

## Product Features

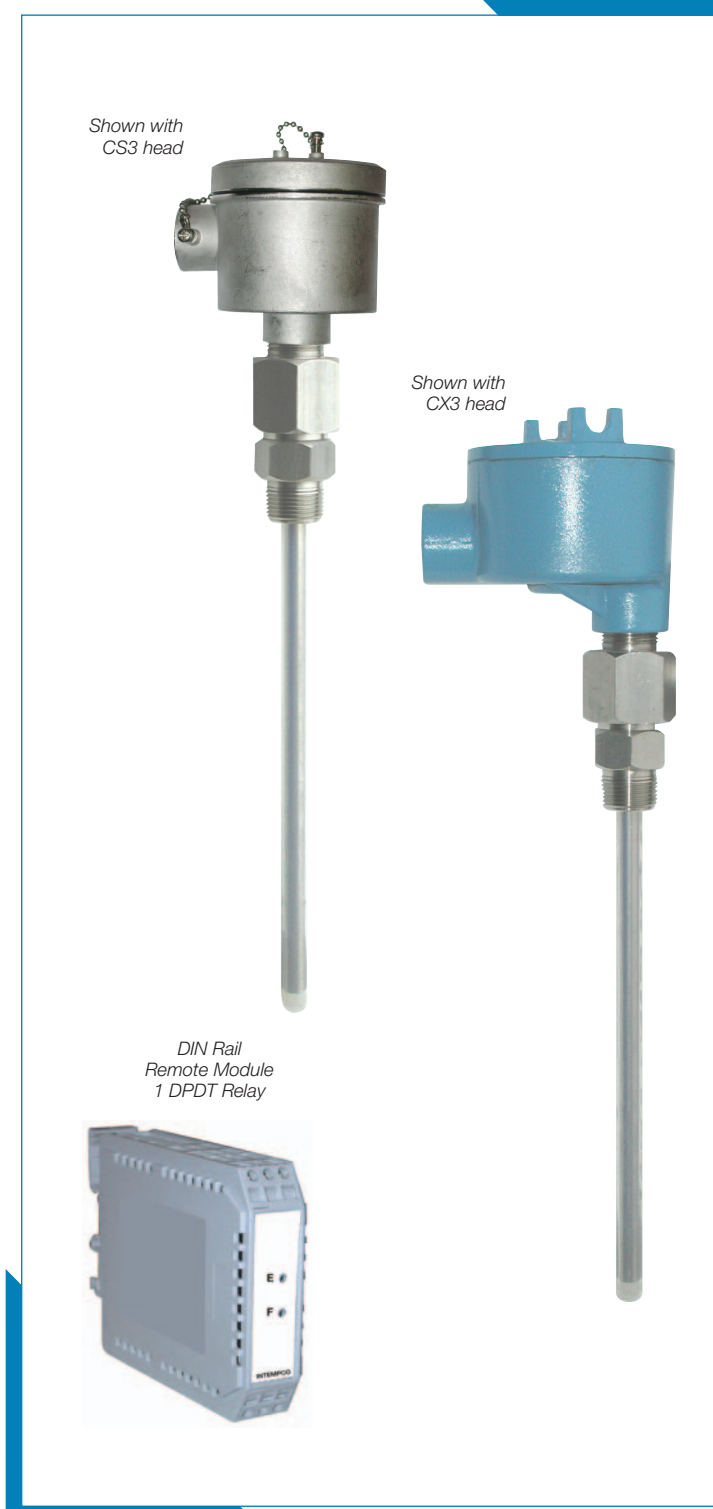
- Disregards effects of product build-up on the probe
- Detecting a single point, tip sensitive or at any point along the probe, high or low level
- Detecting level of liquids, solids, slurries or foam
- Detecting the level of any material with dielectric constant greater than 1.5
- Operating in any shape of metal type vessel
- Operating in applications with temperatures up to 260°C (500°F)
- Microprocessor based electronics
- 12-36 Vdc supply
- Jacketed probes for conductive media and bare probes for non-conductive media
- Adjustable time delay for output
- LED to indicate output status
- Pump control of one relay
- Fully potted electronics
- Heavy duty industrial design
- Standard fitting 3/4 NPT, special fitting or flange
- NEMA rated aluminum, stainless, PVC or explosion proof enclosure

