



SPM-1000 GUARDIAN SPACE PRESSURIZATION MONITORING AND ALARM SYSTEM

Description

The **Guardian** is a complete system package including space and reference pressure sensors and a central signal processing module. The central module includes a panel mounted LED displaying differential pressure, local LED indication of normal or alarm status, audible alarm with alarm acknowledge switch, and auxiliary dry contacts for remote alarm. A key locking front panel allows for controlled access to field configurable functions including audible alarm silence, adjustable time delay and critical alarm setpoint adjustments.

The **Guardian** has been designed to meet the stringent requirements for critical space pressure monitoring and alarming applications such as; hospital patient isolation and operating rooms, research facility laboratories, pharmaceutical sterile fill areas, and semiconductor FAB's and cleanrooms.

The **Guardian** is a true differential pressure sensing system unlike the more common thermal or hot wire air velocity measurement type of system that *implies* a given space pressure exists based on a measured air velocity through a "calibrated" passage way between two spaces. The **Guardian** is the first space pressure monitor to implement the newest technologies in the manufacturing of industrial grade, highly accurate, ultra low range pressure differential sensing cells. These new advancements in pressure sensor technology assure exceptional accuracy and long-term stability.

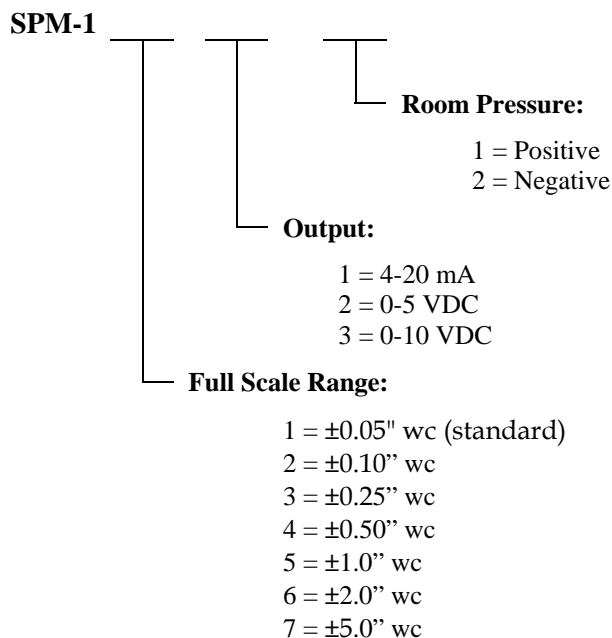
Features

- True differential pressure sensing down to one-ten thousandth of an inch water column
- High accuracy and long-term stability
- Available in seven pressure ranges
- Analog output, linear to the space pressure, for remote monitoring and data logging purposes
- Audible local alarm and alarm acknowledge switch
- Positive and negative pressure monitoring
- Time delay to prevent nuisance alarms
- Simple field adjustment of alarm and time delay setpoints
- LED with four digit resolution for local indication of the measured differential pressure
- LED's to indicate normal or alarm status

