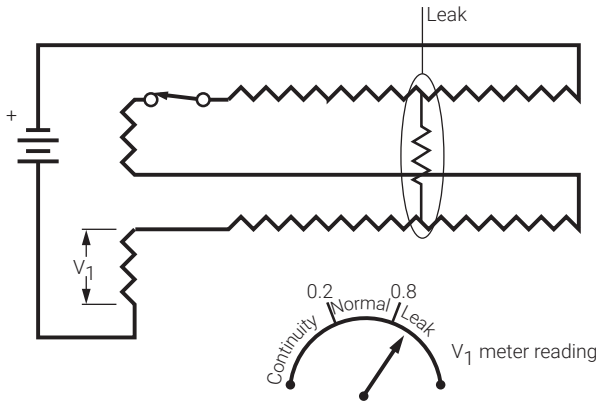
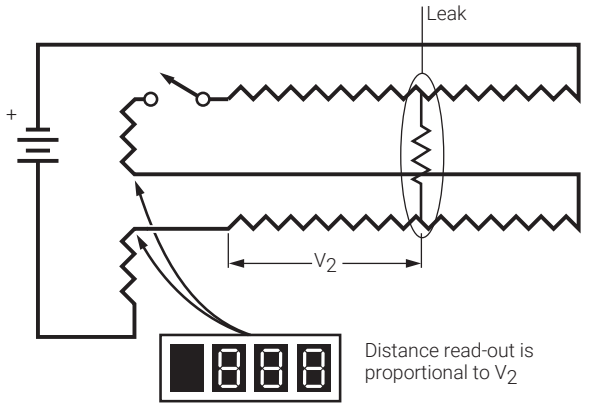
Sensing Circuit



Leak detection is accomplished by monitoring the voltage across an internal reference resistor.



Leak detection is determined by measuring voltage drop along the cable from the module to the leak.

PRODUCT OVERVIEW

Leak detection

The sensing cable has two insulated wires and two conductive polymer coated electrodes.

A small DC voltage (5-9 volts) is applied to the sensing cable, and internal resistors limit the current flow through the sensor cable loops to approximately 75 microamps. The actual amount of current flowing is monitored by measuring the voltage drop (V1) across an internal reference resistor.

If a spill occurs, additional current will seek the path of least resistance and flow across the leak. This results in increased current flow through the reference resistor. The resultant increased voltage drop across the reference resistor signals the module to turn on the alarm.

Continuity monitoring

If the cable is broken, no current will flow in the loop. The voltage across the reference resistor decreases to zero and the internal circuitry recognizes this as a continuity fault.

Leak location

After a leak has been detected, the circuitry in the module is automatically reconfigured into the locating mode.

The digital readout of the location is generated by measuring the voltage drop along the sensing cable between the leak and the module. The voltage drop is linear and proportional to the leak location. A different scaling factor is applied for feet, meters, or zones.

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