

Waterguard

WATERGUARD S7 DUAL INSTALLATION GUIDE

PART OF THE WATERGUARD
SERIES 7 COMMERCIAL
RANGE OF WATER LEAK
DETECTION EQUIPMENT



IMPORTANT! CURRENT IEE REGULATIONS: THE SITEGUARD+ SHOULD BE INSTALLED BY A QUALIFIED ELECTRICIAN, IN ACCORDANCE WITH THE RECOMMENDATIONS LAID DOWN BY THE HVCA AND SOUND ENGINEERING PRACTICE. A COMPETENT PLUMBER MUST CARRY OUT THE ASSEMBLY AND INSTALLATION OF ANY WATER METERS AND VALVES. ANY DAMAGES INCURRED DUE TO IMPROPER INSTALLATION ARE NOT COVERED UNDER WARRANTY.

IMPORTANT: PLEASE READ THIS GUIDE CAREFULLY AND IN FULL BEFORE INSTALLING.
KEEP CLEAN: DO NOT LET DEBRIS ENTER ANY WATER METERS OR VALVES.
STORAGE: KEEP IN A DRY PLACE PRIOR TO INSTALLATION TO AVOID POSSIBLE DAMAGE TO INTERNAL COMPONENTS.



INFORMATION

INSTALLER INFORMATION

WHAT YOU WILL NEED

ITEMS:

- Screened 3 core cable.
- 2 Core Flex - PVC 2 Core Flat Flexible Cable (2192Y) min 0.75mm². For longer runs, use a larger core size.
- 1 x 3 gang connector block if extending meter and valve wiring.

TOOLS:

- Flat-head screwdriver
- Drill or hole punch for electrical/conduit entries
- Phillips screwdriver

*No fittings are supplied for the installation of plumbing components.



Dedicated technical helpline: 01226 397987

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NO RESPONSIBILITY CAN BE ACCEPTED BY THE MANUFACTURER OR DISTRIBUTORS OF THIS EQUIPMENT FOR ANY MISINTERPRETATION OF AN INSTRUCTION OR GUIDANCE NOTE OR FOR THE COMPLIANCE OF THE SYSTEM.

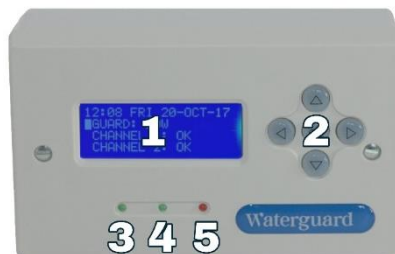
SYSTEM INFORMATION

Waterguard S7 Dual: Only to be installed internally usually with the internal water meter. 500 metres max pulse circuit length. Lengths over 50m, cable should be grounded to prevent interference. Connect ground at controller end only.

Size (W x H x D)	145 x 85 x 50mm
Meter channels	1 or 2 channel
Valve channels	1 or 2 channel as standard. Unlimited isolation valves can be connected*
Power	12vdc 250mA/72 Mw (Transformer Included) or 100/230V AC, 50/60Hz, 0.15A
Volt free relay	24vdc, 1 amp
Burst power	840mW for 5 seconds
Rechargeable back up battery	AAA size, NiMH, 1.2V nominal, 850mAh
Initial back up battery charge time	Flat to full in 5 days
Expected battery life	5 years
Pulse output to BMS	1 or 2 channel*
Alarm output	Max switching voltage 30V, max switching current 100mA
Max operating pressure	16 bar when used with Waterguard valves and supplied water meters
Approvals	EMC Directive 2014/30/EU RoHS Directive 2011/65/EU. EMC EN 61000-6-3:2007+A1:2011& EN 61000-6-1:2019 UKCA

Interface

1. LED display
2. Control buttons
3. Channel 1 water flowing indicator.
4. Channel 2 water flowing indicator.
5. Leak detected indicator



Wiring Connections

Channel 1 terminal
Channel 2 terminal
Alarm in terminal
Alarm out (volt free relay terminals)
Power terminal

Valve(s): The Waterguard latching solenoid valves connected to the S7 Dual up to 2" have a maximum voltage of 6vdc and come equipped with a manual override. The S7 Dual is not compatible with any other solenoid valve.

15mm – 54mm solenoid 6vdc derived from the control panel

50mm – 200mm valve driver output 150mS burst, capacity discharge, rated for 6V, 6W bipolar valve

Water Meter(s): Compatible meters supplied are Itron Aquadis and Apatar Woltman ranges. Third party meters used must be capable of supplying a dedicated volt free pulse for volumes of 1/10/100 litre(s).

Meter input Supplies 3V at 3mA, 20uS pulse at 2Hz



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INSTALLATION

FITTING THE CONTROLS

Ensure to fit the S7 Dual indoors in a dry area with easy access. This controller is not suitable for external installation as is, please contact the office on 01226 244200 to discuss options for external use. When installing the 230 V AC version it is recommended mains power is provided from an adjacent 3-amp un-switched fused spur. Do not connect mains power until all electrical connections are complete. The S7 Dual is supplied with a fully charged rechargeable backup battery which will supply power until mains is connected.



