

## Model A2X Explosion/Flame Proof Pressure Transmitter



### APPLICATIONS:

*Oil field equipment, upstream oil and gas production, natural gas compression and transfer control, alternative energy projects*

### FEATURES:

- cUL and ATEX listed
- Choice of 0.25, 0.50 or 1.0% accuracy
- Pressure ranges from 5 psi through 10,000 psi
- CE mark
- 316L SS wetted materials, 17-4 PH optional
- 304 SS case
- Six output signals to choose from
- Optional absolute pressure ranges available

The Ashcroft® A2X pressure transmitter is ideal for a broad spectrum of pressure sensing requirements requiring approvals for explosion/flame proof.

The Ashcroft® A2X is designed and manufactured to provide the user with accurate, reliable, and stable output data. This is accomplished through the use of an on board microprocessor, that is programmed during a unique digital compensation process, to provide extremely linear and precise performance over the entire specified pressure and temperature range.

### PERFORMANCE SPECIFICATIONS

Reference temperature 70°F (21°C)  
**Accuracy, Three Classes (% Span):** ±.25 ±0.5 ±1.0  
 Includes non-linearity (Terminal Point Method), hysteresis, non-repeatability, zero offset and span setting errors  
 Best Fit Straight Line\* (BFSL): ±.20 ±.40 ±.50  
 Includes non-linearity hysteresis, non-repeatability errors  
 \*Add ±.05% for ranges above 5000 psi

**Stability:**  
 ≤ ±0.25% Span/year @ reference conditions  
**Durability:** Greater than 10 million cycles

### ENVIRONMENTAL SPECIFICATIONS

**Temperature Limits:**  
 Storage: -40 to +125°C (-40 to 257°F)  
 Process: -40 to +125°C (-40 to 257°F)  
 Operating: -40 to +125°C (-40 to 257°F)  
 Compensated\*: -20 to +85°C (-4 to 185°F)

\*Consult factory for other options

**Temperature Effects:** -20 to +85°C (-4 to 185°F)

- 1.0% of Span for .25% Accuracy Class
- 2.0% of Span for .50% and 1.0% Accuracy Classes

**Humidity Effects:** No performance effects from 0 to 95% relative humidity, non-condensing, 0-100% RH with "W" enclosure.

\*Consult factory

### FUNCTIONAL SPECIFICATIONS

**Response Time:** <2ms

**Pressure Ranges:** Vacuum, gauge, compound and absolute pressure from 0-5 psi through 0-10,000. Equivalent ranges in bar available. See order guide section (reverse.)

### Vibration Effect:

Shock: 100g Peak, 11ms  
 Random: 10g RMS, 20-2000Hz  
 Sweep: 50-2000Hz, 5g peak

**Position Effect:** ± 0.02% Typical

**CE Mark (standard):** EN 61326:1997 + A1: 1998 Annex A Heavy Industrial Immunity (Annex A, Table A.1)  
 Light Industrial/Residential Emission (Table 4)

**Overpressure (F.S.):\***

	Proof	Burst
0#/vac. to 300 psi	1.5 x F.S.	min. 2 x F.S.
500-10,000 psi	1.2 x F.S.	1.5 x F.S.

\*For higher overpressure ratings use XK8 option.  
 See page 2 for additional option.

### ELECTRICAL SPECIFICATIONS

**Output Signal:** **Supply Voltage: (unregulated)**

		Minimum	Maximum
0-5Vdc	(3 Wire)	12Vdc	36Vdc
0-10Vdc	(3 Wire)	14Vdc	36Vdc
1-5Vdc	(3 Wire)	10Vdc	36Vdc
1-6Vdc	(3 Wire)	10Vdc	36Vdc
4-20mA	(2 Wire)	12Vdc	36Vdc*
0.5-4.5	(3 Wire)	4.5Vdc	5.5Vdc

Ratiometric

\*30Vdc max for Intrinsically Safe installations

### Power Requirements:

Supply Current: <5mA for voltage outputs

### Electrical Termination:

1/2 NPT male conduit with flying leads or shielded cable

**Circuit Protection:** Reverse polarity and mis-wire protected  
**Insulation Resistance (Circuit to Case):** 100Mohm @ 30Vdc

### PHYSICAL SPECIFICATIONS

**Case:** Material 304SS

**Wetted Materials:** 316L SS diaphragm and pressure port, optional 17-4PH SS diaphragm and 316L SS pressure port (see How to Order Section).

**Ingress Protection Rating:** IP65; NEMA 7,9

### HAZARDOUS AREA CERTIFICATIONS

**Explosion Proof – cUL (USL/CNL):** Specify A2X

Class I, Div. 1 & 2, Groups A, B, C and D

Class II, Div. 1 & 2, Groups E, F and G

**Flame Proof – ATEX:** Specify A2X

CE II 2 G

Ex d IIC T4

**NOTE:** For 4-20mA units following approvals also apply:

Intrinsically Safe – FM/CSA:

Class I, Div. 1

Class I, Div. 2, Non-Incendive

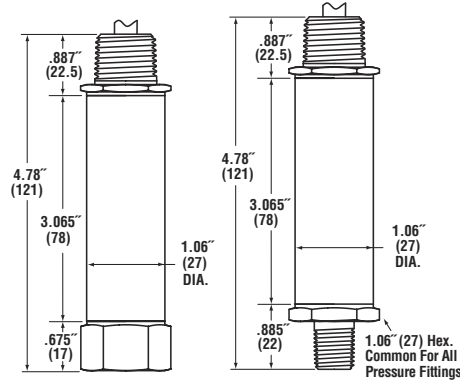
Refer to Ashcroft drawing #825A022 for wiring and installation requirements.

