

The Point™ RF Series Point Level Switch



One of the Drexelbrook RF Point Level Switches You Won't Have to Calibrate

Simply install ThePoint Series into the tank and apply power...that's it! Unlike other RF or capacitance systems that require calibration via setpoint potentiometers, jumpers, magnets, or pushbuttons, ThePoint Series reliably detects the absence or presence of material without any adjustments.

ThePoint Series software continuously monitors the application for changes in composition, dielectric or conductivity, and maintains a repeatable trip point on the probe. Other RF and capacitance systems require calibration adjustments when the process material is changed. Since ThePoint Series recognizes changes in material, it is ideal for non-dedicated tanks that are used for a wide variety of products.

Lower Cost of Ownership

In addition to lower initial investment, ThePoint continues to save with little or no maintenance compared with other technologies. Further, the sensor can be lengthened or shortened in the field, saving need for additional purchases.

Universal Power Supply

ThePoint electronics use a universal power supply module that can be powered from a 19 to 250 Vac or 18 to 200 Vdc supply without moving jumpers.

Intelligent Electronics Save Time and Money

- UNIQUE! - NO calibration or setpoint adjustments, for most applications.
- UNIQUE! - Ignores changes in dielectric or conductivity.
- Automatically recognizes and ignores coatings to prevent false alarms.
- Universal power supply automatically detects & adjusts to input power source.

Diverse Applications

- Detects the absence or presence of liquids, slurries, and granulars.
- Capable of high pressures and temperatures.

Economical Without Sacrifice

- Retains superior performance.
- Less maintenance than other technologies; no moving parts to hang up or wear out.

Output

- DPDT relay dry contacts at 5A, 120VAC.

Remote or Integral Electronics

- Unlike many technologies, electronics can be remote mounted to a convenient or safe location



Point Level Measurement

The Point™

Specifications

Technology:

RF Admittance.

Calibration:

None (for most applications).

Modes Of Operation:

High and Low Level.

Repeatability:

2 mm (0.08 inch) conductive liquids.

Response Time:

Less than one second.

Ambient Electronic Temperature:

-40 to 70°C (-40 to 158°F) FM, CSA

Storage Temperature:

-40 to 85°C (-40 to 185°F).

Indicators:

LEDs: Green Power, Red Relay 1.

Time Delay:

0-60 seconds, forward or reverse-acting.

Supply Voltage:

19-250 VAC

18-200 VDC

Auto-detecting without jumpers.

Power Consumption:

2 watts maximum.

Relay Contacts:

DPDT dry contacts at 5A, 120Vac.

Maximum Contact Load:

5A/30 VDC

5A/250 VAC **Maximum Switching Capacity:**

2000 VA/150 Watt.

Minimum Contact Load (DC):

100 mA/12 VDC

Housing:

Powder-Coated aluminum with two cable entries.

Cable Entry:

M20 x 1.5

3/4-inch NPT

Ingress Protection:

IP66 NEMA 4X

Approvals:



Remote

Explosion-proof for Class I, Division 1, Groups A, B, C, and D; Dust-Ignition proof for Class II, III,

Division 1, Groups E, F, and G; Non-incendiary for Class I, Division 2, Groups A, B, C, & D; Suitable for Class II, III, Groups F & G hazardous outdoor Type 4X, IP66 (classified) locations with Intrinsically Safe connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G hazardous (classified) locations in accordance with Control Drawing 420-0004-181-CD.

Integral:

[Same, but Group A does not apply.]



Integral Sensors

Class I, Groups B, C, D; Class II, Groups E, F, G; Class III; Type 4, 4X, IP66; T5 for Ta = 70o C. Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G; Class III; Type 4, 4X, IP66; T5 for Ta = 70o C

Remote Sensors

Class I, Groups A, B, C, D; Class II, Groups E, F, G; Class III; Type 4, 4X, IP66; T5 for Ta = 70o C. Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G; Class III; Type 4, 4X, IP66; T5 for Ta = 70o C



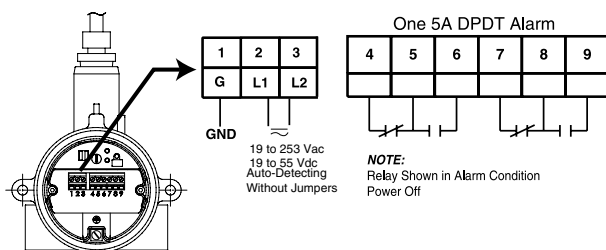
II 1/2 GD EEx d[ia] IIC T2..T5, Ta = -30°C to +70°C

SAA (For Remote Electronics)

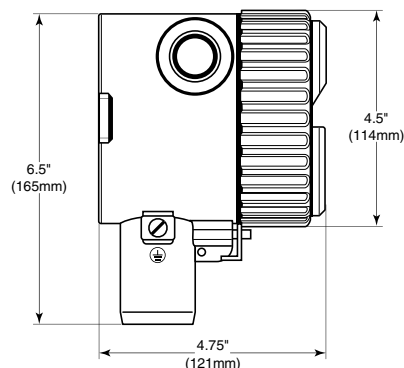
Electronics Ex d[ia] IIC T5 DIP A21 Ta = -100°C

