

DREXELBROOK[®]

IntelliPoint RF Series

Point Level Switch



Intelligent Electronics

- No calibration or setpoint adjustments.
- Ignores changes in dielectric or conductivity.
- Automatically recognizes and ignores coatings to prevent false alarms.
- Continuous self-test monitors circuits and sensing elements for faults.
- Universal power supply automatically detects input power source.

Diverse Applications

- Detects the absence or presence of liquids, slurries, interfaces and granulars.

Output

- (2) SPDT relays; relay#2 can be configured as an alarm or fault.

Dual Compartment Housing

- Power Supply is isolated from intrinsically-safe sensing element and circuit board.

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 the IntelliPoint RF 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, the IntelliPoint RF Series reliably detects the absence or presence of material without any adjustments.

The IntelliPoint RF 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 the the IntelliPoint RF Series recognizes changes in material, it is ideal for non-dedicated tanks that are used for a wide variety of products.

Universal Power Supply

The IntelliPoint electronics use a universal power supply module that can be powered from a 85 to 250 Vac or 21 to 100 Vdc supply without moving jumpers.

Self-Test Feature

Automatic and manual test functions ensure proper system operation. An AutoVerify™ self-check circuit continuously monitors that the complete system is functioning properly. The Manual Certify not only checks the function of the system, but also checks the AutoVerify self-test circuits to make sure that they are also working properly.

Dual Compartment Housing

New dual compartment housing separates the customer wiring and power supply from the sensing element and operating circuits. The encapsulated power supply/terminal block design eliminates the possibility of damage caused by moisture in the conduit.

IntelliPoint RF™ Series

Specifications

Technology:

RF Admittance.

Calibration:

None.

Modes Of Operation:

High and Low Level.

Repeatability:

2 mm (0.08 inch) conductive liquids.

Response Time:

Less than one second.

Ambient Electronic Temperature:

-30 to 70°C (-28 to 158°F) ATEX.
-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, Red Relay 2.

Self-Check:

AutoVerify automatically and continuously checks electronics and sensing element for faults. Manual Certify checks that the AutoVerify circuits are functioning.

Time Delay:

0-60 seconds, forward or reverse-acting.

Supply Voltage:

85-250 Vac
21-100 Vdc auto-detecting without jumpers
DC to 400 Hz.

Power Consumption:

2 watts maximum.

Relay Contacts:

(2) SPDT.

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 to 200 mA / 12 VDC (Optional)

Housing:

Dual Compartment, Powder-Coated aluminum with two cable entries.

Cable Entry:



M20 x 1.5 CENELEC
3/4-inch NPT FM / FMc.

Ingress Protection:

IP66 NEMA 4X.



Approvals:

Integral

 II 2 (1) G Ex d [ia] IIC T5... T2
II 2 (1) D Ex tb [ia] IIIC T90°C  0575
FM14ATEX0049

Temperature Class	Process Temperature
T5	100°C
T4	135°C
T3	200°C
T2	230°C

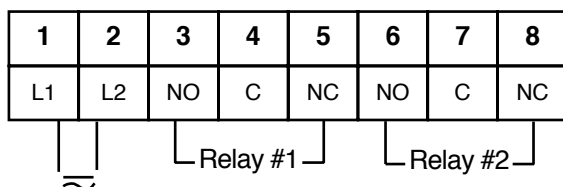
Remote

 II 2 (1) G Ex d [ia] IIC T5... T2
II 2 (1) D Ex tb [ia] IIIC T90°C  0575



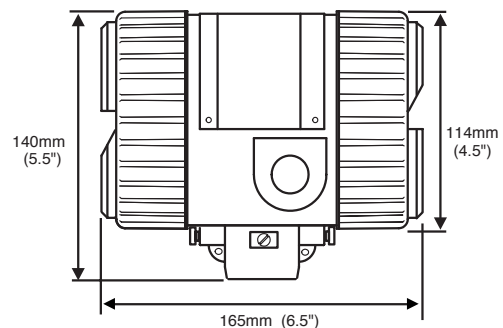
Explosionproof for Class I, Division 1, Groups A, B, C and D; Dust-Ignitionproof for Class II, III, Division 1, Groups E, F and G; Nonincendive for Class I, Division 2, Groups A, B, C & D; Suitable for Class II, III, Division 2, Groups F & G hazardous outdoor Type 4, 4X, IP66 (classified) locations with 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 420-0004-144-CD.

