ASHCROFT®

Type KX Flush Mount Thin Film Pressure Transducer/ Transmitter For Pulp and Paper Applications

APPLICATIONS:
Pulp/paper, waste water, spray booths and all heavy medium pumping processes

BENEFITS & FEATURES:
- ***Available with PMC adapter (shown)***
- ***Flush-mounted integral 316 stainless steel diaphragm***
- ***Stainless steel NEMA 4X enclosure***
- ***Current/voltage output***

The Ashcroft® KX transmitter combines the proven benefits of polysilicon thin film performance with the utility of a flush-mounting sensing diaphragm. 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 flush sensing element is provided by an integral, silicone filled stainless steel diaphragm seal. The small sensing area and low internal volume ensure accurate measurement under severe conditions.

The polysilicon strain resistors combine very low noise levels with very high signal output. There are no semiconductor (p-n) junctions to change with temperature, time or use. The integral metal diaphragm and polysilicon bridge are virtually unaffected by shock, vibration or mounting position.

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 and specifications are conservatively stated.

PERFORMANCE CHARACTERISTICS

Standard Ranges (psi)

0/100	0/500	0/3000
0/150	0/750	0/5000
0/200	0/1000	
0/300	0/2000	

Consult factory for nonstandard ranges.

Accuracy Class: (F.S.)	**±1.0%**
(Using T.P. method)	
Best fit straight line (BFSL)	±0.4%
Hysteresis	±0.2%
Nonrepeatability	±0.15%

ENVIRONMENTAL CHARACTERISTICS

Temperature

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

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

ZERO	±0.04%
SPAN	±0.04%

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

FUNCTIONAL CHARACTERISTICS

Overpressure: (F.S.)	0/100-0/2000	0/3000-0/5000
Proof	200%	150%
Burst	800%	300%

Vibration Sweep:
Less than ±0.1%F.S. effect for 0-400 Hz at 20 g's in any axis

Shock:
Less than ±0.1%F.S. effect for 20 g's 20ms shock in any axis

ELECTRICAL SPECIFICATIONS

Output Signal:
4-20mA (2 wire)
1-5 Vdc (3 wire)
1-6 Vdc (3 wire)

Power Requirements:
10-36 Vdc unregulated

Supply Current:
Less than 3mA for voltage output

Output Impedance: 100 ohms

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

PHYSICAL CHARACTERISTICS

Enclosure: NEMA 4X

Weight:
10 oz (approx. without cable)

MATERIALS

Case: 300 series stainless steel

Connection: 316 stainless steel

Cable:
No. 24 AWG, 36 PVC, shielded, vented, UL approved

Diaphragm: 316Ti stainless steel

Standard Process Connection:
G-½ metric pipe thread*
O-ring seal (max. 150 psi)
½ NPT male pipe thread used in conjunction with XWB, XWC and XWE screw-on adapters

OPTIONS

Flush weldnut (XWB)
Recessed weldnut (XWC)
Weldnut plug (XWD)
Paper mill adapter (shown in photo) (XWE)
Halocarbon fill (XWG)

Warning: Sensitive Diaphragm

TO ORDER THIS TYPE KX TRANSDUCER/TRANSMITTER:

Select: K X 7 ☐☐☐ ☐☐ ☐☐ ☐☐☐☐☐☐ ☐☐☐

1. **Type Configuration (KX)**
2. **Accuracy**
   (7) 1.0%, ±0.04%/°F
3. **Pressure Connection**
   (MG4) G ½ **(RS1)** O-Ring Seal (max. 150 psi) **(M04)** ½ NPT M
4. **Output Signal**
   (15) 1/5 Vdc **(16)** 1/6 Vdc **(42)** 4-20mA
5. **Electrical Termination**
   (C1) ½ NPT-M Conduit w/36˝ cable **(DN)** 43650 connector **(RT)** ½ NPT with RTD Head (4-20mA only)
   (M1) DIN 43650 with mating connector G4WIF **(M2)** DIN 43650 with mating connector G4WIF w/36˝ cable
6. **Pressure Range**
7. **Optional X-Variations** (See above options)

*Mating connector available as necessary

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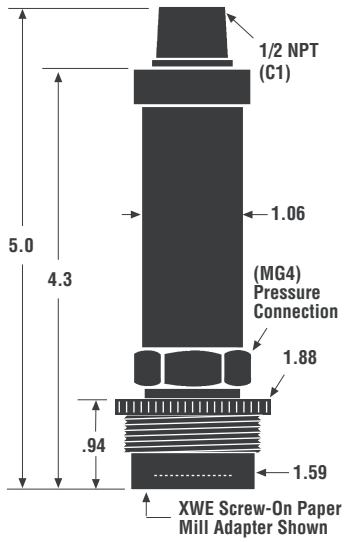
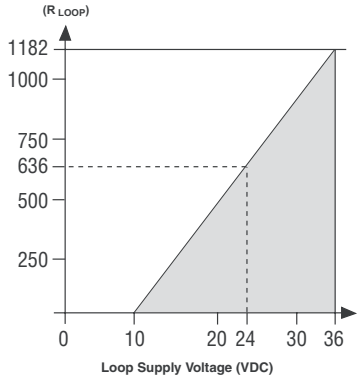
DIMENSIONS



Load Limitations 4-20mA Output Only



V_{min} = 10V+ (.022A x R_L)

R_L = R_S + R_W

R_L = Loop Resistance (ohms)

R_S = Sense Resistance (ohms)

R_W = Wire Resistance (ohms)