

# KM Series Silicon-On-Sapphire, High-Accuracy Pressure Transducers

FOR AUTOMOTIVE, INDUSTRIAL, FOOD AND CHEMICAL PROCESSING,  
WASTE TREATMENT AND OTHER APPLICATIONS



## PRESSURE TRANSDUCER

AMETEK KM Series Silicon-on-Sapphire (SOS) High-Accuracy Pressure Transducers offer high-accuracy over a wide temperature range. This is achieved through digital correction of the output signal within the unit's electronics. Each unit is individually calibrated for optimal performance.

Utilizing Silicon-on-Sapphire sensing technology results in excellent long-term stability of <math><0.2\%</math> of Full Scale. SOS technology also gives the KM Series a major advantage over non-SOS bonded silicon sensors. The silicon Wheatstone bridge formed during the manufacturing of the KM Series transducers is free from any residual stresses that may add to hysteresis and non-repeatability errors, which decrease long-term stability. There are no bonding agents between the sensing element and sapphire substrate that may age and cause instability.

The KM Series pressure transducers feature an on-board microprocessor that automatically compensates for non-linearity and thermal sensor errors. It also provides an output with a very high-accuracy of better than  $\pm 0.5\%$  over the complete operating temperature range from  $-40^{\circ}\text{C}$  to  $121^{\circ}\text{C}$ .



## FEATURES AND BENEFITS

- $\pm 0.2\%$  static accuracy
- $\pm 0.5\%$  absolute accuracy including all errors
- Digitally correct output
- Excellent long-term stability  $<0.2\%$  FS
- Rugged stainless steel and titanium construction
- High over pressure limit
- Low hysteresis
- Compact lightweight design
- High dielectric strength
- All welded construction

**AMETEK**<sup>®</sup>

**POWER  
INSTRUMENTS**

Experience the Power<sup>™</sup>

**SPECIFICATIONS FUNCTIONAL**

Standard Pressure Ranges (PSI Unit)

**KT SERIES**

0-15 (KML)	0-300
0-20 (KML)	0-500
0-30 (KML)	0-1,500
0-50 (KML)	0-2,000
0-100	0-3,000
0-150	0-5,000
0-200	0-10,000

**Service**

- Gas, liquid or vapor

**Output**

- 0-5, 1-6, 1-10, 1-11 VDC

**Overpressure**

- 2 x FS or 20,000 psi, or whichever is less

**Burst Pressure**

- 4 x FS for 15-5,000 psi
- 2 x FS for 10,000-30,000 psi

**Temperature Limits Operating Range**

- -64° to +250°F (-55° to +121°C)

**Compensated Range**

- -64° to + 180°F (-55° to +82°C)

- Other temperature ranges available, consult factory.

**PERFORMANCE**

**Static Accuracy**

- ±0.2% (includes non-linearity, hysteresis, and repeatability)
- Consult factory for other options

**Absolute Accuracy**

- ±0.5% (includes all errors over the compensated temperature range)

**Shock**

- 20 Gs 1/2 sine wave for 11 msec.

**Vibration**

- 10 Gs pk to pk
- Sinusoidal, 2-2000Hz

**Natural Frequency**

- 35 kHz diaphragm only

**Excitation**

- 10 to 40 VDC

**Insulation Resistance**

- ≥100M ohms minimum at 500 VDC, 68°F, 80% RH

**Dielectric Withstand Voltage**

- 750 VDC

**Current Drain**

- 10 mA maximum

**Response Time**

- 3.5 msec. to reach 63% of full scale output

**APPROVALS**

CE Mark

**PHYSICAL MATERIALS**

**Materials**

- Titanium alloy

**Pressure Fittings**

- Refer to ordering information for standard fittings and other available options.

**Pressure Cavity Volume**

- 0.1 cubic inch nominal volume

**Weight**

- 4.0 oz. maximum

**ELECTRICAL TERMINATIONS**

**Connector**

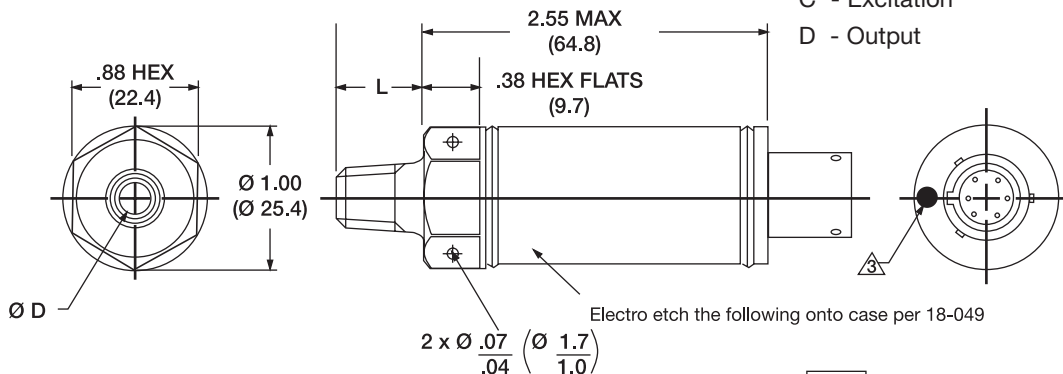
- 4-pin MS3113 H8-4P
- Consult factory for other options

**Calibration**

Transmitters are factory calibrated from zero to the maximum range unless specified otherwise at time of order entry.

**PIN Configurations**

- A + Excitation
- B + Output
- C - Excitation
- D - Output



3 All gage units are filter vented as shown, not applicable for sealed gage units.

IN (MM)



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