



WPT (886D1) Water Shutoff - Operating Instruction.

1.0 Introduction

The equipment is designed to protect against water damage, by shutting off the water supply if water leakage is detected. Up to 10 water sensors may be deployed in different locations in a building. These small sealed devices have two visible sensing electrodes on the exterior. In the event that the electrodes become immersed in water, a signal will be sent to the Main Control Box, and this will activate the motorized shutoff valve(s) to interrupt water flow. The shutoff valves are powered by small 12V DC motors, and, when energized, the motors will Open or Close the valves depending on the supply polarity

The Water Sensors (Fig 1) will send a signal if the metal electrodes are immersed in water. They also periodically send a signal to the Main Control, indicating that they are present and functional: if this signal is *not* received by the Main Control, an alarm is registered. The water sensors also have an internal battery check, made on a regular basis. An alarm will be triggered by a water sensor with low battery voltage.

The Main Control is also equipped with a concealed pushbutton, to be used during programming and synchronization *only*. See Fig 4

1.1 Equipment Supplied

- WPT Water Sensor module – 886DWS1 (qty 3)
- WPT Control Box – 886D1 (qty 1)
- 2-button Remote Control (qty 1)
- Model YK-30 Plug-in power supply - 120V to 12VDC (qty 1)

2 Installation

2.2 Connections

2.2.1 WPT Main Control

The Basic Control has two main connection points (see fig 4)

- Power Jack for plug-in power supply (12VDC)
- Phone Jacks (2) connected in parallel for one or two Shutoff valves.



For units configured for use with Home Alarm Systems, the 886D Control is fitted with an Alarm Relay, which outputs NO/NC contacts to the Alarm System. The Alarm Relay operates when water is shut off by the Control, after an Alarm (not after Manual Closure).

Two terminals are also provided, which accept input from Normally Open contacts of the Alarm System, which indicate to the 886D Control when the Alarm System has been armed. The Control will shutoff water 2 hours after contacts close, and turn on water again when contacts open (the 2 hour delay allows completion of laundry or dishwashing cycles in progress). Two and three-way plug-in terminal blocks are provided for relay contact connections. (Fig 4) If Alarm System is not used, no connections need to be made to these terminals

2.2.2 Water Sensors

The water sensors are battery powered; they have two external sensing electrodes.

2.2.3 Plumbing

The shutoff valve or valves will typically be installed to interrupt the water supply, typical installation on the main water entrance line. The Main Control box will be located adjacent to the valves, and to a source of AC power for the plug-in power supply. The valves are equipped with pipe connectors DN25 (G3/4) Female at both ends, and a connection cable with plug.

3 Mounting

The Main Control Board should be mounted in a dry area near the location where the shutoff valves are to be installed. It can be secured to a vertical mounting surface using the screw-hole on the rear of the enclosure.

The mounting location should allow ready access for monitoring, and programming. Alarm LEDs must be visible, pushbuttons accessible, and buzzer audible. A 120VAC outlet must be adjacent for supplying power to the device, via the plug-in power supply provided with the kit.

The water sensors will be deployed adjacent to possible trouble spots – water heater, bath, sinks, washer, etc. The boxes are to be placed at floor level, in strategic locations, oriented vertically or horizontally, with metal sensing electrodes downwards. (fig 1).

3.1 Synchronization

To distinguish between the components of the supplied set, and avoid possible interference with nearby systems, the Remote Control and the Water Sensors are each programmed with a unique identity code number.



The 886D Main Control unit, as shipped out, may or may *not* be synchronized with any Remote Control or any Water Sensor. It must be programmed or synchronized by the user or installer to respond to and identify the components belonging to *its* system, and only *its* system, before use.

Only one Remote may be synchronized with each system, as well as up to 10 water sensors.

3.2 Initial Programming

After the initial power-up, the 886D unit control box will present itself with all LEDs flashing. This indicates that **no control devices have yet been synchronized to the unit**. This synchronization *must* be done before the system components can be deployed.

