Notes

Fault finding

Fault Finding

1. VALVE WILL NOT OPEN OR CLOSE PROPERLY
- Check valve supplied is suitable for the on site pressure, if in doubt contact DVS for advice.
- The solenoid valve has a flow direction, ensure it is the right way round
- There maybe debris in the solenoid valve. Remove valve and flush under running tap, refit and test.

2. SENSOR CONTROL WILL DO NOTHING
- If possible check voltage from battery or PSU (6 volt DC required).
- Control board may have locked up. With power connected press reset and try again (do not hold reset down).
- Check fuse on control board. If blown, contact DVS for a replacement.

3. VALVE OPENS AND RUNS FOR A LONG PERIOD BEFORE SHUTTING OFF
- Check wiring to the plug on solenoid, it may be wired the wrong way round, reverse wires if necessary.
- Make sure all connections are correct and tight.

Warranty & End of life disposal

Warranty

The Pearl Urinal Flush Controller is guarenteed for 5 years from purchase against defective material and assembly. Any third party manufacturers products hold their own warranty.

Disposal of Electrical / Electronic Equipment and Batteries

The use of this crossed out wheeled bin logo indicates that this product needs to be disposed of separately to any other household waste.

Within each of the European Union member countries, provisions have been made for the collection and recycling of waste batteries, unwanted electrical and electronic equipment. Outside of the EU it will be necessary to dispose of this product at your local community waste collection or recycling centre. To help preserve our environment we ask that you dispose of this product correctly. Please contact your local council for collection centre details.

Support

For technical support contact us direct:

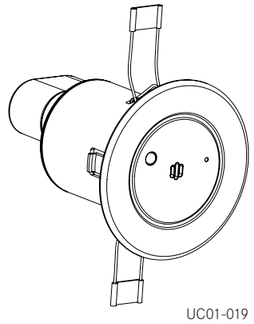
t +44 (0)1803 529021
e techsupport@dartvalley.co.uk

Dart Valley Systems
a **FRANKE** company

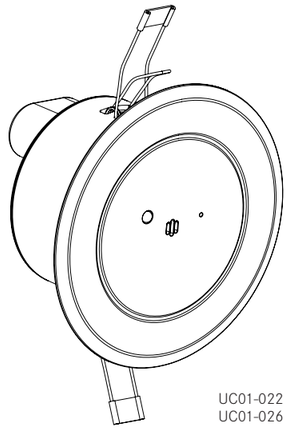
Dart Valley Systems
a **FRANKE** company

Pearl Urinal Flush Controller

Installation & Operating Instructions



UC01-019
UC01-025



UC01-022
UC01-026

Step 1 : Safety First

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

It is recommended that the mains electrical part of the installation be carried out by a qualified electrician in accordance with the latest electrical regulations. It is also recommended that any plumbing is carried out by a qualified plumber.

This is an electronic device which must be installed as per these instructions to perform correctly.

Prior to drilling any holes, please check the on-site asbestos register.

IMPORTANT : Please read these instructions carefully and follow each stage in order!

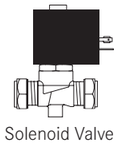
Step 2 : Parts

Pearl Downlighter
Battery (UC01-019)
Mains (UC01-025)

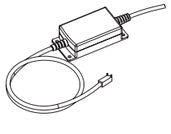
or

Pearl Retrofit Downlighter
Battery (UC01-022)
Mains (UC01-026)

Lithium Battery- for
Downlighter Version
AT00-026



Solenoid Valve
AC17-002



Optional 6-volt DC PSU
UC00-016

Dart Valley Systems | Kemmings Close | Long Road | Paignton | Devon | TQ4 7TW | UK
T +44 (0)1803 529 021 | F +44(0)1803 559 016 | www.dartvalley.co.uk | techsupport@dartvalley.co.uk

Step 3 : Plumbing & Positioning the Sensor

Fitting the Solenoid Valve

It is highly recommended that a water filter (not supplied) be fitted prior to the solenoid valve to ensure reliable operation.

NOTE : The numbers on the valve body indicate flow direction. 1 = Inlet/2 = Outlet

Turn off the local water supply and position the solenoid valve as near to the cistern as possible, and preferably upright (as shown in Fig 2). Cut the supply pipe and purge any debris or swarf. Fit Solenoid valve ensuring correct flow direction and joints are tightened- check for leaks. In the event of very low or high water pressure DVS can offer alternative solenoid valves.

The system works by a timed fill and auto flush, all adjustments to water flow after the solenoid valve should be removed. **Note:** If solenoid valve is in open position, see Step.8 (Fig.7) to close.

