# 

# DATA SHEET

# **DREXELBROOK®**

# The second secon

### Economical

Effective, low-cost material level detection in a wide variety of applications, and a desirable alternative to electromechanical level switches. No expendable parts to buy and stock. No expensive, extra-cost options.

### **Maintenance-Free**

Unlike paddle wheels, vibrating tines or other mechanical instruments, there are no components to jam, break or wear out. No need for routine maintenance, cleaning or replacing of worn parts.

### **Reliable Operation**

Cote-Shield<sup>™</sup> circuitry allows the Z-tron IV to ignore coatings or build up on the sensing element. There are no false signals from dust or tunneling.

### **Easy-Installation**

One-piece unit is easily installed through a single 3/4-inch, probe dependent vessel opening. Calibration is quick and simple.

# Z-tron IV<sup>™</sup> Point Level Switch, a reliable low-cost, on/off level switch

The low-cost, Drexelbrook Z-tron IV level switch is unaffected by sticky coatings and impervious to corrosive liquids. The all-electronic design means no moving parts to wear, break or fail. Based on field-proven RF technology, the Z-tron IV is a simple and reliable on/off level switch.

The compact one-piece unit is inserted through a standard 3/4-inch , probe dependent, NPT opening into the vessel so that the sensing element is positioned at the desired high or low level. (Other connection types and sizes are also available.) When the material level reaches a predetermined point on the sensing element, it causes a change in status at the electronic unit, resulting in actuation of the DPDT relay. The relay can be used to operate alarms, annunciators, valves, or other control or indication devices.

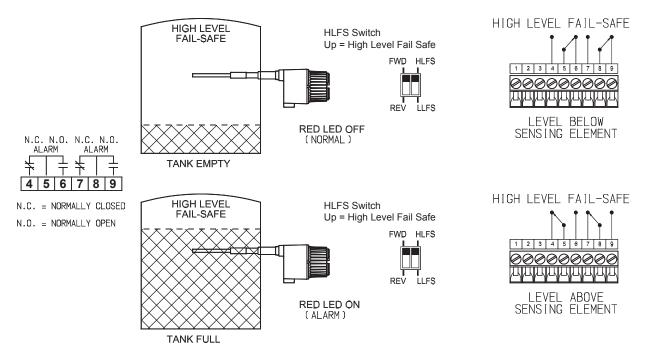
### Drexelbrook's Exclusive Cote-Shield™

Cote-Shield enables the Z-tron IV to ignore dust pileups, coatings, and sticky buildups on the sensing element.

