

Product Features

- High pressure/temperature design for steam boilers
- Transmitter housed in rugged aluminum head or remotely
- Microprocessor based design
- Accuracy 1 % of span for constant dielectric of material
- Non-interactive zero and span calibration
- Continuous 4-20mA analog output operation
- High pressure 1/2" & 3/4" fittings available
- Ceramic clad, inner stainless probe design

Description

The Intempco LTX22 is a capacitance level sensor designed for modulating level control of liquids in metallic tanks. The probe is normally installed in a steam boiler, or metal tank, where it is grounded through the process fitting, the boiler tank forming the ground return path. It can be used in a non-conductive tank if an grounding reference rod is provided.

The probe measures level by measuring the change in capacitance as level changes in the tank. The micro-processor based electronics converts this capacitance change into a linear, highly accurate output signal. This signal may be used with one or more electronic modules to provide level control, level alarms, and/or outputs to a building management system.

The LTX22 is available with an enclosure and installed electronics or an enclosure and remotely installed electronics in a NEMA 4 box. The connection is made via coax cable. Remote electronics are a preferred choice for higher ambient temperature applications.

Application / Process Notes

- High pressure/temperature steam boilers
- For level control in building management
- Water and water-based liquids
- On-site calibration required
- Not recommended where material dielectric changes
- Tank must be conductive or grounding may be required or see other Intempco level probes.
- Do not use in high vibration/shock applications
- Read "Safety Information" carefully in LTX22 instruction manual as operation in Steam Boilers is a very serious matter.

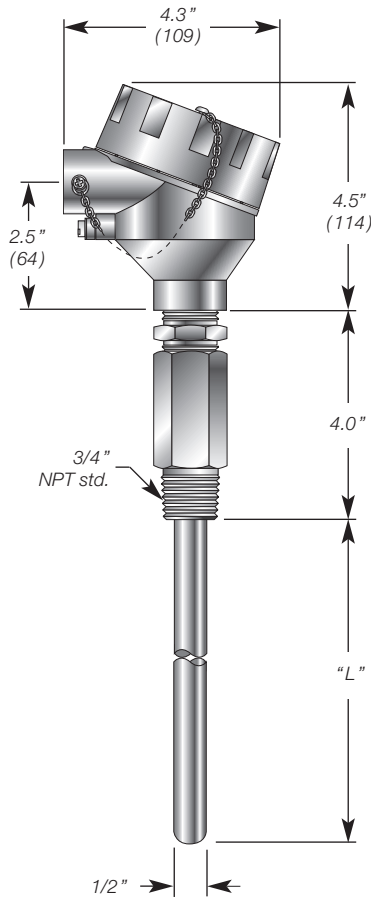
Level Sensor for Steam Boilers



LTX20 Probe Types

Probe Type	Typical Application	Standard Construction	Standard Mounting	Temperature Pressure Limits
E1	Water based liquids at high temperature/ pressure in steam boilers and other metallic and non-metallic tanks	Ceramic clad stainless rod, 1/2" OD	1/2", 3/4", 1" NPT	34 bar (500 PSI) @ 250°C (482°F)
A1	Water-like conductive liquids, thick conductive liquids in metallic tanks	PFA-covered rod, 1/2" OD	1/2", 3/4", 1" NPT	500 PSI (34 bar) @ 25°C (77°F), 250 PSI (17 bar) @ 100°C (212°F), 14.5 PSI (1 bar) @ 200°C (392°F)

Dimensions



Technical Specifications

Supply Voltage :	12 VDC - 32 VDC
Output :	4-20 mA, loop powered
Maximum Loop Resistance :	$[(V_{supply} - 10) / 0.02]$ (i.e. 700 ohms @ 24 VDC)
Supply Voltage Effect :	Less than 0.1% of output at maximum span from 12 to 30 VDC
Capacitance Range :	10 pF to 10,000 pF
Calibration :	Via 4 push-button switches, non-interactive Zero & Span
Accuracy :	$\pm 0.5\%$ of full span (see note 1)
Response time :	Less than 2-3 sec. with no damping time, 2-30 sec. with adjustable damping time
Display (optional) :	Integral 4-digit LCD
Damping Adjust :	0-30 sec.
Enclosure / Termination :	Aluminum coated with chemically resistant paint, Type 4x, IP66
Probe Type :	Ceramic clad stainless rod, 1/2" O.D. Teflon PFA clad stainless rod, 1/2" O.D.
Area Classifications :	None, for non-hazardous areas
Ambient Temperature :	-40°C to 70°C (-40 to 158°F)
Process Temperature/ Pressure :	34 bar (500 PSI) @ 250°C (482°F)

1. Accuracy includes the combined effects of linearity, hysteresis and repeatability. It refers to transmitter only and is measured at reference conditions of 25°C $\pm 1^\circ\text{C}$, 10 - 55% R.H. and 24 Vdc ± 1 Vdc, using an capacitance standard (applied to transmitter sensor terminals) in place of the sensor.

Custom Builder

MODEL 1 2 3 4 5 6 7

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BOX1 CODE	Electronic Module
HA	LTX1A transmitter installed 4-20 mA, 2-wire loop-powered
HB	LTX1A installed remotely in NEMA 4 metal box, 4-20 mA, 2-wire loop
HC	LTX1A installed remotely in NEMA 4 plastic box, 4-20 mA, 2-wire loop

BOX2 CODE	Housing
A2	Aluminum housing, model AD with 1/2" NPT conduit
A3	Aluminum housing, model AD with 3/4" NPT conduit

BOX3 CODE	Certificates of Compliance
X	None, for non-hazardous areas

BOX4 CODE	Process Connection
P2	1/2" NPT
P3	3/4" NPT

BOX5 CODE	Process Connection Material
S	Stainless 316L (low carbon)

BOX6 CODE	Probe Type
E1	High temperature/pressure probe, ceramic fully insulated stainless rod, 0.50" OD
A1	General purpose, PFA fully insulated, 3/8" Stainless 316L rod, 1/2" OD (LTX-C003)

BOX7 CODE	Probe Length "L"
---	In inches, Ex.: 065 = 65" long