

WATER MANAGEMENT SYSTEM

4-PORT EXPANDER

INSTALLATION AND USER MANUAL FOR WMS-PE

TYPICAL APPLICATIONS FOR WMS-PE (4-PORT EXPANDER)

- EXPAND THE NUMBER OF ZONES OF AN IRRIGATION OR GARDEN WATERING SYSTEM. EACH OUTPUT CAN BE EXPANDED TO UP TO FOUR SEPARATE OUTPUTS
- AVOID REPLACING YOUR EXISTING IRRIGATION CONTROLLER BY A MORE EXPENSIVE ONE IN ORDER TO ADD EXTRA ZONES TO YOUR INSTALLATION
- SEPARATE EACH IRRIGATION ZONE INTO MULTIPLE ZONES IF THE WATER PRESSURE IS INSUFFICIENT TO IRRIGATE A SINGLE LARGE ZONE

The Port Expander connects to a main irrigation or garden watering timer or controller. The main controller can be either the WMS-3, WMS-6 or any controller that provides from 12 VAC to 27 VAC. No additional power supply is needed to power the WMS-PE.

The Water Management System 4-port expander is designed to provide maximum simplicity to the user. From 1 to 4 zones can be enabled and activated in sequence. Each zone can be turned On for fixed amounts of time of 5, 10 or 20 minutes or the 4-port expander can be configured to automatically split the turn-on time equally between the active zones.

Examples:

- 3 EXTENSION ZONES ARE ENABLED AND THE MAIN IRRIGATION CONTROLLER IS CONFIGURED TO TURN-ON FOR ONE HOUR. EACH ZONE IS TURNED ON FOR 10 MINUTES IN SEQUENCE UNTIL THE TOTAL TIME OF 1 HOUR EXPIRES, FOR A TOTAL OF 20 MINUTES PER ZONE
- 4 ZONES ARE ENABLED AND THE MAIN IRRIGATION CONTROLLER IS CONFIGURED TO TURN-ON FOR ONE HOUR, THE EXPANDER IS SET TO AUTOMATIC MODE. THE FIRST TIME THE EXPANDER RUNS, EACH ZONE IS ENABLED FOR 5 MINUTES IN SEQUENCE. THE SECOND AND LATER RUNS, THE EXPANDER WILL DIVIDE THE 1 HOUR BY 4 AND GIVE EACH ZONE 15 MINUTES OF RUN TIME

WMS-PE MAIN FEATURES



WMS-PE Top View

- EASILY PROGRAMMABLE USING DIP SWITCHES ACCESSIBLE BY REMOVING THE COVER
- FOUR ELECTRONIC RELAY OUTPUTS FOR ELECTRIC VALVES SUCH AS SPRINKLER SYSTEMS
- WIDE RANGE OF INPUT VOLTAGES 12 VAC TO 27VAC MAKES IT COMPATIBLE WITH MULTIPLE MODELS OF IRRIGATION CONTROLLERS AND SOLENOID VALVES USED IN IRRIGATION SYSTEMS
- CAN BE INSTALLED OUTDOORS OR INDOORS
- NO EXTERNAL POWER SUPPLY IS REQUIRED, THE WMS-PE IS POWERED FROM THE MAIN CONTROLLER

TYPES OF INPUTS AND OUTPUTS

PWR - POWER INPUT: This is the power supply input to the device which is provided by the main irrigation controller. This also powers the 4 electronic relay outputs. The range of inputs is from 12 VAC to 27 VAC.

O1 TO O4 - ELECTRONIC RELAY OUTPUTS: Used to connect AC voltage powered devices. The voltage of devices connected to these outputs is the same as the voltage used to power the WMS device. The power used by all devices that are turned on at the same time should also not exceed the power supply of the device. Examples of AC devices:



Electric valves used in irrigation systems



Electric water valves

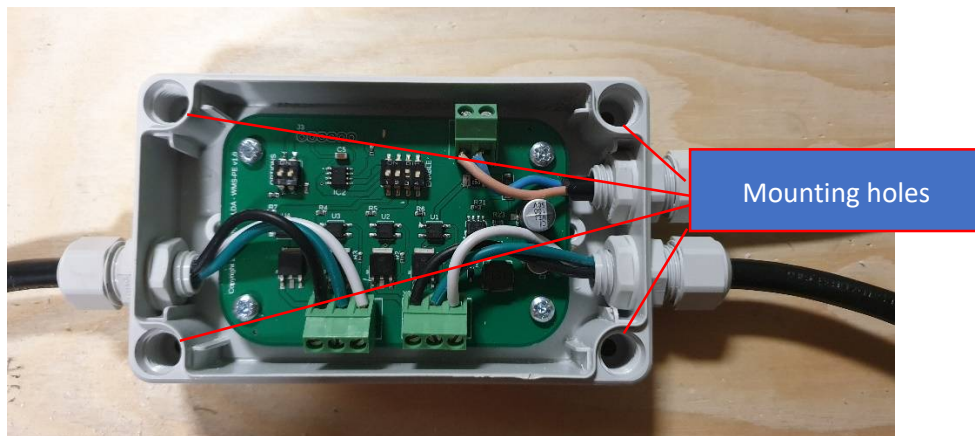
INSTALLING THE WMS-PE

SPECIAL PRECAUTIONS TO BE TAKEN BEFORE INSTALLATION

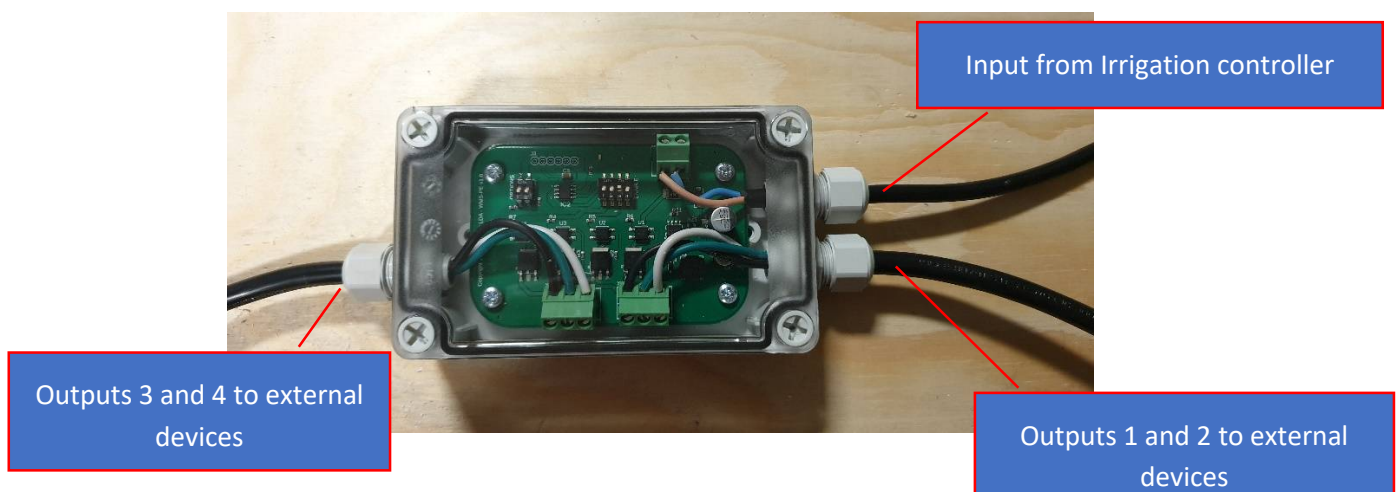
Make sure that any electric device that you are going to connect to the WMS-PE are disconnected from their power source.

Some devices such as irrigation controllers and water pumps might be connected to a timer or other automated system and give you the impression that they are not connected to power. These devices might turn-on unexpectedly and cause serious harm during installation. It is important that power be disconnected to these devices from the electric panel.

STEP 1: The WMS-PE device is designed for indoor or outdoor installation. It can be wall mounted or placed in the compartment that contains the water valves or irrigation controller. To fix the WMS-PE to a wall, take out the cover and use the holes located in the 4 corners of the box:



STEP 2: Connect the 2 input wires to one of the outputs of the main irrigation controller. This is the output that you want to expand to multiple outputs.



