

# BRITEX INSTALLATION NOTES

3.01

## FSM Smart Sensor System



### ABOUT

The BRITEX Smart Saniflush Sensor System is the ultimate water saving sensor flushing device for urinals. Incorporating a mains-powered micro controller, the Smart Saniflush leads a new generation of automated flushers that provide optimal levels of water conservation without compromising on hygiene. When paired with a urinal, the microchip activates the flush solenoid only after a predetermined number of users or, after a preset time delay following use; whichever comes first. This means the Smart Saniflush is especially suited to high traffic urinals where users appear in quick succession, as it won't constantly flush and waste precious water. Fully concealed and vandal-proof, the system can be used for both wall and floor mounted urinals and eliminates the need for a regular cistern.

### MODEL SELECTOR & SANIFLUSH KIT DETAILS

#### Model Selector

Urinal Length	Model Required
0 - 2000mm	FSM 1
2001 - 4000mm	FSM 2
4001 - longer	Consult Britex

#### SaniFlush Kit Details

	FSM 1	FSM 2
Sensor Module	1	1
Solenoid Valve	1	2
Air Brake Valve	1	2
In Line Strainer	1	2
24vac Power Supply	1	1
Valve Size	3/8" BSP	3/8" BSP
Supply Required	12mm	12mm

### INSTALLATION INSTRUCTIONS

The plumbing of this unit must meet the requirements of the local authority. Please check the requirements if you are unsure.

A power point is required close to where the Sensor Module is to be installed, usually in the ceiling or wall cavity. On the top of the Sensor Module is a LED indicator and two adjustments. The LED flashes when a user is detected, one adjustment alters the sensitivity or range of the unit & the other (at the cable end of the module) changes the flush volume delivered.

Sufficient water pressure and flow must be available to properly wash the urinal. A 12mm NB copper tube or equivalent should be used to supply the solenoids. All fittings must be full bore and the supply not restricted by passing through smaller supply lines or undersized fittings. 300kPa must be available at the valve under full flow conditions. Debris fouling the internals of the solenoid valves and holding them open is the most common problem with mains pressure installations.

**To prevent this, the Britex In Line Strainer (provided) must be installed.**

Install the air break device vertically, onto the flush pipe at least 1M above the sparge. Install the solenoid valve directly to the air break or in some convenient position and complete the connections. Install the connecting cable and connect the red quick connects to the solenoid terminals.

**Note that the flush pipe acts as a reservoir where the water relaxes, loses pressure and velocity. At least 1m of 40mm DN Pipe is required. Note that if flow onto the urinal is restricted and the flush pipe fills with water overflow through the air disconnect device can occur.**

Place the Sensor Module directly onto the plasterboard in the ceiling space or the wall cavity directly above the urinal to be flushed. **The module must operate through plaster board, tile or similar material, not metal.** No hole in the plaster board etc is necessary. If a metal access panel is present place the module well away from the panel onto the plaster board. Use double sided adhesive tape if necessary. Ensure the Sensor Module is installed with the bottom towards the urinal users to be detected. Do not place the LED (light) side against the plaster board. Access to the ceiling or wall space must be available to service the module.

Connect the 24vac from the plug pack to the terminals on the Sensor Module. **Don't over tighten the small screws.** Plug the pack into the power point to power the unit. **Note that the LED flashes and then goes out.** The unit will full flush once, 15 seconds after the power is applied. Use this flush to adjust the flush length. Remember the unit detects movement under the sensor not the presence of a person as he is still. The unit will flush approx. 75 seconds after being triggered. Do not retrigger the unit while waiting for the flush or the flush will be delayed another 75 seconds. The LED will continue to flash after the unit

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## INSTALLATION INSTRUCTIONS CONT.

has triggered as well as during the period after the flush when the unit will not trigger. The LED indicates the detection of a user not the state of the flush cycle.

## TUNING THE UNIT

All mains pressure installations require careful tuning and adjustment for the best results and the most economical use of water. **To meet these requirements and to perform to its 5 Star WELS Rating the following steps must be taken.** The range of the sensor is factory set to suit a ceiling height of 2.4 to 2.6M. The sensor unit must be carefully positioned in the ceiling directly over the waste channel of the urinal and be positioned so that persons passing at least 300mm from the front of the urinal **DO NOT** trigger the Sensor Module. Triggering causes the LED in the top of the Module to glow. To test this operation, move into the position of a urinal user and check the unit flushes after 75 seconds of being triggered. Then walk past the urinal at normal walking pace **passing 300mm from the front of the urinal.** If the sensor triggers and flushes, move it away from the walkway about 100mm towards the rear of the urinal. Re-test and adjust the position of the sensor until persons passing the urinal DOES NOT trigger the unit but persons approaching the normal users position at the urinal does trigger a flush. (As is designed to perform)

If installed into the wall cavity the sensitivity adjustment must be reduced and adjusted so that only users approaching the urinal trigger a flush. Again test this by walking past the urinal at least 300mm from the front. If a flush is triggered reduce the sensitivity adjustment until users trigger a flush but persons walking past do not.

