

## The Point™

### Two-Wire 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.

### Remote or Integral Electronics

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



# The POINT

*Auto-Calibration!*

### Intelligent Electronics Save Time and Money

- UNIQUE! – NO calibration or setpoint adjustments.
- UNIQUE! – Ignores changes in dielectric or conductivity.
- Automatically recognizes and ignores coatings to prevent false alarms.

### 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

- 8mA (Alarm), 16mA (Normal) **or**
- 8mA (Normal), 16mA (Alarm)



## The Point™ 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:**

-40 to 70°C (-40 to 158°F)

**Storage Temperature:**

-40 to 85°C (-40 to 185°F)

**Indicators:**

LEDs: Green Power, Red Alarm

**Time Delay:**

0-60 seconds, forward or reverse-acting

**Supply Voltage:**

13-30 VDC

**Power Consumption:**

2 watts maximum

**Output:**

8mA (Alarm), 16mA (Normal)

or

8mA (Normal), 16mA (Alarm)

**Housing:**

Powder-Coated aluminum with two cable entries.

**Cable Entry:**

M20 x 1.5 or ¾-inch NPT

**Ingress Protection:**

IP66 NEMA 4X

**Approvals:**



**Integral** – Explosion Proof for Class I, Division 1, Groups 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, and D; Suitable for Class II, III, Division 2, Groups F and G hazardous (classified) locations Outdoor Type 4, 4X, IP66 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 420-0004-220-CD

**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, and D; Suitable for Class II, III, Division 2, Groups F and G hazardous (classified) locations Outdoor Type 4, 4X, IP66 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 420-0004-220-CD

**Integral Sensors**



[Ex ia IIC]:

Class I, Div 1, Groups B, C, D; Class II, Groups E, F, G;

Class III

Explosion proof with integral intrinsically safe output sensing element, Cl. I Div. 1, Groups A, B, C, D; Cl. II, Groups E, F, G; Cl. III, Per Control. Drawing 420-0004-219-CD.

T5 at Ta = 70°C. Encl. Type 4X. Control

Drawing 420-0004-219-CD

**Remote Sensors**

[Ex ia IIC]:

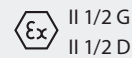
Class I, Div 1, Groups A, B, C, D; Class II, Groups E, F,

G; Class III; Explosion proof with integral intrinsically

safe output sensing element, Cl. I Div. 1, Groups A,

B, C, D; Cl. II, Groups E, F, G; Cl. III, to remove sensing

element Per Control Drawing 420-0004-219-CD.



