

WATER MANAGEMENT SYSTEM

INSTALLATION AND USER MANUAL FOR WMS-6 OUTDOOR

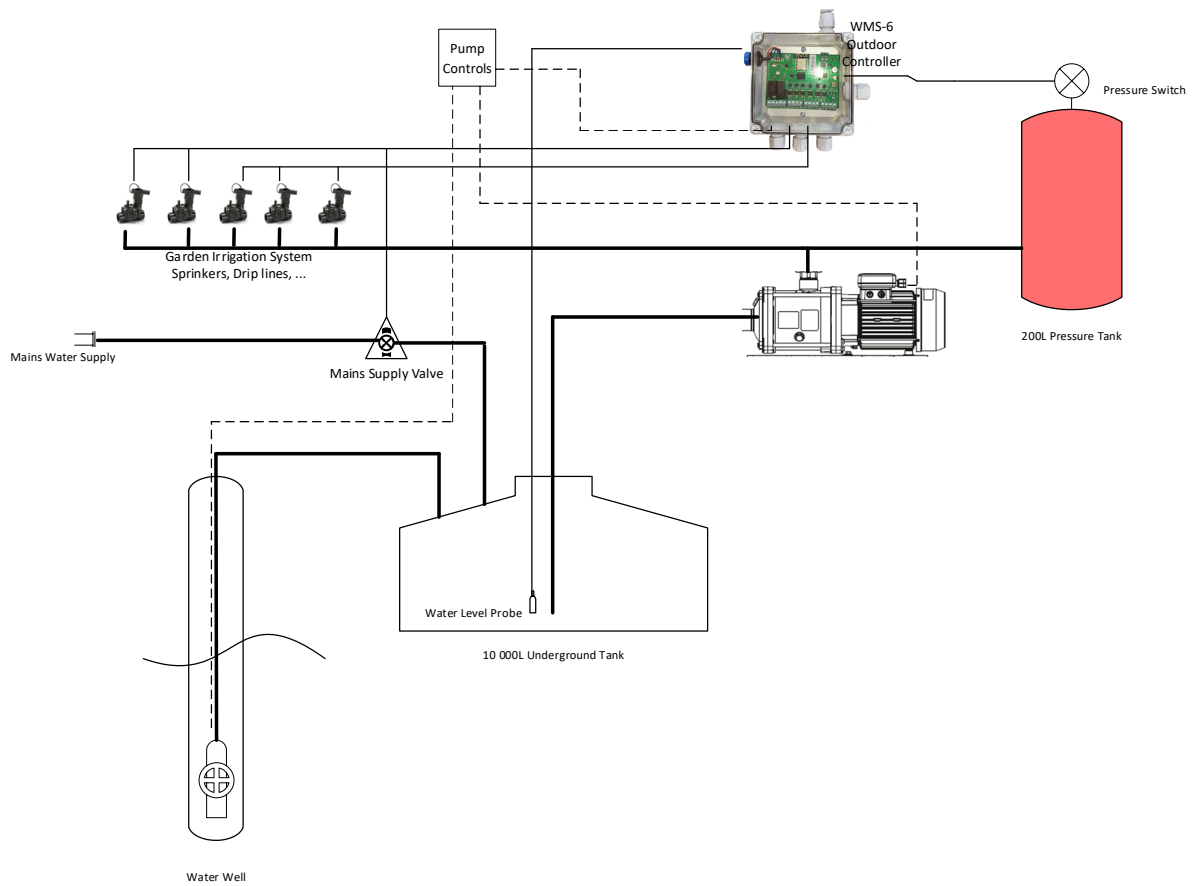
TYPICAL APPLICATIONS

- AUTOMATED IRRIGATION SYSTEMS INCLUDING WATER PUMPS AND AUTOMATIC VALVES
- AUTOMATING THE OPERATION OF WATER PUMPS AND OTHER ELECTRICAL SYSTEMS DEPENDING ON EXTERNAL CONDITIONS SUCH AS WATER PRESSURE
- SURVEILLANCE OF WATER LEVELS IN WATER TANKS AND TAKING ACTIONS CORRESPONDING TO WATER LEVELS (E.G. REDUCE OR STOP IRRIGATION, PREVENT WATER PUMPS FROM STARTING, ...)

