

Water Level Sensor

Providing an early warning of water presence in the central office

The System Studies Water Level Sensor™ (P/N 9800-4400-T) is an electronic contactor device that is housed in a 3/4 inch by 6 inch protective, copper tube. Designed for installation in a central office sump or along the base of a central office wall, the Water Level Sensor provides an early indication of the presence of water.

Attached to the sensor are two PIC insulated conductors which sample the moisture at the device's point of installation. Like other monitoring devices, this moisture sensing device is wired to an office monitor, such as the 289H Loop Surveillance System (LSS)™, over a single pair of conductor wires.

Here's How It Works

The monitor supplies voltage to the device in the range of 10 to 48 volts and takes an electrical resistance reading on the pair. In the open (non alarm) condition, the contactor device will read approximately 540K ohms (540,000). If moisture is detected at the device location, the device shorts (its contact switch closes) and an electrical resistance reading of about 270K ohms is generated.

The PressureMAP™ software calls the Water Level Sensor (via the office monitor) during its scheduled calling sequence or at the request of the user. It translates the device reading into a status condition, displaying OK for a 540K ohms reading and ALRM for a 270K ohms reading. Office monitors, such as the 289H LSS, can also be set up to call PressureMAP directly when the Water Level Sensor reads ALRM.

Physical Data

The Water Level Sensor is a small, solid-state cylindrical contactor device that has been secured with epoxy inside a protective copper tube. The tube is sealed at the top,

open on the bottom, and has four 1/4 inch vent holes (two on opposite sides). The open bottom and side holes permit water to enter the tubing and make contact with the moisture sensing pair.

At the top end of the tube is a standard 3/8 inch tube to 1/4 inch NPT-M fitting. This fitting accommodates 3 feet of 2-pair blue/white conductor wire (which leads from the sensor to the designated monitoring device pair) and a length of 3/8 inch protective tubing. Inside the copper tubing, which houses the sensor, is an orange/white sensing pair. A plastic banana plug is attached to each conductor on the free end to ensure that the two leads are spaced sufficiently apart and are not in contact with the copper tube.

Sensor Specifications

Electrical The Water Level Sensor is designed to operate on a dedicated pair having a maximum of 1500 ohm loop resistance.

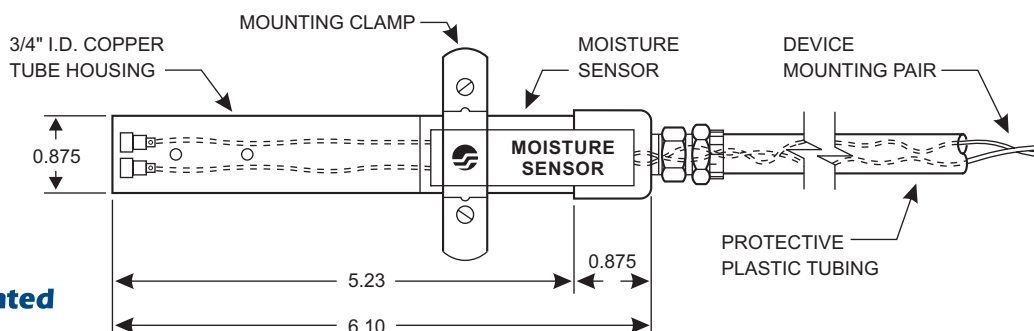
Construction The sensor's circuit board is housed in a Garolite™ tube and sealed at both ends with DP-270 epoxy compound. The sensor unit is centered inside the protective copper tubing at the top end and secured in place with epoxy.

Physical Size The sensor housing (copper tubing) measures approximately 6.10 inches long x 0.875 inches in diameter (OD). Conductor leads are 24 gauge copper, 36 inches in length.

Operating Temperature Range
0 – +150 degrees F (-17.7–65.5 C)

PressureMAP Data Entry Requirements

Device Type: \$A, ZA, YA or CA
Norm: OPEN
TD Type: CPAMS_TD



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