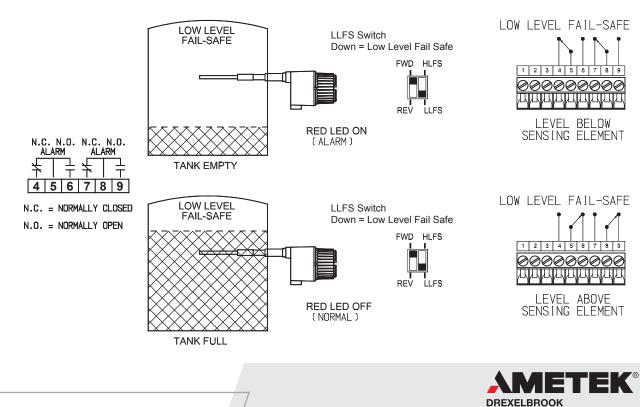


# **Relay Wiring**

# **High Level Fail Safe**



# Low Level Fail Safe



www.Drexelbrook.com

# **Integral Mounting Dimensions**

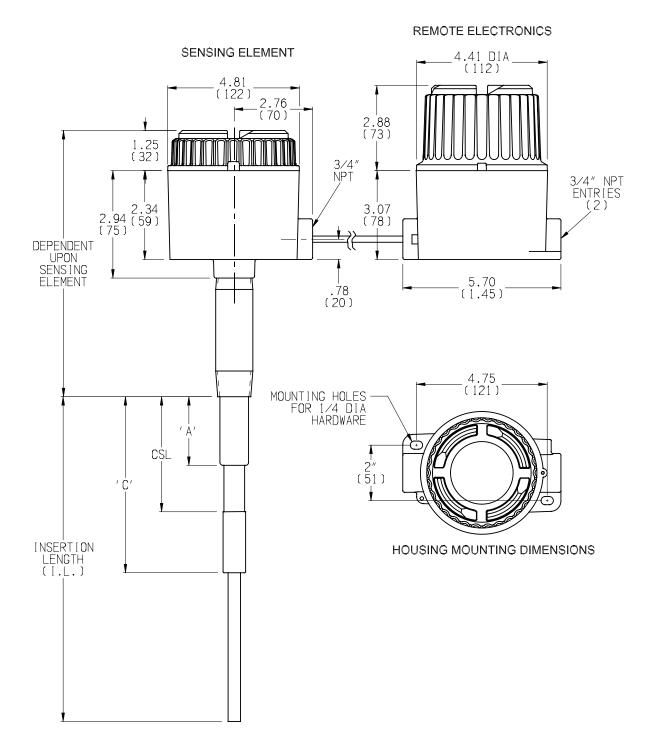
4.81 2.76 (70) t 1.25 (32) 3/4″ NPT | 2.34 2.94 (59) (75) | DEPENDENT UPON SENSING ELEMENT .78 (20) ′ Å′ CŚL ′Ċ′ INSERTION LENGTH (I.L.)

SENSING ELEMENT

DIMENSIONS ARE IN INCHES ( mm )



# **Remote Mounting Dimensions**



DIMENSIONS ARE IN INCHES (mm)