### NOTE:

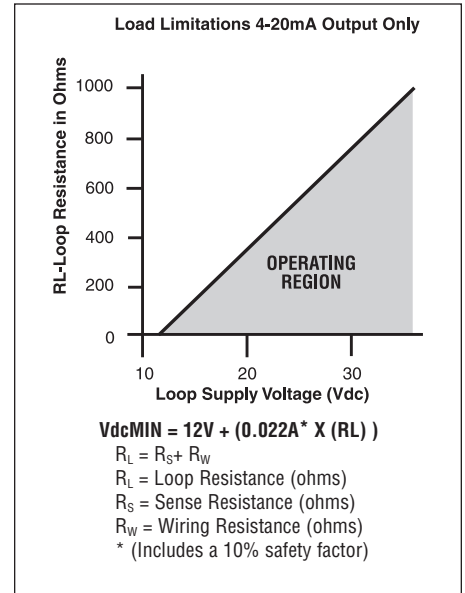
Refer to Ashcroft Model A2 for Heavy Industrial, non-Hazardous rated configurations and Ashcroft Model A4 for Intrinsically Safe/non-Incendive applications.

## Model A2X Explosion/Flame Proof Pressure Transmitter

DIMENSIONS dimensions in ( ) are mm



EXPLOSION / FLAME PROOF ENCLOSURE



### XK8 OVERPRESSURE (F.S.)

	Proof	Burst
0 to 2000 psi	200%	800%
3000 to 5000 psi	150%	300%
7500 to 10,000 psi	120%	150%

### NOTE:

Refer to Ashcroft Model A2 for Heavy Industrial, non-Hazardous rated configurations and Ashcroft Model A4 for Intrinsically Safe/non-Incendive applications.

### How To Order

<b>A2X</b>								<b>X</b>
<b>Type Configuration</b> (A2X)	<b>Accuracy / Temp. Effects</b> (A) 0.25% ≤ ±1.0% (-20°C to +85°C) (B) 0.50% ≤ ±2.0% (-20°C to +85°C) (C) 1.00% ≤ ±2.0% (-20°C to +85°C)		<b>Output Signal</b> (05) 0-5 Vdc (10) 0-10 Vdc (15) 1-5 Vdc (16) 1-6 Vdc (RM) 0.5-4.5 Vdc Ratio Metric (42) 4-20mA	<b>Electrical Termination</b> ½ NPT Male Conduit  <b>Flying Leads</b> (C2) with 3' leads (C3) with customer defined length (C4) with 15' leads  <b>Shielded Cable</b> (C1) with 3' cable (C6) with 15' cable (C7) with 30' cable (P7) with customer defined length	<b>Pressure Range</b> (1.5#) 1.5 psi <sup>(9),(10)</sup> (5#) 5 psi <sup>(9),(10)</sup> (10#) 10 psi <sup>(9),(10)</sup> (15#) 15 psi <sup>(9)</sup> (30#) 30 psi <sup>(9)</sup> (50#) 50 psi (60#) 60 psi (75#) 75 psi (100#) 100 psi (150#) 150 psi (200#) 200 psi (300#) 300 psi (500#) 500 psi	<b>Measurement Type</b> (G) Gauge Pressure Sensor (A) Absolute Pressure Sensor	<b>Optional X-Variations (XCL)</b> Non-standard <sup>(4)</sup> calibration <b>(XK8)</b> 17-4PH SS Sensor Material <b>(X6B)</b> Cleaned For Oxygen Service	
	<b>Pressure Connection</b> (M01) ¼ NPT-M (M02) ¼ NPT-M (F02) ¼ NPT-F (MEK) ¾-20 SAE-M (F09) ¾-18 (¼)-F (Aminco) (M04) ½ NPT-M (F04) ½ NPT-F  (MG4) G ½ M (VM2) VCR inlet fitting ¼" VCR gland with ¾-18 male nut (VF2) VCR inlet fitting ¼" VCR gland with ¾-18 female nut  (others available upon request)				(750#) 750 psi (1000#) 1000 psi (1500#) 1500 psi (2000#) 2000 psi (3000#) 3000 psi (5000#) 5000 psi (7500#) 7500 psi (10,000#) 10,000 psi <sup>(4)</sup> (0# & vac.) 0 psi/vac. <sup>(9),(10)</sup> (15# & vac.) Vac./15 psi <sup>(9),(10)</sup> (30# & vac.) Vac./30 psi <sup>(9),(10)</sup> (45# & vac.) Vac./45 psi <sup>(9)</sup> (60# & vac.) Vac./60 psi <sup>(9)</sup>			
					(4) 17-4PH SS Sensor Required (9) 17-4PH SS Sensor Not Available (10) Gauge pressure only		(4) Minimum 10 pieces for non-standard pressure ranges	

NOTE: All A2X pressure transmitters include a 9 pt. NIST traceable calibration certificate