

Electronic Level Switches



LX Series

- Universal High Level Switch
- Senses Oil/Water Interface
- Differentiates Foam from Liquids
- Can Detect Emulsion from Oil/Water
- Detects Difference of Air and Foam
- Able to Detect Solids in a Liquid
- Top Mounted Multiple Point Units
- Retractable Sensor Allows Adjustable Sense Point
- Tank Agitation Monitoring
- Tank Car Loading
- Redundant and Diversified High Level Switch
- Sanitary Construction Available on our SL Series

Ameritrol, Inc.
Instruments and Controls

Operation

The LX series level switch is the most versatile instrument ever designed for level control. One unit can be field calibrated to detect the interface of air/foam, foam/liquids, oil/emulsion, emulsion/water, oil/water, and a solid in a liquid. It can also be used as a universal high level switch that will alarm if any type of liquid comes in contact with the probe.

The sensor head employs two temperature sensors with a constant very low power heating source physically attached to one of the temperature sensors (see figure 1). The second temperature sensor is isolated from the heating source and provides compensation for changing process temperatures. The probe operates by sensing the thermal conductivity (not electrical conductivity) of the product surrounding the probe. All liquids that form an interface will have a difference in thermal conductivity that can be sensed. No moving parts assure reliable and repeatable operation in extremely viscous products.

The electronics are available with single or dual switch points. This allows one sensor to detect any two of the following process variables; level, agitation in the tank or vessel, and/or temperature of the product.

Relay outputs are standard and are offered with several different configurations and contact ratings. Remote mounting of the electronics is available.

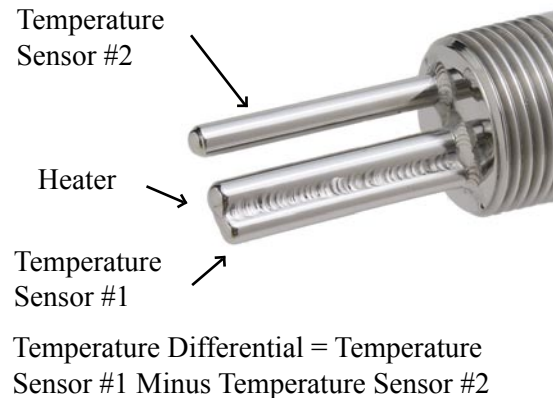
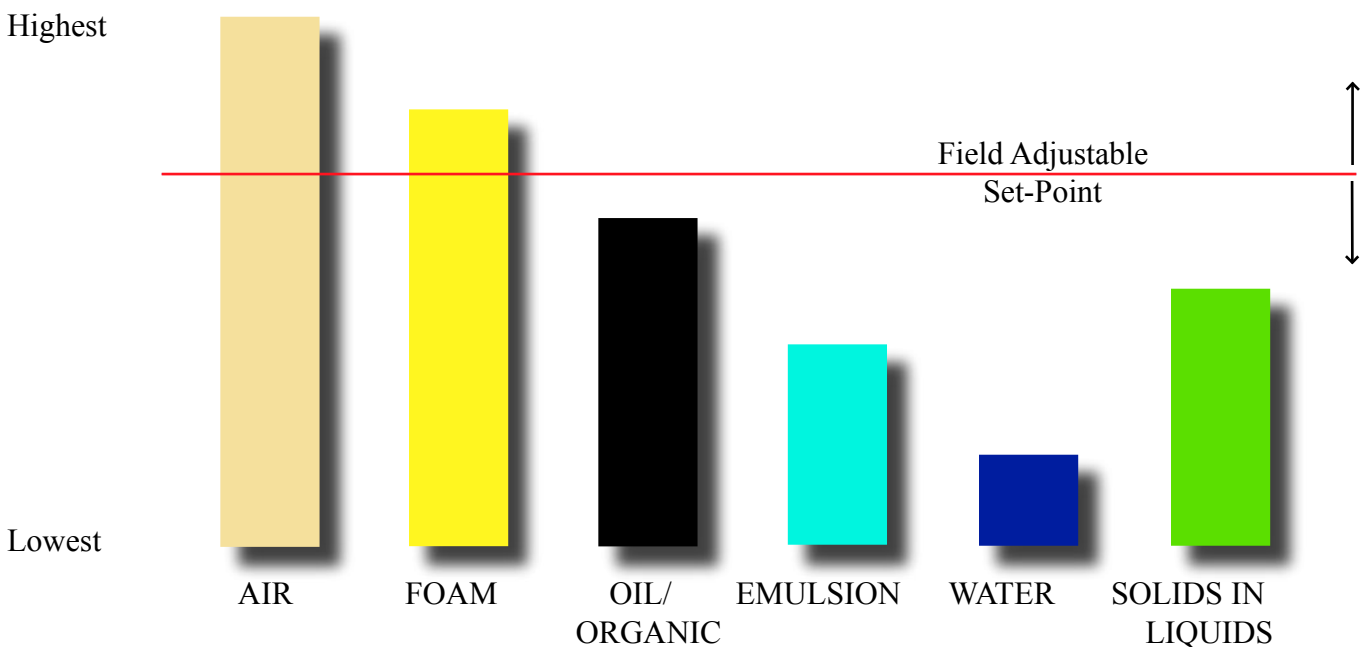


Figure 1

Sensor Output (Temperature Differential) Based on Product Type



Features

- Explosion Proof Enclosures
- Most Versatile Level Switch Available
- Threaded, Flanged, Retractable Probes
- Exotic Alloys for Corrosion Resistance
- Top, Side, or Bottom Mounting
- No Moving Parts
- 316L Stainless Steel Sensor
- Temperatures to 900F
- Pressures to 10,000 PSIG
- Field Programmable for Level, Agitation/Flow, and/or Temperature



Remote Mounted Electronics



Extended Sensor Head

Sensor Head
 Material of Construction: 316L Stainless Steel Standard
 Optional Exotic Alloys
 Operating Temperature: -50 to 350F (-46 to 177C) Standard
 Option -100 to 900F (-73 to 482C)
 Option -320 to 500F (-196 to 260C)
 Operating Pressure: Vacuum to 4000 PSIG (275 Bar)
 Option to 10,000 PSIG (689 Bar)
 Response Time: From 3 Seconds
 Repeatability: +/- 1/8" at Sense Point
 Process Connection: 3/4" MNPT, 1" MNPT
 Option Flanged, Retractable Probes,
 and 1-1/4", 1-1/2", 2", 3", 4" Threads
 Probe Length: 1.8", 1.2"; Option Customer Specified

Electronics
 Housing: Powder Coated Explosion Proof,
 UL/CSA Rated to Class 1, Div. 1 & 2,
 Group B,C,D; Class II, Div. 1 & 2,
 Group E,F,G; Div. III. FM Option
 Temperature: -50 to 150F (-46 to 65C)
 Power Input: 90-135 VAC, 50/60 Hz, 4 Watts
 Option 24 VDC/VAC, 200-240VAC
 Relay Output: SPDT 3 Amps Resistive
 Option DPDT and 10 Amps Res.
 Electrical Connection: 1" FNPT
 Shipping Weight: 5 lbs

