V 2.2 FMUC

Flushmatic Urinal Flush Controller

D114 D131

Installation and Operating **Instructions**

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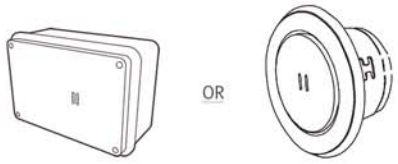
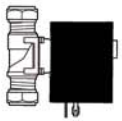


Standard Surface Mount Flushmatic Sensor

OR

Downlighter Model Flushmatic Sensor



Solenoid Valve

Lithium Battery

Optional 6-Volt DC DVS Power Supply

Fig 1

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 'Flushmatic Urinal Flush Controller' only, any external or 'add-on' parts will be supplied with instructions.

Please read these instructions carefully.

Contents of the Flushmatic Urinal Control Kit *(Fig 1)*

Your kit will include one of the flushmatic sensors shown in Fig 1, one solenoid valve and a lithium 6-volt battery. Alternatively you may have a DVS power supply, which will need to be connected to a mains 240V output point.

The water pressure needs to be 0.35 bar minimum to 10 bar maximum. If your water pressure is outside these limits, please contact manufacturer for assistance.

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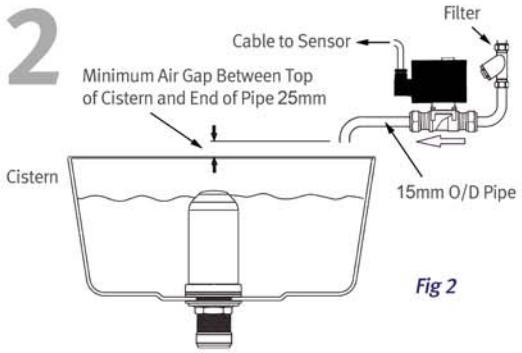

Fig 2

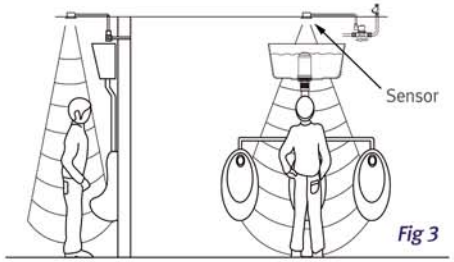

Fig 3

The detection area is an approximation and will vary from site to site. Fig 3 is designed as a guide only.

Plumbing *(Fig 2)*

Fitting the Solenoid Valve

Turn off the local water supply and locate the solenoid valve in a position, 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 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 (not supplied) be fitted prior to the solenoid valve to ensure reliable operation.

Positioning The Sensor *(Fig 3)*

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).

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

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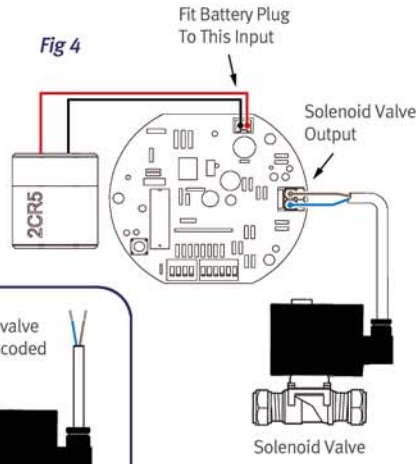
Fig 4



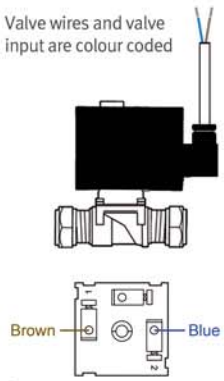


Fig 5

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

Wiring *(Fig 4)*

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 with a cable gland.

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 5) but ***do not connect to sensor at this stage.***

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

TURN OVER

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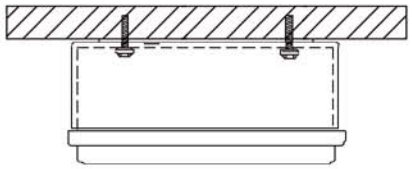
Mounting The Sensor

Fig 6

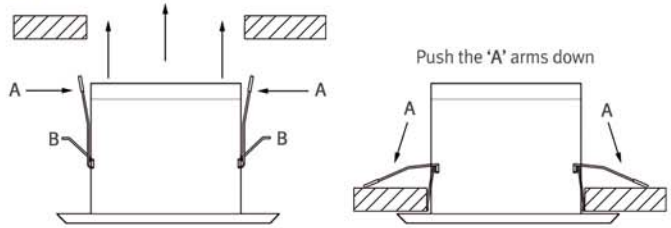


Standard Surface Mount Model (Fig 6)

Remove the lid/cover and place in a safe place. Select a convenient cable entry point on the box, then drill and fit an appropriate cable gland.

Drill and secure the sensor box base to the required position on the ceiling with suitable fittings. Fit one end of the valve cable into the box base and tighten cable gland, temporarily refit the Sensor lid/cover.