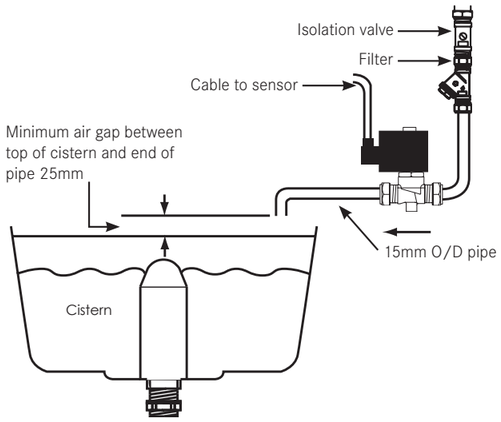
Positioning the Sensor

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 3).

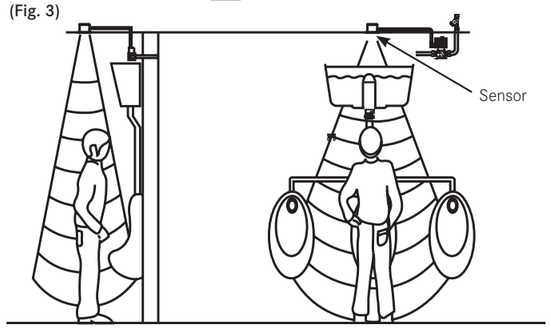
The sensor box should be located in a dry location, away from extremes of temperature and not exposed to dirt, dust or damp. The unit should be accessible when required but not within easy reach of unauthorised persons.

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

(Fig. 2)



(Fig. 3)



NOTE : The detection area is an approximation and will vary from site to site, Fig.3 is designed to be a guide only.

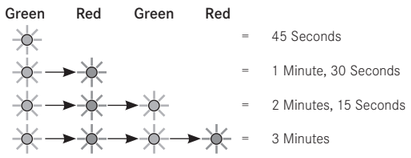
Notes

Step 8 : Delay time setup

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 up to 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 up to a MAXIMUM OF 30 MINUTES

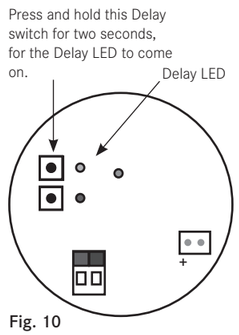


Fig. 10

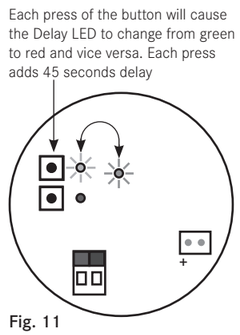
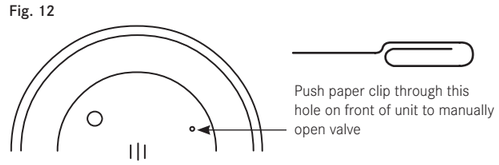


Fig. 11

Valve Override

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.

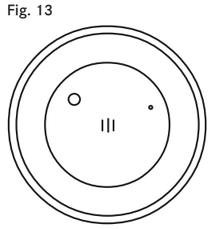
Fig. 12



Step 9 : Battery low

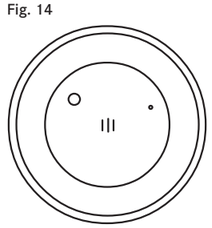
When the battery voltage becomes low, the detection LED on front of unit will flash both Green and Red (as shown in Fig 13). This will continue until there is not enough power to open and close the valve. At this point the valve will close and the detection LED will only flash Red (as shown in Fig 14).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

Step 10 : 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.

Step 4 : Wiring & Electrical Connections

Valve Connection

Fig.6 shows that the valve should be connected with 2 core 0.5mm diameter cable (not supplied). Trim the cable to the length required, taking care to connect the blue and brown cables correctly to the valve connector and PCB connector as per Fig.6. Do not connect to the sensor board at this stage.

Wiring must comply with Local and National regulations. Connection to the coil must be made via the supplied spade plug connector. The coil can be rotated through 360º to facilitate wiring.

Power Connection

The power supply required for the sensor is 6 volts DC which can either be supplied by a battery or a DVS mains Power Supply Unit (PSU).

Battery Version

The battery supplied is a standard 2CR5 lithium battery. Connection to the board is via a flexible 2 pin connector, great care must be taken to connect it in the correct polarity (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 according to local regulations

Mains Version Only

If a DVS power supply unit is used, a battery is not required and the output cable from the power supply is simply connected instead of the battery (see Fig.6).

Ensure the cable is housed safely within the sensor enclosure with a cable gland.

A 1m length of 0.75mm 2 core flex is supplied with the PSU - this must not be extended.

