**Aerospace**
**Sensing & Controls**

Levelmaster® Electronic/Optical Sensor

The 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

**Multi-Level Electro/Optical Sensor**

**Eaton Corporation**
**Sensing & Controls**
24 East Glenolden Avenue
Glenolden, PA 19036-2198
USA
tel: (610) 522-4000
fax: (610) 522-4900
www.aerospace.eaton.com

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