

ABSTRACT

A SYSTEM AND METHOD FOR AN INVISIBLE SENSOR AUTOMATIC FLUSH URINAL

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A first embodiment of the invention is an invisible sensor automatic flush urinal comprising: (a) a urinal basin with a user visible surface, wherein the user visible surface is water resistant and opaque; (b) a liquid routing including a water inlet, a flush valve, a water outlet, a drain, a trap, and a trap outlet; (c) an invisible proximity sensor (IPS) mounted within or behind the user visible surface; (d) a capacitive sensor mounted in proximity to the trap and configured to measure an overflow level of waste liquid above a trap level of the trap indicating a flow state; (e) a master control unit (MCU) including a microcontroller in electrical communication with the flush valve, the IPS, the capacitive sensor, and a network module. The microcontroller is configured to execute a flush cycle upon confirming that the flow state is concurrent with a user presence. The urinal transmits metadata of at least one flush cycle from the network module to a server. A second embodiment is a method of urinal management using the same invisible proximity sensor and capacitive sensor.

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FIG. 4B