2 Inch Stainless Steel Indicating Pressure Switches/Transmitters

**Overview**

The Brooks Instrument IPS & IPT122 2 Inch stainless steel Pressure Switches/Transmitters provide a high purity, precision pressure gauge and electronic switch/indicator, with the switches having an adjustable pressure switch setpoint. The IPS122 is a compact unit that has the ability to operate lights or relays up to a maximum of 12 watts. The IPT is accurate within 1% of full scale, and can provide 0-5 Vdc, 1-5 Vdc, or 4-20 mA outputs with pressure ranges up to 4000 psi.

- Compact unit for easy installation into new or existing gas systems
- Local or remote indication of switch interlock/system pressure against undesirable process pressure conditions to ensure process accuracy and protect product yields
- High purity for use in all application environments

**Product Features**

IPT122

- Solid-state design with 1 to 5 Vdc, 0 to 5 Vdc or 4 to 20 mA outputs
- Universal output configuration available
- Local and remote pressure monitoring
- Interfaces with automatic purge systems, PLCs or data acquisition systems

IPS122

- Local and remote alarm capability
- Local indication of pressure reading and switch position (normally open or normally closed)
- Solid-state design for hazardous environments
- Switches welded in oxygen-free chambers to meet rigid cleanliness and safety guidelines
- 1 year warranty

**Applications**

Gas delivery systems and tools used for semiconductor processing, including:

- Bulk gas
- Gas cabinets
<table>
<thead>
<tr>
<th>Specifications</th>
<th>IPS122 / IPT122</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Ranges</td>
<td>Vacuum to 4,000 PSI (276 bar). Metric also available (See Range tables)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>1% of full scale</td>
</tr>
<tr>
<td>Helium Leak Check</td>
<td>$4 \times 10^{-9}$ inboard std. cc/sec</td>
</tr>
<tr>
<td>Response Time</td>
<td>Less than 200 milliseconds</td>
</tr>
<tr>
<td>Proof Pressure</td>
<td>110%</td>
</tr>
<tr>
<td>Burst Pressure</td>
<td>400%</td>
</tr>
<tr>
<td>Operating Temperature - Ambient</td>
<td>0° to 160°F (-18° to 71°C)</td>
</tr>
<tr>
<td>Compensating Temperature</td>
<td>20° to 135°F (-7 to 57°C)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20° to 175°F (-29° to 79°C)</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Cleaned for oxygen service to ANSI B40.1 level IV specifications</td>
</tr>
</tbody>
</table>

**Materials of Construction:**

- **Case**: 300 Series Stainless Steel, electropolished
- **Bezel and Lens**: One-piece polycarbonate, screw-on
- **Socket**: 316L Stainless Steel
- **Movement**: 300 Series Stainless Steel
- **Bourdon Tube**: 316L Stainless Steel
- **Connections**: Face-seal male, face-seal swivel male, face-seal swivel female and 1/4" NPT male
- **Dial**: White with black marking; "Use No Oil" is red.
- **Approximate Shipping Weight**: 0.85 lbs (0.39 kg)

**Switch Power Input**

- **IPS122**
  - Off-On Switch Type 1: 9 to 30 Vdc
  - Logic Output 8 to 30 Vdc Type 2: 9 to 30 Vdc
  - Logic Output 5 Vdc Type 3: 4.8 to 5.2 Vdc

**Switch Power Rating**

- **IPS122**
  - Off-On Switch Type 1: 12 Watts or 500 mA; 175 mA max. for intrinsically safe applications
  - Logic Output 8 to 30 Vdc Type 2: 60 mA (sink). Open collector NPN
  - Logic Output 5 Vdc Type 3: 60 mA (sink) Open collector NPN

**Output Voltage and Current Draw**

- **IPS122**
  - Off-On Switch Type 1: 0 to 9-30 Vdc; 30 mA (off), 45 mA (on)
  - Logic Output 8 to 30 Vdc Type 2: 0 to 9-30 Vdc; 30 mA (off), 45 mA (on)
  - Logic Output 5 Vdc Type 3: 0 to 5 Vdc; 3 mA (off), 11 mA (on)
  - Switch Leads: 2 m (6') cable, tinned ends, 0.23" in diameter
  - Switch Differential: 3% of scale: 0.25% of scale repeatability
  - Trip Position: External adjust. Select to trip on ascending (N.O.) or descending (N.C.) pressure. (Field changeable by internal jumper)

