



IntelliPoint RF Series

Point Level Switch



The **IntelliPoint RF** From
DREXELBROOK®

Auto-Calibration!

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.



Point Level Measurement

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) KEMA.
-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, 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
¾-inch NPT FM/CSA.

Ingress Protection:
IP66 NEMA 4X.



Approvals:


Integral


 II 1/2 GD EEx d[ia] IIC T5...T2  0344
T 90°C KEMA 03 ATEX 2187X

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

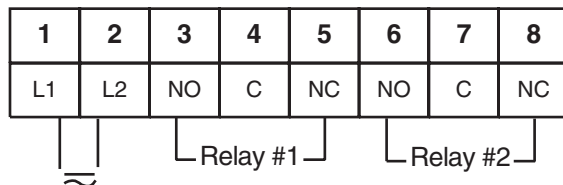
Remote

 II (1)2 GD EEx d[ia] IIC T5, T 90°C  0344

 APPROVED 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, 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.

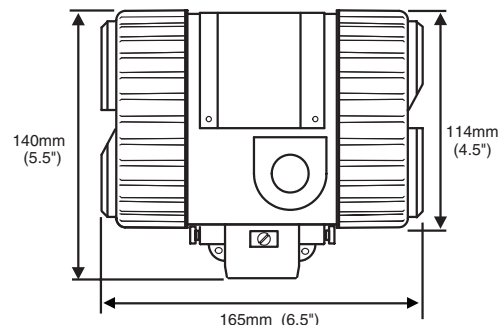
 XP with Intrinsically Safe sensing element for Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F, G and Class III, Division 1 Class I, Division 2, Groups A, B, C, D with Intrinsically Safe sensing element for Class I, Division 1, Groups A, B, C, D; Class II, Division 2, Groups F & G and Class III, Division 1 with Intrinsically Safe sensing element for Class II, Division 1, Groups F & G and Class III, Division 1. **Max. Amb. +70C Install per 420- 0004-145-CD** Ex d [ia] IIC T5 zone 0/1/2
A seal shall be installed within 50mm of enclosure.

Wiring



85 to 250 Vac
21 to 100 Vdc
Auto-Detecting

Dimensions



Point Level Measurement

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)	
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 Approved, NEMA 4X/IP66, ¾" NPT conduit entries				
4	CSA 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 Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only				
8	CSA 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 Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only				
C	CSA 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	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.		
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	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		

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Point Level Measurement

IntelliPoint RF Series

Model Numbering (continued)

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
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 Installation 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 (1/4-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 3/4"NPT	316SS	A2B 1"NPT	316SS
A1C 3/4"NPT	Hastelloy C	A2C 1"NPT	Hastelloy C
A1P 3/4"NPT	PFA		

Sanitary TriClamps

C2B 1"TriClamp	316SS	C4B 2"TriClamp	316SS
C3B 1 1/2"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 1 1/2" 150#	RF 316/316L SS	DB2 1 1/2" 150#	RF CS
DC1 2" 150#	RF 316/316L SS	DC2 2" 150#	RF CS
DD1 2 1/2" 150#	RF 316/316L SS	DD2 2 1/2" 150#	RF CS
DE1 1" 300#	RF 316/316L SS	DE2 1" 300#	RF CS
DF1 1 1/2" 300#	RF 316/316L SS	DF2 1 1/2" 300#	RF CS
DG1 2" 300#	RF 316/316L SS	DG2 2" 300#	RF CS
DH1 2 1/2" 300#	RF 316/316L SS	DH2 2 1/2" 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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