3.2.1 Synchronizing the Remote

The first device to be synchronized with the main unit must be the Remote Control (Fig. 2).

Proceed as follows: Push the Program Button on the Main Control Unit (Fig. 4) to activate *Program Mode*.

When the leftmost three LEDs (1-3) start to flash, the unit is in Program Mode and is ready to receive a Synchronizing signal from the Remote Control. This is sent as follows: Push the 2 buttons on the Remote Control simultaneously and wait until only the *first* LED on the Main Control is still flashing and LEDs 2 and 3 are OFF. The Remote is now synchronized.

3.2.2 Water Sensor Synchronizing

Up to 10 water sensors may now be synchronized. The flashing LED shows the next position number to be assigned to a particular water sensor. Proceed as follows:

The water sensors will be within reach of the Main Control. Short the two pins on the first selected water sensor and monitor LEDs on the Main Control. Wait until #1 LED is continuously illuminated and the next LED starts to flash. (To short the electrodes on the water sensor, place one moistened finger on each pin, use a wet sponge, or place the unit on a conductive metal plate, electrodes downwards.)

Repeat this step for each water sensor to be synchronized with main unit. It is suggested that the sensors be marked with the corresponding position number on the Main Control (e.g. with a Sharpie marker)

When all water sensors to be deployed have been synchronized, wait until remaining LEDs stop flashing. The unit is now ready to operate.

4 Initial Test

With all the devices placed, and the valve actuators installed, the System can be tested.

The LEDs on the Control should show RED for each sensor installed.

Sensors can be tested by shorting the electrodes as described above. After a short delay an audible alarm should sound at the control, and the activated sensor's LED should show RED.

After any water detection, the water will be shut off. To restore service, press the OPEN button on the Remote (it may take a short time to respond) or the Reset button on the Face of the Control.



Deploy the water sensors in the predetermined locations, noting which corresponds to which position number on the Main Control. The locations can be written on the Main Control's label.

4.1 Alarms

The Main Control has 10 numbered LED indicators. These show GREEN when there are no anomalies. If one or more sensors fail, or detect water, the corresponding LED(s) will turn RED, and an audible alarm will sound continuously.

4.1.1 Sensor low battery

If a water sensor has low battery, it periodically sends a Low Battery signal to the Main Control. The corresponding LED on the Main Control will flash RED, and the audible alarm will sound, and continue for 15 minutes. The LED will continue flashing until the condition is rectified. Water will shut off after 4 low battery signals have been received. The battery of the corresponding sensor must be replaced, though it should continue to function for some time. Battery life should be in excess of one year.

4.1.2 Water sense

If any sensor detects water, the corresponding LED will light RED and the audible alarm sound. The valve will immediately close, and remain closed until opened using the remote

4.1.3 Power Loss

The Main control is equipped with a 9V standby battery. This allows operation to continue during power outages. The Main Control indicates power loss by red flashing Battery light. If the local standby battery reaches a critically low level, the valve will be closed and remain so until the battery is replaced and the system is reset.

4.1.4 Freeze Alarm

The main control is equipped with a Temperature sensor. Should the ambient temperature drop to near-freezing levels, the valve will be closed, and remain so until the system is reset. The Battery/Temperature LED should show ORANGE.



4.2 Replacing a Remote Control or Water Sensor.

4.2.1 Replacing the Remote

In the case of loss or failure, to replace a Remote Control that has *already* been synchronized with a Main Unit, take the following steps:

- Push the Program Button on the Main Control to activate Program mode. The Main Control is in Program Mode when *first* LED is flashing.
- Push the button on the Main Control 13 times. The first three LEDs should start to flash.
- Unit is ready to receive a Sync signal from a remote control. (see 3.2.1)

4.2.2 Replacing a defective Water Sensor or adding a sensor:

Set the Main Control to Program Mode by pressing the Program button. The first LED will flash. Push the Open button on the Remote Control – each push will move the flashing LED to the next position. When the desired position is reached, synchronize the new sensor by shorting the electrodes as described previously. The selected LED should now be continuously lit, and the next one, flashing.