**IPT Transmitter**

- **IPT122**
  - Voltage In: 11.5 to 30 Vdc (12 Vdc recommended)
  - Voltage Stability: Filtered power supply with noise <2mV RMS, ripple < 6 mV P-P
  - Operating Current: 40 mA maximum short circuit to ground, 8 mA continuous load, 10 mA maximum intermittent

**Output Voltage**

- **IPT122**
  - Type 1: 0-5 Vdc
  - Type 2: 1-5 Vdc
  - Type 3: 1-5 Vdc ground referenced
  - Type 4: 4-20 mA sinking
  - Type 5: 0-5 Vdc or 1-5 Vdc, or 4-20 mA current sink
  - Type 6: 1-5 Vdc ground reference, 4-20 mA sinking
  - Type 8: 4-20 mA sourcing, 3-pin Molex connector with 1" cable
  - Type 9: 4-20 mA sourcing, 6" cable with tinned ends
  - Output Current: 40 mA max. short circuit to ground, 10 mA continuous load
  - Transmitter Leads: 2 m (6') cable, tinned ends, 0.23" in diameter
Range Tables

<table>
<thead>
<tr>
<th>Range</th>
<th>Figure Intervals*</th>
<th>Smallest Interval*</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-0-15</td>
<td>10 in Hg-3 psi</td>
<td>2 in Hg-1 psi</td>
</tr>
<tr>
<td>30-0-30</td>
<td>10 in Hg-5 psi</td>
<td>2 in Hg-1 psi</td>
</tr>
<tr>
<td>30-0-60</td>
<td>30 in Hg-10 psi</td>
<td>5 in Hg-2 psi</td>
</tr>
<tr>
<td>30-0-100</td>
<td>30 in Hg-20 psi</td>
<td>5 in Hg-2 psi</td>
</tr>
<tr>
<td>30-0-160</td>
<td>10 in Hg-25 psi</td>
<td>10 in Hg-5 psi</td>
</tr>
<tr>
<td>30-0-200</td>
<td>30 in Hg-40 psi</td>
<td>10 in Hg-5 psi</td>
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<tr>
<td>0-30</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>0-60</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
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<td>5</td>
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<td>0-200</td>
<td>40</td>
<td>5</td>
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* All figure intervals and smallest interval depicted in this chart represent typical artwork layout and may not be accurate for all gauges.

Note: All ranges are in Hg and/or psi. If a scale other than Hg or psi is required, convert the pressure range code to the customer-specified units and use that in the product description code when specifying the product. For dual range specify the range code for the first engineering unit (ex. For a dual range with units of KGC/IKPA the range should be specified in KGC).

Product Dimensions

IPS122

<table>
<thead>
<tr>
<th>FRONT VIEW</th>
<th>SIDE VIEW</th>
</tr>
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<tr>
<td>2.28&quot; [57.9 mm]</td>
<td>1.88&quot; [47.8 mm]</td>
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<tr>
<td>1.32&quot; [33.6 mm]</td>
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</tr>
<tr>
<td>1.89&quot; [48.0 mm]</td>
<td>1.89&quot; [48.0 mm]</td>
</tr>
<tr>
<td>VSF FACE SEAL, SWIVEL, 1/4&quot;</td>
<td>VSM FACE SEAL, MALE, 1/4&quot;</td>
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<tr>
<td>2.16&quot; [54.9 mm]</td>
<td>1.65&quot; [49.5 mm]</td>
</tr>
<tr>
<td>VSF FACE SEAL, SWIVEL, 1/4&quot;</td>
<td>NPT 1/4&quot;</td>
</tr>
</tbody>
</table>
Service and Support

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration and is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.

Visit www.BrooksInstrument.com to locate the service location nearest to you.

START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required. For some process applications, where ISO-9001 Quality Certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

CUSTOMER SEMINARS AND TRAINING

Brooks Instrument can provide customer seminars and dedicated training to engineers, end users, and maintenance persons.

Please contact your nearest sales representative for more details.

Due to Brooks Instrument’s commitment to continuous improvement of our products, all specifications are subject to change without notice.

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