

Pearl Urinal Flush Controller

V 2.1 PUC

UK

Installation and Operating Instructions

Features

- Passive Infra-Red Sensor
- Low Power Consumption
- Single Battery Input
- Single Valve Output
- Default Preset Settings
- Battery Low Detection and Indication
- Occupancy Detection and Indication
- Optional Front Panel Display
- Adjustable Fill Time (15 Mins Max)
- Adjustable Delay Time (30 Mins Max)
- Janitorial Flush (After 12 Hours of Non-Use)
- Valve Open Button



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Fig 1
FRONT

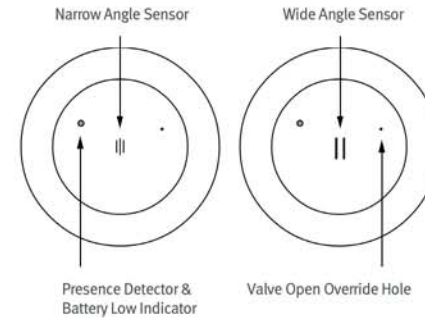
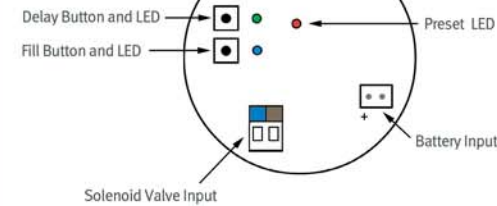


Fig 2

INSIDE



Safety First

It is recommended that the installation be carried out by, or checked by a qualified electrician in accordance with the latest electrical regulations.

During installation do not expose electronics to dust, dirt or damp.

These instructions relate to the use of the 'Pearl Urinal Flush Controller' only, any external or 'add-on' parts will be supplied with instructions.

Please read these instructions carefully.

Introduction

The Pearl Urinal Flush Controller is designed to detect the use of a urinal, and flush after a set time.

The Pearl Urinal Flush Controller also controls the amount of water flushed to a set time. The Janitorial flush will automatically flush after 12 hours of non-use.

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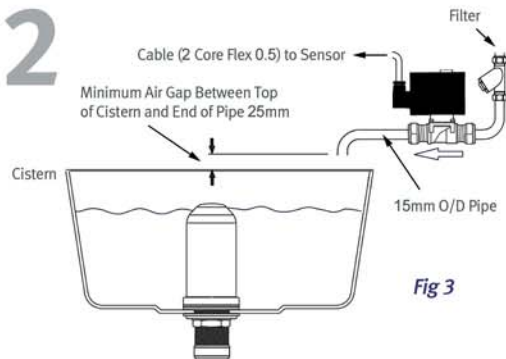


Fig 3

Plumbing (Fig 3)

Fitting the Solenoid Valve

Turn off the local water supply; locate the solenoid valve in a position, as near to the cistern as possible and preferably upright (as shown in Fig 3). Cut the supply pipe and purge any debris or swarf. Fit Solenoid valve ensuring joints are tightened and checked for leaks. In the event of very low or high water pressure the manufacturer can offer alternative solenoid valves under special request.

It is highly recommended that a water filter be fitted prior to the solenoid valve to ensure reliable operation.

Positioning The Sensor (Fig 4)

The sensor should ideally be fitted to the ceiling above the urinal, so that people moving to the urinals must enter/cross the detection area (shown in Fig 4).

You must avoid locating the Sensor near heat sources (radiators, hot pipes, etc or where direct sunlight may fall upon the sensor lens slots).

The detection area is an approximation and will vary from site to site. Fig 4 is designed as a guide only.