II 1/2 G

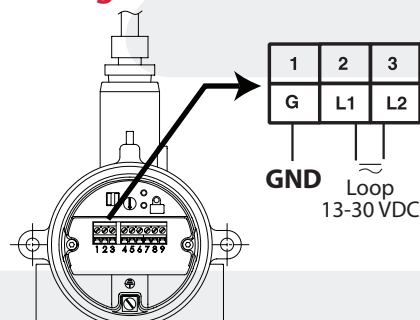
II 1/2 D

EEx d[ia] IIC T2..T5, Ta = -30°C to +70°C

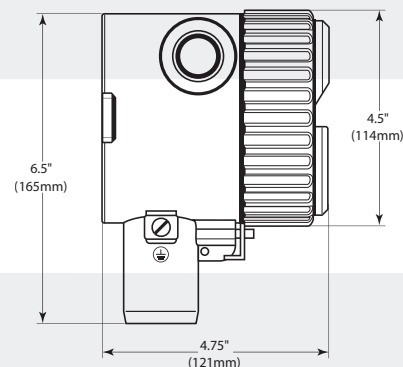
T 90°C



## Wiring



## Dimensions



## The Point™ Model Numbering (continued on next page)

| Technology  |   |   |  |          |   |
|---|---|---|--|----------|---|
| <b>P</b>  | RF Admittance   |   |  |          |   |
| Measurement Type  |   |   |  |          |   |
| <b>L</b>  | No Calibration, 2 pF Fixed Preload  |   |  |          |   |
| <b>P</b>  | No Calibration, 0.5 pF Fixed Preload (High Sensitivity)                                       |   |  |          |   |
| <b>M</b>  | Manual Calibration  |   |  |          |   |
| <b>G</b>  | Manual Calibration (High Sensitivity)   |   |  |          |   |
| <i>NOTE: All Calibration modes are built into the standard unit. Modes can be changed in the field as required (See Instruction Manual)</i> |   |   |  |          |   |
| Input   |   |   |  |          |   |
| <b>T</b>  | Two Wire Power Supply 13 to 30 Vdc  |   |  |          |   |
| Output  |   |   |  |          |   |
| <b>0</b>  | 8-16 mA   |   |  |          |   |
| Housing   |   |   |  |          |   |
| <b>0</b>  | No Approvals, NEMA 4X/IP66, M20 X 1.5 conduit entries   |   |  |          |   |
| <b>1</b>  | No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries  |   |  |          |   |
| <b>2</b>  | ATEX Approved, NEMA 4X/IP66, ¾" NPT conduit entries   |   |  |          |   |
| <b>3</b>  | FM approved, NEMA 4X/IP66, ¾" NPT conduit entries   |   |  |          |   |
| <b>4</b>  | CSA Approved, NEMA 4X/IP66, ¾" NPT conduit entries  |   |  |          |   |
| <b>5</b>  | No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only     |   |  |          |   |
| <b>6</b>  | FM approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only      |   |  |          |   |
| <b>7</b>  | CSA Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Perm-a-Seal sensors – only     |   |  |          |   |
| <b>8</b>  | No Approvals, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only |   |  |          |   |
| <b>9</b>  | FM approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only  |   |  |          |   |
| <b>A</b>  | CSA Approved, NEMA 4X/IP66, ¾" NPT conduit entries, Dual Seal, Non Perm-a-Seal sensors – only |   |  |          |   |
| Electronics   |   |   |  |          |   |
| <b>0</b>  | Integral  | <b>7</b>  | Rmt. w/ (25 ft.) Tri-Ax Cable                            | <b>E</b> | Rmt. w/ (75 ft.) 1st 10ft Hi-Temp. Cbl. |
| <b>1</b>  | Remote, no cable  | <b>8</b>  | Rmt. w/ (50 ft.) Tri-Ax Cable                            | <b>F</b> | Rmt. w/ (5 ft.) G.P. Cable              |
| <b>2</b>  | Rmt. w/ 3 m (10 ft.) G.P. cable   | <b>9</b>  | Rmt. w/ (75 ft.) Tri-Ax Cable                            | <b>G</b> | Rmt. w/ (5 ft.) Tri-Ax Cable            |
| <b>3</b>  | Rmt. w/ 7.6 m (25 ft.) G.P. cable   | <b>A</b>  | Rmt. w/ (10 ft.) Hi-Temp. Cable                          | <b>H</b> | Rmt. w/ (10 ft.) Tri-Ax Cable           |
| <b>4</b>  | Rmt. w/ 10.6 m (35 ft.) G.P. cable  | <b>B</b>  | Rmt. w/ (25 ft.) 1st 10ft Hi-Temp. Cbl.                  | <b>J</b> | Rmt. w/ (35 ft.) Tri-Ax Cable           |
| <b>5</b>  | Rmt. w/ 15.2 m (50 ft.) G.P. cable  | <b>C</b>  | Rmt. w/ (35 ft.) 1st 10ft Hi-Temp. Cbl.                  | <b>K</b> | Rmt. w/ (5 ft.) Hi-Temp. Cable          |
| <b>6</b>  | Rmt. w/ 23 m (75 ft.) G.P. cable  | <b>D</b>  | Rmt. w/ (50 ft.) 1st 10ft Hi-Temp. Cbl.                  |          |   |
| Sensing Element   |   |   |  |          |   |
| Application   | Sensing Element   | Pressure/Temperature  | Wetted Parts   |          |   |
| <b>00</b> General purpose   | 700-1202-001 remote<br>700-1202-021 integral  | 13.8 bar @ 232°C (200 PSI @ 450°F)                                      | 316SS and PEEK   |          |   |
| <b>01</b> Floating roof with cable attachment and brass bottom weight   | 700-1202-012 remote<br>700-1202-022 integral  | 13.8 bar @ 177°C (200 PSI @ 350°F)                                      | 316SS, Brass, and PEEK                                   |          |   |
| <b>02</b> General purpose, longer insertion lengths with cable attachment and 316SS bottom weight   | 700-1202-014 remote<br>700-1202-024 integral  | 13.8 bar @ 177°C (200 PSI @ 350°F)                                      | 316SS and PEEK   |          |   |
| <b>03</b> Proximity   | 700-1202-018 remote<br>700-1202-028 integral  | 13.8 bar @ 232°C (200 PSI @ 450°F)                                      | 316SS and PEEK with 76 mm (3) 316SS proximity plate      |          |   |
| <b>04</b> General purpose, high temperature and pressure  | 700-1202-041 remote<br>700-1202-042 integral  | 69 bar @ 121°C (1000 PSI @ 250°F)<br>20.7 bar @ 232°C (300 PSI @ 450°F) | 316SS and PEEK   |          |   |
| <b>06</b> General purpose with FDA approved materials of construction   | 700-1202-031 remote<br>700-1202-032 integral  | 13.8 bar @ 232°C (200 PSI @ 450°F)                                      | 316SS and FDA grade PEEK                                 |          |   |
| <b>07</b> General purpose Granular materials  | 700-1202-010 remote<br>700-1202-020 integral  | 13.8 bar @ 232°C (200 PSI @ 450°F)                                      | 316SS and PEEK with 7/8 inch dia. 316SS collar           |          |   |
| <b>09</b> General purpose Granular materials with FDA approved materials of construction  | 700-1202-033 remote<br>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 |          |   |
| <b>10</b> Corrosive liquids (2)(4)(9)   | 700-0001-018 remote   | 3.4 bar @ 149°C (50 PSI @ 300°F)  | PFA  |          |   |
| <b>11</b> General purpose, higher pressure TFE compatibility required   | 700-0201-005 int/rem  | 69 bar @ 38°C (1000 PSI @ 100°F)<br>13.8 bar @ 232°C (200 PSI @ 450°F)  | 316SS and TFE  |          |   |
| <b>12</b> Corrosive material, higher pressure   | 700-0201-005 int/rem<br>Hastelloy C   | 69 bar @ 38°C (1000 PSI @ 100°F)<br>13.8 bar @ 232°C (200 PSI @ 450°F)  | Hastelloy C and TFE                                      |          |   |
| <b>13</b> Sanitary (3)  | 700-0201-036 int/rem  | 69 bar @ 38°C (1000 PSI @ 100°F)<br>13.8 bar @ 232°C (200 PSI @ 300°F)  | 316/316L SS and TFE                                      |          |   |
| <b>14</b> General Purpose, low pressure   | 700-0202-002 int/rem  | 3.4 bar @ 149°C (50 PSI @ 300°F)<br>1.4 bar @ 232°C (20 PSI @ 450°F)    | 316SS and TFE  |          |   |
| <b>15</b> Heavy duty, agitated tanks or material with high bulk density (1)   | 700-0202-043 remote   | 69 bar @ 38°C (1000 PSI @ 100°F)<br>13.8 bar @ 232°C (200 PSI @ 450°F)  | 316SS and TFE  |          |   |
| <b>16</b> High Integrity Seal for Hazardous Materials   | 700-0002-360 int/rem  | 34.5 bar @ 149°C (500 PSI @ 300°F)                                      | PFA  |          |   |
| <b>17</b> Sanitary (3) lowpressure  | 700-0202-036 int/rem  | 3.4 bar @ 149°C (50 PSI @ 300°F)  | 316SS and TFE  |          |   |
| <b>18</b> Corrosive material, higher pressure with waterlike viscosity (4)  | 700-0001-022 int/rem  | 69 bar @ 38°C (1000 PSI @ 100°F)<br>34.5 bar @ 149°C (500 PSI @ 300°F)  | TFE  |          |   |
| <b>19</b> Interface Measurement   | 700-0002-023 int/rem  | 69 bar @ 38°C (1000 PSI @ 100°F)<br>34.5 bar @ 149°C (500 PSI @ 300°F)  | 316SS and TFE  |          |   |
| <b>20</b> Miniature Pilot Plant Sensor (1)(7)   | 700-0209-002 remote   | 6.9 bar @ 121°C (100 PSI @ 250°F)<br>0 bar @ 232°C (0 PSI @ 450°F)      | 316 SS and TFE   |          |   |

