ASHCROFT®
Trust the shield.™

Model A2X Explosion/Flame Proof Pressure Transmitter

LOOK FOR THESE MARKS ON OUR PRODUCTS

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

Respone 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*

*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 proected
Insulation Resisance (Circuit to Case): 100Mohm @ 30Vdc

PHYSICAL SPECIFICATIONS

Case: Material 304SS

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

Ingress Protection Rating: IP65; NEMA 7,9

All units less than 500 psi include a small metal sintered filter at the top of the unit. This is necessary to equalize the internal pressure with atmospheric pressure but can be a point of moisture ingress.

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 Ex 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.

All specifications are subject to change without notice.
All sales subject to standard terms and conditions.
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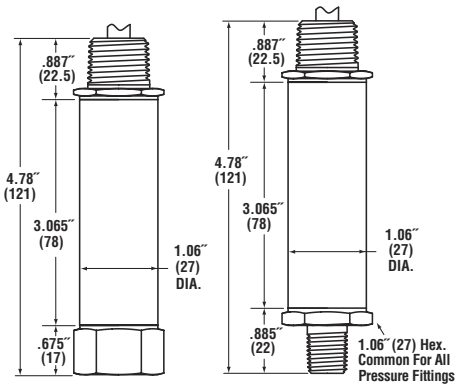
Ashcroft Inc., 250 East Main Street, Stratford, CT 06614 USA
Tel: 203-385-0648 • Fax: 203-385-0408
email: info@ashcroft.com • www.ashcroft.com

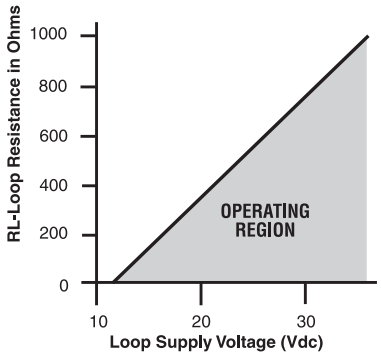
Model A2X Explosion/Flame Proof Pressure Transmitter

DIMENSIONS dimensions in ( ) are mm



EXPLOSION / FLAME PROOF ENCLOSURE

Load Limitations 4-20mA Output Only



VdcMIN = 12V + (0.022A* X (RL))

$R_L = R_S + R_W$

R_L = Loop Resistance (ohms)

R_S = Sense Resistance (ohms)

R_W = Wiring Resistance (ohms)

* (Includes a 10% safety factor)

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.

[7]Available only with accuracy B & C.

How To Order

A2X – **X**

Type Configuration
(A2X)

Accuracy / Temp. Effects
(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)

Pressure Connection
(M01) ⅛ NPT-M
(M02) ¼ NPT-M
(F02) ¼ NPT-F
(MEK) 7/16-20 SAE-M
(F09) 9/16-18 (¼)-F (Aminco)
(M04) ½ NPT-M
(F04) ½ NPT-F
(MG4) G ½ M
(VM2) VCR inlet fitting ¼″ VCR gland with 9/16-18 male nut
(VF2) VCR inlet fitting ¼″ VCR gland with 9/16-18 female nut
(others available upon request)

Output Signal
(05) 0-5 Vdc
(10) 0-10 Vdc
(15) 1-5 Vdc
(16) 1-6 Vdc
(42) 4-20mA

Electrical Termination
½ NPT Male Conduit

Flying Leads
(C2) with 3´ leads
(C5) with 10´ leads

Shielded Cable
(C1) with 3´ cable
(C6) with 15´ cable
(C7) with 30´ cable
(P7) with customer defined length

Pressure Range
(1.5#) 1.5 psi[5],[6],[7]
(5#) 5 psi[5],[6]
(10#) 10 psi[5],[6]
(15#) 15 psi[5]
(30#) 30 psi[5]
(50#) 50 psi
(60#) 60 psi
(75#) 75 psi
(100#) 100 psi
(150#) 150 psi
(200#) 200 psi
(300#) 300 psi
(500#) 500 psi
(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[4]
(0# & vac.) 0 psi/vac.[5],[6]
(15# & vac.) Vac./15 psi[5],[6]
(30# & vac.) Vac./30 psi[5],[6]
(45# & vac.) Vac./45 psi[6]
(60# & vac.) Vac./60 psi[6]

Measurement Type
(G) Gauge Pressure Sensor
(A) Absolute Pressure Sensor

Optional X-Variations
(XCL) Non-standard calibration
(XK8) 17-4PH SS Sensor Material
(X6B) Cleaned For Oxygen Service

[4]17-4PH SS Sensor Required
[5]17-4PH SS Sensor Not Available
[6]Gauge pressure only
[7]Available only with accuracy B & C

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

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