

Ameritrol Inc.

Manufacturer of Industrial Instrumentation

ELECTRONIC LEVEL SWITCHES

Features

- No Moving Parts
- 316L Stainless Steel Sensor
- Top, Side, or Bottom Mounting
- Simple Calibration and Setup
- Low Cost, Designed for Industrial OEM and End Users



Applications

- High or Low Level Switch
- Liquid to Liquid Interfaces
- Detects Solids in Liquids
- Highly Viscous Products
- Differentiates Foam From Air or Liquids

LM Series

The LM series is designed to provide an extremely reliable level switch at a very cost effective price. This series replaces the standard explosion proof enclosure utilized in our LX series with a general purpose enclosure.

The principle of operation measures a temperature differential between a heated and a reference temperature sensor (see figure 1). The differential varies as the type of product surrounding the sensor changes. This allows the level switch to detect a greater number of different products than any other currently available technology. The different product types are shown on the next page of this brochure in the sensor output chart. The field adjustable set-point can be adjusted to detect any two products shown.

The electronics feature a SPDT relay switch output with options for power input of 120 VAC, 12 VDC, and 24 VDC or VAC. Calibration is easily performed by adjusting a potentiometer on the circuit board.



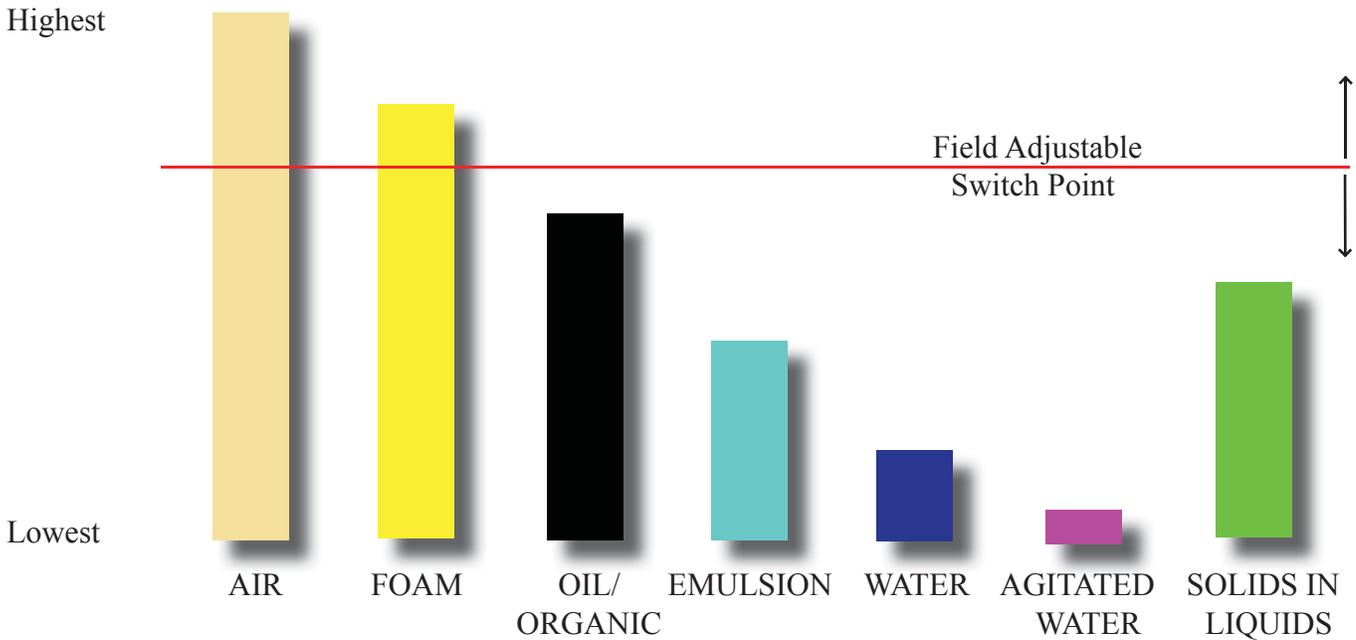
$$\text{Temperature Differential} = \text{Temperature Sensor \#1} \text{ Minus Temperature Sensor \#2}$$

Figure 1

Part Number/Order Entry Specification

	LM -				-	Probe Length	
Process Connection	1/2" MNPT	0	5	0	0	0	1
	3/4" MNPT	0	7	5	0		2
	1" MNPT	1	0	0	0		
Power Input	12 VDC (+30%, -10%)					1.2" PROBE	
	117 VAC (90-135 VAC)					1.8" PROBE	
	24 VDC or VAC (± 10%)					SPECIAL PROBE LENGTH, SPECIFY LENGTH IN INCHES	

Sensor Output (Temperature Differential) Based on Product Type



Specifications

Sensor Head

- Material of Construction: 316L Stainless Steel Standard
- Operating Temperature: -50 to +250F (-46 to +121C)
- Operating Pressure: Vacuum to 4000 PSIG (275 Bar)
- Response Time: From 3 Seconds
- Repeatability: $\pm 1/8''$ at Sense Point
- Process Connection: $3/4''$ MNPT, 1" MNPT, Option $1/2''$ MNPT
- Probe Length: 1.8", 1.2" Option Customer Specified

Electronics

- Housing: Powder Coated General Purpose
- Temperature: -50 to +150F (-46 to +65C)
- Power Input: 90-135 VAC, 50/60 Hz, 4 Watts
Option 12 VDC, 24 VDC/VAC
- Relay Output: SPDT 2 Amps Resistive
- Electrical Connection: 1" FNPT
- Shipping Weight: 4 lbs



Optional Extended Sensor Head

LM Series



Applications

- Universal High, Low Level
- Oil/Water Interface
- Emulsion from Oil/Water
- Air/Foam Interface
- Foam/Liquid Interface
- Solids detection in a Liquid
- Top Mounted Multiple Point Units
- Agitation Monitoring

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