SOLID STATE ISOLATED TRANSDUCER IN A TO8 TRANSISTOR CASE FOR OEM AND PC BOARD MOUNTING

SP414-50S, SP414-100GS, SP414-200GS

Small, Lightweight OEM Package
Solid State Media Isolation Suitable for Use with Most Industrial Fluids and Oils
Broad Temperature-Compensated Range of -55 to 125°C Yields High Stability with Changing Temperatures
Electrical Isolation to 100 MΩ Ensures Long-Term Reliability
Rugged, High Shock and Vibration Design for Tough OEM Applications
400 Hours MTBF Typical
Constant Voltage Generation Easy to Use
Built-In Temperature Sensor Standard

OMEGA’s PX4600 Series consists of accurate, highly reliable pressure transducers designed for printed circuit board mounting. The small size and lightweight of the PX4600 transducers make them ideal for tough vibration and high-speed environments. The sensor is a silicon chip with 4-diffused silicon strain gauges. Laser-trimmed resistors provide excellent temperature compensation from -54 to 121°C (-45 to 250°F), and users can adjust zero balance and span to tight tolerances. The unusually high performance of this transducer comes from a 3-active-erm sensor using a micro-machined diffused silicon diaphragm and proprietary thin-film media and dielectric isolation barriers. See next page for specifications.

To Order

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<th>COMPATIBLE METER</th>
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<td>PX4600-015AV</td>
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<td>0 to 300 psi</td>
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Metric versions available – consult Engineering.

Valid online for compatible meters.

Note: Higher performance units also available. Consult our custom design group for details. Order Examples: PX4600-100GS 100 psi gauge pressure transducer; PIAA188-050, 50 psi absolute pressure transducer.

B-25

SPECIFICATIONS
Electrical Excitation: 10 Vdc
Type: 3 mA
Input Resistance: 0.1 MΩ ± 5% FSD
Zero Balance: 0 ± 1% FSD
Input Resistance: 0.1 MΩ ± 5% FSD
Differential Isolation Resistance: 100 MΩ min at 50 Vdc according to the use in conductive media and the bridge circuit
PERFORMANCE
Accuracy: ± 0.25% FSD combined linearity, hysteresis, and repeatability
Sensing Element: 4 active arm bridge using a micro-machined diffused silicon diaphragm; sensor and thin-film media and dielectric isolation barriers.
Temperature Sensor: Output resistance at 24°C (75°F) 900 ± 100 Ω
Temperature Coefficient: Max. ± 0.4% ± 5°C (10°C)
ENVIRONMENTAL
Operating Temperature: 55 to 125°C (75° F) to (257° F)
Storage Temperature: 55 to 125°C (75° F) to (257° F)
Thermal Effects:
Zero: ± 2.25°C/°C (4°C/°F)
Temperature Coefficient: ± 2.0% FSD ± 25°C/°C (± 4.5% FSD ± 50°C/°F)
Vibration Sensitivity: At 3 g, 5 Hz to 3000 Hz, the output shall not exceed
10% of full scale, and for range, decreasing to 0.005% FSD (0.05% FSD) for 100 g and above.
Natural Frequency: ± 10 kHz 100 psi max
Shock: 10 g 1/2 sine pulse wave without damage
MTBF: Typical 100,000 hours at 55°C (131°F) for a 0.1% ± 0.05% gain.
Standard Humidity: 0 to 100%, 0 to 30°C (32°F) and 0 to ± 50°C (90°F)
Proven Pressure: 2500 psi, maximum pressure; 560 psi min, will not cause changes in performance per manufacturer’s tolerance
 Burst Pressure: 560 psi min
Mechanical
Welded Parts: W04, W05, glass epoxy and Kovar®
Weight: 5 g 0.2 oz maximum