Water meter and valve assembly installed at the incoming water mains.

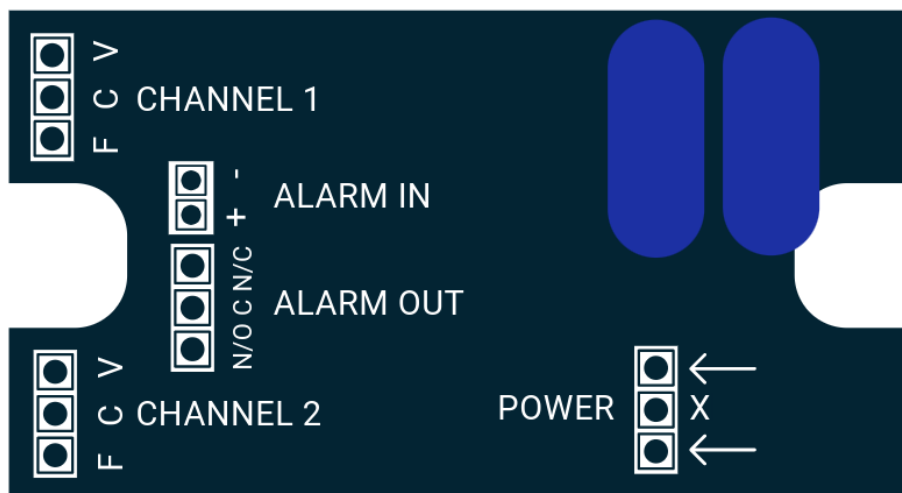
PLUMBING

A competent plumber must carry out the assembly and installation of any included water meters and valves in line with the manufacturer's instructions. Direction of flow is essential for correct operation. Note the direction of the flow arrows marked on the water meter and valve to ensure they are fitted correctly. Do not overtighten or overuse PTFE tape on any plastic fittings. Use pipe compound sparingly to male threads only and ensure compound does not enter any meters or valves.



NOTE: We recommend any connected water meters and valves are installed with a maintenance by-pass and strainers to prevent debris entry. Where applicable and possible connect pulse splitter to external water meter.

WIRING – TERMINAL LAYOUT



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WIRING - WATER METER ONLY

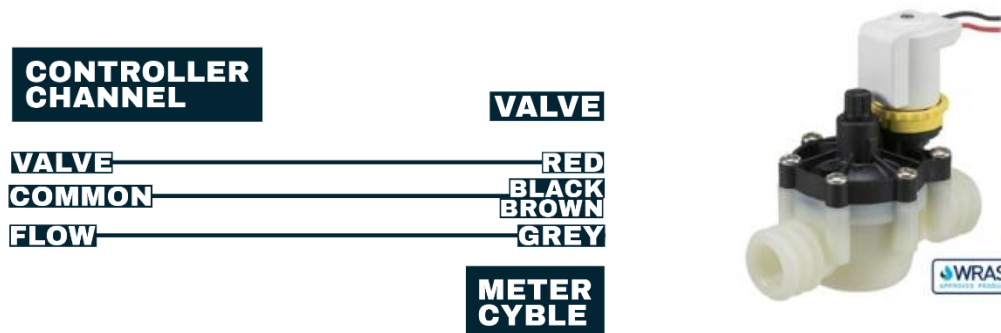
Connect the meter pulse/cyble sensor cables to CHANNEL 1 on the Series 7 controller. Connect brown wire to COMMON terminal and white wire to Flow terminal. Repeat in CHANNEL 2 for the second system.



Water meter pulse sensors are prewired with a 1.5m cable but can be extended using a screened 2 core cable - 1.0mm² to 100m and 1.5mm² to 150m.

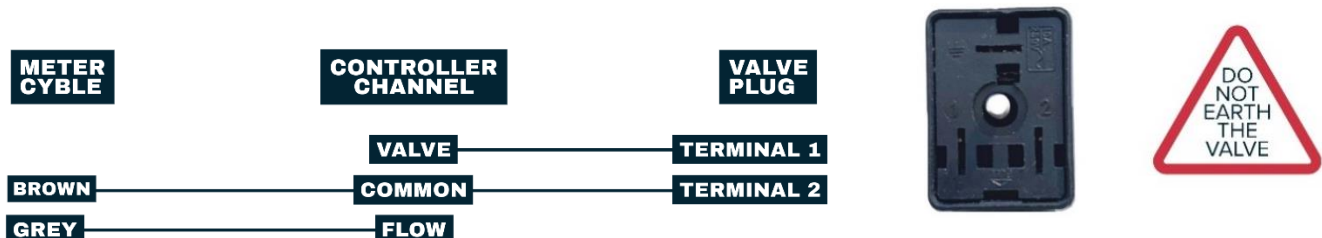
WIRING: METER AND POLYAMIDE VALVE (½" – 1¼")

Connect the pulse/cyble sensor. Wire pulse sensor and valve to channel 1. Connect red wire from valve to VALVE, black wire from valve and brown wire from cyble to COMMON, and grey wire from cyble to FLOW. Repeat in CHANNEL 2 for the second system.



