

Installation Guide

Setra Systems Model DPT 209

Pressure Transducer

1.0 GENERAL INFORMATION

Every Model 209 has been tested and calibrated before shipment.

Setra Systems 209 pressure transducers sense gauge pressure and convert this pressure difference to a proportional high level analog output. Three standard output and excitation versions are offered:

<u>Excitation</u>	<u>Output</u>
9 to 28 VDC	4 to 20 mA - (Must Observe Polarity)
9 to 30 VDC	0.5 to 5.5 VDC - (Reverse wire protection)
4.9 to 8.1 VDC	0.5 to 4.5 VDC - (No reverse wire protection)

2.0 MECHANICAL INSTALLATION

2.1 Media Compatibility

Model 209 transducers are designed to be used with any gases or liquids compatible with 17-4 PH Stainless Steel.

2.2 Environment

The operating temperature limits of the 209 are -40° to +260°F (-40 to +127°C). The compensated temperature range is -4 to +176°F (-20 to +80°C).

2.3 Pressure Fittings

Typically, standard pipe fittings and procedures should be used. However, for pressure ranges in excess of 500 psig, we suggest the use of a sealant such as Loctite Hydraulic Sealant. Excessive torquing of metal fittings may cause a slight zero shift. The use of plastic fittings typically results in no noticeable zero shift. Torquing does not appreciably affect linearity or sensitivity.

2.4 Venting

Because the reference pressure in a sealed gage transducer will vary due to changes in temperature and will affect overall accuracy (especially in units of less than 500 psig range), all 209 Series transducers are available as vented or sealed to atmosphere.

Vented units are ordered as PSIG range units. Sealed units are ordered as PSIS range units. The 209 PSIG transducers are vented through the cable. Hirschmann PSIG transducers are vented through the connector. Packard PSIG units are vented through a porous filter plug supplied on the unit.

3.0 ELECTRICAL INSTALLATION

The Model 209 is available in four electrical terminations:

2 foot Cable

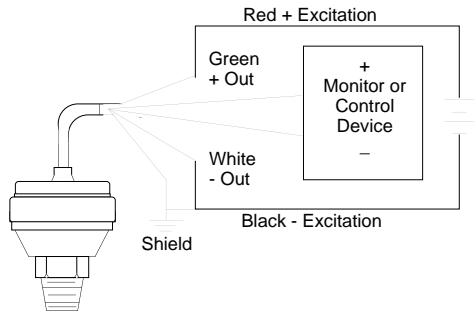
Hirschmann Connector

Packard Connector

Conduit Adapter, 1/2 inch

3.1 Voltage Output Units

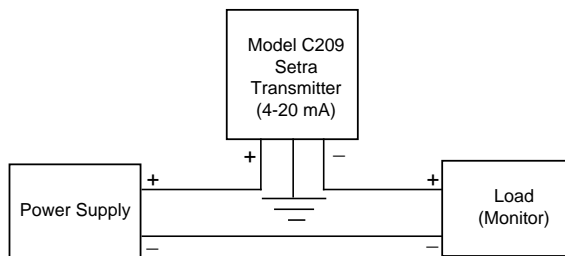
The Model 209 voltage output is a 3-wire circuit. If the 209 is supplied with 2 feet of cable, the electrical connection is as follows:



- Red = + Excitation; connect to appropriate power supply.
- Green = + Output; connect to controls or monitor.
- Black = Common; connect to return of power supply.
- White = - Output; connect to controls or monitor.
- Shielding = Connect to system or earth ground.

3.2 Current Output Units

The Model 209 (current output) transducer is a true 2-wire, 4-20 mA current output device and delivers rated current into any external load of 0-800 ohms. The 4-20 mA units are designed to have current flow in one direction only - **PLEASE OBSERVE POLARITY.** We suggest that the electrical cable shield be connected to the system's loop circuit ground to improve electrical noise rejection. The electrical connection is as follows:



The 209 has a 2-wire cable, where red is positive and black is negative.