Wiring



85 to 250 Vac
21 to 100 Vdc
Auto-Detecting

Dimensions



IntelliPoint RF™ Series

Model Numbering (continued on next page)

Technology			
R	RF Admittance		
Measurement Type			
L	No Calib., 2 pF Fixed Preload	M	Manual Calibration
P	No Calib., 0.5 pF Fixed Preload (High Sensitivity)	G	Manual Calibration (High Sensitivity)
V	No Calib., 10 pF Fixed Preload		
Input			
L	Universal Power Supply 21-100 VDC, 85-250 VAC, 0-400 Hz		
Housing			
0	No Approvals, NEMA 4X/IP66, M20 X 1.5 conduit entries		
1	No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries		
2	ATEX Approved, NEMA 4X/IP66, M20 X 1.5 conduit entries		
3	FM / FMc Approved, NEMA 4X/IP66, ¾" NPT conduit entries		
5	No Approvals, NEMA 4X/IP66, M20 X 1.5 conduit entries, Dual Seal, Perm-a-Seal sensors – only		
6	No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only		
7	FM / FMc Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only		
9	No Approvals, NEMA 4X/IP66, M20 X 1.5 conduit entries, Dual Seal, Non Perm-a-Seal sensors – only		
A	No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only		
B	FM / FMc Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only		
Electronics			
0	Integral	7	Rmt. w/ (25 ft.) Tri-Ax Cable
1	Remote, no cable	8	Rmt. w/ (50 ft.) Tri-Ax Cable
2	Rmt. w/ 3 m (10 ft.) G.P. Cable	9	Rmt. w/ (75 ft.) Tri-Ax Cable
3	Rmt. w/ 7.6 m (25 ft.) G.P. Cable	A	Rmt. w/ (10 ft.) Hi-Temp. Cable
4	Rmt. w/ 10.6 m (35 ft.) G.P. Cable	B	Rmt. w/ (25 ft.) 1st 10ft Hi-Temp. Cbl.
5	Rmt. w/ 15.2 m (50 ft.) G.P. Cable	C	Rmt. w/ (35 ft.) 1st 10ft Hi-Temp. Cbl.
6	Rmt. w/ 23 m (75 ft.) G.P. Cable	D	Rmt. w/ (50 ft.) 1st 10ft Hi-Temp. Cbl.
E	Rmt. w/ (75 ft.) 1st 10ft Hi-Temp. Cbl.		
F	Rmt. w/ (5 ft.) G.P. Cable		
G	Rmt. w/ (5 ft.) Tri-Ax Cable		
H	Rmt. w/ (10 ft.) Tri-Ax Cable		
J	Rmt. w/ (35 ft.) Tri-Ax Cable		
K	Rmt. w/ (5 ft.) Hi-Temp. Cable		
Output			
1	Two SPDT Relays, relay #2 configured as alarm or fault (Min=100 mA / 12 VDC)		
2	Two SPDT Relay, gold plated contacts (Max 200 mA / 12 VDC)		
Sensing Element			
	Application	Sensing Element	Pressure/Temperature
00	General purpose	700-1202-001 remote 700-1202-021 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
01	Floating roof with cable attachment and brass bottom weight	700-1202-012 remote 700-1202-022 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
02	General purpose, longer insertion lengths with cable attachment and 316SS bottom weight	700-1202-014 remote 700-1202-024 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
03	Proximity	700-1202-018 remote 700-1202-028 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
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)
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)
07	General purpose Granular materials	700-1202-010 remote 700-1202-020 integral	13.8 bar @ 232°C (200 PSI @ 450°F)
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)
10	Corrosive liquids (2)(4)(9)	700-0001-018 remote	3.4 bar @ 149°C (50 PSI @ 300°F)
11	General purpose, higher pressure TFE compatibility required	700-0201-005 int/rem	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500psi @ 300°F)
12	Corrosive material, higher pressure	700-0201-005 int/rem Hastelloy C	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500psi @ 300°F)
14	General Purpose, low pressure	700-0202-002 int/rem	3.4 bar @ 149°C (50 PSI @ 300°F)
15	Heavy duty, agitated tanks or material with high bulk density (1)	700-0202-043 remote	69 bar @ 38°C (1000 PSI @ 100°F) 34.5 bar @ 149°C (500psi @ 300°F)
16	High Integrity Seal for Hazardous Materials	700-0002-360 int/rem	34.5 bar @ 149°C (500 PSI @ 300°F)
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)
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)
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)
Wetted Parts	316SS and PEEK 316SS, Brass, and PEEK 316SS and PEEK 316SS and PEEK with 76 mm (3) 316SS proximity plate 316SS and PEEK 316SS and PEEK with 7/8 inch dia. 316SS collar 316SS and FDA grade PEEK with 7/8 inch dia. 316SS collar PFA 316SS and TFE Hastelloy C and TFE 316SS and TFE 316SS and TFE PFA TFE 316SS and TFE 316 SS and TFE		