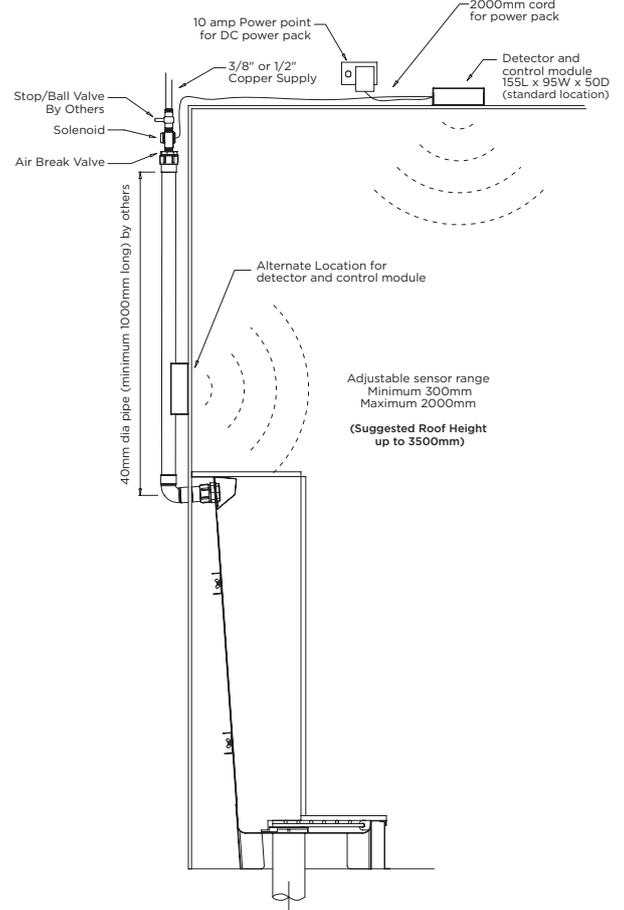
## ADJUSTING THE SENSITIVITY OR FLUSH PERIOD

If required by a high ceiling or low water pressure, both the sensor range and the volume of the flush can be adjusted on the sensor module. If an adjustment is necessary use a very small instrument screwdriver. Insert the screwdriver gently into the adjustment hole. Locate the adjustment slot and turn gently an eighth of a turn only. Test the result.

**Take care and do not force the screwdriver. It is unnecessary and will cause damage to the unit particularly if excessive force is used to push on or turn the screwdriver. Stop turning as soon as the slightest resistance is felt. Clockwise increases the sensitivity range and flush period, anti clockwise decreases.** Be very careful making any adjustments as the control are fragile.

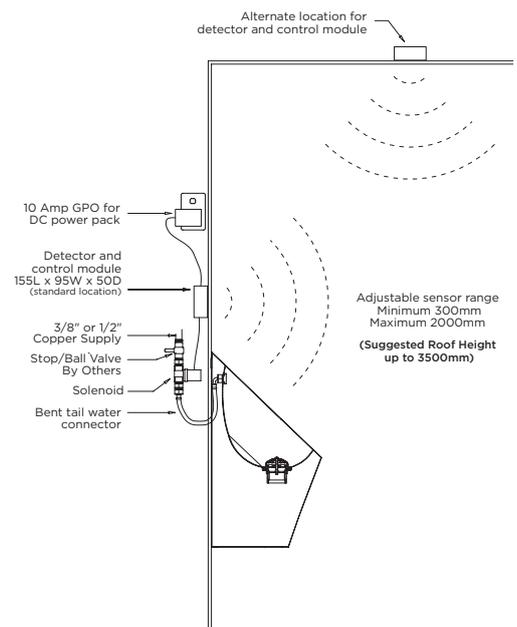
**Stop turning as soon as the slightest resistance is felt. Only a small amount of turn will be required. Be aware that the adjustment may already be at maximum.**

## INSTALLATION DIAGRAMS



Install on Urinal Slab

It is recommended that access be provided to the control module and solenoid valve for any future adjustments or necessary servicing requirements.