# **Model Numbering**

DC AC, Field Selectabl (AC, Field Selectabl onics tegral (No Cable emote w/ 0 ut Cc emote w/ 5 Ft G emote w/ 15 Ft C emote w/ 20 F	le e) 6 able 7 p Cable 8 Gp Cable 9 Gp Cable A Gp Cable B	Press. &Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450°	p Cable D Rer p Cable E Rer p Cable F Rer Gp Cable G Rer Gp Cable H Rer > 300 °F require a 6° c F F F F / 300 psi @ 450°' F / 500 psi @ 300 °	Wetted Parts 316 SS and PEEK 316 SS and PEEK 7F 316 SS and PEEK	able able	w/ 75 Ft Hi Temp Comp Cable w/ 100 Ft Hi Temp Comp Cable w/ 150 Ft Hi Temp Comp Cable
<ul> <li>(AC, Field Selectable onics tegral (No Cable emote w/ Out Cable emote w/ 10 Ft Cemote w/ 15 Ft Gemote w/ 10 Ft Cemote w/ 20 Ft Ce</li></ul>	le e) 6 able 7 p Cable 8 Gp Cable 9 Gp Cable 9 G	Remote Remote Remote         w/ 35 Ft G w/ 50 Ft G w/ 50 Ft G w/ 100 Ft G           Remote         w/ 100 Ft G           * temperatures >         Press. & Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 250 1000 psi @ 300 °F 50 psi @ 300 °F 50 psi @ 300 °F	p Cable D Rer p Cable E Rer p Cable F Rer Gp Cable G Rer Gp Cable H Rer > 300 °F require a 6° c F F F F / 300 psi @ 450°' F / 500 psi @ 300 °	mote w/ 10 Ft Hi Temp Cable w/ 15 Ft Hi Temp Comp C mote w/ 20 Ft Hi Temp Comp C w/ 25 Ft Hi Temp Comp C w/ 50 Ft Hi Temp	J Remote able K Remote able able	w/ 100 Ft Hi Temp Comp Cable
tegral (No Cable w/ Out Ca emote w/ 5 Ft G emote w/ 15 Ft emote w/ 10 Ft C emote w/ 10 Ft C emote w/ 20 Ft C EM Code Series 1 1 Standard 2 China 101 103 301 325 327 701 753 756 757 758 760	able 7 p Cable 8 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 7 Gp Ca	Remote Remote Remote         w/ 35 Ft G w/ 50 Ft G w/ 50 Ft G w/ 100 Ft G           Remote         w/ 100 Ft G           * temperatures >         Press. & Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 250 1000 psi @ 300 °F 50 psi @ 300 °F 50 psi @ 300 °F	p Cable D Rer p Cable E Rer p Cable F Rer Gp Cable G Rer Gp Cable H Rer > 300 °F require a 6° c F F F F / 300 psi @ 450°' F / 500 psi @ 300 °	mote w/ 10 Ft Hi Temp Cable w/ 15 Ft Hi Temp Comp C mote w/ 20 Ft Hi Temp Comp C w/ 25 Ft Hi Temp Comp C w/ 50 Ft Hi Temp	J Remote able K Remote able able	w/ 100 Ft Hi Temp Comp Cable
emote w/ Out Cz emote w/ 10 Ft G emote w/ 10 Ft G emote w/ 10 Ft G emote w/ 20 Ft G iM Code Series 2 China 1 Standard 2 China 101 103 106 301 325 327 701 753 754 755 756 757 758 760	able 7 p Cable 8 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 9 Gp Cable 7 Gp Ca	Remote Remote Remote         w/ 35 Ft G w/ 50 Ft G w/ 50 Ft G w/ 100 Ft G           Remote         w/ 100 Ft G           * temperatures >         Press. & Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 250 1000 psi @ 300 °F 50 psi @ 300 °F 50 psi @ 300 °F	p Cable D Rer p Cable E Rer p Cable F Rer Gp Cable G Rer Gp Cable H Rer > 300 °F require a 6° c F F F F / 300 psi @ 450°' F / 500 psi @ 300 °	mote w/ 10 Ft Hi Temp Cable w/ 15 Ft Hi Temp Comp C mote w/ 20 Ft Hi Temp Comp C w/ 25 Ft Hi Temp Comp C w/ 50 Ft Hi Temp	J Remote able K Remote able able	w/ 100 Ft Hi Temp Comp Cable
emote w/ 5 Ft G, emote w/ 10 Ft C emote w/ 10 Ft C emote w/ 20 Ft C iM Code Series 1 Standard 2 China 06 301 325 327 701 755 756 756 756 760	p Cable 8 Gap Cable 9 A Gap Cable 8 A Gap Cable 8 B B B B B B B B B B B B B B B B B B B	Remote Remote         w/ 50 Ft G w/ 75 Ft G w/ 100 Ft C           * temperatures > Press. &Temp. 200 psi @ 450° 1000 psi @ 250 1000 psi @ 250 1000 psi @ 300 °F 50 psi @ 300 °F 50 psi @ 300 °F	p Cable E Rer p Cable F Rer Gp Cable G Rer Gp Cable H Rer > 300 °F require a 6° c F F F °F / 300 psi @ 450°' F / 500 psi @ 300 °	w/ 15 Ft Hi Temp Comp C w/ 20 Ft Hi Temp Comp C w/ 20 Ft Hi Temp Comp C w/ 50 Ft Hi Temp Comp C %/ 50 Ft Hi Temp C %/ 50 Ft Hi	able able	
emote w/ 15 Ft ( emote w/ 20 Ft ( iM Code 2 China 1 Standard 2 China 101 103 106 301 325 327 701 753 754 755 756 757 758 760	Gp Cable         A           Gp Cable         A           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B	Remote         w/ 100 Ft ( w/ 150 Ft ( w/ 150 Ft (           * temperatures >           Press. & Temp.           200 psi @ 450°           200 psi @ 450°           1000 psi @ 150°           1000 psi @ 450°           50 psi @ 300 °F           50 psi @ 300 °F	Gp Cable G Rer Gp Cable H Rer → 300 °F require a 6" c F F F F / 300 psi @ 450°' F / 500 psi @ 300 °	mote w/ 25 Ft Hi Temp Comp C mote w/ 50 Ft Hi Temp Comp C cooling extension Wetted Parts 316 SS and PEEK 316 SS and PEEK 5 316 SS and PEEK 5 316 SS and PEEK	able	
