Type K2 Thin Film Pressure Transducer

APPLICATIONS:

Hydraulic, machine tool, test and measurement, and all general purpose industrial process applications

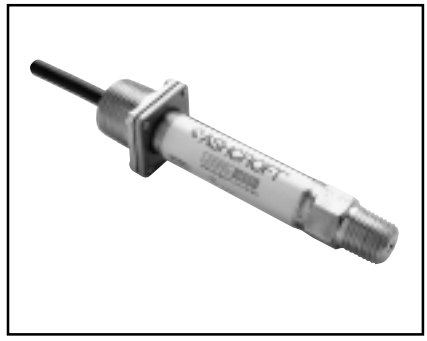
BENEFITS & FEATURES:

- ***0.5% and 1.0% accuracy***
- ***Vac.-2000 psi pressure range***
- ***Superior long-term stability and repeatability***
- ***Stainless steel NEMA 4X enclosure***
- ***Conditioned millivolt output***
- ***Wide range of pressure and electrical connections available***

The Ashcroft® K2 transducer introduces the benefits of polysilicon thin film performance at affordable prices. 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 transducers are offered in many standard pressure ranges with high-quality millivolt output signal ratiometric to supply voltage. Transducer 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 transducer.



PERFORMANCE CHARACTERISTICS

Standard Ranges (psi)

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.

Accuracy Class (F.S.): (Using T.P. method)	0.5%	1%
Best fit straight line (BFSL)	±0.25	±0.4
Hysteresis	±0.15	±0.2
Nonrepeatability	±0.05	±0.07
Interchangeability	±0.5%	±1.0%

Durability:
10^8 cycles 20/80%F.S. with negligible performance change
Stability: ±0.5% F.S./yr

ENVIRONMENTAL CHARACTERISTICS

Temperature Limits:

Storage:	–65/+250°F
Operating:	–20/+180°F
Compensated	–20/+160°F

Thermal Coefficients: (68°F ref.) %F.S./°F
Standard:

	0.5%	1%
ZERO	±0.028%	±0.04%
SPAN	±0.028%	±0.04%

Optional:

ZERO	±0.014%	N/A
SPAN	±0.014%	N/A

Multiply zero thermal coefficients by 1.5 on 0/30 psi range and by 3 and 0/15 and vac/0 ranges
Humidity:
No performance effect at 95% relative humidity – noncondensing

FUNCTIONAL CHARACTERISTICS

Overpressure Limits (F.S.):

	0/15-0/2000	0/3000-0/5000	0/7500-20,000
Proof	200%	150%	120%
Burst	800%	300%	150%

Vibration:
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, 20 ms shock in any axis
Position Effect: Less than 0.01% F.S.

ELECTRICAL SPECIFICATIONS

Sensitivity:
2mV/V
3mV/V
10mV/V
20mV/V
Power Requirements: 5-10 Vdc regulated
Zero Offset:
±0.5% F.S. or ±1% F.S. dependent on accuracy class
Response Time: Less than 5 ms
Circuit to Case Insulation Resistance:
100 M ohms @ 50 Vdc

PHYSICAL CHARACTERISTICS

Enclosure: NEMA 4X
(NEMA 1 only if <500 psig if electrical termination is Bendix® or Hirschman®)
Weight: 2 oz. (approx. w/o cable)

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
Shunt calibration feature is available as an option. Calibration report is standard with 0.5% and optional with 1% accuracy units. Consult factory for pricing, availability and required minimums for nonstandard products.

Bendix® is a registered trademark of Amphenol Corp.
Hirschman® is a registered trademark of Richard Hirschman of America Inc.

TO ORDER THIS TYPE K2 TRANSDUCER:

Select: K 2 ☐ ☐☐☐ ☐☐ ☐☐ ☐☐☐☐☐

1. Type Configuration (K2)

2. Accuracy/TC
(3) 0.50%, ±0.014%/°F **(5)** 0.50%, ±0.028%/°F
(7) 1.0%, ±0.040%/°F

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 SAE-J-514 **(F09)** aminco 9/16-18-Female

4. Sensitivity
(02) 2mV/V **(03)** 3mV/V **(10)** 10mV/V **(20)** 20mV/V

5. Electrical Termination
(F2) 36˝ cable, shielded, PVC sheathing **(B4)** Bendix 4-pin # PT02A-8-4P*
(B6) Bendix 6-pin # PT02A-10-6P* **(C1)** 1/2 NPT-M Conduit W/36˝ cable **(HM)** Hirschmann miniature

6. Pressure Range
(Vac./0) Vac./0 through **(20000)** 20,000 psi (see standard ranges). Call for more options.
*Mating connector available as necessary

J & S Instruments, Inc.
Phone (888) LOG-DATA, FAX (937) 323-9588
visit our web site at www.jsinstruments.com