

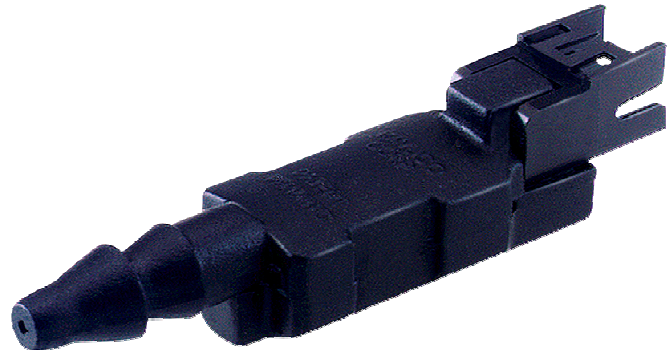


Installation Guide – P6000 Miniature Pressure Sensor



WARNING!

**Read This Document Before
Installation of P6000
Miniature Pressure Sensor**
DO NOT use the P6000 without
reading the installation guide in its entirety.
Failure to do so may result in
death or serious injury.



DISCLAIMER: Kavlico is not expert in the customer's technical field and therefore does not warrant the suitability of its product for the application selected by the customer. Kavlico assumed no liabilities in applications where this product is used as safety or emergency stop devices, or in any other applications where failure of this product could result in personal injuries or death. Refer to Kavlico Terms & Conditions of Sale (as provided with quotation and order acknowledgements) for warranty terms and limitation of liability.

General Information:

A failure resulting in injury or damage may be caused by excessive overpressure, excessive vibration or pressure pulsation, excessive instrument temperature, corrosion of the pressure containing parts, or other misuse. Should you have any questions prior to installation, contact Kavlico.

Description:

The Kavlico P6000 Pressure Sensor is a high performance instrument that is intended for use in industrial applications where the process media to be measured is compatible FR4 and Polyamide 66.

Overpressure:

Caution – DO NOT exceed the pressure overload rating of the P6000. Failure to comply may result in irreversible electrical and/or mechanical failure to the pressure measuring and containing elements of the P6000.

Both static and dynamic overloads must be considered.

If system pressure pulses are anticipated, select a P6000 sensor with a pressure rating high enough to allow continuous operation at the highest expected pressure spikes.

Freezing:

DO NOT allow freezing of the process media in the pressure port of the P6000. To help prevent possible damage from freezing media, it is recommended to mount the P6000 in a vertical position with the electrical termination facing upward.



This product complies with the applicable European directives

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Use in Life Support Devices:

The P6000 is not allowed for use as a critical component in a life support device or system without the express written approval of Kavlico.

- Life support devices or systems are those which (a) are intended for surgical implant into the body, or (b) support to sustain life, and whose failure to perform, when properly used in accordance with the instructions for use provided in the product labeling, can be reasonably expected to result in a significant injury to the user.
- A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

Mechanical Installation:

- Environmental – The P6000 can be stored at -30°C to +100°C (-22°F to 212°F) and used within the temperature limits of 0°C to +85°C (32°F to 185°F).
- Mounting – The P6000 does not require any special mounting hardware and can be mounted in any orientation with negligible mounting position error effect. The P6000 can withstand substantial vibration without damage or significant output effect; however, it should always be a reasonable practice to mount the P6000 where there is minimum vibration.

For sensors with a barb type pressure fitting, use appropriate sized tubing. For pressures of 30 PSI and above, a hose clamp is recommended.

The customer is responsible and Kavlico assumes no liability for the safety and integrity of the customer's pressure connection.

Electro-Magnetic Interference:

The electronic circuitry of the P6000 have been designed to minimize the effect of electromagnetic and radio frequency interference (RFI/EMI). To minimize susceptibility to noise, avoid running the termination wiring in a conduit that contains high current AC power cables. Where possible, also avoid running the termination wiring near inductive equipment.

Field Adjustments:

The P6000 have been precisely calibrated and temperature compensated at the Kavlico factory to ensure long and stable performance. The P6000 can not be adjusted in the field.

