

AquiTron | AT-WM

Water Monitor



**INSTALLATION
INSTRUCTIONS**



aquilar
leak detection solutions

AquiTron

AT-WM Water Monitor

Please read the instructions carefully before attempting to install and connect the AT-WM unit.

KEEP CLEAN – DO NOT LET DEBRIS ENTER THE WATER METER OR VALVE

A. GENERAL INFORMATION

The AquiTron AT-WM is a pulse water meter, leak monitoring system that has been specifically designed to help achieve the requirements of BREEAM 2011 (BRE Environmental Assessment Method). The AT-WM system will allow designers, M&E contractors and developers to achieve the "Credit" available to reduce the impact of water leaks that may otherwise go undetected. The system is designed to monitor water flowing through a pulse water meter. If the volume of water reaches the pre-set limit (customer adjustable) the system can isolate the mains water pipe, therefore limiting the amount of water and leak damage.

INSTALLATION ITEMS (NOT SUPPLIED)

- Wall fasteners for surface mounting (four screws)
- Rubber or elastomeric washers to seal at mounting points
- Semi-flush recess flange (optional)

- Phillips (cross-head) screwdriver
- Small flat-head screwdriver

STORAGE

Keep the module in a dry place prior to installation to avoid possible damage to internal components.

TOOLS REQUIRED

- Drill or hole punch for electrical conduit entries

B. PRODUCT INFORMATION

AT-WM

12Vdc Regulated Supply 250mA (Polarity Non-Specific) PSU supplied.

TEMPERATURE

85°C Max.

PRESSURE

0.35 – 10 Bar (Contact Aquilar for alternate pressures).

FLOW RATES

AT-WM will detect any flow rate greater than 0.5 litres per minute.

C. WIRING & PULLING

Current IEE Regulations: AT-WM should be installed by a competent installer, in accordance with the recommendations laid down by the HVCA and sound engineering practice.

D. PLUMBING INSTALLATION

The diagrams will serve as a visual aid, but it is recommended that a competent plumber carries out the assembly and installation. Connect the pipe to the water meter / valve according to markings on the valve body. Apply pipe compound sparingly to male threads only. Ensure compound does not enter valve. Avoid pipe strain by proper support and alignment. Type PN16 mating flanges will be required on some models over 50mm.

Never hold the water meter or solenoid when tightening.

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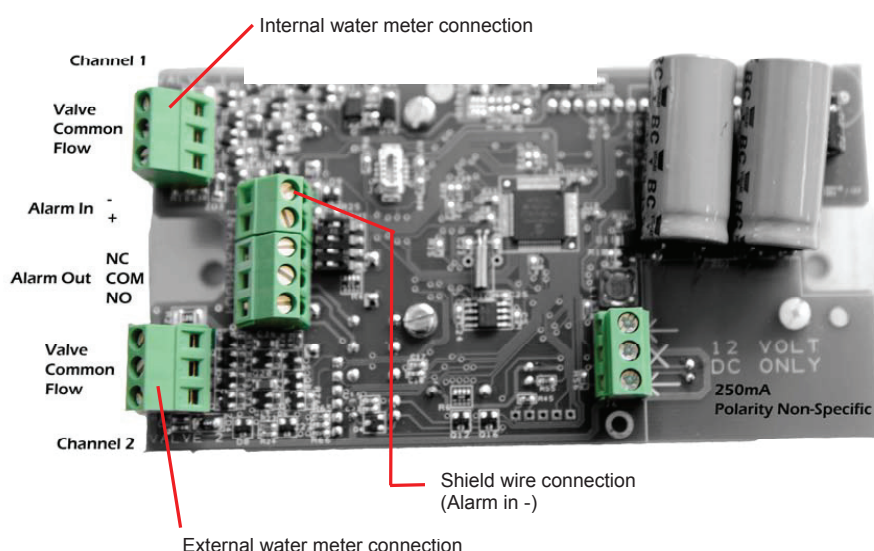
E. HELPFUL HINTS

We recommend that AT-WM is installed with a maintenance by-pass. The water meter can be fitted vertically or horizontally. Note the direction of the flow arrows marked on the water meter and valve to ensure they are fitted correctly.

F. MAINTENANCE

Clean periodically depending on conditions. Keep the medium flowing through the water meter / valve as free from dirt as possible. While in service, the Solenoid Valve should be operated at least once a month to ensure proper cleaning and closing. We strongly recommend a strainer is fitted prior to any meters or valves to prevent debris fouling the mechanism.

G. WIRING INSTRUCTIONS



Plumb in the Water Meter and Solenoid Valve (if applicable) in line with the manufacturer's instructions. Using wiring instructions above, connect each Meter and Valve assembly to the controller using a shielded 2 core 1.00mm² copper cable. For longer runs, use a larger core size.