The PSU should be located in a dry location, away from extremes of temperature and not exposed to dirt, dust or damp

Always connect the power via a 3 amp fused spur. The product must be permanently connected to the supply, fitting a plug is not recommended. A suitable means of disconnection should be provided, in accordance with local electrical regulations. If the mains lead becomes damaged, the product should not be used. Contact DVS for replacement parts.

Fig. 5

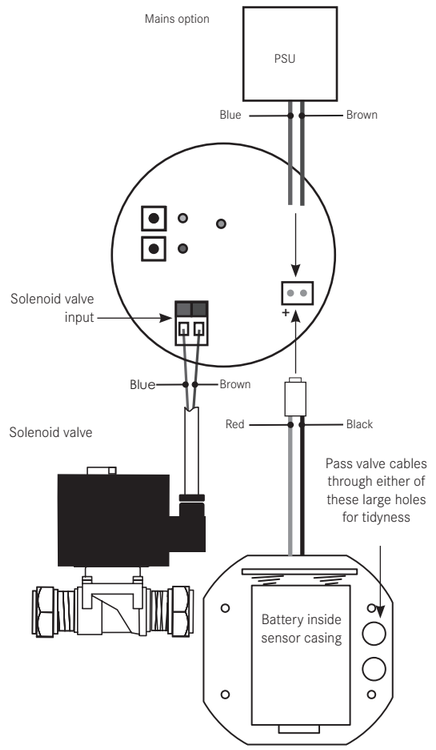
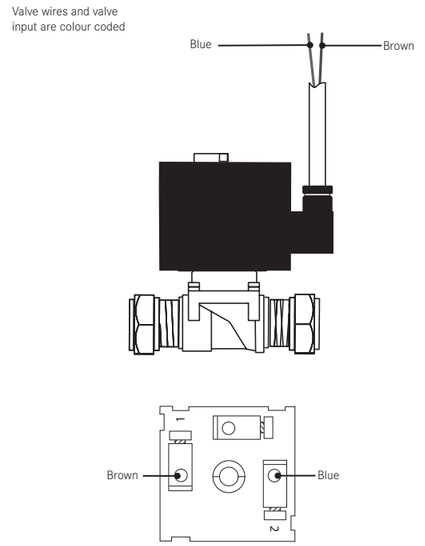


Fig. 6



Note: Always press the RESET button after reconnecting the power to the PCB.

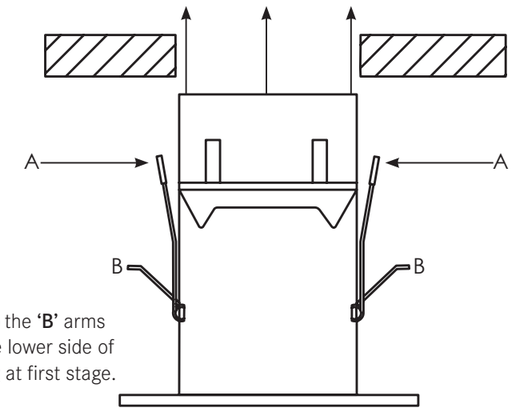
Step 5 : Mounting the sensor

Drill or Cut a 2 1/2" (64mm) diameter hole in the ceiling material. Insert the valve cable into the lid and secure. For the retro model the diameter of the hole is 100mm.

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.

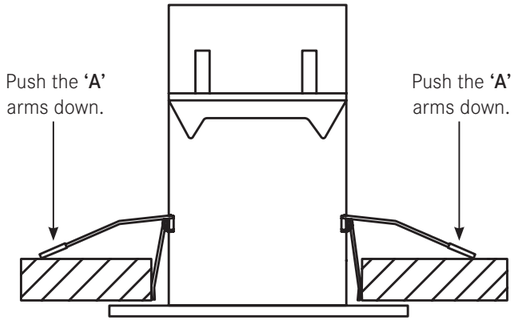
Fig. 7

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.



Keep the **'B'** arms on the lower side of ceiling at first stage.

Final Position



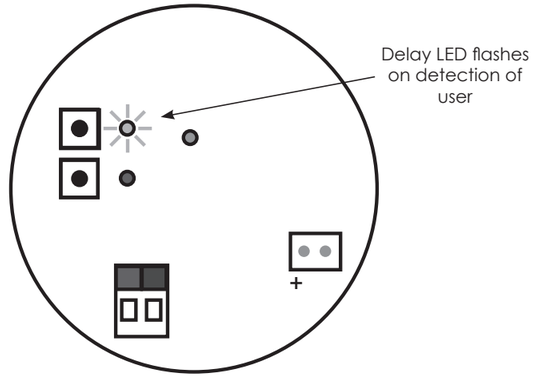
Step 6 : Functional specification

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).

Fig. 8



Step 7 : Fill time setup

Cistern 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.

Fig. 9