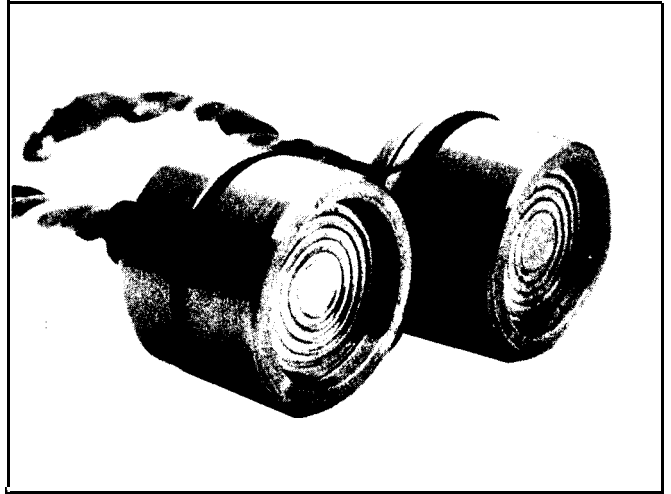




## SERIES 10 PRESSURE SENSORS

### ◆ ◆ APPLICATIONS ◆ ◆

<b>INDUSTRIAL:</b>	Hydraulic Oil, Refrigerant, Air and Combustion Pressures
<b>MILITARY/ AEROSPACE:</b>	Altitude, Sonobuoys, Turbine Gases, Fuel Oil, and Hydraulic Oil Pressures
<b>GEODETIC:</b>	Down Hole Pressures
<b>OCEANOGRAPHIC:</b>	Seismic Streamer, Sea WaterDepth
<b>PROCESS CONTROL:</b>	Liquid Level, Steam, Corrosive Liquids, Pharmaceuticals, Sanitary Liquids



### ◆ ◆ FEATURES & BENEFITS ◆ ◆

**HIGH STATIC ACCURACY & REPEATABILITY:**  
Insures reproducible measurements

**HOUSING MATERIAL SELECTION:**  
Easily integrated into user's product

**GAGE, ABSOLUTE & DIFFERENTIAL VERSIONS:** Allows design flexibility

**100% COMPUTER TESTED & CALIBRATED:**  
Minimizes cost to utilize

**UNAMPLIFIED OUTPUTS UP TO 1000 mV:**  
Simplifies or eliminates user supplied signal conditioning

Series 10 pressure sensors are designed for a wide variety of industrial applications. These transducers provide excellent accuracy and are available in ranges from 1.5 to 15,000 PSI.

All Keller-PSI sensors feature a four active arm Wheatstone Bridge strain gage diffused directly into a silicon diaphragm. The resultant monolithic structure exhibits no measurable hysteresis, withstands overpressures to 200% of rated range without damage, and has a life expectancy in the tens of millions of cycles.

The Keller-PSI media proof Series 10 sensors are specifically designed for use with hostile fluids and gases. A conventional Keller-PSI silicon pressure sensor cell is fitted into a stainless steel housing with an integral, compliant stainless steel barrier diaphragm, providing impervious media isolation. Spring rate ratios in excess of 1000:1 between the silicon sensing diaphragm and the metal isolation diaphragm preserve the inherent accuracy of the silicon sensor.

The Series 10 all media sensor provides the OEM user with the basic building block necessary to construct his own custom pressure transducer tailored to his own unique requirements.

Series 10 sensors are available in absolute, sealed gage, gage and differential versions in standard ranges from 1.5 PSI through 15,000 PSI. Standard case and barrier diaphragm material is 316 SS (Hastelloy B/, Tantalum, Platinum/Tantalum Optional). Other options include gold plating of the transducer front end for corrosion protection, true flush diaphragm construction for applications where crevice corrosion is a concern, and special designs for sanitary and explosion proof applications. Consult the Sales Office for your specific needs.

Each Keller-PSI pressure transducer is shipped with a calibration card specific to that transducer. The card specifies compensation resistors required to achieve optimum performance over the compensated temperature range.

# ◆ ◆ SPECIFICATIONS ◆ ◆

## Series 10

### CONFIGURATION

- PA-10 = Sealed Gage  
 PAA-10 = Absolute  
 PR-10 = Gage  
 PD-10 = Differential

NOTE: For applications where measurand can be subatmospheric use **PAA** configuration.