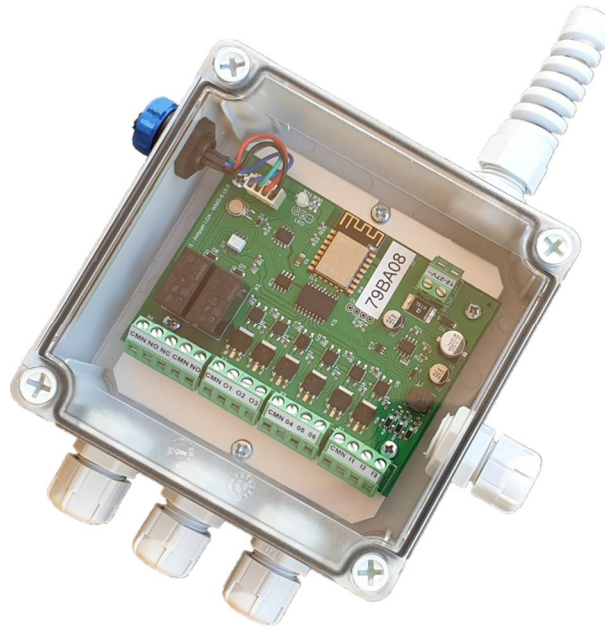
The Water Management System or WMS devices are designed to provide maximum flexibility. The four outputs of WMS-3 or eight outputs of WMS-6 can be programmed to handle different types of situations including but not limited to:

- PROGRAMMING EACH OUTPUT SEPARATELY OR IN SEQUENCE ONE OR MORE TIMES DURING THE DAY
- TURNING ON AND OFF DEPENDING ON THE DAY OF WEEK OR ON EVEN/ODD NUMBERED DAYS
- WHEN CONNECTED TO A WI-FI ROUTER, CAN BE PROGRAMMED AND MONITORED REMOTELY
- REDUCING OR INCREASING THE AMOUNT OF WATER IRRIGATION DEPENDING AND THE LEVEL OF WATER IN THE TANK [REQUIRES THE OPTIONAL WATER DEPTH MEASUREMENT MODULE]
- MEASURING THE AMOUNT OF WATER BEING CONSUMED FROM THE WATER TANK [REQUIRES THE OPTIONAL WATER DEPTH MEASUREMENT MODULE]

TYPICAL INSTALLATION DIAGRAM



WMS-6 OUTDOOR MAIN FEATURES



WMS-6 Outdoor Top View

- WI-FI PROGRAMMABLE USING PHONE OR WEB BROWSER
- CAN BE PROGRAMMED AND MONITORED REMOTELY OR LOCALLY
- TWO RELAY OUTPUTS WITH 220V-10A CAPABILITY TO TURN ON OR OFF WATER PUMPS OR OTHER EQUIPMENT
- SIX 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 SOLENOID VALVES USED IN IRRIGATION SYSTEMS
- THREE INPUT SWITCHES CAN BE CONNECTED TO FLOATING DEVICES OR GENERAL-PURPOSE ON/OFF SWITCHES
- MEASURE QUANTITY OF WATER AVAILABLE IN WATER DEPOSIT AND ADJUST THE SCHEDULES ACCORDINGLY [REQUIRES THE OPTIONAL WATER DEPTH MEASUREMENT MODULE]

TYPES OF INPUTS AND OUTPUTS

12-27V~ - POWER INPUT: This is the power supply input to the device and also powers the 3 or 6 electronic relay outputs depending on the model. The range of inputs is from 12 VAC to 27 VAC.

Although the device can be powered with DC voltage in the same range as the AC voltage, the electronic relay outputs are not functional in this case. Only the switch inputs and mechanical relay outputs are usable with DC power input.

PROBE: This input/output connector is used to connect external sensors to the WMS devices. Currently two probe models are available: A submersible water level probe and a water pressure probe as described on our web site: <https://wms.amyuni.com/en/accessories>.

