Room Pressure Monitor

Description

The Room Pressure Monitor (RPM) is designed for critical low differential pressure applications that require stringent pressure monitoring and alarming. The unit can be configured to monitor positive or negative pressure in protected environments and hospital isolation rooms per CDC guidelines.

Features

- Touchscreen display
- Password enabled
- Local audible alarm
- Visual red and green room status displays
- SPST alarm relay
- Door status monitor
- Variable alarm delay
- Positive and negative pressure monitoring
- Bar graph display
- CE and RoHS compliant
- Easy to install, set-up and calibrate
- Fingertip operation
- Password security
- Local display of room

Applications

- Hospital patient isolation wards
- Pharmaceutical manufacturing
- Semiconductor fabs
- Cleanrooms
- Research laboratories

Specifications

Performance Data

<table>
<thead>
<tr>
<th></th>
<th>547-xxxxB</th>
<th>547-xxxxA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy RSS *</td>
<td>± 0.25%</td>
<td>± 0.5%</td>
</tr>
<tr>
<td>(at constant temp)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-linearity (BFSL based)</td>
<td>± 0.24%</td>
<td>± 0.49%</td>
</tr>
<tr>
<td>Hysteresis</td>
<td>± 0.05%</td>
<td>± 0.05%</td>
</tr>
<tr>
<td>Non-repeatability</td>
<td>± 0.05%</td>
<td>± 0.05%</td>
</tr>
<tr>
<td>Zero setting tolerance</td>
<td>± 0.5% FS</td>
<td>± 0.5% FS</td>
</tr>
<tr>
<td>Span setting tolerance</td>
<td>± 0.5% FS</td>
<td>± 0.5% FS</td>
</tr>
</tbody>
</table>

Thermal Effects **

Compensated range °F (°C) ± 0.03%FS (± 0.05% FS)
Overpressure ± 1 PSI
± 15” WC for ± 0.1 and ± 0.05 in WC

* RSS of Non-linearity, non-repeatability, and hysteresis
** Units calibrated at nominal 70°F (21°C). Maximum thermal error computed from this datum.

Environmental Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Operating</td>
</tr>
<tr>
<td></td>
<td>32°F (0°C) to 120°F (50°C)</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>5% to 95% rh (non-condensing)</td>
</tr>
</tbody>
</table>

* Operating temperature limits of electronics only.

Physical Description

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Case</td>
<td>Fire retardant plastic (NEMA 1, IP20 rated for indoor applications)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>8” H × 5.1” W × 1.8” D (203 mm H × 130 mm W × 46 mm D)</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>Removable terminal block</td>
</tr>
<tr>
<td>Pressure fittings</td>
<td>Barbed fittings for 1/4” OD tubing</td>
</tr>
</tbody>
</table>
Specifications, Continued

Weight (approx.) 1.5 lbs (680 g)
Mounting 4 × 4 plaster ring
(mounts to double gang electrical box)

Communications Option
BACnet MS/TP ASC
P1 FLN trunk

Display
LCD 128 × 128 RGB backlit
Status indicators
- Green LED – Normal
- Red LED – Alarm
- Backlit LCD

Electrical Data (Voltage)
Circuit 3-wire (Exc, Out, Com)
Output * 0 to 5 Vdc
0 to 10 Vdc
Excitation 18 to 32 Vac, 50 to 60 Hz
Power consumption 5 W
Alarm output SPDT relay
* Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.

Electrical Data (Current)
Circuit 2-wire
Output 4 to 20 mA
External load 0 to 510 ohms
Excitation 18 to 32 Vac, 50 to 60 Hz

Pressure Media
Air or non-conductive, non-explosive gases.

Certifications
CSA Standard C22.2 No. 0-M91 General Requirements
Canadian Electrical, Part 1
CAN/CSA C22.2 No. 0.4-04Bonding of Electrical Equipment
CAN/CSA-C22.2 No. 61010-1-04 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use
Part 1: General Requirements
ANSI/UL61010-1 (2nd Edition) Safety Requirements for Electrical Equipment for Measurement, Control

Accessories
547-100 Pressure Tap Plate

Ordering Information

<table>
<thead>
<tr>
<th>Product Number</th>
<th>WC</th>
<th>Protocol</th>
<th>FS</th>
</tr>
</thead>
<tbody>
<tr>
<td>547-101A</td>
<td>+/- 0.05&quot; WC (12.5 Pa)</td>
<td>P1</td>
<td>0.5%</td>
</tr>
<tr>
<td>547-102A</td>
<td>+/- 0.1&quot; WC (25 Pa)</td>
<td>P1</td>
<td>0.5%</td>
</tr>
<tr>
<td>547-103A</td>
<td>+/- 0.25&quot; WC (62.5 Pa)</td>
<td>P1</td>
<td>0.5%</td>
</tr>
<tr>
<td>547-104A</td>
<td>+/- 0.50&quot; WC (125 Pa)</td>
<td>P1</td>
<td>0.5%</td>
</tr>
<tr>
<td>547-105A</td>
<td>+/- 1.0&quot; WC (250 Pa)</td>
<td>P1</td>
<td>0.5%</td>
</tr>
<tr>
<td>547-106A</td>
<td>+/- 2.5&quot; WC (625 Pa)</td>
<td>P1</td>
<td>0.5%</td>
</tr>
<tr>
<td>547-107A</td>
<td>+/- 5.0&quot; WC (1250 Pa)</td>
<td>P1</td>
<td>0.5%</td>
</tr>
<tr>
<td>547-101B</td>
<td>+/- 0.05&quot; WC (12.5 Pa)</td>
<td>P1</td>
<td>0.25%</td>
</tr>
<tr>
<td>547-102B</td>
<td>+/- 0.1&quot; WC (25 Pa)</td>
<td>P1</td>
<td>0.25%</td>
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<td>547-107B</td>
<td>+/- 5.0&quot; WC (1250 Pa)</td>
<td>P1</td>
<td>0.25%</td>
</tr>
</tbody>
</table>
| 547-201A       | +/- 0.05" WC (12.5 Pa) | BAConet | 0.5%
| 547-202A       | +/- 0.1" WC (25 Pa)    | BAConet | 0.5%
| 547-203A       | +/- 0.25" WC (62.5 Pa) | BAConet | 0.5%
| 547-204A       | +/- 0.50" WC (125 Pa)  | BAConet | 0.5%
| 547-205A       | +/- 1.0" WC (250 Pa)   | BAConet | 0.5%
| 547-206A       | +/- 2.5" WC (625 Pa)   | BAConet | 0.5%
| 547-207A       | +/- 5.0" WC (1250 Pa)  | BAConet | 0.5%
| 547-201B       | +/- 0.05" WC (12.5 Pa) | BAConet | 0.25%
| 547-202B       | +/- 0.1" WC (25 Pa)    | BAConet | 0.25%
| 547-203B       | +/- 0.25" WC (62.5 Pa) | BAConet | 0.25%
| 547-204B       | +/- 0.50" WC (125 Pa)  | BAConet | 0.25%
| 547-205B       | +/- 1.0" WC (250 Pa)   | BAConet | 0.25%
| 547-206B       | +/- 2.5" WC (625 Pa)   | BAConet | 0.25%
| 547-207B       | +/- 5.0" WC (1250 Pa)  | BAConet | 0.25%

Dimensions

Figure 1. Dimensions in Inches (Millimeters).
RPM Menu Tree

If pressure is normal, the screen is green.
When the door is open, the screen is yellow until the alarm delay is reached.
If pressure falls outside of preset limits (Alarmed State), the screen is red.

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