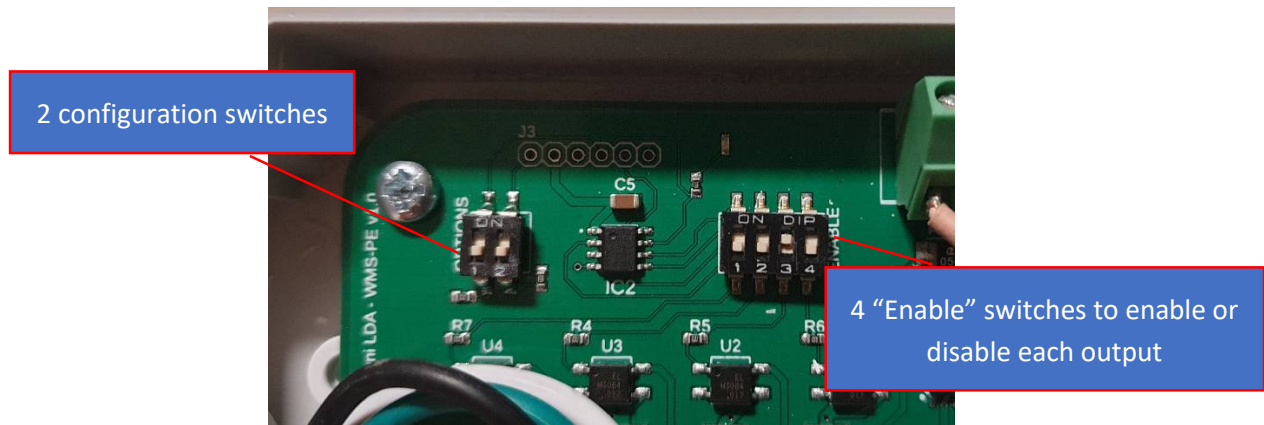
STEP 3: Connect one to four outputs to the electric valves or other devices that you want to power. Each device should have one wire connected to a common pin and one wire to one of the 4 output pins (O1 to O4)

STEP 4: Proceed to programming the device

STEP 5: After programming the device, make sure the cover is tightly closed and the cable glands well tightened. Unused cable glands should be closed with the provided cable gland cover. This is to avoid dust, moisture or insects to enter the WMS-PE device

PROGRAMMING THE WMS-PE

Programming the Port Expander is done through the 2 DIP switches located on the top/left of the device. You need to remove the cover in order to access these DIP switches.



WMS-PE Programming Switches

The 4 “Enable” switches allow you to enable or disable each of the 4 individual outputs. By default, the 4 switches are in the “On” or enabled position.

The 2 “Options” switch allow you to set the device in one of 4 modes:

1 – The 2 switches are off (default factory settings): The device is in automatic timing mode. In this mode, each time the WMS-PE device is activated from the main controller, it measures the total activation time then splits the time equally among the 1 to 4 enabled outputs. Example, if the 4 outputs are enabled and the input is activated for one hour, each output will receive 15 mins of active time. The very first time the device is activated after installation, it will activate each output for 5 mins in sequence until the total activation time is reached.

2 – Switch 1 is On, Switch 2 is Off: Each output is activated for 5 minutes in sequence until the device is turned off.

3 – Switch 1 is Off, Switch 2 is On: Each output is activated for 10 minutes in sequence until the device is turned off.

3 – Switch 1 is On, Switch 2 is On: Each output is activated for 20 minutes in sequence until the device is turned off.

STATUS LED

The blue LED situation on the top/left of the WMS-PE will turn On when the device is powered from the main controller.

The LED will regularly flash a number of times depending on which output is active, e.g. every 5 seconds, the LED will flash 3 times to indicate that output 3 is active. If the LED never flashes, this means that one of the 4 outputs is enabled (all 4 switches are set to the Off position.)

ELECTRICAL SPECIFICATIONS

<i>Input Voltage</i>	12 VAC to 27 VAC, 50 or 60 Hz
<i>Power Consumption</i>	12 Watts maximum
<i>Maximum continuous current at valve outputs (O1 to O4)</i>	0.5 Amps @ 27VAC for each output