Electrical Installation:

Page 4 of the installation guide provides power supply requirements and the appropriate wiring instructions based upon the specific output signal and electrical termination features of the sensor being installed.

Bench Test:

For incoming inspection or failure evaluation, connect the P6000 to a dc voltage supply (off). The voltage supply should be set within the range specified for the model. Based upon the model's specified output, connect the output leads lead(s) to a volt meter. With no pressure on the unit, turn on the power supply and read the output signal on the volt meter. The reading should correspond to the specification indicated for null offset. If not, check the connections, wire color code and the setting of the power supply.



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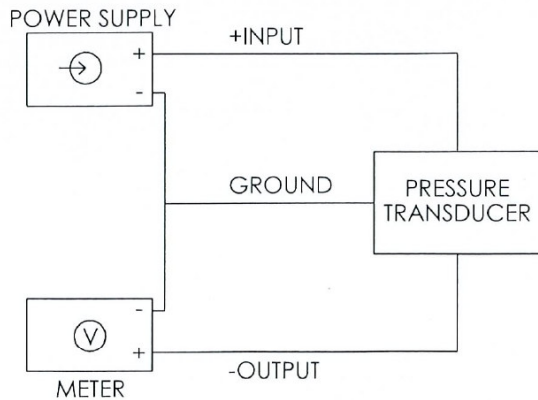
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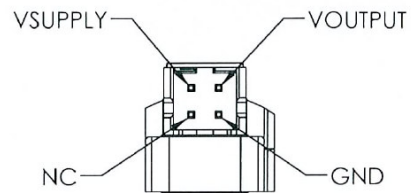
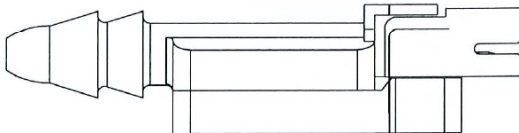
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Electrical Installation and Wiring Guide P6000 Miniature Pressure Sensor



ANALOG OUTPUT:
 OUTPUT TRANSFER FUNCTION:

$$V_{out} = \frac{0.5 + (P \times 0.04)}{5} \times V_{supply}$$
 WHERE V_{supply} = POWER SUPPLY VOLTAGE
 V_{out} = OUTPUT VOLTAGE
 P = PRESSURE IN %
 e.g. $P = 0$ AT NULL PRESSURE
 $P = 50$ AT MID PRESSURE
 $P = 100$ AT FULL PRESSURE



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Safety Considerations:

- Prior to installing and start-up of the P6000 miniature pressure sensor, you should verify that you have selected the appropriate scale range, and that the P6000 meets your desired performance and specific measurement conditions.
- You **MUST** observe the relevant local/national regulations and observe the applicable standards and directives for special applications (e.g. with dangerous media such as acetylene, flammable gasses or liquids and toxic gases or liquids and with refrigeration plants or compressors). ***Should you NOT observe the appropriate regulations, serious injuries and/or damage can occur!*** Open pressure connections only after the system is without pressure!
- DO NOT use the P6000 outside of the overload threshold. Make sure that the device is used only within the overload threshold limit at all times.
- Observe the ambient working conditions of the P6000.
- Only use the P6000 with compatible liquids and gases and avoid installing the sensor in an environment with mechanical hazards.
- Only use the P6000 in accordance with the installation guidelines as described within this document: ***Installation Guide – P6000 Pressure Sensor***
- DO NOT interfere with or change the P6000 pressure sensor in any way other than may be described within this installation guide.
- Should the P6000 become damaged or unsafe for operation, remove it from service and mark it to prevent the transmitter from being reinstalled accidentally.
- Should you be required to remove the P6000 from service, take all necessary precautions with regard to the remaining process media that may still reside within the pressure port as it may be hazardous or toxic.
- Repairs to the P6000 should be made by Kavlico only. To obtain a Return Material Authorization Number (RMA) call: **+1 (619) 710-2000** and ask for Customer Service
- Before removing the connector from the P6000, make sure to open circuit.
- Additional information about the P6000 in respect to features and specifications can be found in the P6000 Data Sheet which can be found on the Kavlico website at: www.kavlico.com in the Resource Center.



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