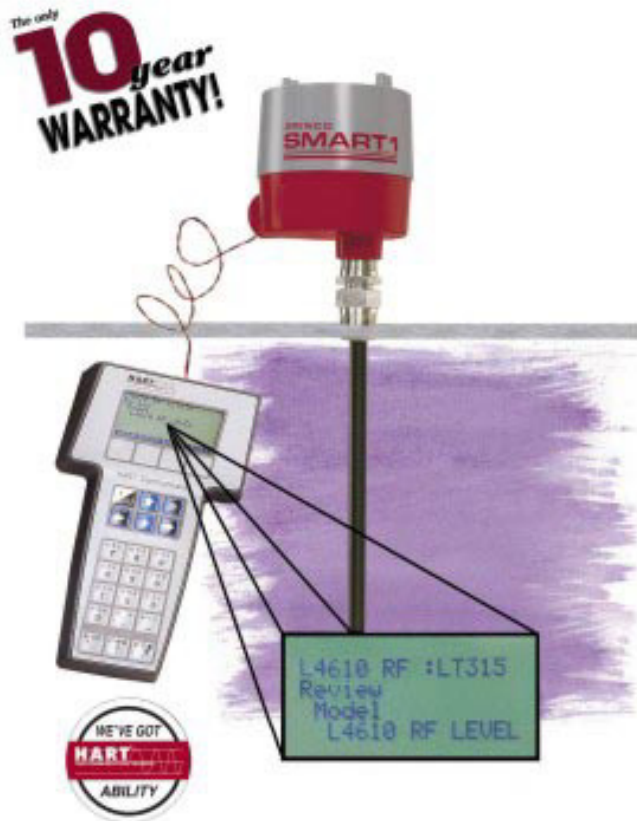


## Description

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 Device Description (DD) using a standard Model 275 HART™ hand held 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.



## Applications

- Water-based liquids
- Acids
- Hydrocarbons and solvents
- Powders and granulars
- Oils

## 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™ Circuitry** - 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 conformally coated (tropicalized) circuit boards for additional protection – at no extra cost.
- **High Sensitivity and Stability** – For critical low response applications.
- **Easy to Install** – Probe and electronics install as single unit. No 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
- **Easy-On Probe Connection** – Automatically provides simple, fast installation and reliable operation without wires, connectors, or terminal strips. Simply screw probe into the housing.
- **Ten-Year Warranty** – The only level instruments available with this unique assurance of quality.

## L100 Series Continuous Level 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

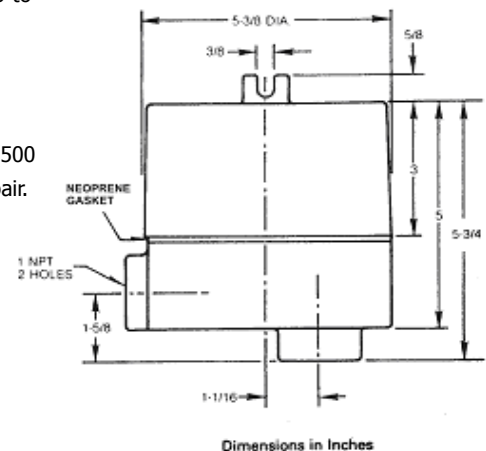
KP = Kynar® Pipe (60 mil Kynar over carbon steel)  
 KS = Kynar Sheath (17 mil Kynar over 316 SS rod)  
 KW = Kynar Wire (20 mil Kynar over 316 SS wire rope)  
 B = Bare (No insulation)  
 TP = Teflon® Pipe (60 mil PFA Teflon over 316 SS rod)  
 TS = Teflon Sheath (17 mil Teflon over 316 SS rod)  
 TW = Teflon Wire (12 mil Teflon over copper wire)

Model Number	Probe	Pressure Rating (PSI) at Temperature Indicated (°F)						
		-300	40	100	250	300	400	600
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 <sup>1</sup>	275 <sup>1</sup>	275 <sup>1</sup>	225 <sup>1</sup>	210 <sup>1</sup>	180 <sup>1</sup>	0
	Kynar	N/A	275 <sup>1</sup>	275 <sup>1</sup>	225 <sup>1</sup>	0	N/A	N/A

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

## L4610 Specifications

TYPE	Intelligent, microprocessor based, digital impedance sensing, level transmitter.
SPAN RANGE	From 20 pF to 50,000 pF. Probe lengths from 0.5 to 200 feet typical, depending on application.
Output	4 to 20 mA (Point-to-Point) 4 mA (Multidrop) Hart® Protocol
Hart® Protocol	Simultaneous transmission of 4-20 mA dc signal (500 ohm load) and digital FSK signal on one twisted pair.
POWER REQUIREMENTS	98 to 135 Vac, 50 to 60Hz, 5 watts; or 207 to 253 Vac, 5 watts; or 22 to 27 Vdc, 2.2 watts.
AMBIENT TEMPERATURE	-4 to 158 °F (-20 to 70 °C)
LINEARITY	0.5% of span maximum over entire range span.
TEMPERATURE STABILITY	+/- 0.015% per 1 degree F
REMOTE MOUNTING DISTANCE	Up to 50 feet (cable connected).
PROCESS CONDUCTANCE	Tolerates process coating conductance up to 5000mS (200 ohms of composite resistance).
ELECTRONIC HOUSINGS	Explosion-proof Class I, II, III, Div. 1, Groups C, D, E, F, & G . NEMA4.



## 10 Year Warranty

All PRINCO RF impedance 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 up to 10 years after purchase.

2013-1

# PRINCO™

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