AMETEK®

DREXELBROOK®

DATA SHEET

The Point™ Line Powered RF Series Point Level Switch

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.

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.

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, FMc

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
0 -200 mA / 12 VDC (Optional)

Housing:
Powder-Coated aluminum with two cable entries.

Cable Entry:
M20 x 1.5
¾-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, Division 2, Groups F & G hazardous outdoor Type 4, 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.]

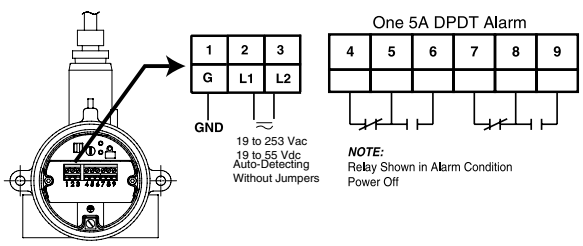
II 1/2 G EEx d[ia] IIC T2..T5, Ta = -30°C to +70°C
II 1/2 D T 90°C

0344

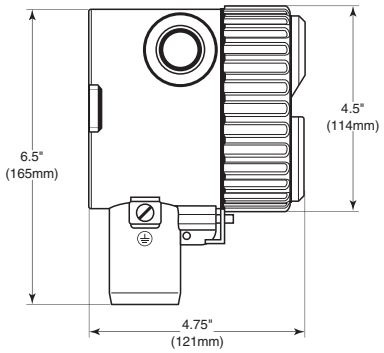
IECEX (For Remote Electronics)

Electronics	Ex d[ia] Gb IIC T5; -30°C ≤ Ta ≤ +70°C
Sensing Element	Ex ia Ga IIC T2... T5; -30°C ≤ Tamb ≤ +70°C

Wiring



Dimensions



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The Point™

Model Numbering (continued on next page)

Technology

P RF Admittance

Measurement Type

N	Std Auto Cal	**H**	Hi Sense .5 pF Auto Cal
L	Std 2 pF Fixed	**P**	Hi Sense .5 pF Fixed
T	10 pF Auto Cal	**G**	Hi Sense Manual
V	10 pF Fixed	**M**	Std Sense Manual

NOTE: *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 contacts, 5A, 120VAC (Min 100 mA / 12 VDC)
2 One DPDT Relay, gold plated contacts (Max 200 mA / 12 VDC)

Housing

0 No Approvals(Remote), NEMA 4X/IP66, M20 X 1.5 conduit entries
1 No Approvals, NEMA 4X/IP66, ¾" conduit entries
2 ATEX / IECEx (IECEx Remote only), NEMA 4X/IP66, M20 X 1.5 conduit entries
3 FM / FMc approved, NEMA 4X/IP66, ¾" conduit entries
5 No Approvals, NEMA 4X/IP66, M20 conduit entries, Dual Seal, Perm-a-Seal Sensors – only
6 FM / FMc approved (Integral), No Approvals (Remote), NEMA 4X/IP66, ¾" conduit entries, Dual Seal, Perm-a-Seal Sensors – only
7 FM / FMc approved (Remote), NEMA 4X/IP66, ¾" conduit entries, Dual Seal, Perm-a-Seal Sensors – only
8 No Approvals (Integral), NEMA 4X/IP66, ¾" conduit entries, Dual Seal, Perm-a-Seal Sensors – only
9 FM / FMc approved (Integral), No Approvals (Remote), NEMA 4X/IP66, M20 conduit entries, Dual Seal, Perm-a-Seal Sensors – only
A No Approvals (Remote), NEMA 4X/IP66, ¾" conduit entries, Dual Seal,Perm-a-Seal Sensors – only
B FM / FMc approved (Remote), NEMA 4X/IP66, ¾" conduit entries, Dual Seal, Perm-a-Seal Sensors – only

Electronics

0	Integral	**7**	Rmt. w/ (25 ft.) Tri-Ax Cable	**E**	Rmt. w/ (75 ft.) 1st 10ft Hi-Temp. Cbl.
1	Remote, no cable	**8**	Rmt. w/ (50 ft.) Tri-Ax Cable	**F**	Rmt. w/ (5 ft.) G.P. Cable
2	Rmt. w/ 3 m (10 ft.) G.P. cable	**9**	Rmt. w/ (75 ft.) Tri-Ax Cable	**G**	Rmt. w/ (5 ft.) Tri-Ax Cable
3	Rmt. w/ 7.6 m (25 ft.) G.P. cable	**A**	Rmt. w/ (10 ft.) Hi-Temp. Cable	**H**	Rmt. w/ (10 ft.) Tri-Ax Cable
4	Rmt. w/ 10.6 m (35 ft.) G.P. cable	**B**	Rmt. w/ (25 ft.) 1st 10ft Hi-Temp. Cbl.	**J**	Rmt. w/ (35 ft.) Tri-Ax Cable
5	Rmt. w/ 15.2 m (50 ft.) G.P. cable	**C**	Rmt. w/ (35 ft.) 1st 10ft Hi-Temp. Cbl.	**K**	Rmt. w/ (5 ft.) Hi-Temp. Cable
6	Rmt. w/ 23 m (75 ft.) G.P. cable	**D**	Rmt. w/ (50 ft.) 1st 10ft Hi-Temp. Cbl.		

