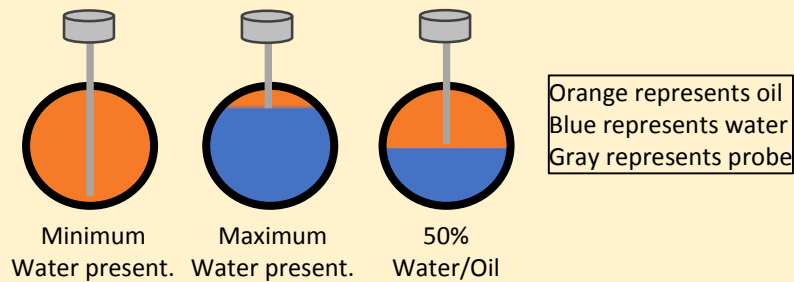


OILGUARD 1500 **INSTALLATION AND OPERATION**

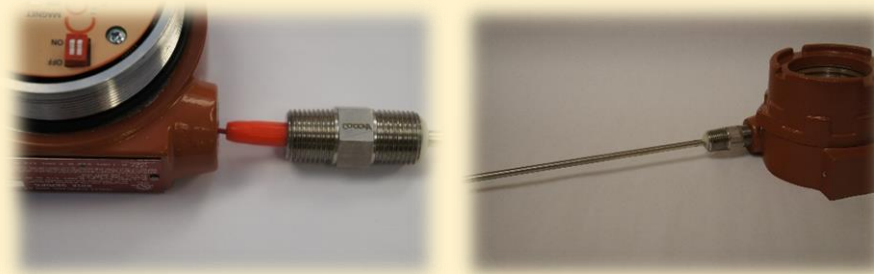
APPLICATION:

The OILGUARD works by detecting the difference in resistance of the fluid used as the set point, in this case water, and the resistance of hydrocarbon/air. The sensor measures the fluid by reading through the probe, fluid, pipe and back to the circuit board. When water contacts ANY part of the probe the LED will turn green, and when the probe is in oil or air the LED will turn red. If the OILGUARD is used in tanks for detection of hydrocarbon/water, simply install the probe in the tank at the desired level after assembly and calibration. If the OILGUARD is used in pipeline applications, calibrate the unit and cut the probe to length depending on how much water is acceptable in the pipe. Since the water will stay on the bottom of the pipe, if you wish to detect any water in the pipe, the probe would be cut so it just clears the bottom when fully tightened. If you wish to detect as soon as oil starts to pass through the pipe, you would cut the probe so it barely enters the pipe. See illustrations below.



CALIBRATION:

1. Connecting the probe and OILGUARD is accomplished by inserting the banana plug from the circuit board into the threaded end of the probe. Next, prepare probe threads with appropriate sealant or thread tape for your application and thread the probe into the OILGUARD housing.



2. **Caution: Do not remove the cover or power on the unit unless area is known to be safe.**

3. Remove the housing cover, locate the power switch and turn on. Adjust sensitivity until the LED turns red if it is not already red when powered on.



4. The sensor should be adjusted prior to use. To accomplish this, the probe needs to be placed in the water and the blue sensitivity screw adjusted (production water on location is preferred). The easiest way is to find a container where the probe and part of the nipple can be inserted into the fluid. If a container is not available to do this, a wire can be attached to the ground screw of the case and then the wire and probe can be inserted into the water. Make sure if the wire is not insulated that it is not touching the probe during this time. When the probe and wire are both touching the water, the circuit is complete. Testing can begin.

Insert the probe (and ground wire if threads on the probe cannot be immersed in the water) into the water. Slowly adjust the sensitivity pot until the LED turns green. When you remove the probe from the water, the LED should turn back to red. When probe (and potentially ground wire) are reinserted in the water, LED should turn back to green. Remove unit from the water but do not turn the unit off. The unit will automatically power down after five minutes in the LED red configuration. The unit is now calibrated and ready for installation. Replace housing cover and install OILGUARD if using battery power only.



OPERATION:

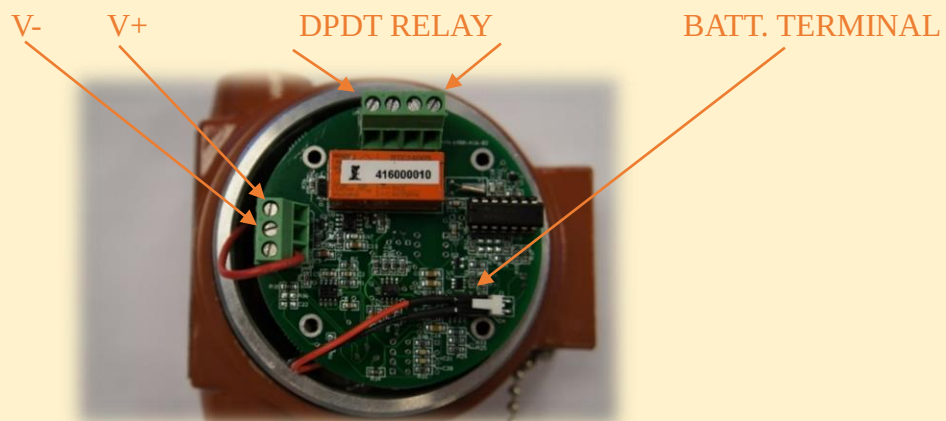
After installation, the OILGUARD is turned on by placing the supplied green magnet on the glass over the magnetic switch. A Blue LED will flash when the magnet is detected. When the unit is powered on, the center LED will turn Red or Green depending on whether it is sensing oil or water. In normal operation the unit will stay on until the LED turns from Green to Red. When the LED goes Red, meaning it has detected oil, it will activate the relay and shutoff after 5 minutes. At this point, the unit will need to be turned back on via the magnet when use is desired.

If you are supplying external power to the unit or wish the unit to stay on continuously, place the magnet over the magnetic switch on the board for 15 seconds. This disables the 5 minute timer.



EXTERNAL POWER AND ALARM OUTPUT:

The OILGUARD provides connections for external power input as well as relay outputs to allow for controlling an external device or alarm notification. Remove the four screws that secure the PCB board to the housing. On the back of the board, external 9-30VDC can be supplied to the V+ and V- on the connections next to the red sensor probe. Before supplying external power, disconnect the battery terminal. If an alarm signal and or device control signal is to be connected to the OILGUARD, use the DPDT connection at the top of the board. Maximum current allowed through the relay is 8 amps. The OILGUARD is explosion proof by itself, but will need to be wired to applicable electrical codes if external wiring is required.



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Rev. 11/12/13