

Product Features

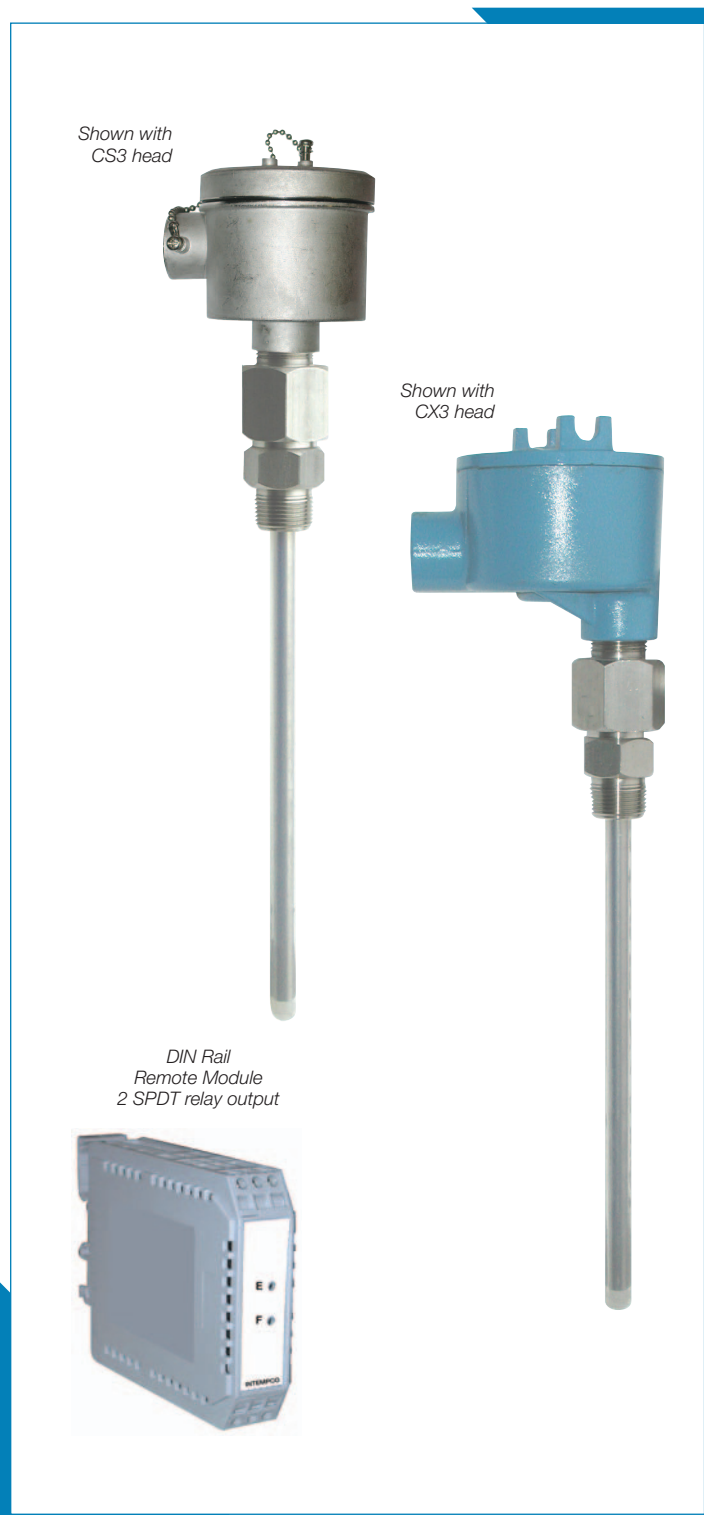
- RF capacitance adjustable dual-point level switch
- Detecting independent non-interactive dual-points, detecting a single point, tip sensitive or at any point along the probe, high and/or low level
- Detecting level of liquids, powder bulk solids, slurries or foam
- Detecting the level of any material with dielectric constant greater than 1.5
- Disregards effects of product build-up on the probe
- Power supply 12-36 Vdc, 100mA @ 24 Vdc - 240mW max.
- Field selectable Failsafe modes
- Micro-processor based electronics mounted in remote DIN rail enclosure, up to 300m (1000 ft)
- Adjustable time delay for output
- Status indication LEDs
- Pump control of one relay
- Many probe options and materials
- Standard fitting 3/4" NPT, special fittings or Flange
- NEMA rated aluminum, stainless, PVC or explosion proof enclosure
- Heavy duty industrial design

Description

INTEMPCO LSA01-DT is a highly reliable microprocessor based ON/OFF RF Capacitance level switch with up to 2 independently adjustable non-interacting set points. It may be used in liquids and dry bulk solids in metal tanks. In non-metallic tanks, a grounding rod needs to be installed. The LSA01-DT system consists of signal transmitter mounted in an enclosure, a mounting fitting and a rigid probe of up to 20 feet long. Probe material is SS316, supplied bare or PFA Teflon jacketed. DIN Rail Remote Module features an adjustable time delay, field selectable Failsafe operation, 2 DPDT output relays, LED status indication, and a simple push button calibration. It can be installed up to 300m (1000 ft) away from the process where calibration is performed.