Fig 7



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

Final Position

Downlighter Model (Fig 7)

Drill or Cut a 100mm diameter hole in the ceiling material. Insert the valve cable into the lid and secure.

Whilst holding the **'A'** arms in (as shown in Fig 7), 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.

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Setup - Control Switches *(Fig 8)*

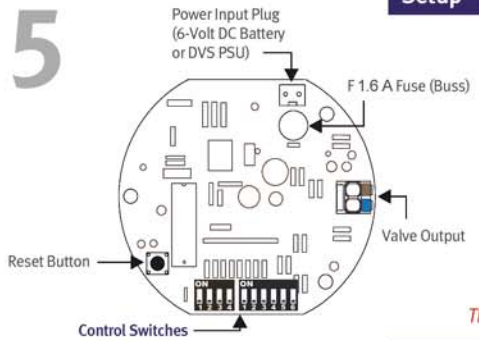


Fig 8

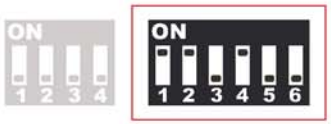
FLUSH DELAY TIME

WITH SWITCH **ON:** 1 = 1 Minute
2 = 2 Minutes
3 = 4 Minutes
4 = 8 Minutes

VALVE OPEN TIME (CISTERN FILL TIME)

WITH SWITCH **ON:** 1 = 15 Seconds
2 = 30 Seconds
3 = 1 Minute
4 = 2 Minutes
5 = 4 Minutes
6 = 8 Minutes

The sensor is supplied set in 'test mode' all switches in the off position



You may use any combination of these switches, as demonstrated above.

With reference to Fig 8:
Switches 1 + 2 + 4 on = *2 minutes and 45 seconds*

Important! The cistern must be empty of water to set the fill time.

Setup - Cistern Fill Time

To do this, open the solenoid valve manually by momentarily touching the valve wires directly onto the battery to 'pulse' the valve open (as shown in step 6). (A PP3 9-volt DC battery may be used to 'pulse' solenoid valve).

If the valve does not open, reverse the polarity and repeat the process. When the cistern starts to flush, turn the solenoid valve off by reversing the 'pulse' procedure, and allow the cistern to completely discharge and empty. 'Pulse' the solenoid valve 'on', and with a stopwatch, time how long the cistern takes to fill and flush.

Next select and set the combination of switches required to equal the recorded fill time (as shown in Fig 8 above). Finally connect the valve wires carefully to the PCB connector and fit to the PCB.

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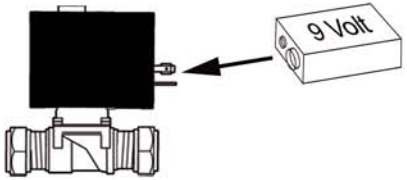
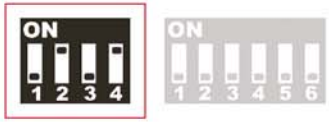
Briefly touch wires onto battery in this polarity and the valve should open.



CAUTION! Manual opening/closing of solenoid valve is performed by briefly touching the valve wires onto a 6/9 Volt DC battery. Do not leave wires connected to battery as it may cause solenoid damage or personal injury.

Fig 9



You may use any combination of these switches, as demonstrated above.

With reference to Fig 8:
Switches 2 + 4 on = *10 minutes*

Setup - Cistern Fill Time (Continued)

Please ensure correct polarity of the solenoid valve connection (see step 3 notes). Then re-connect the battery or 6-volt DC PSU power to the sensor PCB (see step 3 notes). Wait approximately 45 seconds for the PCB to charge, temporarily refit the sensor in position, then 'trigger' the sensor by slowly walking into the sensor detection area.

Check the solenoid valve opens and enough water passes into the cistern, and check that a flush takes place before the solenoid valve closes.

Modify the cistern fill time switch settings if required (Fig 8).

An automatic 'Janitor Flush' will occur every 12 hours to maintain hygiene, if the system remains unused.

Setup - Flush Delay Time

The delay time is the time between the sensor detecting a person and the solenoid valve opening. If you require a 15 minute cycle and your fill time is for example 4 minutes and 45 seconds you would need to put a delay on of 10 minutes (switches 4 and 2 - Fig 9) this would give you a complete cycle of 14 minutes and 45 seconds.

As the delay time can only be set in 1 minute intervals this is nearest to the time you require.

The delay time is now set. The Flushmatic is now ready for use, ensure all covers and cables are secure.

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Final Stage

Test Mode

When all control switches are in the off position the sensor defaults to test mode.

When your sensor is wired to the solenoid valve, plug in the battery or power supply lead and briefly press the reset button, after about 35 seconds activate the sensor and the valve should open for 5 seconds and then close, once the valve has closed it will not open again for 35 seconds.

If nothing happens check all connections, reset board and try again.

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 advise.
- The solenoid valve has a flow direction so 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 power supply unit, (6 volt DC required).
- Control board may have locked up. With power connected press reset and try again.
- Check fuse on control board. If blown check wiring and contact DVS for 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.