



Multi-Level Electro/Optical Sensor

Eaton's Levelmaster is an electronic/optical sensor for detecting liquid levels in most fluid systems. Designed to meet the exacting requirements of military, commercial aircraft, and marine environments, the unit provides a more reliable and cost-effective alternative to present level-sensing systems. The heart of the Levelmaster is a light source directed to a prismatic cone that either reflects the light back to a receptor (when there is no liquid at the cone point) or refracts the light into the liquid (when the point is immersed). This provides a non-ambiguous, On-Off output to a user-specified logic.

There are no moving parts to jam the device; therefore, particulate contamination in the liquid will not compromise sensor operation. Fluid contacts the prism only, providing an optically-isolated, intrinsically-safe barrier to the sensor's electrical components. An optional factory-set integrated timer that delays the output signal when fluid sloshing is a problem can be installed.

Many of the sensors are protected by internal line devices to suppress EMI/RFI noise. All aircraft sensors are designed to operate with aircraft power as defined by MIL-STD-704D. The internal signal conditioning virtually eliminates false actuation due to liquid droplets or frost retained on the prism or from foam riding on the surface.

The Levelmaster sensor proves its ruggedness through its use as a water detector in the plenum below the Cruise Missile launch system. Not only can it withstand considerable shock, but it also can resist short-term temperature spikes exceeding 1500°F.

Applications

- Water detector in cruise missile launch tube plenum. High-shock and high-temperature environment
- Fluid level in military tank hydraulic reservoir
- Water sensing to initiate helicopter float gear activation in an unscheduled water landing
- Fuel-detection in military fighter vent tube during refueling
- Multiple-level indication of potable water in military transport

Features

- No moving parts
- Internal signal conditioning
- Meets MIL-STD-810C for temperature, vibration, humidity, salt, fog, sand, dust, shock, and pressure
- EMI/RFI filtering, where required
- Can operate more than 100,000 cycles
- Compatible with most liquids including salt water, synthetic oils, jet fuel, chlorinated water, and hydraulic fluids
- Operation not affected by foam or frost build-up on sensor face



Eaton
Aerospace Group
Fluid & Electrical Distribution Division
24 East Glenolden Avenue
Glenolden, PA 19036-2198
USA
Phone: (610) 522 4000
Fax: (610) 522 4900
www.eaton.com/aerospace

Copyright © 2013 Eaton
All Rights Reserved
Copying or Editing is Forbidden
Form No. DS200-21C
October 2013