

Data Sheet

A2X Explosion/Flame Proof Pressure Transmitter

FEATURES

- Rugged housing
- Highly configurable: wide selection of pressure ranges and pressure connections.
- Output: select voltage or current versions

TYPICAL USES

- Oil Field Equipment
- Upstream Oil and Gas Production
- Natural Gas Compression and Transfer Control
- Alternative Energy Projects

PERFORMANCE SPECIFICATIONS

Reference Temperature:	70°F (21°C)
Accuracy Class:	±0.25%, ±0.5%, ±1.0% of span Terminal Point Method includes: non-linearity, hysteresis, non-repeatability, zero offset and span setting errors

Best Fit Straight Line (BFSL):	±0.2%, ±0.4%, ±0.5% of span Add ± 0.05% for ranges >5,000 psi
Durability:	>10 million cycles
Stability:	≤±0.25% span/year at reference conditions

ENVIRONMENTAL SPECIFICATIONS

Temperature Effects:	-4°F to 185°F (-20°C to 85°C) ±1.0% of span for ±0.25% accuracy class ±2.0% of span for ±0.5% and ±1.0% accuracy class
Temperature Limits:	Storage: -40°F to 257°F (-40°C to 125°C) Operating: -40°F to 257°F (-40°C to 125°C) Compensated: -4°F to 185°F (-20°C to 85°C)
Humidity Effects:	0-95% R.H. non-condensing (no effects) 0-100% R.H. with welded enclosure (no effects)

FUNCTIONAL SPECIFICATIONS

Response Time:	<2ms
Pressure Ranges:	Vacuum, gauge, compound and absolute pressure from 0 to 5 psi through 0 to 10,000 psi (Bar ranges available)
Shock:	100 g Peak, 11 ms
Random Vibration:	10 g RMS, 20-2,000 Hz
Sweep Vibration:	50-2,000 Hz, 5 g peak
Position Effect:	±0.02%, typical
Overpressure:	Proof: Burst:
≤300 psi	1.5 X Range 2 X Range
≥500 to ≤10,000 psi	1.2 X Range 1.5 X Range



A2X
Explosion/Flame Proof
Pressure Transmitter



KEY BENEFITS

- Provides the user with accurate, reliable, and stable output data
- Board microprocessor provides extremely linear and precise performance over the entire pressure and temperature range
- Explosion-proof and flame-proof approvals

ELECTRICAL SPECIFICATIONS

Circuit Protection: Reverse polarity and mis-wire protected

Insulation Resistance (Circuit Case): 100 MΩ @ 30 Vdc

Output Signal:	Supply Voltage: (unregulated)	
	Min.	Max.
0-5 Vdc (3 Wire)	12 Vdc	36 Vdc
0-10 Vdc (3 Wire)	14 Vdc	36 Vdc
1-5 Vdc (3 Wire)	10 Vdc	36 Vdc
1-6 Vdc (3 Wire)	10 Vdc	36 Vdc
4-20 mA (2 Wire)	12 Vdc	36 Vdc

Electrical Termination: ½ NPT Male conduit with flying leads or shielded cable

Note: *30 Vdc Max for Intrinsically Safe installations

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PHYSICAL SPECIFICATIONS

Environmental Rating: IP65, NEMA 7,9

HAZARDOUS AREA CERTIFICATIONS

Explosion Proof: Explosion Proof-cUL (USL/CNL):
 Class I, Div 1 & 2, Groups A, B, C and D
 Class II, Div 1 & 2, Groups E, F and G
 Flame Proof – ATEX: Ex d IIC T4
 NOTE: For 4-20 mA units following approvals also apply:
 Intrinsically Safe – FM/CSA
 Intrinsic Safety: Class I, II and III Div. 1 and 2
 Groups A, B, C, D, F and G per entity requirements
 see Ashcroft drawing #825A022
 Non-incendive: Class I, II and III Div. 2, Groups A, B, C, D, F and G, no barriers needed

OPTIONAL FEATURES

Sensor Material: 17-4PH Stainless Steel

Calibration: Non-standard

Consult factory for: Cleaned for Oxygen services

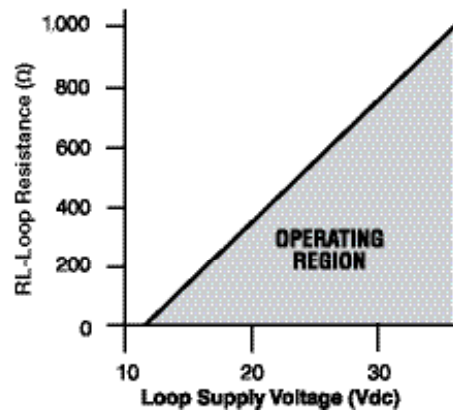
WETTED MATERIAL

Diaphragm	Process Connection
316L SS	316L SS

NON-WETTED

Housing
304 Stainless Steel

LOAD LIMITATIONS 4-20 mA OUTPUT ONLY



$$V_{dc_{min}} = 12V + (0.022A \times X (RL))$$

$$R_L = R_s + R_w$$

R_L = Loop Resistance (ohms)