11, 12, 13 - INPUT SWITCHES: These are used to connect external switches to the WMS devices. The behaviour is programmable with the accompanying software. Examples of switches are:



Simple On/Off switches which can be used to manually disable certain functions



Float switches that open or close when water level reaches a certain level



Pressure switches that activate when water pressure reaches certain thresholds

01 TO 06 - 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. If the default 24V/60 Watt transformer is used, the total number of devices on at the same time should not exceed 60 Watts or about 2.5 Amperes. Examples of AC devices:



Electric valves used in irrigation systems



Garden lights working on low AC voltage



Electric water valves

INSTALLING THE WMS OUTDOOR

SPECIAL PRECAUTIONS TO BE TAKEN BEFORE INSTALLATION

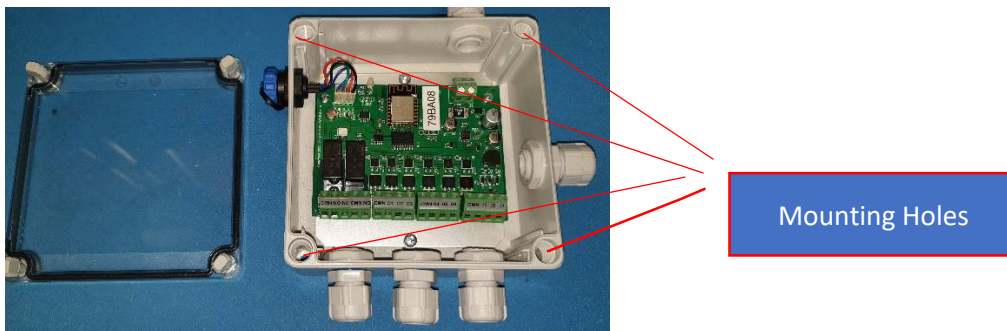
Make sure that any electric device that you are going to connect to the WMS such as water pumps, garden lights or water valves are disconnected from their power source.



Some devices such as 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.

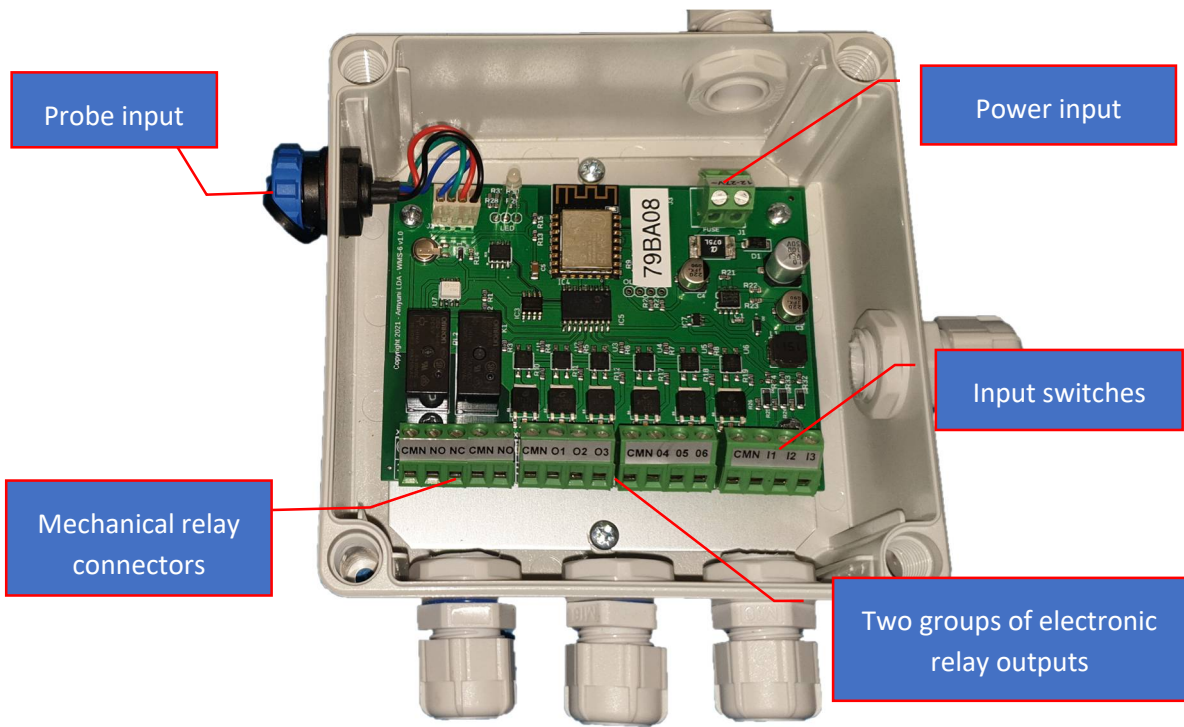
Do not connect the AC transformer that is provided with the WMS system to the power plug before the device is securely installed and all external devices connected to it. If you are using your own 12 VAC to 27 VAC transformer with the WMS system, make sure you unplug the transformer before beginning the installation.