ernote w/ 20 Ft 0 M Code Series 1 Standard 2 China 101 103 106 301 325 327 701 753 754 755 756 757 758 760	B           B	Remote w/ 150 Ft 0 * temperatures > Press. &Temp. 200 psi @ 450° 1000 psi @ 150° 1000 psi @ 100 200 psi @ 300 °F 50 psi @ 300 °F 50 psi @ 300 °F	Gp Cable H Rer → 300 °F require a 6° c F F F F / 300 psi @ 450° * / 500 psi @ 300 °	mote w/ 50 Ft Hi Temp Comp C cooling extension Wetted Parts 316 SS and PEEK 316 SS and PEEK F 316 SS and PEEK		
Series 1 Standard 2 China 101 103 101 103 106 301 325 327 701 753 754 755 756 757 758 760	Model # 700-1202-011 700-1202-014 700-1202-014 700-002-001 700-0202-002 700-0202-002 700-0020-011 700-0029-001 700-0029-002	Press. &Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450° 50 psi @ 300 °F 50 psi @ 300 °F	F F I°F / 300 psi @ 450° I°F / 500 psi @ 300 °	Wetted Parts 316 SS and PEEK 316 SS and PEEK 7F 316 SS and PEEK		
Series 1 Standard 2 China 101 103 101 103 106 301 325 327 701 753 754 755 756 757 758 760	Model # 700-1202-011 700-1202-014 700-1202-014 700-002-001 700-0202-002 700-0202-002 700-0020-011 700-0029-001 700-0029-002	Press. &Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450° 50 psi @ 300 °F 50 psi @ 300 °F	F F I°F / 300 psi @ 450° I°F / 500 psi @ 300 °	Wetted Parts 316 SS and PEEK 316 SS and PEEK 7F 316 SS and PEEK		
1 Standard 2 China Sensing 101 103 106 301 325 327 701 753 754 756 757 758 760	Model # 700-1202-011 700-1202-014 700-1202-014 700-002-001 700-0202-002 700-0202-002 700-0020-011 700-0029-001 700-0029-002	Press. &Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450° 50 psi @ 300 °F 50 psi @ 300 °F	F F I°F / 300 psi @ 450° I°F / 500 psi @ 300 °	Wetted Parts 316 SS and PEEK 316 SS and PEEK 7F 316 SS and PEEK		
2 China Sensing 101 103 106 301 325 327 701 753 754 755 756 757 758 760	Model # 700-1202-011 700-1202-014 700-1202-014 700-002-001 700-0202-002 700-0202-002 700-0020-011 700-0029-001 700-0029-002	Press. &Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450° 50 psi @ 300 °F 50 psi @ 300 °F	F F I°F / 300 psi @ 450° I°F / 500 psi @ 300 °	Wetted Parts 316 SS and PEEK 316 SS and PEEK 7F 316 SS and PEEK		
101 103 106 301 325 327 701 753 754 755 756 755 756 757 758 760	Model # 700-1202-011 700-1202-014 700-1202-014 700-002-001 700-0202-002 700-0202-002 700-0020-011 700-0029-001 700-0029-002	Press. &Temp. 200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450° 50 psi @ 300 °F 50 psi @ 300 °F	F F I°F / 300 psi @ 450° I°F / 500 psi @ 300 °	Wetted Parts 316 SS and PEEK 316 SS and PEEK 7F 316 SS and PEEK		
101 103 106 301 325 327 701 753 754 755 756 755 756 757 758 760	Model # 700-1202-011 700-1202-014 700-1202-014 700-002-001 700-0202-002 700-0202-002 700-0020-011 700-0029-001 700-0029-002	200 psi @ 450° 200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450° 50 psi @ 300 °F 50 psi @ 300 °F	F F )°F / 300 psi @ 450°  )°F / 500 psi @ 300 °	316 SS and PEEK 316 SS and PEEK F 316 SS and PEEK		
103 106 301 325 327 701 753 754 755 756 757 758 760	700-1202-014 700-1202-041 700-0001-022 700-1202-031 700-0202-002 700-0001-018 700-0206-101 700-0029-001 700-0029-002	200 psi @ 450° 1000 psi @ 250 1000 psi @ 100 200 psi @ 450° 50 psi @ 300 °F 50 psi @ 300 °F	F )°F / 300 psi @ 450°  )°F / 500 psi @ 300 °	316 SS and PEEK F 316 SS and PEEK		
106 301 325 327 701 753 754 755 756 756 757 758 760	700-1202-041 700-0001-022 700-1202-031 700-0202-002 700-0001-018 700-0206-101 700-0029-001 700-0029-002	1000 psi @ 250 1000 psi @ 100 200 psi @ 450°l 50 psi @ 300 °F 50 psi @ 300 °F	0°F / 300 psi @ 450° 1°F / 500 psi @ 300 °	F 316 SS and PEEK		
301 325 327 701 753 754 755 756 757 758 760	700-0001-022 700-1202-031 700-0202-002 700-0001-018 700-0206-101 700-0029-001 700-0029-002	1000 psi @ 100 200 psi @ 450°l 50 psi @ 300 °F 50 psi @ 300 °F	°F / 500 psi @ 300 °			
327 701 753 754 755 756 757 758 760	700-0202-002 700-0001-018 700-0206-101 700-0029-001 700-0029-002	50 psi @ 300 °F 50 psi @ 300 °F	=	°F 316 SS and TFE		
