

OLS+u+bms

ULTRASONIC OIL LEVEL SWITCH

engineering data
and specifications



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The Marley OLS ultrasonic switch is used to monitor and alarm a low oil level condition in the cooling tower gearbox via an oil immersed set of probes using ultrasonic sound wave technology. The OLS+u is a set point switch changing a relay state upon a low oil level condition.

The switch is factory mounted in the oil level piping, its height in relation to the gearbox is set at the factory so field calibration is not required. A sliding bracket, provided for height adjustments, allows the tower installer to make final adjustments if required.

OLS+u+bms BILL OF MATERIALS

- Factory installed oil piping with height adjustment bracket.
- Factory installed ultrasonic oil level DC switch with 25' cable (50' available for large cooling towers).

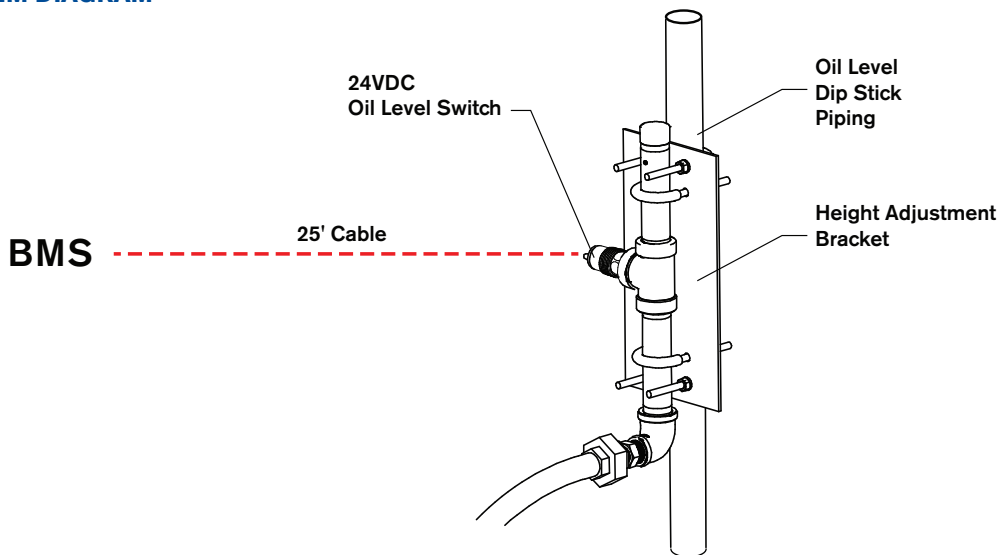
SEQUENCE OF OPERATION

The OLS ultrasonic switch is a 4-wire device, two wires for DC power from the BMS (Building Management System) and two wires for its internal switch. The switch includes an integrated ON-OFF dry relay contact used by the BMS to activate an alarm for the cooling tower operator. The OLS ultrasonic switch is a set point device changing relay state upon a low oil condition in the cooling tower gearbox. The switch may be wired as a N.O. or a N.C. device simply by reversing DC polarity at the switch.

Typically, this operational sequence is not used to shut off the cooling tower but to provide notification only to the tower operator.

Once oil level returns to a normal level, relay contacts revert to a normal non-alarming condition.

SYSTEM DIAGRAM





OLS ULTRASONIC SWITCH - FLOWLINE® LU10 2305

- Contact type switch
- 25'-0 cable integrated into the switch and flying leads on opposite end (50' lead available for larger cooling towers)
- Fitting for mounting switch to oil piping
- Classification: Intrinsically safe
- Certificate: CSA, LR 79236
- Compliance: CE
- Approvals: Class I, Groups A, B, C and D; Class II, Group E, F and G; Class III
- Parameters: $V_{max} = 32V$, $I_{max} = 300mA$, $P_{max} = 1.3W$, $C_i = 0\mu F$, $L_i = \mu H$

Note: A special controller is required for hazardous locations.

FREQUENTLY ASKED QUESTIONS

Ultrasonic Switch

- Q What are the voltage ratings?
- A 12-36 VDC.
- Q Is the switch furnished with wire?
- A Yes – 25' is standard. 50' lead is available for larger cooling towers.
- Q Can switch leads be extended?
- A Yes – use #18 gauge 4 wire stranded copper conductor plus a shield from junction box.
- Q Can leads be cut to length?
- A Yes – but suggest keeping extra length coiled for easy removal.
- Q Are switch leads replaceable?
- A No – the lead attaches to the ultrasonic switch as an integrated molded connection.
- Q Does the switch require maintenance?
- A No.
- Q Does the switch lead need to be in conduit?
- A The wire is rated for outdoor use (check local codes).
- Q Is the controller solid state?
- A Yes.
- Q Is the controller factory calibrated for height?
- A Yes – The switch can also can be field adjusted.
- Q Should the switch be used to shut off the VFD or starter?
- A No – The switch should be used to complete an alarm system for the cooling tower operator not as a shut-down circuit.

Wiring

- Q How is the ultrasonic switch wired back to the BMS?
- A The switch cable is rated for outdoor use. Follow local codes to determine if cable should be placed in conduit.



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