STEP 1: The WMS-6 Outdoor device is designed to be wall mounted in an indoor or outdoor location. Remove the transparent cover and use two to four of the holes in the corners to mount the device:



STEP 2: Connect the 2 supply wires through the cable gland at the back of the WMS device and into the connectors marked by 12-27V~.

STEP 3: Plugin all your devices to the front of the WMS device



WMS-6 Top View with Cover Removed

STEP 4: Plug in the WMS power adapter and connect all electrical devices to their power source then proceed to programming the device.

PROGRAMMING THE WMS

Programming the devices can be done using a smartphone or any computer equipped with Wi-Fi. Initial programming can only be done when the user is close to the device, afterwards programming can also be done remotely if the device is connected to a Wi-Fi router.

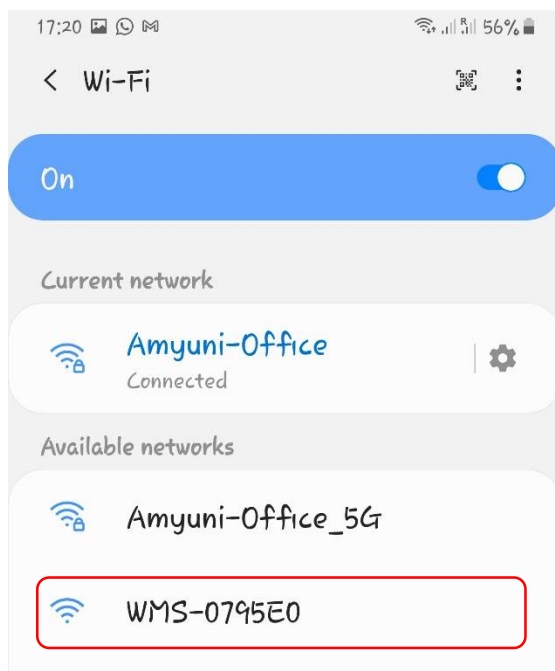
STEP 1: Plug-in the device to the power source, from 12VAC to 27VAC.

STEP 2: Open the Wi-Fi settings on your phone and search for a signal named “WMS-[DEVICEID]”. The device ID is a six letter and digit code located on the sticker to the side of the device, e.g. A0B1C2. Device Id is unique across devices which allows the user to operate multiple devices at the same time.

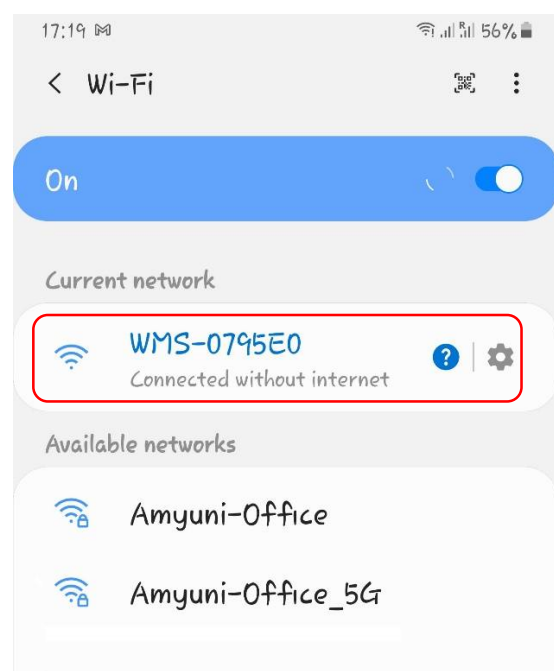
Select the WMS Wi-Fi source and connect to it.