## The Point™ Model Numbering (continued from previous page)

| 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 <sup>2</sup> (12 inches <sup>2</sup> ) heavy duty   | 700-0207-001 remote | 0.1 bar @ 82°C (1 PSI @ 180°F)   | 304 SS and Polyurethane             |
| 51 Flush Mount Sensor 305mm <sup>2</sup> (12 inches <sup>2</sup> ) higher temperature                                       | 700-0207-002 remote | 0.1 bar @ 149°C (1 PSI @ 300°F)  | 304 SS and TFE                      |
| 52 Flush Mount Sensor 305mm <sup>2</sup> (12 inches <sup>2</sup> ) 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 <sup>2</sup> (12 inches <sup>2</sup> ) 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 <sup>2</sup> (8 inches <sup>2</sup> ) 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)<br>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                               |
| <b>ZZ Sensing Element Not Listed</b>  |                     |  |                                     |
| ● Mounting Type (See separate Mounting Chart for first three digits)  |                     |  |                                     |
|   | <b>IL</b>           | <b>CSL</b>   | <b>IL</b>                           |
| 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
- (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

| NPT Threads |         |             |
|-------------|---------|-------------|
| A1B         | 3/4"NPT | 316SS       |
| A1C         | 3/4"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 |
| EP1         | 25 mm  | 40 bar | RF 316/316L SS |
| EQ1         | 50 mm  | 16 bar | RF 316/316L SS |
| ER1         | 50 mm  | 40 bar | RF 316/316L SS |
| ES1         | 80 mm  | 16 bar | RF 316/316L SS |
| ET1         | 80 mm  | 40 bar | RF 316/316L SS |
| EU1         | 100 mm | 16 bar | RF 316/316L SS |
| EV1         | 100 mm | 40 bar | RF 316/316L SS |
| EW1         | 150 mm | 16 bar | RF 316/316L SS |
| EX1         | 150 mm | 40 bar | RF 316/316L SS |

| ANSI Flanges |        |      |                |
|--------------|--------|------|----------------|
| DA1          | 1"     | 150# | RF 316/316L SS |
| DB1          | 1 1/2" | 150# | RF 316/316L SS |
| DC1          | 2"     | 150# | RF 316/316L SS |
| DD1          | 2 1/2" | 150# | RF 316/316L SS |
| DE1          | 1"     | 300# | RF 316/316L SS |
| DF1          | 1 1/2" | 300# | RF 316/316L SS |
| DG1          | 2"     | 300# | RF 316/316L SS |
| DH1          | 2 1/2" | 300# | RF 316/316L SS |
| DI1          | 3"     | 150# | 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 |