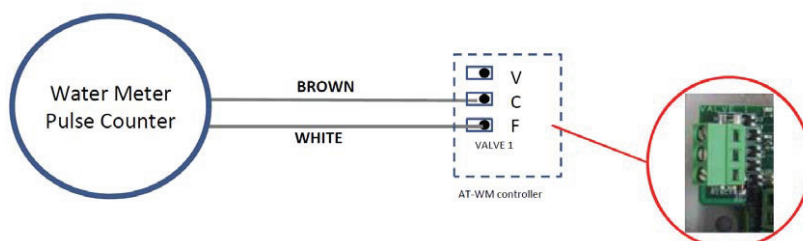
Power the controller using the supplied transformer and open/close the valves to check they operate correctly. Run some water and check meter reading on Modes page has increased. The Input connection can be made to an intruder alarm for automatic guard level switching when alarm is activated. The

Output connections can be used to activate an external alarm, auto dialler or connection to a BMS.

The AT-WM controller monitors the water flowing ONE or TWO water meters or flow switches. There are two guard levels, Low Guard for when the property is occupied and High Guard for unoccupied. If the maximum allowable volume of water, or flow time is exceeded the solenoid valve can be set to automatically shut off the water supply. The controller will emit an audible and visual alarm.

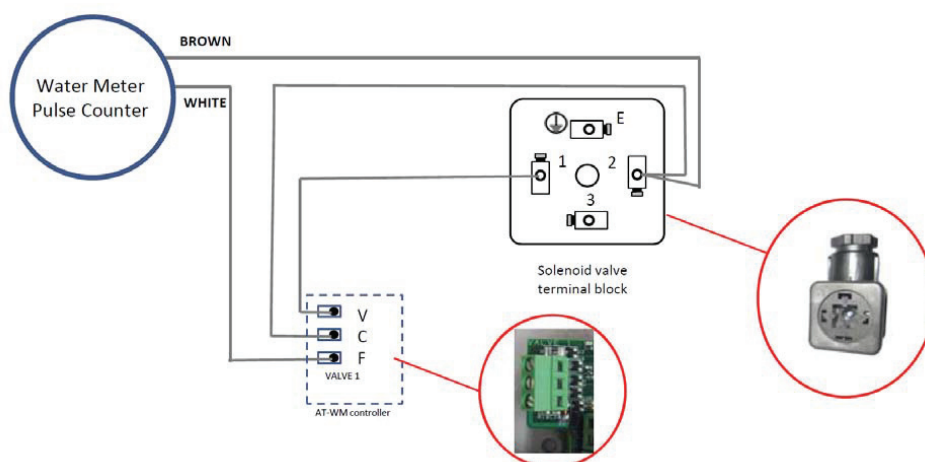
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H. WATER METER & CONTROL UNIT (NO SOLENOID VALVE)



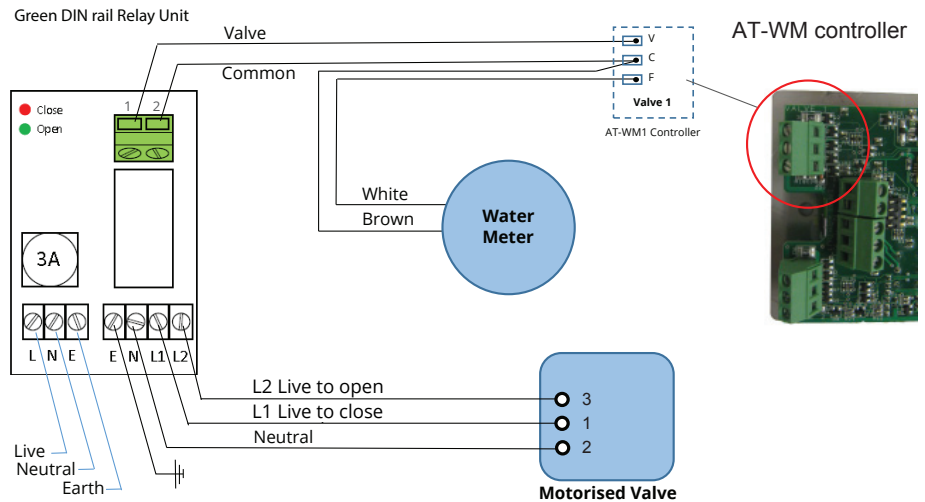
IMPORTANT NOTE: The Pulse sensor which is pre-fitted to the top of the water meter is pre-wired with a 1.5m cable. This can be extended using a screened 2 core cable using 1.0mm² up to 100m and 1.5mm² up to 150m. The screen is important to eliminate any interference and should be connected to the "Alarm In -"

I. WATER METER & CONTROL UNIT (WITH SOLENOID VALVE UP TO 50MM)



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J. WIRING FOR AT-RUI RELAY UNIT DIN RAIL MOUNTABLE



AT-RUI CONNECTIONS

Power Connections to Relay (Mains), 230Vac supply

L = Live,
N = Neutral,
E = Earth

Power Connections to Relay (Relay Valve), 230Vac supply

L1= Live Close,
L2= Live Open,
N = Neutral,
E = Earth

Control Connections from AT-WM Controller

1= V (Valve)
2=C (Common)

NOTE: Wiring should only be done by a qualified electrician



NOTE: These diagrams are shown for one water meter and one solenoid valve. If two are required, the second set should be wired to the "Valve 2" terminals.

