

## Model K1 Pressure Transmitter



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### APPLICATIONS

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

### FEATURES:

- 0.5% and 1.0% accuracy
- Vac.-20,000 psi pressure range
- FM approved (optional)
- 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 the 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 signals. Transmitter performance is directly traceable to the National Institute of Standards and Technology. A calibration test certificate is available with each transmitter.

### PERFORMANCE SPECIFICATIONS

**Accuracy Class (Span):** ±0.5% ±1.0%  
 Includes non-linearity (Terminal Point Method), hysteresis, non-repeatability, zero offset and span setting errors  
**Best Fit Straight Line (BFSL)** ±0.25% ±0.4%  
 Non-linearity  
**Interchangeability** ±0.5% ±1.0%  
**Durability:** 10<sup>8</sup> cycles 20/80% span with negligible performance change  
**Stability:** ±0.5% Span/yr

### ENVIRONMENTAL SPECIFICATIONS

#### Temperature Limits:

Storage: -54 to 121°C (-65 to +250°F)  
 Operating: -28 to 82°C (-20 to +180°F)  
 Comp. Range: -28 to 71°C (-20 to +160°F)

#### Thermal Coefficients: (68°F (20°C) ref.) % Span/°F:

<b>Accuracy Class:</b>	<b>0.5%</b>	<b>1%</b>
ZERO	±0.028%	±0.04%
SPAN	±0.028%	±0.04%

#### Optional (0.5% Accuracy Class only):

ZERO	±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.

#### Overpressure Limits (F.S.):

	<b>15- 2000</b>	<b>3000- 5000</b>	<b>7500- 20,000</b>
Proof	200%	150%	120%
Burst	800%	300%	150%

**Vibration Sweep:** Less than ±0.1%F.S. effect for 0-2000 Hz at 20 g's in any axis

**Shock:** Less than ±0.05% F.S. effect for 100 g's, 20ms shock in any axis

**Response Time:** Less than 5 ms

**Position Effect:** Less than 0.01% F.S.

### ELECTRICAL SPECIFICATIONS

#### Output Signal (consult factory for options):

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, <3mA for voltage output