## Description

INTEMPCO LSA01 series RF level switches are highly reliable microprocessor based sensors designed to alarm on the high or low condition of liquids and certain dry bulk media in metal tanks. In non-metallic tanks, a grounding rod needs to be installed. The LSA01 includes a transmitter housed in a rugged enclosure, a rigid probe up to 20 feet long and a fitting. Probe material is SS316, supplied bare or PFA jacketed. Additional standard features include an adjustable time delay, SPDT relay, LED relay status indication, and a simple push button calibration. Optional, DIN Rail Module is available, which can be installed up to 3000 feet away from the process where calibration can be performed.

## Operation

The LSA01 senses level using RF capacitance measurement technique together with micro-controller technology for high resolution point level detection. A probe mounted in a vessel forms a capacitor with the vessel wall. The capacitance of the configuration is measured by the LSA01 and is used to provide point level switch control. Hi and low alarms are easily set with push-button convenience for differential level applications such as pump control. For vertical probes with a setpoint along the length of the probe, a consistent material dielectric will ensure a consistent and repeatable alarm point. Also, Intempco's two set point operation off of one relay allows our LSA01 to be used as pump control. One set point turns OFF a pump and the second set point (which is adjustable over the entire length of the sensing probe) is used to turn a pump ON. Both functions with one relay.

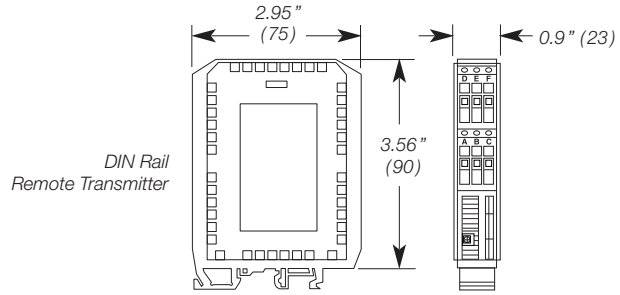
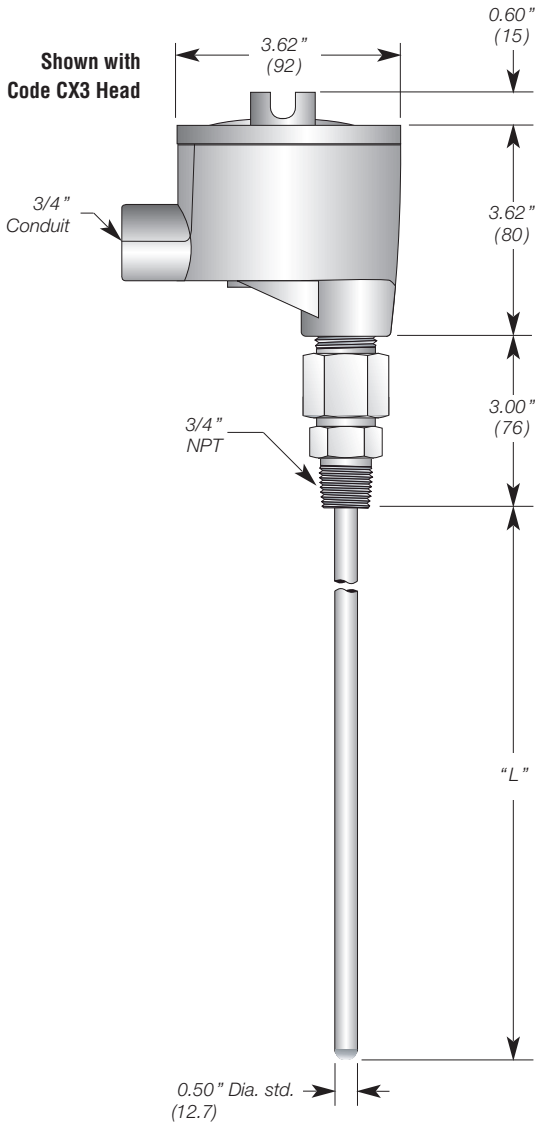


## Applications

- Liquids, water-based and oil-based in metal tanks
- Organic acids compatible with stainless 316 and Teflon
- In Pharmaceutical, Waste treatment, Chemical and Food/Beverage and all industrial plants.