Operation

The LSA01-DT senses level using RF capacitance measurement technique together with microcontroller technology for high accuracy point level detection. The probe is energized with a RF signal, and mounted in a vessel, forms a capacitor with the vessel wall. When the process level changes, a change of capacitance occurs resulting in change of frequency. This change is compared with preset values, and after amplification is used to actuate up to 2 relays. Hi and low alarms are set with push-buttons. An important feature of LSA01-DT is the set point and differential adjustments are non-interactive and independent of each other. Also, Intempco's two set point operation off of one relay allows our LSA01-DT 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) us used to turn a pump ON. Both functions with one relay.

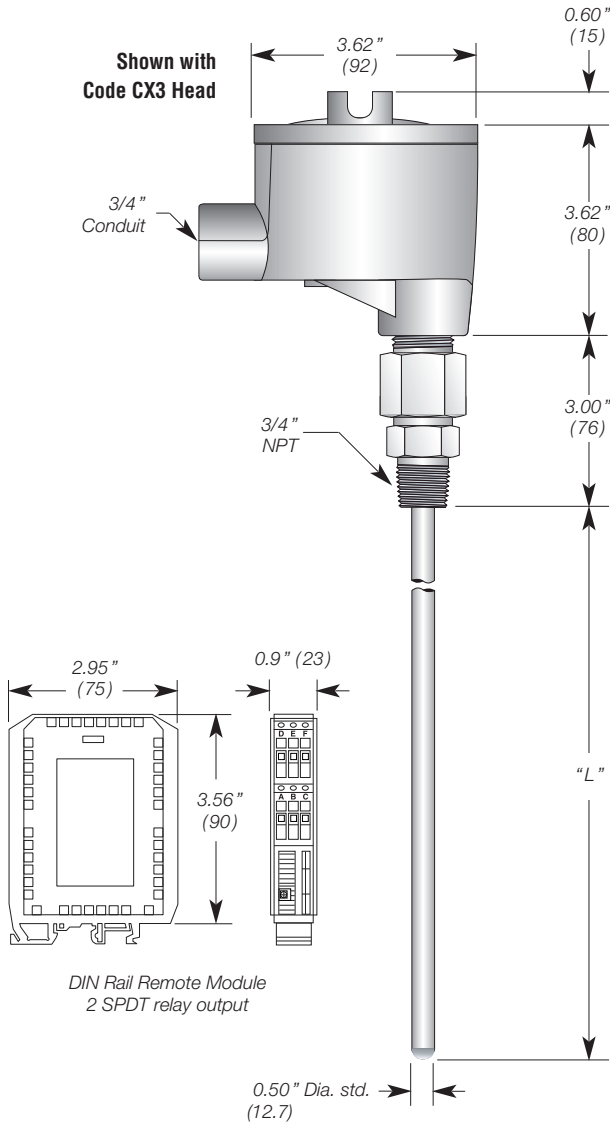


Applications

- 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-DT LEVEL SWITCH

RF Capacitance Dual-Point Level Switch



Electrical Specifications

- Supply Voltage :** 12 VDC-36 VDC
- Power consumption :** 100 mA @ 24 VDC - 240 mW max.
- Output :** 2 Relays form C SPDT Contacts
- Ratings :** 5 A @ 115 VAC Non-Inductive
2.5 A @ 230 VAC Non-Inductive
3 A @ 26 VDC Non-Inductive
- Calibration :** Via 2 push-button switches non-interactive settings
- Capacitance range :** 10 pF to 10000 pF
- Sensitivity :** 0.5 pF
- Accuracy :** ±0.1" (±2 mm) for constant dielectric (see Note 1)
- Repeatability :** ±0.1 % of setting (see Note 1)
- Time Delay :** 1 sec. on Make, factory set, 0- 30 sec. adjustable
- Ambient temperature :** -40 to 70 °C (-40 to 158 °F)

Note 1 : Stated accuracy and repeatability is for water @ 25 °C and a teflon clad probe 0.3 M (12") max. from the metal tank wall. Accuracy may vary with other media, installation locations and change of process temperature from calibration conditions (ie. material dielectric change due to temperature).

Mechanical Specifications

- Enclosures**
 - AH2 :** Aluminum, lift cover type, NEMA 4
 - SS2 :** Machined Stainless 316, NEMA 4X
 - CS2 :** Cast Stainless 316, NEMA 4X
 - AX3 :** Class I, Gps. B,C & D, Class II, Gps. E,F & G, Class III, CENELEC: EExd IIC, IP66 NEMA 4, 7BCD, 9EFG
 - CX3 :** Class I, Class II, Div 2, Gps. C&G
 - PV2 :** PVC, 1/2" conduit, NEMA 4X
 - PV9 :** PVC, Pg9 Gland, NEMA 4X
- Mounting Thread :** 3/4" NPT standard, others available
- Process Temperature :** 200 °C max (392 °F)-consult factory for higher temperatures
- Pressure Limits :** 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)
- Probe mat'l :** PFA Teflon jacketed, or bare SS316

Ordering Information :

MODEL BOX1 BOX2 BOX3 BOX4 BOX5 BOX6
LSA01 - [] - [] - [] - [] - [] - []

BOX1 CODE	Output
DT	2 DPDT Form C Relays

BOX2 CODE	Enclosure
AX*	Explosion Proof
CX3	Explosion Proof
AH*	Aluminum Flip-Cover
CS*	Cast Stainless Steel
SS*	Machined 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

** Fitting	** Flange
12	20
34	25
44	30
54	40
64	50
	60

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

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

BOX6 CODE	Options
-	none

*2 = 1/2" NPT Conduit

*3 = 3/4" NPT Conduit

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