Sensing Element Ex ia IIC T6

Wiring



Dimensions



Point Level Measurement

The Point™

Model Numbering (continued on next page)

Technology

P RF Admittance

Measurement Type

- N No Calibration, 2 pF Preload
- H No Calibration, 0.5 pF Preload, with High Sensitivity
- L No Calibration, 2 pF Fixed Preload
- T No Calibration, 10 pF Preload
- V No Calibration, 10 pF Fixed Preload
- P No Calibration, 0.5 pF Fixed Preload (High Sensitivity)
- M Manual Calibration
- G Manual Calibration (High Sensitivity)



All Calibration modes are built into the standard unit. Modes can be changed in the field as required (See Instruction Manual)

Input

L Universal Power Supply 19-250 VAC, 18-200 VDC

Output

1 One DPDT Relay, dry contact, 5A, 120VAC (Min 100 mA / 12 VDC)

Housing

- 0 No Approvals, NEMA 4X/IP66, M20 x 1.5 conduit entries
- 1 No Approvals, NEMA 4X/IP66 ¾" NPT conduit entries
- 2 CENELEC/ATEX
- 3 FM Approved
- 4 CSA Approval

Electronics

- 0 Integral
- 1 Remote, no cable
- 2 Remote with 3 m (10 feet) cable
- 3 Remote with 7.6 m (25 feet) cable
- 4 Remote with 10.6 m (35 feet) cable
- 5 Remote with 15.2 m (50 feet) cable
- 6 Remote with 23 m (75 feet) cable

Sensing Element

Application	Sensing Element	Pressure/Temperature	Wetted Parts
00 General purpose	700-1202-001 remote 700-1202-021 integral	13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and PEEK
01 Floating roof with cable attachment and brass bottom weight	700-1202-012 remote 700-1202-022 integral	13.8 bar @ 177°C (200 PSI @ 350°F)	316SS, Brass, and PEEK
02 General purpose, longer insertion lengths with cable attachment and 316SS bottom weight	700-1202-014 remote 700-1202-024 integral	13.8 bar @ 177°C (200 PSI @ 350°F)	316SS and PEEK
03 Proximity	700-1202-018 remote 700-1202-028 integral	13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and PEEK with 76 mm (3) 316SS proximity plate
04 General purpose, high temperature and pressure	700-1202-041 remote 700-1202-042 integral	69 bar @ 121°C (1000 PSI @ 250°F) 20.7 bar @ 232°C (300 PSI @ 450°F)	316SS and PEEK
06 General purpose with FDA approved materials of construction	700-1202-031 remote 700-1202-032 integral	13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and FDA grade PEEK
07 General purpose Granular materials	700-1202-010 remote 700-1202-020 integral	13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and PEEK with 7/8 inch dia. 316SS collar
09 General purpose Granular materials with FDA approved materials of construction	700-1202-033 remote 700-1202-034 integral	13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and FDA grade PEEK with 7/8 inch dia. 316SS collar
10 Corrosive liquids (2)(4)(9)	700-0001-018	3.4 bar @ 149°C (50 PSI @ 300°F)	PFA
11 General purpose, higher pressure TFE compatibility required	700-0201-005	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and TFE
12 Corrosive material, higher pressure	700-0201-005 Hastelloy C	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)	Hastelloy C and TFE
13 Sanitary (3)	700-0201-036	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)	316/316L SS and TFE
14 General Purpose, low pressure	700-0202-002	3.4 bar @ 149°C (50 PSI @ 300°F) 1.4 bar @ 232°C (20 PSI @ 450°F)	316SS and TFE
15 Heavy duty, agitated tanks or material with high bulk density (1)	700-0202-043	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and TFE
17 Sanitary (3) lowpressure	700-0202-036	3.4 bar @ 149°C (50 PSI @ 300°F) 1.4 bar @ 232°C (20 PSI @ 450°F)	316SS and TFE
18 Corrosive material, higher pressure with waterlike viscosity (4)	700-0001-022	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500 PSI @ 300°F)	TFE
20 Miniature Pilot Plant Sensor (1)(7)	700-0209-002	6.9 bar @ 121°C (100 PSI @ 250°F) 0 bar @ 232°C (0 PSI @ 450°F)	316 SS and TFE

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Point Level Measurement

Model Numbering (Continued)

(Continued from Previous Page)

Sensing Element Fly Ash Precipitators, Baghouse, and Economizers (1) (6)

Application	Sensing Element	Pressure/Temperature	Wetted Parts
31 No hopper Installation	700-0029-001	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE (CS Inactive)
32 Hopper Installation up to 200mm (8 inches)	700-0029-002	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE (CS Inactive)
33 Hopper Installation up to 250mm (10 inches)	700-0029-003	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE (CS Inactive)
34 Hopper Installation up to 330mm (13 inches)	700-0029-004	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE (CS Inactive)
35 Hopper Installation up to 400mm (16 inches)	700-0029-005	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE (CS Inactive)