Install on Waterless Urinal Pod

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# BRITEX INSTALLATION NOTES

## WARRANTY

A faulty unit will be replaced if found to be faulty due to bad materials or workmanship during the first year of operation. Warranty will be deemed void if this product is not installed as per these instructions and if the Britex In Line Strainer (provided) has not been installed correctly in conjunction with the Smart SaniFlush Sensor System.

## SPARE PARTS

### 74-05-DSV-01

Brass Solenoid Valve



### 74-05-0020

Sensor Module for FSM1

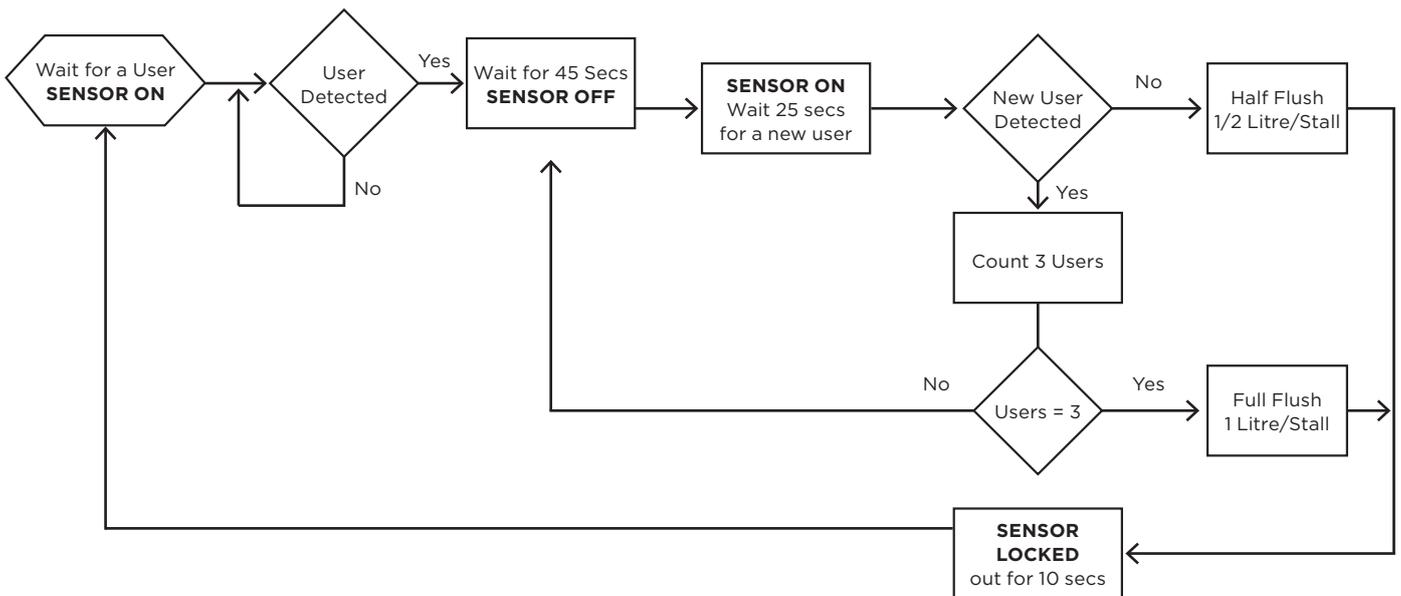


### 74-05-0025

Sensor Module for FSM2



## OPERATION OF THE SMART SANIFLUSH SENSOR SYSTEM: EXPLAINED



**The operation of the Smart SaniFlush Sensor System (FSM) is designed to provide the most economical use of water while maintaining a clean and presentable washroom environment. It does this by only flushing once for every user if they appear in quick succession and by reducing the flush volume after one or two solitary users.**

At rest with no activity at the urinal, the Sensor Module is waiting for a user with the sensor enabled. Once movement of a user at the urinal is detected the module enters a wait period of 45 seconds. During this 45sec period any further movement at the urinal such as the user leaving is ignored. Once this 45sec period has expired the module enables the sensor and waits a further 25sec looking for movement at the urinal.

If during this 25sec period movement is detected the module again enters the 45sec wait period. No flush takes place however all users at the urinal are counted. After the 3rd user the module delivers a full flush to the urinal and resets the person count to zero. If the 25sec wait for a new user expires without another user being detected, a half flush is delivered to the urinal.

All users at the urinal are counted and a full flush takes place after every third user. Immediately after a flush the sensor is locked out and will not register movement at the urinal for a period of 10sec. This is to prevent persons leaving restarting the flush cycle. **To assist in the setting up and testing of the Smart SaniFlush the Sensor Module is programmed to deliver a full flush 15 seconds after power is turned on. To repeat this flush remove the power for 15 seconds and then reapply.**

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