

Data Sheet

A4 Pressure Transmitter

FEATURES

- Rugged housing
- Highly configurable: wide selection of pressure ranges, pressure connections and electrical terminations
- Available with externally adjustable zero and span access

TYPICAL USES

- Oil field equipment
- Upstream oil and gas production
- Natural gas compression and transfer control
- Alternative energy projects



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Pressure Transmitter



PERFORMANCE SPECIFICATIONS

Reference Temperature:	70 °F (21 °C)
Accuracy Class (Includes non-linearity):	±0.25%, ±0.5%, ±1.0% of span Terminal Point Method includes: 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:	< 2 ms
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 1.5X Range 2X Range ≥500 to ≤10,000 psi 1.2X Range 1.5X Range

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
- Ideal for a broad spectrum of pressure sensing requirements where Intrinsically safe or Non-Incendive hazardous location rating are required

ELECTRICAL SPECIFICATIONS

Circuit Protection:	Reverse polarity and mis-wire protected
Insulation Resistance (Circuit Case):	100 MΩ @ 30 Vdc
Output Signal:	Supply Voltage: (Unregulated) 4-20 mA (2 Wire) Minimum: 12 Vdc Maximum: 30 Vdc
Electrical Terminations:	See ordering code on page 2 for options
Power Requirements:	See load limitations chart on page 2

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PHYSICAL SPECIFICATIONS

Environmental Rating: IP65, NEMA 4X

HAZARDOUS AREA CERTIFICATIONS

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

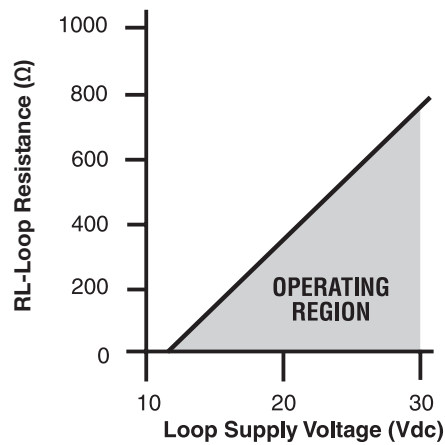
WETTED MATERIAL

Diaphragm	Process Connection
316L Stainless steel	316L Stainless steel

NON-WETTED

Housing
304 Stainless steel

LOAD LIMITATIONS 4-20 mA OUTPUT ONLY



$$V_{dc, \text{Min}} = 12V + (0.022A * X (RL))$$

$$R_L = R_s + R_w$$

R_L = Loop Resistance (ohms)

R_s = Sense Resistance (ohms)

R_w = Wiring Resistance (ohms)

* (Includes a 10% safety factor)

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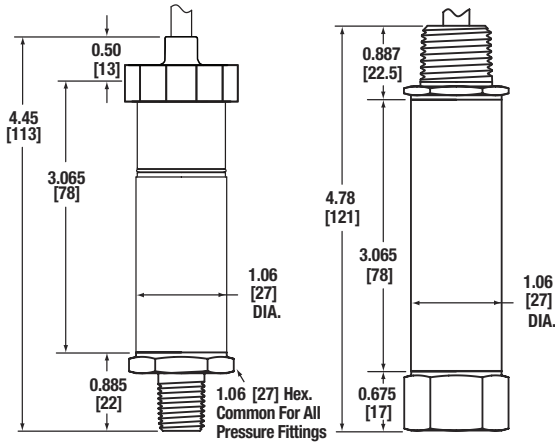
ORDERING CODE	Example:	A4	S	A	M01	42	F2	50#	G	-X6B
Model										
A4 - Intrinsically safe / non-incendive pressure transmitter		A4								
Enclosure										
S - Basic			S							
W - Welded w/out zero & span access										
Accuracy/Temp. Effects										
A - 0.25%/±1.0% (-20 °C to 85 °C)				A						
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 - 9/16-18 Male nut (compatible with 1/4 VCR® fitting)										
VF2 - 9/16-18 Female nut (compatible with 1/4 VCR® fitting)										
S15 - Sanitary seal 1 1/2" Tri-Clamp®										
S20 - Sanitary seal 2" Tri-Clamp®										
Output Signal										
42 - 4-20 mA						42				
Electrical Termination										
Integral Cable (Pigtail)										
F2 - 3' Shielded cable (available with enclosure code S)							F2			
P1 - Specify length (available with enclosure code S)										
Hirschmann® Style Form A DIN 43650-A										
DN - W/o mating connection (available with enclosure code S)										
D0 - With mating connection, no cable (available with enclosure code S)										
D2 - With mating connection, 3' cable (available with enclosure code S)										
D1 - With mating connection, specify length (available with enclosure code S)										
4-Pin Bendix® Style										
B4 - W/o mating connection (available with enclosure code S)										
H1 - With mating connection, no cable (available with enclosure code S)										
L1 - With mating connection, 3' cable (available with enclosure code S)										
P2 - With mating connection, specify length (available with enclosure code S)										
1/2 NPT-M Conduit Shielded Cable (NEMA Rating not valid for ranges ≤500 psi)										
C1 - 3' Shielded cable (available with enclosure code W)										
C6 - 15' Shielded cable (available with enclosure code W)										
C7 - 30' Shielded cable (available with enclosure code W)										
P7 - Shielded cable specify length (available with enclosure code W)										
1/2 NPT-M Conduit Flying Leads (NEMA Rating not valid for ranges ≤500 psi)										
C2 - 3' Flying leads (available with enclosure code W)										
C5 - 10' Flying leads (available with enclosure code W)										
M12 Threaded										
EW - W/o mating connection (available with enclosure code S)										
E0 - With mating connection, no cable (available with enclosure code S)										
E2 - With mating connection, 3' cable (available with enclosure code S)										
E1 - With mating connection specify length (available with enclosure code S)										
Pressure Range (see range table on page 4)										
50# - 50 psi								50#		
Measurement Type										
G - Gauge pressure									G	
A - Absolute pressure (Not available with X6B option)										
Option (if including an option(s) must include an "X")										
CL - Non-standard calibration										X _
K8 - 17-4PH® Stainless steel sensor material										
6B - Cleaned for oxygen service (Not available with absolute ranges)										6B

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DIMENSIONS in [] are millimeters

Intrinsically Safe (Enclosure S, W)



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
	1.5 psi	1.5#	17-4PH® SS sensor not available, gauge pressure only, available with accuracies B or C only
Positive Pressure	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	