Plugged Chute Detection (1) (5)

Application	Sensing Element	Pressure/Temperature	Wetted Parts
50 Flush Mount Sensor 305mm ² (12 inches ²) heavy duty	700-0207-001	0.1 bar @ 82°C (1 PSI @ 180°F)	304 SS and Polyurethane
51 Flush Mount Sensor 305mm ² (12 inches ²) higher temperature	700-0207-002	0.1 bar @ 149°C (1 PSI @ 300°F)	304 SS and TFE
52 Flush Mount Sensor 305mm ² (12 inches ²) with curved radius 153, 229, 305 mm (6, 9, or 12 inches)	700-0207-003	0.1 bar @ 82°C (1 PSI @ 180°F)	304 SS and Neoprene
53 Flush Mount Sensor 305mm ² (12 inches ²) extra heavy duty	700-0207-004	0.1 bar @ 82°C (1 PSI @ 180°F)	410 SS and UHMW Polyethylene
55 Flush Mount Sensor 203mm ² (8 inches ²) heavy duty	700-0207-006	0.1 bar @ 82°C (1 PSI @ 180°F)	304 SS and Polyurethane

Mounting Type (See separate Mounting Chart for first three digits)

	IL	CSL	IL	CSL
xxxA	152 mm (6")	51 mm (2")	xxxH	914 mm (36")
xxxB	305 mm (12")	51 mm (2")	xxxJ	914 mm (36")
xxxC	305 mm (12")	89 mm (3.5")	xxxK	1219 mm (48")
xxxD	457 mm (18")	51 mm (2")	xxxL	1524 mm (60")
xxxE	457 mm (18")	89 mm (3.5")	A1BX	IL/CSL factory set for Fly Ash
xxxF	457 mm (18")	254 mm (10")	xxxZ	Other
xxxG	457 mm (18")	0 mm (0")		



- Notes:**
- (1) Available with remote electronics only
 - (2) Use A1P mounting option
 - (3) Choose only sanitary mounting options
 - (4) Available with 0-inch CSL only
 - (5) Use P00X mounting option
 - (6) Use A1B mounting option
 - (7) Use A8B mounting option (¼-inch NPT)
 - (8) Choose from flange mounting only
 - (9) FM approved with remote electronics only

Not all mounting options available with all sensing elements

NPT Threads

A1B ¾" NPT	316SS	A2B 1" NPT	316SS
A1C ¾" NPT	Hastelloy C	A2C 1" NPT	Hastelloy C
A1P ¾" NPT	PFA		

Sanitary TriClamps

C2B 1" TriClamp	316SS	C4B 2" TriClamp	316SS
C3B 1½" TriClamp	316SS		

DIN Flanges

E01 25 mm 16 bar	RF 316/316L SS	E02 25 mm 16 bar	RF CS
EP1 25 mm 40 bar	RF 316/316L SS	EP2 25 mm 40 bar	RF CS
EQ1 50 mm 16 bar	RF 316/316L SS	EQ2 50 mm 16 bar	RF CS
ER1 50 mm 40 bar	RF 316/316L SS	ER2 50 mm 40 bar	RF CS
ES1 80 mm 16 bar	RF 316/316L SS	ES2 80 mm 16 bar	RF CS
ET1 80 mm 40 bar	RF 316/316L SS	ET2 80 mm 40 bar	RF CS
EU1 100 mm 16 bar	RF 316/316L SS	EU2 100 mm 16 bar	RF CS
EV1 100 mm 40 bar	RF 316/316L SS	EV2 100 mm 40 bar	RF CS
EW1 150 mm 16 bar	RF 316/316L SS	EW2 150 mm 16 bar	RF CS
EX1 150 mm 40 bar	RF 316/316L SS	EX2 150 mm 40 bar	RF CS

ANSI Flanges

DA1 1" 150#	RF 316/316L SS	DA2 1" 150#	RF CS
DB1 1½" 150#	RF 316/316L SS	DB2 1½" 150#	RF CS
DC1 2" 150#	RF 316/316L SS	DC2 2" 150#	RF CS
DD1 2½" 150#	RF 316/316L SS	DD2 2½" 150#	RF CS
DE1 1" 300#	RF 316/316L SS	DE2 1" 300#	RF CS
DF1 1½" 300#	RF 316/316L SS	DF2 1½" 300#	RF CS
DG1 2" 300#	RF 316/316L SS	DG2 2" 300#	RF CS
DH1 2½" 300#	RF 316/316L SS	DH2 2½" 300#	RF CS
DI1 3" 150#	RF 316/316L SS	DI2 3" 150#	RF CS
DJ1 3" 300#	RF 316/316L SS	DJ2 3" 300#	RF CS
DK1 4" 150#	RF 316/316L SS	DK2 4" 150#	RF CS
DL1 4" 300#	RF 316/316L SS	DL2 4" 300#	RF CS
DM1 6" 150#	RF 316/316L SS	DM2 6" 150#	RF CS
DN1 6" 300#	RF 316/316L SS	DN2 6" 300#	RF CS

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