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 remote	3.4 bar @ 149°C (50 PSI @ 300°F)	PFA
11	General purpose, higher pressure TFE compatibility required	700-0201-005 int/rem	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 int/rem 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 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 300°F)	316/316L SS and TFE
14	General Purpose, low pressure	700-0202-002 int/rem	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 remote	69 bar @ 38°C (1000 PSI @ 100°F) 13.8 bar @ 232°C (200 PSI @ 450°F)	316SS and TFE
16	High Integrity Seal for Hazardous Materials	700-0002-360 int/rem	34.5 bar @ 149°C (500 PSI @ 300°F)	PFA
17	Sanitary (3) lowpressure	700-0202-036 int/rem	3.4 bar @ 149°C (50 PSI @ 300°F)	316SS and TFE
18	Corrosive material, higher pressure with waterlike viscosity (4)	700-0001-022 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500 PSI @ 300°F)	TFE
19	Interface Measurement	700-0002-023 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500 PSI @ 300°F)	316SS and TFE

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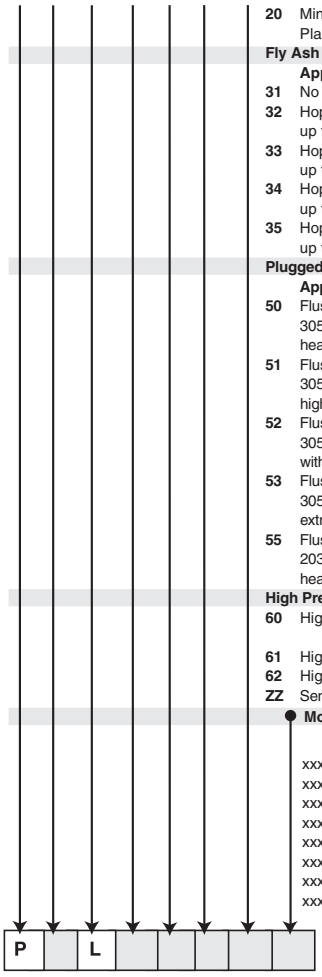
Model Numbering (continued from previous page)



Not all mounting options available with all sensing elements

20	Miniature Pilot Plant Sensor (1)(7)	700-0209-002 remote	6.9 bar @ 121°C (100 PSI @ 250°F) 0 bar @ 232°C (0 PSI @ 450°F)	316 SS and TFE
Fly Ash Precipitators, Baghouse, and Economizers (1) (6)				
	Application	**Sensing Element**	**Pressure/Temperature**	**Wetted Parts**
31	No hopper Installation	700-0029-001 remote	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE
32	Hopper Installation up to 200mm (8 inches)	700-0029-002 remote	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE
33	Hopper Installation up to 406mm (16 inches)	700-0029-003 remote	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE
34	Hopper Instalation up to 521mm (20.5 inches)	700-0029-004 remote	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE
35	Hopper Installation up to 635mm (25 inches)	700-0029-005 remote	0.1 bar @ 260°C (2 PSI @ 500°F)	316SS and TFE
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 remote	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 remote	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 remote	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 remote	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 remote	0.1 bar @ 82°C (1 PSI @ 180°F)	304 SS and Polyurethane
High Pressure / High Temperature				
60	High Pressure & Temp.	700-0204-038 remote	137.9 bar @ 93°C (2000 PSI @ 200°F) 68.9 bar @ 260°C (1000 PSI @ 500°F)	316SS and Ceramic
61	High Temperature	700-0204-002 remote	0 bar @ 816°C (0 PSI @ 1500°F)	316SS and Ceramic
62	High Pressure & Temp.	700-0204-048 remote	275.8 bar @316°C (4000 PSI @ 600°F)	316SS
ZZ	Sensing Element **Not Listed**			

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

	IL	CSL		IL	CSL
xxx1	457 mm (18")	152 mm (6")	xxxG	457 mm (18")	0 mm (0")
xxx2	305 mm (12")	152 mm (6")	xxxH	914 mm (36")	254 mm (10")
xxxA	152 mm (6")	51 mm (2")	xxxJ	914 mm (36")	0 mm (0")
xxxB	305 mm (12")	51 mm (2")	xxxK	1219 mm (48")	254 mm (10")
xxxC	305 mm (12")	89 mm (3.5")	xxxL	1524 mm (60")	254 mm (10")
xxxD	457 mm (18")	51 mm (2")	P00X	IL/CSL Other	
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	

Notes: CSL (Cote-Shield Length) should extend through Nozzle + Typical "Wall Buildup" + 2 Inches

(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

NPT Threads

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

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

Sanitary TriClamps

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

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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