standard 9-volt alkaline battery into the battery holder (see Connecting the Battery).
5. Wait for the red light inside the battery compartment to come on, this may take 10-15 seconds.
6. Immediately press and hold the Transmit/Receive button on the WVP. The WVP will beep twice when transmission commences. Release the button.
7. The WVP will beep twice again when the identification number has been learned by the WVC.
8. If the WVP illuminates the failed to communicate icon  then start over from step 4.



**NOTE:** If no WVP communication takes place after the red light on the WVC comes on, the WVC will turn this light back off (after 20 seconds) and revert back to the address already programmed into the WVC.

## MOUNTING THE WVC TO A HUNTER VALVE .....

The WVC can easily be mounted on any Hunter plastic valve. A special designed valve mounting clip makes installation a snap.



**NOTE: When mounting the WVC, position the antenna vertical and as high as possible in the valve box to achieve maximum range for radio communication.**

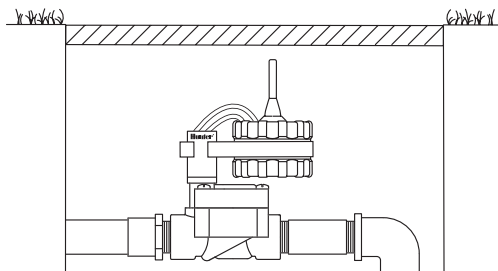


Figure 2

### To mount the WVC to a valve (Figure 2):

1. Unscrew the existing solenoid from the valve.
2. Screw the WVC latching solenoid into the valve bonnet.
3. Attach the large end of the valve mounting clip to the middle of the WVC body (mounting clip supplied with your WVC).
4. Snap the small end of the valve mounting clip to the solenoid.



**NOTE: The total length of wire from the WVC to the solenoid should not exceed 100 ft.**

## ALTERNATE MOUNTING METHODS .....

A universal mounting clip and mounting adapter are also provided with the WVC. These accessories provide for alternate methods of mounting the controller either to the side of the valve box or stake mounted within the valve box.

### Valve Box Mounting Method (Figure 3)

1. Position the universal mounting adapter on the side of the valve box. Make sure that the bracket is positioned so that the controller is as high up in the valve box as possible, but does not interfere with the top of the valve box cover.
2. Drive two screws to secure the adapter to the side of the valve box.

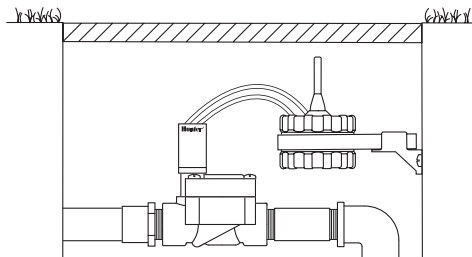


Figure 3

3. Attach the WVC to the mounting clip and slide it on to the end of the mounting adapter.

### Stake Mounting Method (Figure 4)

The universal mounting adapter can also be used to stake mount the WVC.

1. Cut a section of ½" (13mm) diameter plastic pipe.
2. Drive the pipe into the ground inside the valve box to position the WVC to the desired height.
3. Slip the universal mounting adapter on top of the pipe.
4. Attach the WVC to the mounting clip and slide onto the adapter.

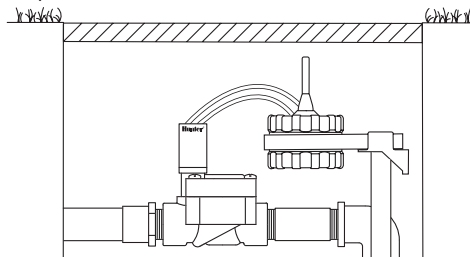


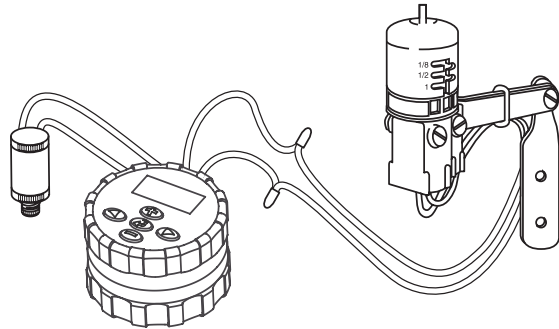
Figure 4

## CONNECTING A WEATHER SENSOR .....

A Hunter Mini-Clik® rain sensor or other micro-switch type weather sensor can be connected to the WVC. The purpose of this sensor is to stop watering when weather conditions dictate.

### To connect a weather sensor to the WVC:

1. Cut the yellow wire loop attached to the WVC at approximately the middle of the loop.
2. Remove approximately ½" (13mm) of insulation from each wire. Attach each wire to each of the wires of the weather sensor.
3. Secure both wire connections with waterproof connectors.



## PROGRAMMING THE CONTROLLER .....

The WVC is easy to program with its companion, the WVP Wireless Valve Programmer. The easy-to-understand push button design of the WVP allows you to step through the process of programming and activating manual watering with the press of a button. Further information on operating the WVP can be found in your WVP Owner's Manual.

# SPECIFICATIONS .....

## Operating Specifications

- Station run time: 0 to 4 hours in 1-minute increments
- Start times: 9 per day
- Day of the week calendar
- Interval watering
- AM/PM or 24-hour clock option
- Start time stacking for each station
- One button manual start and advance
- Programmable rain delay for 1 to 7 days

## Electrical Specifications

- Solenoids: Operates 6 to 9-volt DC latching solenoids
- Battery: Standard 9-volt alkaline battery (not included), one year minimum life. Battery not required for program backup.
- Memory: Non-volatile for program data• Weather sensor compatible
- Frequency of operation: 900 MHz ISM band (U.S./Aust.), 868 MHz (Europe)

## Dimensions

WVC – 3.25" D x 5" H

WVP – 3" W x 11.5" L x 2" H

## **FCC NOTICE**.....

This notice applies only to models WVC-200 and WVC-400

### **FCC ID: M3UWVC**

This equipment has been tested and found to comply with the limits for 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 or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the antenna
- Consult the dealer or an experienced radio/TV technician for help

The user is cautioned that changes and modifications made to the equipment without the approval of the manufacturer could void the user's authority to operate this equipment.

## INDUSTRY OF CANADA NOTICE .....


This notice applies only to models WVC-200 and WVC-400

### IC: 2772-WVC

The term "IC:" before the certification/registration number only signifies that the Industry of Canada technical specifications were met.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## CE NOTICE.....

CE Notice: this notice applies only to models WVC-200-E and WVC-400-E.				
		<b>Important Notice:</b> Low power RF product operating in 869.700-870.000MHz band for indoor or outdoor home and commercial use.		
AUS	B	DK	FIN	Member states in the EU with restrictive use for this product are crossed out.
F	D	<del>GR</del>	IRE	
I	LUX	NL	P	
E	S	UK		

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