### MEDIA

Gases & liquids compatible with Stainless Steel and **Buna "N" (Nitrile)** ["O-Rings" available in ethylene-propylene, silicone, neoprene, viton or fluoro-silicone]

### RANGES

SERIES	PSI	BAR	F.S. OUTPUT (mV) (@ 1 mA Excitation)	PROOF PRESSURE (PSI)
PA10 PAA10 PR10 PD10				+ -
● ● ● ●	1.5	.1	20	38 15
● ● ● ●	3.0	.2	35	38 15
● ● ● ●	7.5	.5	75	38 15
● ● ● ● 1	5	1	100	45 15
● ● ● ●	30	2	150	60 30
● ● ● ● a	75	5	200	110 50
● ● ● ●	150	10	250	225 75
● ● ● ●	300	20	250	400 75
● ● ● ●	750	50	250	1125
● ● ● ●	1500	100	250	2250
● ● ● ●	3000	200	250	4000
● ● ● ●	6000	400	250	7500
● ● ● ●	9000	600	250	10500
● ● ● ●	15000	1000	250	16500

### LONG TERM STABILITY

Ranges 1.5 to 15:  $\pm 1\%$  F.S. per 6 months Typical  
 Other Ranges:  $\pm 0.2\%$  F.S. per 6 months Typical

### OPERATING RANGE

-10° to 80°C • Standard  
 -55° to 150°C • Optional

### THERMAL COMPENSATION RANGE

-10° to 80°C

### THERMAL STABILITY

ZERO SHIFT:  $\pm 0.01$  mV/°C typ.:  $\pm 0.04$  mV/°C max.  
 COEFF. OF SPAN:  $\pm 0.01\%$ /°C typ.:  $\pm 0.025\%$ /°C max.  
 1 mA Excitation

### ZERO OFFSET

5 mV @ 1 mA Excitation

### STATIC ACCURACY\*

$\pm 0.5\%$  FSO BFSL (includes nonlinearity, hysteresis and nonrepeatability at 25°C per ISA S51.1)

### LINE PRESSURE

3000 PSI max.

### LINE PRESSURE SENSITIVITY (PD-10 only)

0.003 mV/PSI

### BRIDGE IMPEDANCE

3.5 K  $\Omega$  Nominal

### INSULATION RESISTANCE

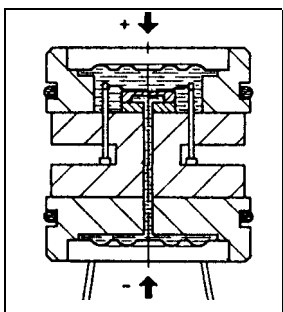
100 Megohms at 50 VDC

### EXCITATION

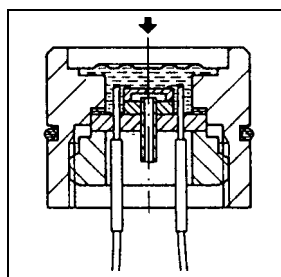
0.5 to 5.0 mA Constant Current

### WEIGHT

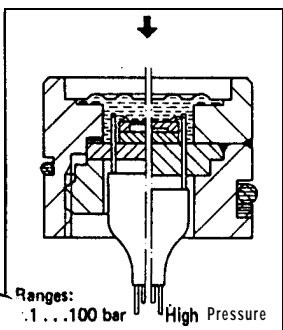
PAA-10, PA-10, PR-10 • 24 grams  
 PD-10 • 38 grams



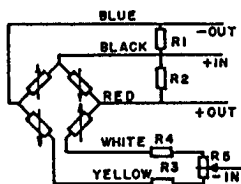
PD-10



PR-10



PA-10



(Performance specifications stated with compensation resistors installed. All values measured in reference to 25°C at specified constant current.)

Warranty:

Keller-PSI warrants its products against defects in material and workmanship for 12 months from date of shipment. Products not subjected to misuse will be repaired or replaced. THE FOREGOING IS IN LIEU OF ANY OTHER EXPRESSED OR IMPLIED WARRANTIES. Keller-PSI reserves the right to make changes to any product herein and assumes no liability arising out of the application or use of any product or circuit described. Products described in this Specification are not intended for life support applications.

**KELLER PSI**

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