701 753 754 755 756 757 757 758 760	700-0001-018 700-0206-101 700-0029-001 700-0029-002	50 psi @ 300 °F		316 SS and PEEK, FDA appro	ved	
753 754 755 756 757 758 760	700-0206-101 700-0029-001 700-0029-002		F / 20 psi @ 450 °F*	316 SS and TFE PFA		
755 756 757 758 760	700-0029-002			316 SS and PEEK		
756 757 758 760		2 psi @ 500 °F 2 psi @ 500 °F		316 SS and TFE 316 SS and TFE		
758 760	100-0029-003	2 psi @ 500 °F		316 SS and TFE		
760	700-0029-004	2 psi @ 500 °F		316 SS and TFE		
	700-0029-005 700-0029-021	2 psi @ 500 °F 2 psi @ 500 °F		316 SS and TFE 316 SS and TFE		
	700-0029-021	2 psi @ 500 °F		316 SS and TFE		
762	700-0029-023	2 psi @ 500 °F		316 SS and TFE		
763	700-0029-024	2 psi @ 500 °F		316 SS and TFE		
766	700-0029-025		-	316 SS and Alumina		
767	700-0029-103	2 psi @ 1500 °F	=	316 SS and Alumina		
770	700-0029-105			316 SS and Alumina		
	Process gland	wetted part (X)				
	B 316/316L	SS				
		00# RF Carbon Stee	el			
		00# RF Carbon Stee	el			
	LA 4" 30	00# RF Carbon Stee	el			
	AA Wah					
				llimeters from process connection to	o the bottom of the pro	obe
		ARAAAA Leng	° '		s are bolloni or the pic	
					ters for 3-terminal pro	bes. Not applicable for 2-terminal pro
				-		
					ne inactive part of the	probe that is not measured.
				, i i i i i i i i i i i i i i i i i i i		terface measurement and Desalters
						ailable upon request
					,	
				<b>v v</b>		
	767 768 769 770	764 700-0029-025 766 700-0029-102 767 700-0029-103 768 700-0029-106 770 700-0029-106 770 700-0029-106 8 316/316L P PFA (700- X* Upon requ PrA (700- X* Upon requ PrA (700- X* Upon requ PrA (700- X* Upon requ PrA (700- X* Upon requ A0 3/4" BA 1" 11 BB 1" 11 BA 1" 11 BB 1" 11 FB 2" 11 GA 2" 30 GB 2" 30 GB 2" 30 FA 2" 11 FB 2" 11 GA 2" 30 GB 2" 30 GB 2" 30 FA 2" 11 FB 2" 11 GA 2" 30 GB 2" 30 FA 2" 11 FB 2" 11	764       700-0029-025       2 psi @ 500 °F         766       700-0029-102       2 psi @ 1500 °F         767       700-0029-102       2 psi @ 1500 °F         768       700-0029-104       2 psi @ 1500 °F         769       700-0029-104       2 psi @ 1500 °F         770       700-0029-106       2 psi @ 1500 °F         770       700-0010-118)       X*         X*       Upon request       Y         9       Precess connection (XX)       A         A0       3/4 * NPT       B0       1* 150# RF       Carbon Stee	764       700-0029-025       2 psi @ 500 °F         766       700-0029-102       2 psi @ 1500 °F         767       700-0029-104       2 psi @ 1500 °F         768       700-0029-104       2 psi @ 1500 °F         769       700-0029-104       2 psi @ 1500 °F         770       700-0029-106       2 psi @ 1500 °F         770       700-001-118)       X*         X*       Upon request       9         9       Process connection (XX)       A         A0       34' NPT       B0       1* 150# RF         B0       1* 150# RF       Carbon Steel       GB         GB       2'300# RF       316/316L Stainless Steel       IA	764       700-0029-025       2 psi @ 500 °F       316 SS and TFE         766       700-0029-102       2 psi @ 1500 °F       316 SS and Alumina         767       700-0029-104       2 psi @ 1500 °F       316 SS and Alumina         768       700-0029-104       2 psi @ 1500 °F       316 SS and Alumina         769       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-001-018       X*       Man Process connection (XX)         A       A0       316/316L Stainless Steel	764       700-0029-102       2 psi @ 500 °F       316 SS and Alumina         767       700-0029-103       2 psi @ 1500 °F       316 SS and Alumina         768       700-0029-103       2 psi @ 1500 °F       316 SS and Alumina         769       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         770       700-0029-106       2 psi @ 1500 °F       316 SS and Alumina         8       316/316L Stainless Steel       7       7         8       316/316L Stainless Steel       7       7         9       Process connection (XX)       A0       3/4 ' NPT         8       3 11 S0# FF       Carbon Steel       1         9       1 S0# FF       Carbon Steel       1         100 FF       2 1500 FF       316/316L Stainless Steel       1         101 FF       2 160/4 FF       316/316L Stainless Steel       1         102 F       2 160/4 FF