If a password has been set in the Administration page, you will be prompted to enter this password before accessing the device.



Before connecting to the device



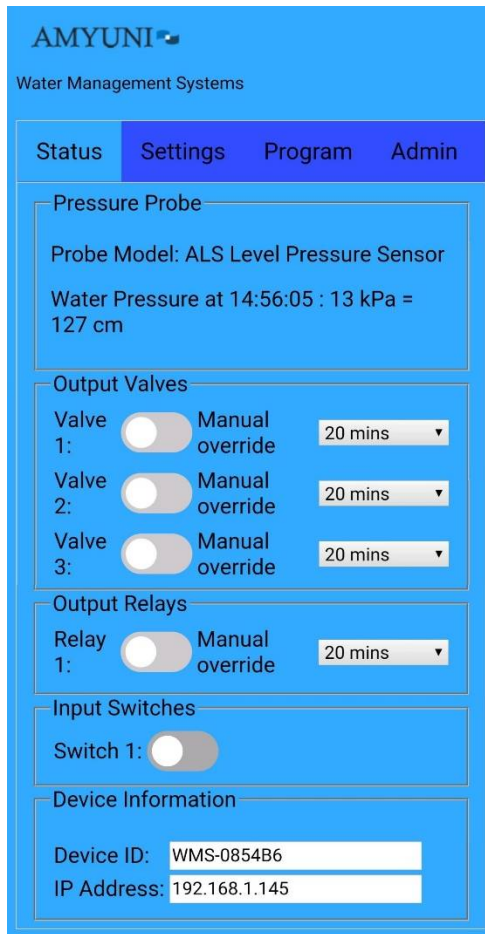
After connecting to the device

WMS Device as it appears in the list of Wi-Fi connections

STEP 3: Once connected to the WMS Wi-Fi source, you can access the configuration page in two ways. You can click on the Settings button then click on “Manage Router” which will take you to the WMS configuration page. You can also open your web browser and go to the address <http://192.168.4.1> to access the device.

All the settings below are saved in permanent memory that will not get erased even if the device is disconnected for a long period of time.

MAIN CONFIGURATION PAGE - STATUS



WMS-3 Status Page

WATER PROBE STATUS

If the water probe is connected, this will show you the level of water in the water tank or the water pressure coming out of a tank depending on the probe model.

OUTPUT VALVES

These will show you the status of each output valve, there are 3 of them for the WMS-3 model and 6 for the WMS-6.



Each output valve can be given a specific name in the Settings tab so that you can easily remember what each valve is connected to, in the sample screen below, the first valve was named "Zone 1."

Apart from showing the status of each valve, you can also manually turn On or Off each valve for a specific duration. In order to do that, set the duration in the "Manual Override" selection list, then click on the corresponding button to turn the valve On.

OUTPUT RELAYS

Same as for the output valves, show you the status of the 1 relay on the WMS-3 or 2 relays on the WMS-6. These can also be renamed in the Settings page. You can also turn On or Off the relays manually by clicking on the corresponding button.

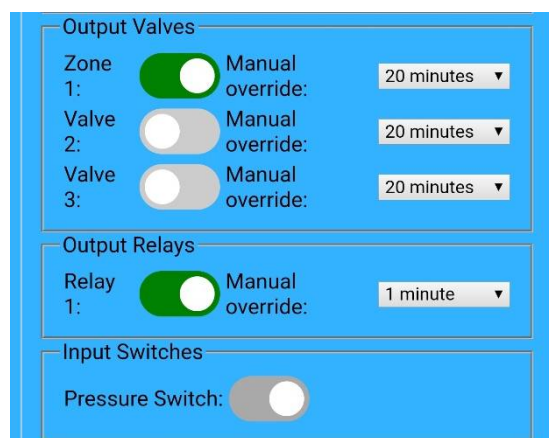
INPUT SWITCHES

Shows the status of each of the input switches, 1 for the WMS-3, 3 for the WMS-6. The input switches can also be given specific names so that you can easily remember them. In this case, switch 1 is renamed “Pressure Switch” as it is linked to the pressure switch on the water pump.



