VASHCROFT®

Type K1 Thin Film Pressure Transducer/Transmitter For Industrial Applications

APPLICATIONS:

Hydraulic, refrigeration, machine tool, test/measurement, pump control, HVAC, medical, construction equipment and all general purpose industrial process applications

BENEFITS & FEATURES:

- 0.5% and 1.0% accuracy
- Vac.-20,000 psi pressure range
- FM approved
- · Superior long-term stability and repeatability
- Stainless steel NEMA 4X enclosure
- Current/voltage output
- Wide range of electrical connections available
- · Optional panel meter digital display - see Ashcroft model 2269

The Ashcroft® K1 is a proven and versatile pressure transducer/transmitter incorporating polysilicon thin film technology. Modern low-pressure chemical vapor deposition methods provide simple, stable molecular bonds between a proven metal diaphragm and a polysilicon strain gage bridge. There are no epoxies or bonding agents to contribute to signal instability or drift.

The integral metal diaphragm and polysilicon bridge are virtually unaffected by shock, vibration or mounting.

These transmitters are offered in many standard pressure ranges with either current or voltage output

300°0-

5000

150%

300%

7500-

120%

150%

20,000



signals. Transmitter performance is directly traceable to the National Institute of Standards and Technology and specifications are conservatively stated. A calibration test certificate is available with each transmitter.

PERFORMANCE SPECIFICATIONS

Accuracy Class (Span):

See page 258-259 for definitions Includes non-linearity ±1.0% (Terminal Point Method), hystere-

sis, non-repeatability, zero offset and span setting errors

Best Fit Straight Line (BFSL) ±.25%

(Includes non-linearity, hysteresis and non-repeatability errors)

Interchangeability ±.25% ±.6% Durability: 108 cycles with negligible performance

change Stability: ±0.5% Span/yr

ELECTRICAL SPECIFICATIONS

Response Time: Less than 5 ms

Position Effect: Less than 0.01% F.S.

Overpressure Limits (F.S.):

2000

200%

800%

Vibration Sweep:

20 g's in any axis

20ms shock in any axis

15-

Proof

Burst

±.4%

Output Signal (consult factory for options):

Less than ±0.1%F.S. effect for 0-2000 Hz at

Shock: Less than ±0.05% F.S. effect for 100 g's,

4-20mA (2 wire) 1-5 Vdc (3 wire)

1-6 Vdc (3 wire)

1-11 Vdc (3 wire) (minimum excitation 15 Vdc)

Power Requirements: 10-36 Vdc unregulated,

Enclosure: NEMA 4X (NEMA 1 only if <500 psig if

electrical termination is Bendix® or Hirschmann®)

<3mA for voltage output PHYSICAL SPECIFICATIONS

Weight: 2 oz. (approx. w/o cable) **Reverse Polarity Protected**

Supply Current: <3mA for voltage output

ENVIRONMENTAL SPECIFICATIONS

Temperature Limits:

-54 to 121°C $(-65 \text{ to } +250^{\circ}\text{F})$ Storage: -28 to 82°C –20 to +180°F) Operating: Comp. Range: -28 to 71°C $(-20 \text{ to } +160^{\circ}\text{F})$

Thermal Coefficients: (68°F (20°C) ref.)

% Span/°F Standard:

	0.5%	1%
ZER0	±0.028%	±0.04%
SPAN	±0.028%	±0.04%
Optional:		
ZĖRO	±0.014%	N/A
SPAN	±0.014%	N/A

Multiply thermal zero coefficients by 1.5 on 0/30 psi, vac/15 range and by 3 on 0/15 and vac/0 ranges

Humidity:

No performance effect at 95% relative humidity-noncondensing

FUNCTIONAL SPECIFICATIONS

Standard Ranges (psi) gauge, compound:

0/15*	0/300	0/5000*	vac./60*
0/30*	0/500	0/7500*	vac./45*
0/60*	0/750	0/10,000*	vac./30*
0/100	0/1000	0/15,000*	vac./15*
0/150	0/2000	0/20,000*	vac./0*
0/200	0/3000		

1% accuracy ranges only. Consult factory for nonstandard ranges.

MATERIALS:

Case: 300 series stainless steel

Cable: No. 24 AWG, 36" PVC, shielded, vented,

UL approved

Diaphragm: 17-4 PH stainless steel Standard Process Connections: (316 stainless steel)

1/8 NPT male or female

1/4 NPT male or female

1/4 SAE-J-514 (male)

1/4 AMINCO (female) required for pressures over 10.000 psi

Other connections available

HAZARDOUS LOCATION CERTIFICATIONS

(Available option on 0.5% model only) Factory Mutual <™> Approvals:

Intrinsically Safe for use in:

Class I, II, III, Div. 1, Groups A, B, C,D, F, G when

used with safety barriers in accordance with Ashcroft drawing 71B212 Sht (1-3). Nonincendive for: Class I, Div. 2, Groups A, B, C, D

Special Protection for: Class II, III, Div. 2, Group F, G

*Mating connector available as necessary

TO ORDER THIS TYPE K1 TRANSDUCER/TRANSMITTER:			
Select: KŢ1 🔲 📖			
1. Type Configuration (K1)			
2. Accuracy/TC			
3. Pressure Connection (M01) 1/8 NPT-M (F01) 1/8 NPT-F (M02) 1/4 NPT-M (F02) 1/4 NPT-F (MEK) 7/16 -20-M (F09) aminco 9/16-18-Female			
4. Output Signal (42) 4-20mA (15) 1/5 Vdc (16) 1/6 Vdc (11) 1/11 Vdc	_		
5. Electrical Termination			
(F2) 36" cable, shielded, PVC sheathing (B6) Bendix 6-pin # PT02A-10-6P* (B9) WP Bendix 6-pin # PT02E-10-6P* (C1) ½ NPT-M Conduit w/36"	E-8-4P* `´´	Hirschmann miniature	
6. Pressure Range			
(Vac./0) Vac./0 through (20000) 20,000 psi (see standard ranges). Call for	more options.		
7. Hazardous Area Approvals			
(XFM) FM Approval Option	*Mating.co	nnactor available ac	nacaccaru