Diagrams shown are for one water meter/solenoid valve. When two are required, use Valve 2 terminals for the second set.

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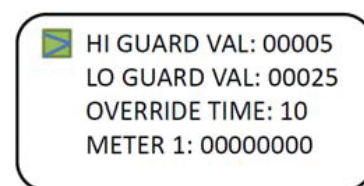
K. OPERATING THE AT-WM FOR DAY TO DAY USE.

Push any key to wake the display which will show the Home Page, see below. The home page shows the time, date, the level of guard and the state of the valves.




Use the keys  to navigate. Use OK button to switch between High & Low Guard Levels. Use OK to open and close valves. To return to Home, press  at any time.



Home Page



Guard Menu

To change a numerical value press OK to select the line;   to change the value and OK to confirm changes. Use the  to navigate the menu.



Page left and right to access other operating pages

Override will show either Start Manual Override or Cancel Manual Override.

Home This is the default screen, this screen displays date, time and system status.

Modes Use OK to switch between Normal 2 guard and single Permanent High Mode. Also displays power source and meter readings.

Audit The audit page records the maximum and minimum litres of water used in a period. The period can be half hour, one hour, guard period or 24 hours depending on system settings.

Data will display the history of Minimum and Maximum Litres used in any 60 seconds.

Events Log displays a record of events with times and dates.

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TO TEMPORARILY OVERRIDE THE GUARD LIMITS –

From **Home** go left to Override. Press OK to Start Manual Override Countdown. To Cancel Override, go left again from **Home** page and press OK.

The default override time is 30 minutes. This can be changed between 10 and 45 minutes. The override allows unlimited water to flow during this period.

THE GUARD MENU

To access the guard menu push both the Up and Down keys together for 2 seconds.

HI GUARD VAL: Push OK to change and confirm the maximum value in litres/hour (default: 2)

LO GUARD VAL: As above, but for when the property is occupied (default: 50)

OVERRIDE TIME: Push OK to increase from 10 minutes to 45 minutes maximum (default: 30)

METER READINGS: Push OK, navigate to match the actual water meter reading.

DATE: Push OK to select and confirm the date. Use the Up and Down keys to adjust the date.

TIME: Push OK to select and confirm the time. Use the Up and Down keys to adjust the time.


MODE: Select mode:

- **DAILY** - every day is the same
- **SEVEN DAY** - day by day
- **WEEKEND/WEEKDAY** - two settings for the whole week
- **ALARM** – Automatic (for systems connected to an intruder alarm)

SET HI/LO Times: Push OK to access the 7 day timer.

To set the LOW GUARD start to finish periods use the navigation keys. If only one period

is required set both 1 and 2 the same.

To EXIT Guard Menu, push  at any time.

THE ENGINEERING MENU

To access the engineering menu push the left, right and down keys together for 3 seconds.

FLOW PER: Push OK to select between hourly, half hourly, guard and day metering (default: hour)

PULSE: Push OK to select between one pulse per 1 litre, or one pulse per 10 Litres and one pulse per 100 Litres (default: 1 litre)

VALVES: Push OK to select valves, None; Both; Valve 1 only; or Valve 2 only (default: Both)

METERS: Push OK to select meters, None; Both; Meter 1 only; or Meter 2 only (default: Both)


LEAK: Push OK to select LEAK Settings. Close all; Close Single.

CLOSE VALVE: Push OK to close the valve when a High Guard period is selected (default: No)

ALARM IN: Push OK to select between Off, Normally open and closed. When selected this will switch between guard levels In line with the intruder alarm (default: Norm Open)

ALARM OUT: On/Off For connection to BMS or other alarm (default: OFF)

RESET DEFAULTS: Push OK to reset factory default settings.

To EXIT Engineering Menu, push  at any time.


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SETTING THE HIGH AND LOW GUARD VALUES USING THE AUDIT PAGE

The Data page stores the Maximum value recorded in the High & Low Guard periods.

START AUTO AUDIT: (If factory set) will disable the Guard function, **WARNING** your property is not protected at all during AUTO AUDIT.

USE DATA: At any time you can select USE DATA to transfer the Auto Audit maximum values plus 10% into the High and Low Guard Values in the Guard Menu.

To EXIT the menu, push  at any time. one low period per day with period 1 start & finish times the same.

To EXIT Guard Menu, push  at any time.

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