

Level-Tek Model 318A



Probe shown for illustration only. Must be ordered separately.

GENERAL DESCRIPTION

The Robertshaw Model 318A Level-Tek is an on/off all solid state RF control instrument for detecting predetermined product level changes in tanks, sumps, silos and other vessels or containers. The Model 318A is capable of detecting a variety of products, including liquids, powders, granular, lump and flake materials. The product can be conductive or non-conductive.

The Model 318A is self-contained and uses integrated circuits to ensure long term stability, reliability and reduced maintenance. Control signals are provided through the contacts of a DPDT relay. The instrument features adjustable time-delay which is selective for time-delay on "Pull-In," "Drop-Out" or both. The unit is available with any of three different supply voltages.

PRINCIPLE OF OPERATION

The standard Model 318A Level-Tek mounts directly on a Robertshaw probe assembly, which is installed in the tank or other container. A remote mount option (maximum 15 feet) is available. The Level-Tek unit senses changes in product level as a function of the "true" capacitance change between the probe element and the wall of the container. With the optional "Short-Stop" circuitry and probe, the Model 318A is able to accurately sense level changes even when the probe is coated with sticky or viscous materials. The resistance part of the probe circuit (caused by coating) is ignored, yielding a "true" capacitance signal directly proportional to real level.

FEATURES AND BENEFITS

- **Versatile** - meets explosion-proof and dust-tight requirements.
- **All Solid State RF Control** - Use of integrated circuits ensures long-term stability and reliability.
- **Short-Stop Option** - Ignores product build-up/coating on sensor.
- **Remote Mount Option** - (maximum 15 feet).
- **Optional DC or AC Supply Voltages.**
- **Field Selectable Operational Modes** - High or low fail safe.
- **Ease of Calibration** - Built-in solid-state (LED) aids in calibration.
- **Simplified Installation** - Self-contained unit mounts directly on the sensing probe.
- **Plug-In Chassis Assembly.**
- **Heavy Duty Control Relay.**
- **CSA Certified** (120 VAC, Non-Shortstop version only).

SPECIFICATIONS

Enclosure:Explosion Proof
 Model 318A-B1 - CSA certified for Class 1, Div. 1, Groups C & D; Class 11, Div. 1, Groups E, F, G; and CSA enclosure 5. Also meets NEMA 4,12. All models have same enclosure.

Intrinsic Safety:

Model 318A-B1-CSA certified intrinsically safe probe input circuit for Class 1, Div. 1, Groups C & D; Class 11, Div. 1, Groups E, F, G (when used with probes 702A, 728A, 729A, 736A, 738A, 739A, 740A or 741A). No safety barrier required.

Operating Temperature Limits..... -40°F to + 160°F.

Storage Temperature..... -55°F to + 225°F.

Operating Humidity Range..... 0 to 95% RH.

Vibration Limits:..... 2 g's to 100 Hz.

Weight..... 3.5 lbs.

Supply Voltage: 18 to 30 VDC, 120 VAC, 50/60 Hz, ± 10% 240 VAC, 50/60 Hz, ± 10%

Supply Power..... 8 watts 8VA max

Control Range (zero adjustment): Max. 260 Pf.

Sensitivity (deadband):

Fixed Differential 0.2 Pf.

Time Delay:

Adjustable 0.5 to 30 seconds.

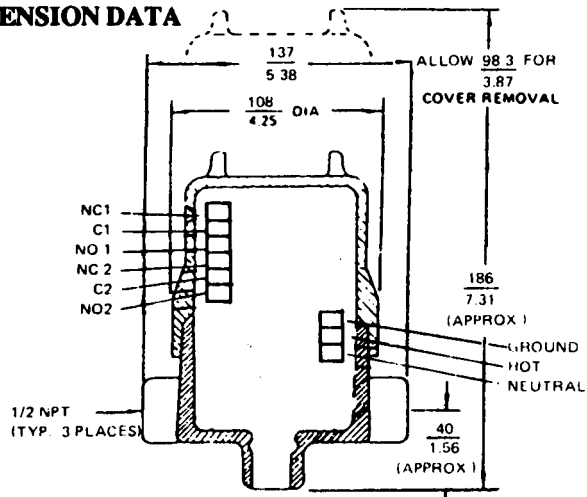
Temperature Coefficient Control Point 0.01 pF/°C.

Control Relay:

Form DPDT

Contact Rating DPDT.....5A @ 28 VDC, 120 /240 VAC, Non-inductive.

DIMENSION DATA



CUSTOMER CONNECTIONS

SUPPLY VOLTAGE (See Rating Plate)		RELAY CONTACTS	
TERMINAL	DESCRIPTION	TERMINAL	DESCRIPTION
N	120V 50 60 Hz	N.C. 1	Normally Closed No. 1
H		C 1	Common No. 1
N	240V 50 60 Hz	N.O.1	Normally Open No. 1
H		N.C. 2	Normally Closed No. 2
N+	18 TO 30 VDC	C 2	Common No. 2
H-		N.O. 2	Normally Open No. 2

Control relay contact designations are shown with relay in the de-energized condition. The relay is normally energized and becomes de-energized when level or process reaches the control point.

ORDERING INFORMATION

STANDARD MODEL*

318A - B 1

TABLE A - KEY MODEL NUMBER

Model No.	Description
318A	On-Off control unit mounted in a combination explosion-proof/weather-tight enclosure. Unit includes a single DPDT control relay, fixed differential (deadband) and adjustable time delay. Unit is direct mounted on the sensing probe. CSA approved, 120 VAC. Std version.

TABLE 1- SUPPLY POWER

Designation	Description
A	18 TO 30 VDC
B	120 VAC, ± 10%
C	240 VAC, ± 10%

TABLE 2 - OPTIONS

Designation	Description
1	None
2*	Short-Stop

*NOTE: requires Short-Stop probe (732A or 727A)

REMOTE MOUNT OPTION

For remote mount option (maximum 15 feet) see PL 318A.

Robertshaw

U.S.A. and CANADA

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