# **Specifications**

### **Power Requirements:**

AC Units - Field Adjustable: 95-145 VAC, 50/60 Hz, 2 Watt 215-265 VAC, 50/60 Hz, 2 Watt DC Units: 24 VDC Unit: 19-29 VDC input, 2 Watt

### Sensitivity:

0.3pF or less

### **Operating Point Range:**

0 - 80 pF (20 Turn Pot / 4 pF per Turn) Extended range with external pad capacitor, Pad ratio 1:1

# Load Resistance:

Center to Ground, 1500 Ohms Center to Shield, 750 Ohms Shield to Ground, 750 Ohms

### Failsafe:

Field adjustable to either High-Level Fail-Safe (HLFS) or Low-Level Fail-Safe (LLFS)

# **Output:**

DPDT relay closure

# **Contact Rating:**

5A @ 120 Vac non-inductive 2A @ 230 Vac non-inductive

# **Ambient Temperature:**

-40°F to 145°F (-40°C to 63°C)

# **Temperature Effect:** 0.5pF/50°F

Line Voltage Effect: 0.2pF/20V @ 120 Vac

**Stability:** 0.15pF/6 mo. maximum shift

# Spark Protection:

100 Amp

# Mounting: (Probe Dependant)

<sup>3</sup>/<sub>4</sub>-inch NPT (Typical)

### **Housing:**

The standard housing meets the following classifications:

Nema 1	General-Purpose
Nema 2	Drip-Tight
Nema 3	Weather-Resistant
Nema 4	Waterproof
Nema 5	Dust-Tight
Nema 12	Industrial Use

If hazardous area approval is required, use the Drexelbrook PXL The Point<sup>™</sup> instrument for point level control.

# Time Delay:

0-60 seconds (3/4 Turn Pot) 270° Potentiometer

# **Approvals**

FM / FMC 3810 General Purpose

Phone: +1 215-674-1234 • Fax: +1 215-674-2731

E-mail: drexelbrook.info@ametek.com

205 Keith Valley Road | Horsham PA 19044 U.S.A. WWW, DI

