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MINIATURE WATER DETECTION MODULE: BMS WATERBUG



The BMS WATERBUG and BMS OILBUG are small sophisticated Liquid Leak Detection Alarms, designed as stand-alone modules, powered from the normal mains or a low voltage control power supply. They have two alternative leak detection circuits for monitoring of either water/ aqueous substances (WATERBUG), or oil and chemicals (OILBUG). Both provide output alarm signals to a BMS (Building Management System) or other remote alarm systems via relay changeover contacts. WATERBUG units have been widely used in Switching Centres, IT Complexes and Telephone Exchanges, and OILBUG units in diesel engine and oil tank-rooms.

The WATERBUG is also available as a complete 'Stand Alone' audio/visual alarm, having both the WATERBUG+Plus and the OILBUG+Plus Module variants (photograph bottom left). In the +Plus variant, the WATERBUG and the OILBUG are fitted with three additional LED Indicators showing Power On, Leak Alarm, and Line Fault, and also have an internal Horn and a Mute Button. Operation is otherwise the same as the basic module.

The WATERBUG 4 circuit, based on a two-wire sensing system, is designed to monitor Water Leaks from an Aqualeak Sensor Cable, Sensor Tape, Sensor Pad or Sensor Probe, or from the 'Sensor-Drain' Probe which monitors and allows controlled emptying of a Drip Tray. The Waterbug water detection circuit uses a bi-directional 5V 130mS "Alternating Current" field sensing signal to ensure that sensors are not subjected to oxidation or erosion during operating conditions. A sensitivity adjustment pot allows on-site adjustment of water detection sensitivity to suit the application.

The OILBUG circuit, based on a three-wire system, is designed to monitor for Leaks of Oil or Chemicals via a Aqualeak 'Redeye' Optoschmitt Sensor (or Aqualeak 'Proxitec' Proximity Sensor). The OILBUG is connected by Link Cable to an adjustable Sensor fitted to a floor mounted bracket which can be altered to allow some liquid to be present without the alarm sounding (seepage), but to alarm on an increased level (leak or flood). The Optoschmitt Sensor is activated and provides a signal immediately at a change of refractive index at the sensor boundary caused by the presence of a leaking substance. The RedEye Sensor (bottom centre) will detect most liquids and also water.

The BMS WATERBUG/OILBUG can be manufactured to operate from the standard mains power supply or from a 12-24V AC/DC supply (which should not have the external transformer connected to earth). Power consumption is approximately 30mA with relay energised and 50mA with relay and local LED energised. A 'No-Volt' output signalling relay is provided rated at 240VAC 2amp with 'Normally Open/Closed' change-over contacts. The WATERBUG can also be provided with optional relay facilities for 'cable fault' and 'power failed', both rated 240VAC 2amp. The 'power' fault relay would signal loss of power to the system and the 'cable fault' relay would signal a break in the monitoring line. The standard WATERBUG system is contained in a plastic housings and is not provided with any local audible/visual alarms, nor with fault monitoring. Units can be provided with IP rating, with 'Power On', 'Alarm' and 'Line Fault' indicators and with an on-board sounder and mute button. The BMS WATERBUG can also be supplied as a composite unit complete with a Sensor Pad or Sensor Probes pre-fitted to the base or side of the housing for direct wall/floor mounting, and for such areas as bunds and drip trays. Such units would benefit from the IP rated housing option.

The WATERBUG can also be used to monitor electrical appliances such as a Washing Machine or a Dishwasher. The WATERBUG would be connected by a signal cable to a plug-through mains adaptor between the machine plug and mains socket. Shutting off the power can result in the solenoid valves closing, thereby stopping further flooding. A Mains Relay is fitted in the Adaptor, operated by the Water Detection System, which disconnects the power to the socket when a leak is detected. The WATERBUG self re-activates when the leak has cleared and automatically reactivates the power supply.

Power Supply Option 1: 12-24V AC/DC	DC Power Usage (energised) : 30mA min.	Output Signal : No-Volt Relay
Power Supply Option 2: 115VAC	AC Power Usage (with LED) : 50mA max.	Relay Rating : 240V AC 2amp
Power Supply Option 3: 240VAC	Standard Housing (mm) : 127Wx75Hx45D	Contacts : Com/NO/NC

Suitable Aqualeak Linear Sensors WC / DCS / DCD Linear Water Detection Sensor Cables; ST and AF Linear Sensor Tapes
 Suitable Aqualeak Pad Sensors FS2 and FS2/P Floor Mounted Spot Pad Sensors; FS2/R Adjustable Rain Detection Sensor

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