3.3 Hirschmann or Packard Connectors - Voltage and Current Output

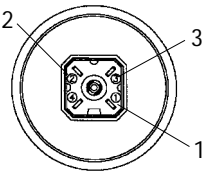
If the unit is provided with a Hirschmann or a Packard Connector, pin number designations are as follows:

For Voltage

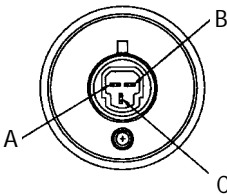
Hirschmann Pin #		3-Pin Packard Pin #	4-Pin Packard Pin #
1	+ Excitation (connect to appropriate power supply)	B	A
3	+ Output (connect to controls or monitor)	C	C
2	Common (connect to return of power supply)	A	B
			D not used

For Current

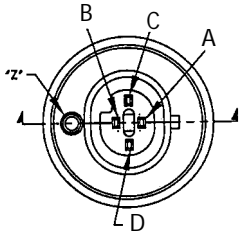
Hirschmann Pin #		3-Pin Packard Pin #	4-Pin Packard Pin #
1	Positive	B	A
2	Negative	A	B



Hirschmann Connector
Type: G4A1M #931807-106
(Mating Connector Hirschmann G4W1F not provided by Setra, unless ordered separately).



3- Pin Packard Connector
Type: P2S Series 150
(Mating Packard Connector #12065287, 3 terminals #12103881, not provided by Setra, unless ordered separately).

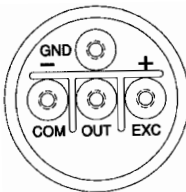


4- Pin Packard Connector
Type: Metri-Pack 150
(Mating Packard Connector Assembly #12065298, Terminal Position Assurance (TPA) #12066176, Female Terminal #12048074, Cable Seal #12048086 and Cavity Plug (3-Pin use only #12059168). Not provided by Setra unless ordered separately).

3.4 Conduit Adapter Electrical Termination - Voltage and Current Output Units

If the unit is provided with the conduit adapter version, terminal designations are as follows:

Conduit Adapter Version
(Voltage and Current Output Units)



For current (4-20 mA) output, use + and - terminals

For voltage output, use COM, OUT and EXC terminals

5.0 RETURNING PRODUCTS FOR REPAIR

Please contact a Setra application engineer (800-257-3872, 978-263-1400) before returning unit for repair to review information relative to your application. Many times only minor field adjustments may be necessary. When returning a product to Setra, the material should be carefully packaged and shipped prepaid to:

Setra Systems, Inc.
159 Swanson Road
Boxborough, MA 01719-1304
Attn: Repair Department

To assure prompt handling, please supply the following information and include it inside the package or returned material:

1. Name and phone number of person to contact.
2. Shipping and billing instructions.
3. Full description of the malfunction.
4. Identify any hazardous material used with product.

Notes: Please remove any pressure fittings and plumbing that you have installed and enclose any required mating electrical connectors and wiring diagrams.

Allow approximately 3 weeks after receipt at Setra for the repair and return of the unit. Non-warranty repairs will not be made without customer approval and a purchase order to cover repair charges.

Calibration Services

Setra maintains a complete calibration facility that is traceable to the National Institute of Standards & Technology (NIST). If you would like to recalibrate or recertify your Setra pressure transducers or transmitters, please call our Repair Department at 800-257-3872 (978-263-1400) for scheduling.

6.0 LIMITED WARRANTY AND LIMITATION OF LIABILITY

SETRA warrants its products to be free from defects in materials and workmanship, subject to the following terms and conditions: Without charge, SETRA will repair or replace products found to be defective in materials or workmanship within the warranty period; provided that:

- a) the product has not been subjected to abuse, neglect, accident, incorrect wiring not our own, improper installation or servicing, or use in violation of instructions furnished by SETRA;*
- b) the product has not been repaired or altered by anyone except SETRA or its authorized service agencies;*
- c) the serial number or date code has not been removed, defaced, or otherwise changed; and*
- d) examination discloses, in the judgment of SETRA, the defect in materials or workmanship developed under normal installation, use and service;*
- e) SETRA is notified in advance of and the product is returned to SETRA transportation prepaid.*

Unless otherwise specified in a manual or warranty card, or agreed to in writing and signed by a SETRA officer, SETRA pressure and acceleration products shall be warranted for one year from date of sale.

The foregoing warranty is in lieu of all warranties, express, implied or statutory, including but not limited to, any implied warranty of merchantability for a particular purpose.

SETRA's liability for breach of warranty is limited to repair or replacement, or if the goods cannot be repaired or replaced, to a refund of the purchase price. SETRA's liability for all other breaches is limited to a refund of the purchase price. In no instance shall SETRA be liable for incidental or consequential damages arising from a breach of warranty, or from the use or installation of its products.

No representative or person is authorized to give any warranty other than as set out above or to assume for SETRA any other liability in connection with the sale of its products.



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