5. Battery Replacement

The water sensors are equipped with two 12V 1/2AA size batteries e.g. Energizer A23C. To replace, open the sensor case by removing one fixing screw, remove old batteries and replace with new – **carefully observing marked polarity**. Replace the cover and return to service. (Note, the sensor will function with only one battery in place with reduced lifetime.)

The main control is equipped with one 9v Battery - e.g. Energizer EN22. To replace, remove cover from Main control, removing 4-screws, remove old battery and insert new, then replace cover.



6. 886D1 Fault Responses

Occurrence	Test Period	LED Display	Position	Colour	Audible Alarm	Action
None	NA	Steady	All	Green	None	None
Water Detected	Immediate	Steady	Fault location	Red	1/2 s On 1/2 s Off	Close valve
Low battery Signal	12 Hours	Steady	Fault location	Orange	Beep 1/4s every 10 s	None
After 4 consecutive	48 Hours	Steady	Fault location	Orange	1/2 s On 1/2 s Off	Close valve
or ...						
IOK signal*	12 hours	Flashing	Fault location	Green	None	None
After 2 consecutive	24 hours	Flashing	Fault location	Red	1/2 s On 1/2 s Off	Close valve
AC Power Outage		Flashing	Temp/Battery	Green *	None	None
Local Battery Low		Flashing	Temp/Battery	Red *	None	Close valve
Low temperature		Steady	Temp/Battery	Orange	None	Close valve

- "Position" LEDs OFF to conserve power

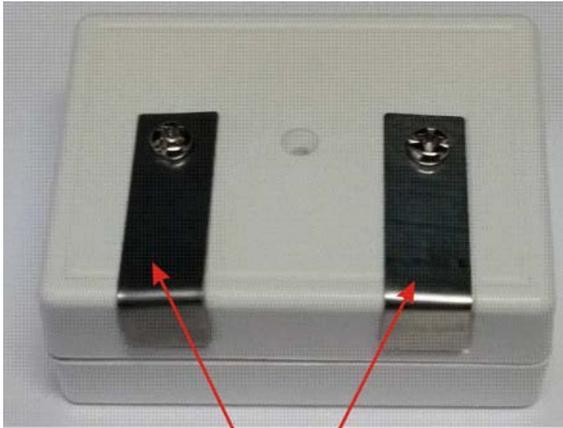


Fig 1
Water Sensor

Sensing
Electrodes

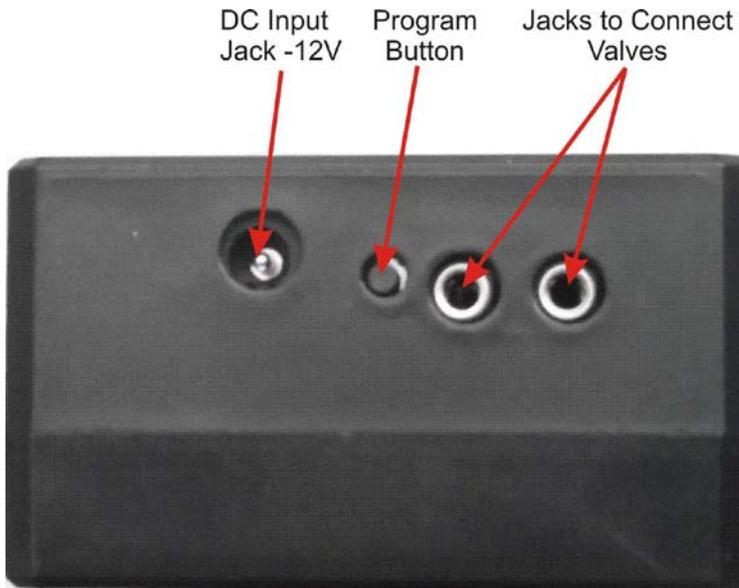


Fig 2
Remote Control



Fig 3
**Main
Panel
Interface**

Fig 4
Connections



Please Note Valve will close 2 hours after activating total protection on your home alarm system.