R_s = Sense Resistance (ohms)

R_w = Wiring Resistance (ohms)

* (Includes a 10% safety factor)

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A2X Explosion/Flame Proof Pressure Transmitter

ORDERING CODE	Example:	A2X	A	M01	05	C2	50#	G	-X6B
Model									
A2X - Explosion/flame proof pressure transmitter		A2X							
Accuracy/Temp. Effects									
A - 0.25%/±1.0%(-20°C to 85°C)			A						
B - 0.50%/±2.0%(-20°C to 85°C)									
C - 1.0%/±2.0%(-20°C to 85°C)									
Pressure Connection									
F01 - 1/8 NPT Female									
F02 - 1/4 NPT Female									
F04 - 1/2 NPT Female									
F09 - 9/16-18 (1/4)-Female (Aminco®)									
FRW - 7/16-20 SAE-Female									
M01 - 1/8 NPT Male				M01					
M02 - 1/4 NPT Male									
M04 - 1/2 NPT Male									
MEK - 7/16-20 SAE-Male									
MG2 - G1/4 Male									
MG4 - G1/2 Male									
VM2 - VCR process connection 1/4" VCR gland w/ 9/16-18 Male nut									
VF2 - VCR process connection 1/4" VCR gland w/ 9/16-18 Female nut									
S15 - Sanitary Seal 1 1/2" Tri-Clamp®									
S20 - Sanitary Seal 2" Tri-Clamp®									
Output Signal									
05 - 0-5 Vdc					05				
10 - 0-10 Vdc									
15 - 1-5 Vdc									
16 - 1-6 Vdc									
42 - 4-20 mA									
Electrical Termination									
1/2 NPT-M Conduit Shielded Cable (NEMA Rating not valid for ranges ≤300 psi)									
C1 - 3' shielded cable									
C6 - 15' shielded cable									
C7 - 30' shielded cable									
P7 - Shielded cable specify length									
1/2 NPT-M Conduit Flying Leads (NEMA Rating not valid for ranges ≤300 psi)									
C2 - 3' flying leads						C2			
C5 - 10' flying leads									
Pressure Range (see range table on page 4)									
50# - 50 psi							50#		
Measurement Type									
G - Gauge pressure								G	
A - Absolute pressure									
Option (if including an option(s) must include an "X")									X__
CL - Non-standard calibration									
K8 - 17-4PH Stainless Steel sensor material									
6B - Cleaned for oxygen service									6B

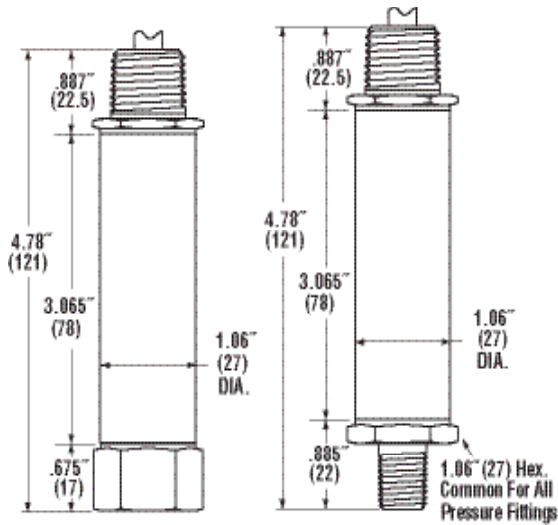
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DIMENSIONS in [] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings

Explosion / Flame Proof Enclosure



A2 RANGE TABLE

	Range	Code	Notes
Vacuum	0 psi/-14.7 psi	0#&vac	17-4PH SS sensor not available, gauge pressure only
	15 psi/-14.7 psi	15#&vac	17-4PH SS sensor not available, gauge pressure only
Compound	30 psi/-14.7 psi	30#&vac	17-4PH SS sensor not available, gauge pressure only
	45 psi/-14.7 psi	45#&vac	Gauge pressure only
	60 psi/-14.7 psi	60#&vac	Gauge pressure only
Positive Pressure	1.5 psi	1.5#	17-4PH SS sensor not available, gauge pressure only, available with accuracies B or C only
	5 psi	5#	17-4PH SS sensor not available, gauge pressure only
	10 psi	10#	17-4PH SS sensor not available, gauge pressure only
	15 psi	15#	17-4PH SS sensor not available
	30 psi	30#	17-4PH SS sensor not available
	50 psi	50#	
	60 psi	60#	
	75 psi	75#	
	100 psi	100#	
	150 psi	150#	
	200 psi	200#	
	300 psi	300#	
	500 psi	500#	
	750 psi	750#	
	1,000 psi	1000#	
	1,500 psi	1500#	
2,000 psi	2000#		
3,000 psi	3000#		
5,000 psi	5000#		
6,000 psi	6000#		
7,500 psi	7500#		
10,000 psi	10000#	17-4PH SS sensor required	