WIRING: METER AND WATERGUARD SOLENOID VALVE (½" – 1¼")

Connect the pulse sensor to the water meter. Connect brown wire to COMMON, grey wire to FLOW on CHANNEL 1. Connect valve to CHANNEL 1 using a screened 2 core 1.00mm² copper cable. TERMINAL 1 to VALVE, TERMINAL 2 to COMMON. Repeat in CHANNEL 2 for the second system.



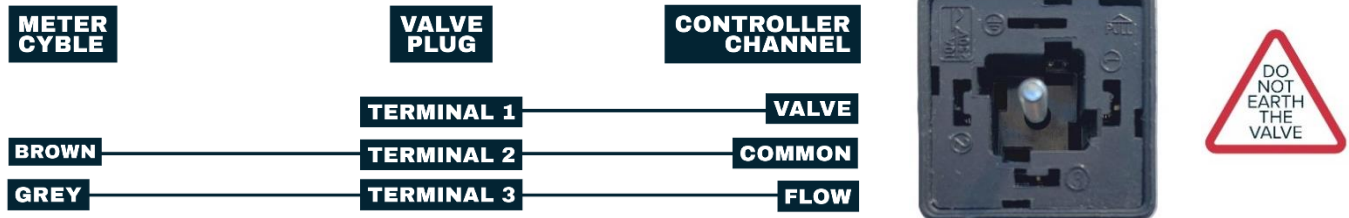
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WIRING: METER AND WATERGUARD SOLENOID VALVE (1½" – 2")

Connect the pulse/cycle sensor to the water meter. Connect brown wire to TERMINAL 2, grey wire to TERMINAL 3 on the solenoid valve.



Connect valve using a screened 3 core 1.00mm² copper cable. Brown wire from TERMINAL 1 to VALVE, green wire from TERMINAL 2 to COMMON and blue wire from TERMINAL 3 to FLOW. Repeat in CHANNEL 2 for the second system.

NB WHEN INSTALLING A 2" VALVE: These come equipped with a pressure adjusting screw. This controls the speed the valve opens and closes in relation to the individual system's pressure. If the water flows normally when the valve is open this does not need adjusting. If the water flows with low pressure or the valve does not open, this screw will require adjusting. [Click here for flow adjustment instructions.](#)

WIRING: ACTUATOR VALVE (2"-4")

Powered valve relay DIN rail application includes the Waterguard power valve relay, for driving motorised valves with 12; 24; 110 and 230 volt motors. Click [here](#) for schematic for 12 terminal valve, click [here](#) for 3 terminal valve.

WIRING: ALARM IN

The ALARM IN is used to connect the S7 Dual to an intruder alarm, for automatic guard level switching when the alarm is activated. Connect to + and – using shielded 2 core 1.00mm² copper cable. Check the connections and instructions of the alarm manufacturer. Rating, the controller is looking for a switch type contact closure or transistor. The S7 Dual controller delivers 3 to 5 VDC pulse output. Current: max 10mA pulse. Protection: anti-static device, 12 Volt rating.

WIRING: ALARM OUT

The ALARM OUT is used to connect the S7 Dual to a Building Management System or external alarm. The controller is pre-set to activate the alarm out when a leak is detected, other options are available in the engineer's menu. Connect to + and – using shielded 2 core 1.00mm² copper cable.

WIRING: POWER

The S7 Dual is available in 12V and 240V versions. See below for wiring instructions.



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TESTING

POWER

Press the OK button, power is shown by the home page screen, from there press the right arrow and check that the power source is MAINS and not BATTERY. Check wiring connections if BATTERY is the power source.

TEST CONNECTIONS

To test electrical connections to the S7 Dual:

1. Press OK to bring up the home screen, from here, navigate the cursor down to CHANNEL and press the OK button to change the state to CLOSED and check for running water. Once checked then change the state of the channel back to OK.
2. Check meter reading: run some water and from the home screen press the right arrow to check the meter readings on the Mode page has increased.

Please check wiring connections if unsuccessful with either.

SETUP

Please refer to the [Waterguard S7 Dual - Initial Setup and Operating Guide](#) for full setup instructions.

TECHNICAL SUPPORT

Technical support and further product information is available during office hours. Please check all electrical connections before contacting us. Please call 01226 397987 to speak with one of our technical experts, ensure to have your order details ready so we can handle your query as efficiently as possible.

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Any application, water leak detection and prevention.

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