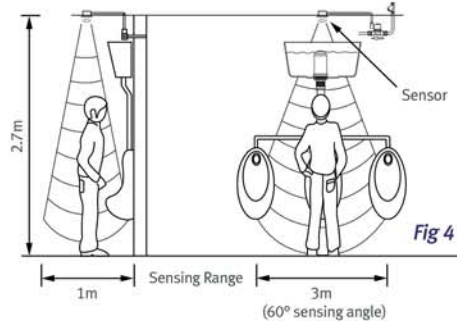
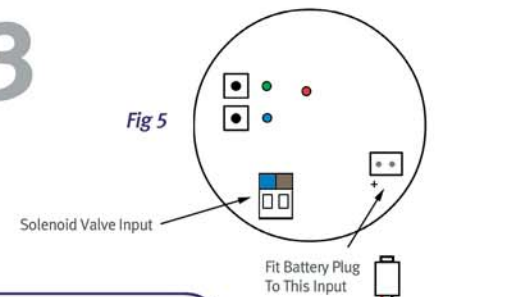


Fig 4

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Fig 5



Wiring (Fig 5)

Power Input

The power supply required for the sensor is 6 volts DC, the battery supplied has a simple 2 pin connector and great care must be taken to connect it in polarity. If a DVS power supply unit is used, the battery is not required and the output cable from the power supply is simply connected instead of the battery.

Ensure the cable is housed safely within the sensor enclosure.

Valve Input

Fig 5 shows the connection of the valve cable to the sensors PCB, trim the valve cable to length and prepare ends (see Fig 6).

Caution must be exercised with Lithium type batteries:

1. DO NOT attempt to recharge
2. DO NOT expose to naked flames
3. DO NOT 'short circuit' battery
4. DO dispose of battery with care

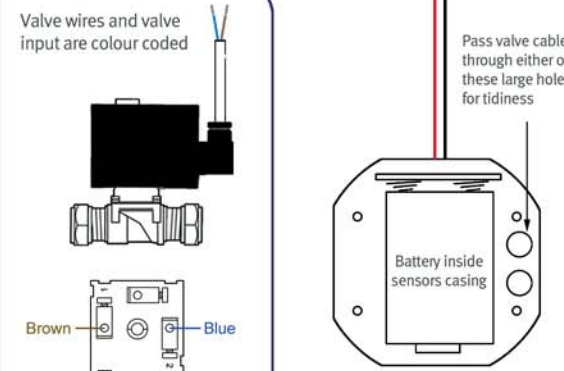


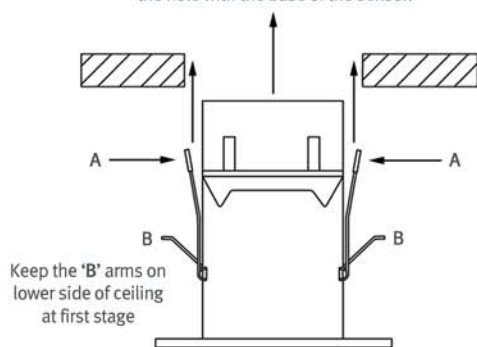
Fig 6

TURN OVER

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Fig 7

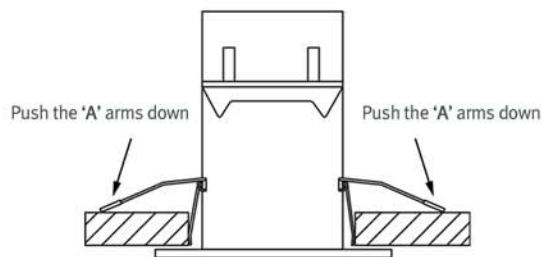
Push the sensor up into the hole whilst holding the 'A' arms in, bring the 'A' arms up through the hole with the base of the sensor.



Mounting The Sensor (Fig 7)

Drill or Cut a 2 1/2" (64mm) diameter hole in the ceiling material. Insert the valve cable into the lid and secure.

