

*Instrumentation designed  
with the user in mind.*



## **TWO-WIRE SMART RF Impedance Level Transmitter**

### **Features**

#### **Universal**

PRINCO's RF Impedance technology is ideal for a wide range of applications, from non-conductive, dielectrics, to highly conductive materials

#### **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

### **Microprocessor based**

#### **Designed to Survive**

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

#### **High Sensitivity & Stability**

For critical low response applications.

### **Operational Modes**

#### **Stand Alone Operation**

Easy Calibration  
Push-Button Empty & Fill

#### **Remote Operation Via Hart® Protocol**

Hart® interface  
Monitor actual level and volume in engineering units  
Monitor output current range (% range, level or volume proportional) milliamps or as a percentage.

*The only*

**10 Year Warranty**

*The longest in the industry!*

### **Description**

Princo's SMART 2™ (L4620) is a two-wire 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 Besta Device Description (DD) or from any HART™ protocol compliant system.

The SMART 2™ has built-in 20 point linearization for the measurement of level and volume in any shape vessel.

The unit is PTB, SEV (CENELEC) approved for intrinsic safety (Ex ia [IC T6]) which enables operation in hazardous locations.

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

A complete level system consists of the SMART 2™ used in conjunction with the appropriate L100 series probe.

# Series L4620 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

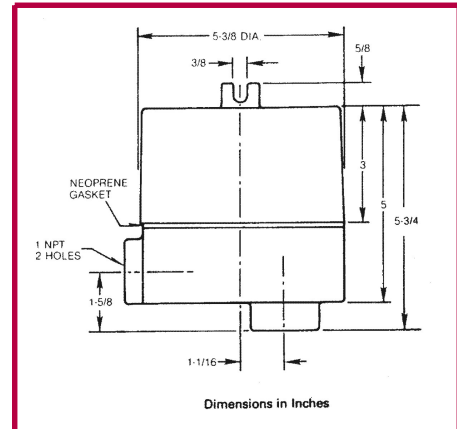
14 to 30 VDC  
Reverse voltage protection

## 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)

## Approvals

PTB, SEV (CENELEC)  
EEx ia IIC T6, Zone 0



## Electronics Housing

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

## Remote Mounting

Consult factory.

## Probes

Probes used with the L4620 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.

### 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 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)

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 <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.

**PRINCO**

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