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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		

Not all mounting options available with all sensing elements

Notes: CSL (Cote-Shield Length) should extend through Nozzle + Typical "Wall Buildup" + 2 Inches
 (1) Available with remote electronics only (6) Use A1B mounting option
 (2) Use A1P mounting option (7) Use A8B mounting option (1/4-inch NPT)
 (3) Choose only sanitary mounting options (8) Choose from flange mounting only
 (4) Available with 0-inch CSL only (9) FM approved with remote electronics only
 (5) Use P00X mounting option

NPT Threads			Sanitary TriClamps		
A1B	3/4"NPT	316SS	A2B	1"NPT	316SS
A1C	3/4"NPT	Hastelloy C	A2C	1"NPT	Hastelloy C
A1P	3/4"NPT	PFA			
DIN Flanges			ANSI Flanges		
E01	25 mm	16 bar RF 316/316L SS	DA1	1"	150# RF 316/316L SS
EP1	25 mm	40 bar RF 316/316L SS	DB1	1 1/2"	150# RF 316/316L SS
EQ1	50 mm	16 bar RF 316/316L SS	DC1	2"	150# RF 316/316L SS
ER1	50 mm	40 bar RF 316/316L SS	DD1	2 1/2"	150# RF 316/316L SS
ES1	80 mm	16 bar RF 316/316L SS	DE1	1"	300# RF 316/316L SS
ET1	80 mm	40 bar RF 316/316L SS	DF1	1 1/2"	300# RF 316/316L SS
EU1	100 mm	16 bar RF 316/316L SS	DG1	2"	300# RF 316/316L SS
EV1	100 mm	40 bar RF 316/316L SS	DH1	2 1/2"	300# RF 316/316L SS
EW1	150 mm	16 bar RF 316/316L SS	DI1	3"	150# RF 316/316L SS
EX1	150 mm	40 bar RF 316/316L SS	DJ1	3"	300# RF 316/316L SS
			DK1	4"	150# RF 316/316L SS
			DL1	4"	300# RF 316/316L SS
			DM1	6"	150# RF 316/316L SS
			DN1	6"	300# RF 316/316L SS
			DA2	1"	150# RF CS
			DB2	1 1/2"	150# RF CS
			DC2	2"	150# RF CS
			DD2	2 1/2"	150# RF CS
			DE2	1"	300# RF CS
			DF2	1 1/2"	300# RF CS
			DG2	2"	300# RF CS
			DH2	2 1/2"	300# RF CS
			DI2	3"	150# RF CS
			DJ2	3"	300# RF CS
			DK2	4"	150# RF CS
			DL2	4"	300# RF CS
			DM2	6"	150# RF CS
			DN2	6"	300# RF CS