

Installation Guide

Setra Systems Model 206 and 207

Pressure Transducers and Transmitters

1.0 GENERAL INFORMATION

Every Model 206/207 has been tested and calibrated before shipment. Specific performance specifications are shown on page 3 of this Guide.

Setra Systems 206/207 pressure transducers sense gauge pressure and convert this pressure difference to a proportional high level analog output. Two standard output and excitation versions are offered:

<u>Excitation</u>	<u>Output</u>
9 to 30 VDC	4 to 20 mA - (Must Observe Polarity)
12 to 28 VDC	0.1 to 5.1 VDC - (Reverse wire protection - up to 22 VDC excitation to the output lead.)

2.0 MECHANICAL INSTALLATION

2.1 Media Compatibility

Model 206/207 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 206/207 are -40° to $+260^{\circ}\text{F}$ (-40 to $+127^{\circ}\text{C}$). The compensated temperature range is -4 to $+176^{\circ}\text{F}$ (-20 to $+80^{\circ}\text{C}$).

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.

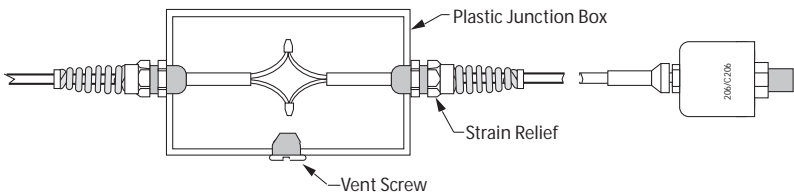
2.4 Venting

Model 206 Venting Method

Because the reference pressure in a sealed gauge transducer will vary due to changes in temperature, atmospheric pressure, etc., and will affect overall accuracy, especially in units of less than 500 psig range, all 206 and 207 Series are vented to atmosphere.

The 206 is vented to atmosphere through the cable to achieve best accuracy. Connection to the cable should be made in a junction box that is vented to atmosphere, with care taken to insure that the end of the cable is not blocked or sealed.

Junction Box Suggestion - The following junction box configuration is a recommended method of terminating the 206 signal cable in order to achieve a moisture resistant and vented connection.



Termination:	Junction Box	Cable Strain Relief
Part No.	Q1388PCE	3237 Heyco Flex Fitting
Dimensions:	4.92" x 2.95" x 2.95"	2.50" Long
Manufacturer:	Hoffman Engineering Co. 900 East Main Street Anoka, MN 55303 (612) 421-2240	Heyco Kenilworth, NJ 07033 (201) 245-0033 (800) 526-4182

1. Drill one 1/2" dia. hole at each end of junction box for cable strain reliefs.
Note: If conduit is to be installed, omit one 1/2" hole and drill appropriate hole for conduit.
2. Drill and tap one 1/2" - 13 NC hole in bottom of junction box and install loosely one 1/2" - 13 NC plastic or stainless steel screw. The clearance between threads serves as a vent for the box.
3. Install cable strain reliefs in 1/2" dia. holes. If using conduit at one end, be sure it is sealed properly against moisture.
4. Mount junction box and install cables.
5. A desiccant pack can be placed in the junction box for additional protection.

Model 207 Venting Method

All 207 models are vented through porous plug vents in the connector.

3.0 ELECTRICAL INSTALLATION

The Model 206/207 are available in the following electrical terminations:

Model 206

2 foot Cable; Hirschmann Connector;
4-Pin Bayonet Connector

Model 207

3-Screw TerminalBlock

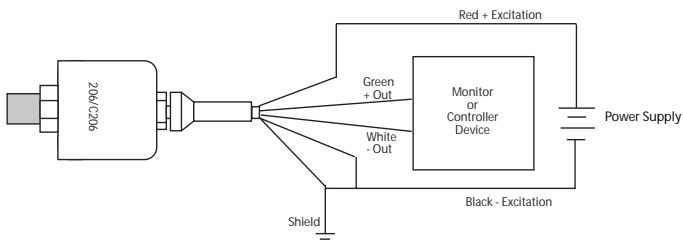
3.1 Voltage Output Units

Model 206 Voltage Unit

The Model 206 voltage output transducer is supplied with a 2 ft. multiconductor cable or optional Hirschmann or 4-pin Bayonet Connector. Wiring connections as follows:

CONNECTOR PIN WIRING FOR VOLTAGE TRANSDUCERS

	CABLE	HIRSCHMANN	4-PIN BAYONET
CONNECTION	WIRE	PIN	PIN
+ EXCITATION	RED	#1	A
+ OUTPUT	GREEN	#3	B
- OUTPUT	WHITE	#2	C
- EXCITATION	BLACK	#2	D
CASE GND	DRAIN	#4 (GROUND)	SHELL
EXCITATION: 12-28 VDC Power Supply			

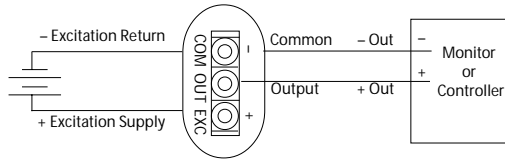


Note 1: Model 206 can be wired as a three wire device by connecting - output and - excitation and shield to a common ground. However, accuracy will be reduced because of voltage drops in the leads.

Note 2: Mating Hirschmann Connector #GDM3009J, Hirschmann #932214-100 with GDM3-16 Hirschmann Gasket #731531-002 are not provided by Setra Systems, unless ordered separately as Option 552. Mating cable-mount Bayonet connector P/N PT06A-8-45 (424) is not provided by Setra Systems.

Model 207 Voltage Unit

The Model 207 transducer is supplied with a screw terminal block where excitation, output and common termination points are clearly marked. Wiring connections are as follows:



3.2 Current Output Units

Model C206 Current Unit

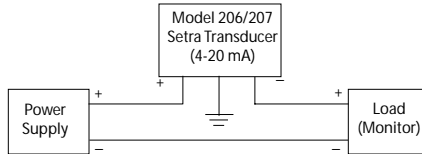
The Model C206/C207 (current output) transmitters are true 2-wire, 4-20 mA current output devices and deliver rated current into any external load of 0-800 ohms. The Model C206 is offered with a 2-wire cable or optional Hirschmann or 4-Pin Bayonet connector.

CONNECTOR PIN WIRING FOR CURRENT TRANSDUCERS

	CABLE	HIRSCHMANN	4-PIN BAYONET
CONNECTION	WIRE	PIN	PIN
+ EXCITATION	RED	#1	A
- EXCITATION	BLACK	#2	D & B
CASE GND	DRAIN	#4	SHELL
Minimum Supply Voltage = $9 + 0.02 \times \text{Loop Resistance}$ Maximum Supply Voltage = $30 + 0.004 \times \text{Loop Resistance}$			

Model C207 Current Output

Positive and negative connections are marked on the C207 terminal block, with a "+" for positive and a "-" for negative. (The center terminal may be used for shielding).



The 4-20 mA current output 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.

4.0 CALIBRATION

Every Model 206/207 is factory calibrated and should require no field adjustment. Whenever possible, any zero and/or span offsets should be corrected by software adjustments in the user's control system. However, both zero and span adjustments are accessible by removing the pan head screws and turning the zero and span potentiometer screw inside. Pan head screws should be replaced after adjustment to maintain enclosure rating.

Voltage output units are factory calibrated into a 50K ohm load. Voltage units are operable into a 5000 ohm load or greater. The zero factory setting is ± 25 mV. The span (full scale) factory setting is ± 50 mV.

Current output units (4-20 mA) are factory calibrated with a 24 VDC loop supply voltage and a 250 ohm load. The zero factory setting is ± 0.08 mA. The span (full scale) factory setting is ± 0.16 mA. Zero and span adjustments are approximately ± 1.0 mA.

5.0 RETURNING PRODUCTS FOR REPAIR

Before returning the unit for repair, please contact a Setra application engineer (800-257-3872, 978-263-1400) to review information relative to your application. Many times only minor field adjustments may be necessary. When returning a product to Setra, the unit 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 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 product code has not been removed, defaced, or otherwise changed; and
- d) examination discloses, in the judgement 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 a writing 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.