ASHCROFT®

Type K8 Thin Film Pressure Transducer with Unconditioned MilliVolt Ouput

APPLICATIONS:

Hydraulic, hand tools, machine tool, compressor, HVAC, medical, control valves, construction equipment and all general purpose industrial process and OEM applications

BENEFITS & FEATURES:

- ***0.5% and 1.0% accuracy***
- ***45-20,000 psi pressure ranges***
- ***Superior long-term stability and repeatability***
- ***Wide range of pressure and electrical connections available***
- ***Miniature size and light weight***
- ***Millivolt output***

The Ashcroft® K8 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 K8 is offered in many standard pressure ranges with high quality millivolt output. Signal output is proportional to supply voltage, and sensitivity varies between 6-18 mV/V at full scale.

Transducer performance is directly traceable to the National Institute of Standards and Technology and specifications are conservatively stated.

PERFORMANCE CHARACTERISTICS

Standard Ranges (psi)

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

*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.

CHARACTERISTICS

Temperature Limits:

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

Humidity:
No performance effect at 95% relative humidity – noncondensing

FUNCTIONAL CHARACTERISTICS

Overpressure Limits (F.S.):

	0/45-0/2000	0/3000-0/5000	0/7500-20,000
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

Position Effect: Less than 0.01% F.S.

ELECTRICAL SPECIFICATIONS

Output signal varies from 6-18mv/V at full scale, output proportional to supply voltage.

Excitation: 3-10 Vdc regulated

Zero Offset: ±3mV/Vdc

Bridge Resistance: 3500 ohms (nominal)

Supply Current: 1.4mA (nominal)

Circuit to Case Insulation Resistance:
100 M ohms @ 50 Vdc

PHYSICAL CHARACTERISTICS

Weight: 2 oz (approx. without cable F1 Type)

MATERIALS:

Socket: 300 series stainless steel

Cable: 4˝ polyethylene coated, 30 AWG or UL approved 36˝, shielded, vented cable (24 AWG)

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

TO ORDER THIS TYPE K8 TRANSDUCER:

Select: K 8 [ ] [ ][ ][ ] M V [ ][ ] [ ][ ][ ][ ][ ][ ]

1. **Type Configuration (K8)**
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)** 9/16-18 UNF **(T01)** 1/4 Comp. Fit **(000)** None
4. **Sensitivity**
   (MV) mV/V
5. **Electrical Termination**
   (F1) 4˝ leads **(F2)** 36˝ cable, shielded, PVC sheathing
6. **Pressure Range**
   (45) 45 psi through **(20000)** 20,000 psi (see standard ranges).

Consult factory for guidance in product selection
Phone (203) 385-0217, Fax (203) 385-0602 or
visit our web site at www.ashcroft.com

DRESSER Instruments