The input switch buttons are not clickable, they only provide information about the status of the switches.

The picture below shows what the screen looks like with some items activated:




Status Page with some items activated

DEVICE INFORMATION

This block contains information about the device, such as its identifier and IP address if it is connected to a router.

SETTINGS CONFIGURATION PAGE

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Water Management Systems

Status **Settings** **Program** **Admin**

Date and Time

Day Month Year
 Hour Minute Second

WiFi Connections

Network 1
 SSID
 Password

Network 2
 SSID
 Password

WiFi Connected to Amyuni-Office with IP address 192.168.1.145

Valve Names

Valve 1 Name
 Valve 2 Name
 Valve 3 Name
 Valve 4 Name
 Valve 5 Name
 Valve 6 Name

Relay Names

Relay 1 Name
 Relay 2 Name

WMS-6 Settings Page



Each configuration section contains an “Apply” button to confirm the change in settings relative to that section only. Make sure you click on “Apply” before moving to another section otherwise the section’s settings will not be saved.

DATE AND TIME



WMS devices contain a small rechargeable battery that keeps the clock module running even if the device is disconnected from the power source. The battery charge runs out after about 2 weeks, in which case the date and time need to be reconfigured.

WI-FI CONNECTIONS

In order to program the device remotely, you need to connect it to a Wi-Fi router through this panel. You have the option to configure 1 or 2 Wi-Fi sources for more flexibility. Specifying one, two or no Wi-Fi source is optional.

Click on Apply after setting the Wi-Fi network SSID name and password and wait for a few seconds for the device to connect to that network. You might lose the connection to the device in the process in which case you need to reconnect to the device.

Once the device has successfully connected to a router, you can reach it from your web browser using the addresses [http://\[DEVICEID\]](http://[DEVICEID]) or [http://\[DEVICEID\].local](http://[DEVICEID].local) or [http://\[IP ADDRESS\]](http://[IP ADDRESS]).

VALVE NAMES - RELAY NAMES - SWITCH NAMES

These panels are very similar and allow you to give each valve, relay or switch a specific name so that you can easily remember where each specific item is connected to. Rather than seeing “Relay 1” in the status page, you can for example name this relay output “Water Pump” to indicate that the relay activates the water pump.

PROGRAMMING PAGE

The WMS devices can store up to 16 different programs which are configured through the programming page:

AMYUNI
Water Management Systems

Status Settings **Program** Admin

New Program

Frequency	Start Time	Duration (Minutes)	
Daily	04:00	120	Tu
Output Status		Input	
<input type="checkbox"/> Valve 1	<input type="checkbox"/> Valve 5	Switch 1	
<input type="checkbox"/> Valve 2	<input type="checkbox"/> Valve 6	Switch 2	
<input type="checkbox"/> Valve 3	<input checked="" type="checkbox"/> Relay 1	Switch 3	
<input type="checkbox"/> Valve 4	<input type="checkbox"/> Relay 2	Pressure Pro	

Frequency	Start Time	Duration (Minutes)	
Daily	01:00	120	Tu
Output Status		Input	
<input type="checkbox"/> Valve 1	<input type="checkbox"/> Valve 5	Switch 1	
<input type="checkbox"/> Valve 2	<input type="checkbox"/> Valve 6	Switch 2	
<input type="checkbox"/> Valve 3	<input checked="" type="checkbox"/> Relay 1	Switch 3	
<input type="checkbox"/> Valve 4	<input type="checkbox"/> Relay 2	Pressure Pro	

Programming Page

NEW PROGRAM

Select “New Program” to create a new program. For each program you can define the following options:

Frequency

- Daily The program will run every day
- Every Other Day The program will run one day and skip the next day
- Odd Days The program will only run on odd numbered days of the month
- Even Days The program will only run on even numbered days of the month

