

Universal V Level Transmitter with 700-5-54 Series Sensing Element



Continuous Level transmitter uses a lightweight flexible sensor for measurement lengths up to 400 feet.

The Drexelbrook continuous level measuring systems with a PFA insulated light-weight flexible sensing element (0.093-inch O.D.) provides the highest reliability at the lowest price.

The sensing element is easily installed through existing vessel openings and is available with a variety of weights to accommodate any process connection 3/4-inch NPT or larger. The PFA insulation is compatible with almost all process materials, and the sensing element is easily shortened in the field for maximum versatility. The sensing element design and patented Cote-Shield™ circuitry allow the system to ignore the effects of coatings that may build up on the sensing element or vessel walls. No maintenance is required, and the sensing element can be used in lengths up to 400 feet.

Key Benefits:

Economical

Low system price and low price per foot adds up to the most economical system available.

Easy Installation

Light weight flexible sensing element can be installed in any connection 3/4" NPT or larger with only 10 inches of overhead clearance needed.

Proven Performance

Based on 25 years of level measurement experience with a technology that has proven successful in tens of thousands of applications all over the world.

Versatile

System is appropriate for almost all process materials, and the sensing element is easily shortened in the field.

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Typical Systems

Model #	Process Pressure and Temperature	Sensor Dimensions	Standard Sensor Mounting	Sensor Materials of Construction
VP21010000-318-0 (Heavy Coatings)	300 psi @ 300 °F ①	.093-inch O.D. 400 ft. max. insertion length	¾-inch NPT	PFA insulated flexible cable
VL21010000-318-0 (Light Coatings)	300 psi @ 300 °F ①	.093-inch O.D. 400 ft. max. insertion length ②	¾-inch NPT	PFA insulated flexible cable

① When process temperature exceeds 212 °F (100 °C), the mounting must include a cooling extension to maintain the pressure rating.
 ② Sensing element can be shortened in the field.

Electronics Specifications (Universal IV)

Technology

RF Admittance / Capacitance

Supply Voltage

16–30VDC, 2-wire loop powered

Output/Digital Protocol

4-20mA, HART

Compatible with HART®

HART device description available

Load Resistance

Maximum 550 ohms at 24 VDC

Minimum 250 ohms for HART protocol

Ambient Temperature

-40 to 75 °C (-40 to 167 °F)

Process Connection

NPT, BSP, JIS, ANSI, DIN, Grayloc, Tri-Clamp,

Perlick Fitting and more upon request

Main Wetted Parts

316L, TFE, PFA

Capacitance Measurement Range

Autoranging (6 ranges)

1–45,000 pF (Pro model)

20–7,000 pF (Lite model)

Universal V™ Series Pro and Lite Models

Cote-Shield™

Pro Model: Coating rejection with 100Khz or 15khz and 45° phasing

Lite Model: 100Khz or 15khz without phasing for insulating coating or conductive non-coating applications only

Integral or Remote Configuration

100 ft max cable length for remote configuration

Accuracy

0.25% of span (ranges 2–6)

Includes the effects of linearity, hysteresis and repeatability on electronics only

Response Time to Level Changes

350 msec nominal (no damping applied)

1–90 seconds programmable damping time

Supply Voltage Effect

0.2% of full scale max

Temperature Effect

0.5% per 100 °F (37.7 °C) change

Start-Up Time

< 12 seconds

Configuration and Calibration

Standard LCD display and keypad on all models

HRTWIN™ PC-based software

Or third-party Model 275, 375, 475 handheld communicator

Approvals

Intrinsically Safe (IS)

Explosion Proof (XP)

FM, FMc

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