# LSA01 LEVEL SWITCH

RF Capacitance Level Switch



## Electrical Specifications

<b>Supply Voltage :</b>	12 VDC-36 VDC
<b>Output :</b>	Relay, SPDT 0.5 A @ 240 VAC
<b>Power consumption :</b>	50 mA @ 24 VDC - 120mW max.
<b>Calibration :</b>	Via 2 push-button switches non-interactive settings
<b>Capacitance range :</b>	10 pF to 10000 pF
<b>Sensitivity :</b>	0.5 pF
<b>Accuracy :</b>	± 0.1" (±2mm) for constant dielectric
<b>Repeatability :</b>	± 0.1 % of setting
<b>Damping adjust :</b>	0 - 30 sec.
<b>Ambient temperature :</b>	-40 to 70 °C (-40 to 158 °F)

## Mechanical Specifications

<b>Enclosures</b>	<b>AH2 :</b> Aluminum, lift cover type, NEMA 4 <b>SS2 :</b> Stainless 316, NEMA 4X <b>AX3 :</b> Class I, Gps. B,C & D, Class II, Gps. E,F & G, Class III, CENELEC: EExd IIC, IP66 NEMA 4, 7BCD, 9EFG <b>CX3 :</b> Class I, Class II, Div 2,Gps. C&G <b>PV2 :</b> PVC, 1/2"conduit, NEMA 4X <b>PV9 :</b> PVC, Pg9 Gland, NEMA 4X
<b>Mounting Thread :</b>	3/4" NPT standard, others available
<b>Process Temperature:</b>	200 °C max (392 °F)-consult factory for higher temperatures
<b>Pressure Limits:</b>	500 psi (34 bar) @ 25 °C (77 °F) (Model LSA01-...PH only) : 250 psi (17 bar) @ 150 °C (302 °F) 14.5 psi (1 bar) @ 200 °C (392 °F)
<b>Probe mat'l :</b>	PFA Teflon jacketed, or bare SS316

## Ordering Information :

MODEL    BOX1    BOX2    BOX3    BOX4    BOX5    BOX6  
**LSA01** -  -  -  -  -  -

BOX1 CODE	Output
ST	SPDT Realy, NO or NC

BOX2 CODE	Enclosure
AX*	Explosion Proof
CX3	Explosion Proof
AH*	Aluminum Flip-Cover
SS*	Stainless Steel
PV9	PVC (Pg9 Gland)

BOX3 CODE	Fitting
P**	Male pip size 3/4" NPT std.
PH**	Male pip size high pressure 3/4" NPT std.
S**	Flange SS316, RF 150lb.
FS**	Flange special, specify

<b>** Fitting</b>	<b>** Flange</b>
12 1/2" NPT	20 2" Flange
34 3/4" NPT	25 2-1/2" Flange
44 1" NPT	30 3" Flange
54 1-1/4" NPT	40 4" Flange
64 1-1/2" NPT	50 5" Flange
	60 6" Flange

BOX4 CODE	Material
A	Teflon jacketed solid probe
B	SS316 Bare solid probe

BOX5 CODE	Probe Length "L"
---	In inches (20 ft max.) Ex.: <b>065</b> = 65" long

BOX6 CODE	Options
DN	Remote DIN Rail Module

\*2 = 1/2" NPT Conduit

\*3 = 3/4" NPT Conduit

Note : See **Level Accessories Section** for Enclosure specifications and dimensions