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.
5. **Service Order Return Form Must Accompany Return.** This form can be downloaded from Setra’s website at http://www.setra.com/tra/repairs/pdf/webrepair.pdf. Note: Returns that arrive without this form completely filled out or without the proper paperwork will be rejected.

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 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:

**1.0 GENERAL INFORMATION**

Every Model 201 has been tested and calibrated before shipment. Specific performance specifications are shown on page 3 of this Guide.

Setra Systems 201 pressure transducers sense gauge and differential pressure and convert this pressure difference to a proportional high level analog output. The Model 201 is a 4 to 20 MA output device.

2.0 MECHANICAL INSTALLATION

2.1 Media Compatibility

Model 201 transducers are designed to be used with any gases or liquids compatible with 316 Stainless Steel and Inconel® in process port. Reference port must be exposed to clean dry air or non-corrosive gas.

2.2 Environment

The operating temperature limits of the 201 are -40°F to +175°F (-40 to +80°C). The compensated temperature range is -25 to +175°F (-33 to +80°C).

2.3 Pressure Fittings

Typically, standard pipe fittings and procedures should be used. 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 for Gauge Pressure Measurements

All 201 units are vented to atmosphere through a Barbed reference port at the bottom of the unit.

2.5 Differential Pressure Measurements

Connect low pressure tube to reference port. Note: Media into reference port must be clean dry air or non-corrosive gas.
3.0 ELECTRICAL INSTALLATION

The Model 201 is available in the following electrical terminations:

- Cable: Hirschmann Connector, 4-Pin Bayonet Connector, 3-Screw Terminal Block, and 1/2” male conduit with cable.
- 3.1 Model 201 Output

The Model 201 (current output) is a true 2-wire, 4-20 mA current output device that delivers rated current into any external load of 0-800 ohms.

**CONNECTOR PIN WIRING**

<table>
<thead>
<tr>
<th>CONNECTION</th>
<th>HIRSCHMANN</th>
<th>BAYONET</th>
</tr>
</thead>
<tbody>
<tr>
<td>CABLE</td>
<td>WIRE</td>
<td>PIN</td>
</tr>
<tr>
<td>+ EXCITATION</td>
<td>RED</td>
<td>#1</td>
</tr>
<tr>
<td>- EXCITATION</td>
<td>BLACK</td>
<td>#2</td>
</tr>
<tr>
<td>CASE GND</td>
<td>DRAIN</td>
<td>#4</td>
</tr>
</tbody>
</table>

Minimum Supply Voltage = 12 + 0.02 x Loop Resistance
Maximum Supply Voltage = 30 + 0.004 x Loop Resistance

4-PIN CABLE HIRSCHMANN BAYONET CONNECTION WIRE PIN PIN
+ EXCITATION RED #1 A
- EXCITATION BLACK #2 D & B
CASE GND DRAIN #4 SHELL

3-SCREW TERMINAL BLOCK

Positive and negative connections are marked on the 201 terminal block with “+” 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.

Note 1: 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 (624) is not provided by Setra Systems.

4.0 Calibration

All Setra current pressure transducers are carefully calibrated to the specific input pressure range vs. output current at the factory so little or no field calibration is necessary. Model 201 transducers are factory calibrated using a 250 ohm load at 24 VDC. External zero and span adjustment capability is approximately ±0.5 mA, individually. Zero and span adjustments are made by removing the pan head screws and turning the potentiometer screw inside. A jeweler’s screwdriver or a .015” x 3/32” flathead screwdriver with a .3” shaft is easiest to use for making zero and span adjustments. It is important to replace the screws after adjustments are made to avoid allowing moisture to enter the transducer.

5.0 Model 201 Specifications

### Performance Data

- Accuracy RSS* (at constant temp) ±0.5% FS
- Non-Linearity BFSL ±0.45% FS
- Hysteresis 0.025% FS
- Non-Repeatability 0.025% FS
- Compensated Range °F (°C) -25 to +175 (-33 to +80)
- Zero Shift %FS/100°F (°C) 2.0 (1.8)
- Span Shift %FS/100°F (°C) 1.5 (1.4)
- Warm-up Shift 0.1% FS/15 Minutes
- Response Time 20 Milliseconds
- Long Term Stability 0.5% FS/1 YR
- Proof Pressure*** 10 PSI (Ranges up to 2 PSI)
- Burst Pressure 100 PSI

*RSS of Non-Linearity, Non-Repeatability and Hysteresis.
**Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.
***Proof Pressure: The maximum pressure that may be applied without changing performance beyond specifications (±0.5% FS zero shift).

### Environmental Data

- Temperature Operating °F (°C) -40 to +175 (-40 to +80)
- Storage °F (°C) -40 to +212 (-40 to +100)
- Acceleration 10g Maximum
- Shock** 50g Operating

*Operating temperature limits of the electronics only.
Pressure media temperature may be considerably higher or lower.

### Physical Description

- Case: Stainless Steel
- Pressure Fitting: 1/4” VCR Male
- Vent: Through Barbed Fitting at Bottom of Case
- Electrical Connection: Multiconductor Cable
- Electrical Data (Current): 2-Wire
- External Load: 0 to 800 Ohms
- Minimum supply voltage (VDC) = 12 + 0.02 x (Resistance of receiver plus line).
- Maximum supply voltage (VDC) = 30 + 0.004 x (Resistance of receiver plus line).

### Pressure Media

- Liquids or Gases Compatible with Stainless Steel and Inconel.