Start Time

Program start time in 24-hour format

Duration

Duration in minutes for which the program will run

Action

The action to execute when the program runs, this can be either:

Turn On Outputs	Turn On all the outputs selected in "Output Status". All the outputs will be activated simultaneously for the program's duration.
Turn Off Outputs	Turn Off all the outputs selected in "Output Status". All the outputs will be de-activated simultaneously for the program's duration.
Turn On/Off in Sequence	Each of the selected outputs will be turned On individually for the program's duration, then turned off before the next output is activated. The total program duration will be the set duration multiplied by the number of selected outputs.

Output Status

Set the status of each of the 4 outputs (WMS-3) or 8 outputs (WMS-6) when the program is running.



Note that more than one output can be active at the same time. In case of sprinkler systems, you need to make sure that the input water pressure is sufficient for all the active outputs. You also need to make sure that the power supply that you are using is sufficient to power all the active outputs. E.g., if you are activating 3 solenoids of 0.5 Ampere or 12 Watts each, the power supply should be able to provide 1.5 Amperes or 36 Watts in total.

Input Conditions

The input conditions will determine if the program will run or not at the specified time. There is one input switch for the WMS-3 and three switches for the WMS-6. In addition, a water level or a pressure probe can be connected to the devices.

For each of the switches, the condition can be:

Indeterminate	The status of the switch has no effect on the program
Should be ON	The switch should be On (or closed) for the program to run
Should be OFF	The switch should be Off (or open) for the program to run

For the water level probe or the water pressure probe, the input conditions can be:

Indeterminate	The water level or pressure have no effect on the program
Greater Than	The water level or pressure should be greater than the specified value in order for the program to run
Less Than	The water level or pressure should be less than the specified value in order for the program to run

Enabled

Used to enable or disable a specific program. When a new program is added, it is disabled by default. After configuring all the program's settings, click on the Enable button to save the settings and activate the program.



When any program setting is changed, the Enable button automatically switches to the disabled position. The changes to the settings are applied only if the enable button is selected to re-enable the program. If the enable button is not selected and the page is closed or refreshed the settings return to their original values.

ADMINISTRATION PAGE

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Status Settings Program Admin

Device Security

Password

Apply

Device Log

OFF
17 Jul 21 19:55:18 | Relay 2 manually of
OFF
17 Jul 21 23:00:00 | Pgm 4: Relay 1 set
17 Jul 21 23:00:00 | Pgm 3: Relay 2 set
18 Jul 21 06:00:01 | Pgm 1: Relay 7 set
Pressure probe: Received 4 bytes [33 0 9
4725 uSec
Number of WiFi networks: 2
SSID Amyuni-Office, -77 dBm, encryption:

Refresh Clear

Device Update

Current Firmware v1.01

Choose file No file chosen

Administration Page

Device Security

A password can be set to disable unauthorized access to the device through WiFi. If the device is connected to a router, it remains accessible through the network.



Make sure you remember the password or write it down on the device itself. The only way to reset this password is either by connecting through the network (device already connected to a router) or by sending the device back to the factory.

Device Log

The log window is used to display detailed information about what is happening inside the WMS device. Click on the Refresh button to view all the log entries or the Clear button to erase the log. This information is useful to obtain technical support about the product.

Device Update

The device can be updated when new versions of the software are released. The software, also called firmware for this type of devices, can be downloaded from the WMS website at <https://wms.amyuni.com>. After downloading the firmware, click on “Choose file” to selected the downloaded firmware then “Update” to update the device.

ELECTRICAL SPECIFICATIONS

<i>Input Voltage</i>	12 VAC to 27 VAC, 50 or 60 Hz
<i>Power Consumption</i>	36 Watts maximum
<i>Maximum continuous current at valve outputs (O1 to O6)</i>	0.5 Amps @ 27VAC for each output
<i>Maximum continuous current at relay outputs</i>	Normally Open (NO) Connections: 10 Amps @ 230 Volts Normally Closed (NC) Connections: 3 Amps @ 230 Volts