

Instrumentation designed
with the user in mind.

SMART NULL-KOTE™ RF Impedance Level Transmitter



Features

Universal

PRINCO's RF Impedance technology is ideal for the widest range of applications, from non-conductive, low dielectrics, to highly conductive materials which leave a thick coating on the sensor probe.

Digital NULL-KOTE™ –

Microprocessor controlled for the most effective cancellation of conductive coatings.

Auto Gain Adjust –

SMART 1™ handles ranges up to 50,000 picofarads.

Designed to Survive

RF immune, vibration-proof, and factory precalibrated
- at no extra cost.

High Sensitivity & Stability

For critical low response applications.

Microprocessor based

Easy-On Probe

Automatically provides simple, fast installation and reliable operation without wires, connectors, or terminal strips.

Easy to Install

Integral electronics install as single unit. No special cable, delicate connectors, or separate enclosure.

Easy to Configure

- Tank shape ~ volume output
- Level & volume units
- Normal/reverse acting
- Level/volume proportional
- Damping
- Maintenance
- Polling address

The only

10 Year Warranty

The longest in the industry!

Description

Princo's SMART 1™ (L4610) is a HART™ level transmitter that can be used for most liquid and light bulk solid applications.

All features are accessible through the HART™ compliant Model 275 HART™ hand held with Princo Device Description (DD) or from any HART™ protocol compliant system.

The SMART 1™ has built-in 20 point linearization for the measurement of level and volume in any shape vessel.

Easy installation, set-up, and maintenance reduces overall operating costs substantially.

A complete level system consists of the SMART 1™ used in conjunction with the appropriate L100 series probe.

Series L4610 Specifications

Type

Intelligent, microprocessor based, Digital, RF Impedance sensing, level transmitter.

Output

4 to 20 mA (Point-to-Point)
4 mA (Multidrop)
Hart® Protocol

Linearity / Accuracy

± 0.5% typical

Load 250 ... 750 ohms

Hart® Protocol

Simultaneous transmission of 4-20 mA dc signal (500 ohm load) and digital FSK signal on one twisted pair. Digital series bit stream permits two-way communication, but does not affect or alter 4-20 mA analog signal.

Span Range

Probe lengths from 1 inch to 200 feet, depending upon application.
(From 5 pF to 3,000 pF)

Power Requirements

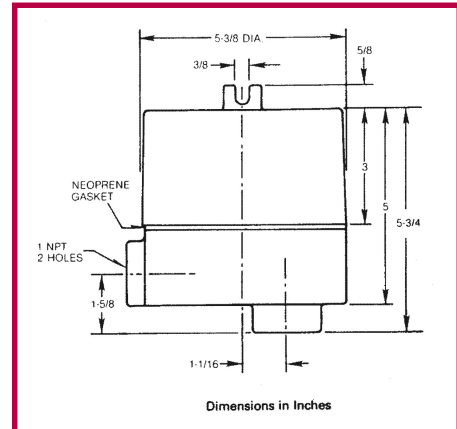
14 to 30 VDC
Reverse voltage protection

Temperature Range

Process (Probe dependent)
- 58°F to + 450°F
(- 50°C to + 232°C)
Ambient (Electronics)
+ 4°F to + 158°F
(- 20°C to + 70°C)

Agency Approval

Factory Mutual Research Corporation System Approved. See table below.



Electronics Housing

Explosion-proof Class I, II, III, Div. 1, Groups C, D, E, F, & G
NEMA 4X

Remote Mounting

Consult factory.

Probes

Probes used with the L4610 are designated as the L100 Series.

A variety of types and construction materials are available: flexible (cable type) or rigid, heavy or light duty Teflon™ or Kynar™ sheathing, NPT hub or flanged mounted, single or dual construction.

All probes are manufactured to the exact length required.

MODEL NO.	ELEMENT CONFIGURATION	TYPE	VESSEL CONNECTION	INSULATION OPTIONS
L101	Single	Rigid	1" NPT	B, KP, KS, TP, TS
L104	Single	Rigid	1", 2", 3" OR 4" TRI-CLAMP™	B, KP, KS, TP, TS
L102	Dual Concentric	Rigid	1½" NPT	B, KP, KS, TP, TS
L107	Dual Concentric	Rigid	1" NPT	B, KS, TP, TS
L109	Single	Flexible	1" NPT	KW, TW
L113	Dual Parallel	Flexible	1" NPT	KW, TW
L115	Dual Parallel	Flexible	3" Flange	KW, TW
L116	Dual Parallel	Flexible	3" Flange	KW, TW
L127	Dual Parallel	Rigid	3" Flange	B, KP, KS, TP, TS
L128	Dual Parallel	Rigid	3" Flange	KP, KS, TP, TS

TW = Teflon Wire (12 mil Teflon over copper wire)
KP = Kynar® Pipe (60 mil Kynar over carbon steel)
KS = Kynar Sheath (17 mil Kynar over 316 SS rod)
KW = Kynar Wire (20 mil Kynar over 316 SS wire rope)

B = Bare (No insulation)
TP = Teflon® Pipe (60 mil PFA Teflon over 316 SS rod)
TS = Teflon Sheath (17 mil Teflon over 316 SS rod)

10-YEAR WARRANTY

All PRINCO level control instruments are backed by a 10-year warranty. PRINCO will repair or replace, at our option, any instrument that fails under normal use for up to 10 years after purchase.

Model Number	Probe	Pressure Rating (PSI) at Temperature Indicated (°F)						
		-300	40	100	250	300	400	500
L101, L102, L104, L107, L109, L113	Teflon or Bare	1250	1250	1250	550	450	350	0
	Kynar	N/A	1000	1000	250	0	N/A	N/A
L115, L116, L127, L128	Teflon or Bare	275 ¹	275 ¹	275 ¹	225 ¹	210 ¹	180 ¹	0
	Kynar	N/A	275 ¹	275 ¹	225 ¹	0	N/A	N/A

1. Rating of Carbon Steel 150 lb. flange. For higher ratings, consult factory.

PRINCO

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