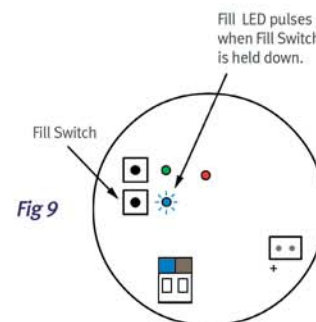
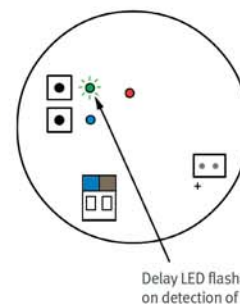
Whilst holding the 'A' arms in (as shown in diagram), push the sensor up into the hole. The 'B' arms will automatically click into position when the 'A' arms are pushed down on the upper/inner side of the ceiling.



Final Position

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Fig 8



Functional Specification

Power Up

On application of power, the board closes the valve and defaults to the preset settings. It waits for approximately 2 minutes before starting to sense if there is anyone present.

On detection of a user, the Delay LED on the front of the board flashes (as shown in Fig 8).

Setup - To Set Fill Time

The board will continue to run the preset defaults until the values have been setup. The values can be set individually at any time except whilst the unit is filling the cistern.

To set the Fill Time, keep the Fill Switch pressed down until the Fill LED lights up, then press the Fill Switch again to make the Fill LED pulse every second (as shown in Fig 9). When the cistern has filled and flushed, press the Fill Switch again to set the Fill Time. The Valve will then shut.

If you do not press the Fill Switch again, the counting will stop after 15 minutes and the Fill Time set to 15 minutes.

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Fig 10

Press and hold this Delay Switch for 2 seconds, for the Delay LED to come on.

Fig 11

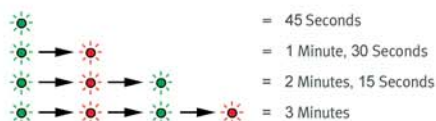
Each press of the button, will cause the Delay LED to change from Green to Red and vice versa. Each press adds 45 seconds Delay.

Setup - To Set Delay Time

To set Delay Time, push and hold the Delay Switch for approximately 2 seconds until Delay LED comes on (as shown in Fig 10).

From this point, each push of the button adds 45 seconds Delay upto a maximum of 30 minutes. The light will change from Green to Red (as shown in Fig 11), repeat this as many times as required for Delay Time. (Each change from red to green and vice versa indicates that 45 seconds has been added).

For example, after holding down Delay Switch for 2 seconds these combinations will equal the given time:

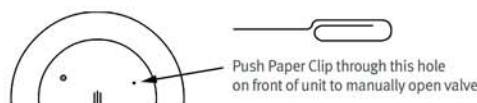


Can be continued upto a MAXIMUM OF 30 MINUTES

Valve Override (Fig 12)

Once the unit has been set up, it is possible to open the valve using a straightened paper clip. Simply push the paper clip through the smallest hole on the face of the unit, and the micro switch will be triggered. This will automatically open the valve for the preset time.

Fig 12



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Battery Low

When the battery voltage becomes low, the detection LED on front of unit will flash both Green and Red (as shown in Fig 13). This will continue until there is not enough power to open and close the valve. At this point the valve will close and the detection LED will only flash Red (as shown in Fig 14). At this stage the battery **must be changed**.

Fig 13

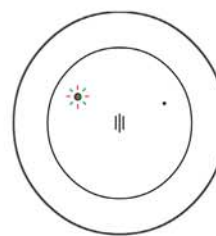
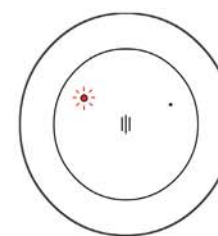
Flashing Green and Red LED
Indicating Battery Low

Fig 14

Flashing Red LED
Indicating Replace Battery

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Final Stage

Preset Values

The Pearl board is shipped with the following Preset Values:

Janitorial Flush: Set at 12 Hours

Delay Time: Set at 45 Seconds

Fill Time: Set at approx 5 Seconds

Electrical

The Pearl board runs from a 6v DC supply.

Using the recommended 2CR5 lithium battery will give battery life in excess of 3 years under normal conditions.

The board is protected from reversed battery connections, but will be damaged if incorrect voltage is applied to the unit. The board can also be run from a PSU supplied by DVS.