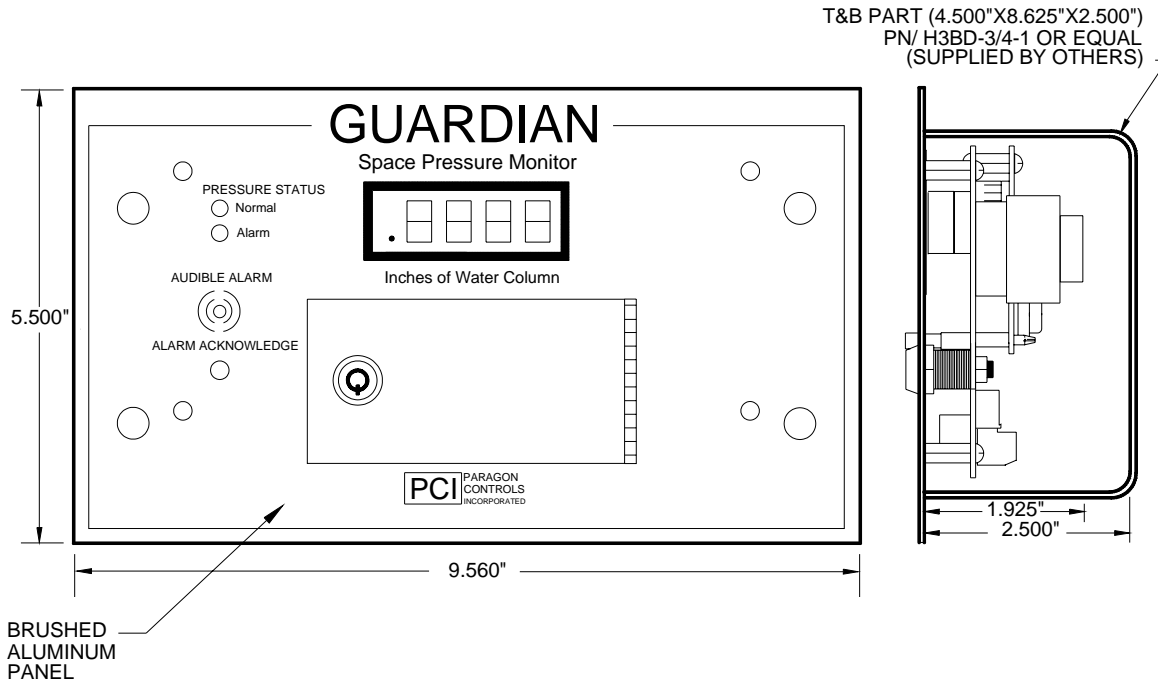
SPM-1000 Technical Specifications

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|---|--|
| <p>1. Accuracy
±0.5% F.S. Terminal Point (±0.35% F.S. BFSL)</p> <p>2. Stability
<±1.0% F.S. per year</p> <p>3. Temperature Effects
<±0.03% F.S./°F (0.05% F.S./°C)</p> <p>4. Over-pressure
5 psi proof/ 25 psi burst</p> <p>5. Response
<0.25 seconds for full span input</p> <p>6. Signal Conditioning
Low pass filter, factory set @ 0.8 Hz</p> <p>7. Standard Range
±0.05 in. w.g. (12.46 Pa)</p> <p>8. Optional Ranges
±0.1, ±0.2, ±0.5, ±1.0, ±2.0 and ±5.0 in.w.g.</p> <p>9. Display
4 digit LED, 0.5 inch height</p> <p>10. Analog Output
Field selectable 4 to 20mA, 12mA at zero pressure; 0 to 10 VDC, 5VDC at zero pressure</p> <p>11. Alarm Output
SPDT relay</p> | <p>12. Contact UL/CSA Rating
0.6A @ 125VAC; 0.6A @ 110VDC; 2.0A @ 30VDC</p> <p>13. Alarm Dead Band
0.1% FS</p> <p>14. Alarm Delay Range
0 to 30 seconds</p> <p>15. Alarm Sound Pressure Level
80 dB</p> <p>16. Power
22 to 26VAC; 50/60Hz</p> <p>17. Power Consumption
4.0VA</p> <p>18. Operating Temperature
32 to 160°F (0 to 70°C)</p> <p>19. Storage Temperature
-40 to 180°F (-40 to 82°C)</p> <p>20. Connections
Screw terminals</p> <p>21. Weight
2.1 pounds (4.6 Kg)</p> |
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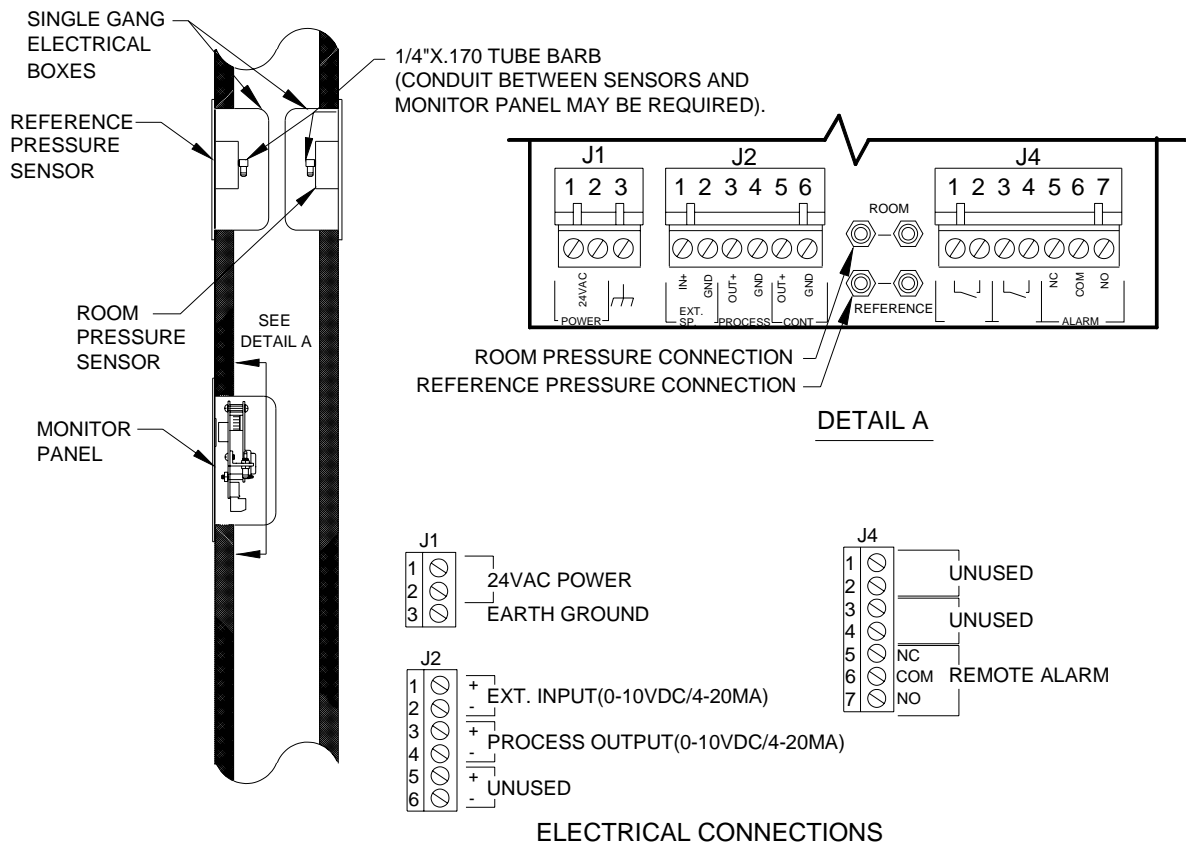
SPM-1000 Ordering Information



SPM-1000 Dimensions



SPM-1000 Installation and Field Connections



SPM-1000 Specification Guide

General

1. The space pressure monitor shall be the Guardian model SPM-1000 as manufactured by Paragon Controls, Inc., Santa Rosa, California, (707) 579-1424.
2. Indirect flow measurement using thermal (hot wire) anemometry is not acceptable.
3. Provide each monitor with a signal processing monitor panel and two space pressure sensors installed in standard J-boxes where indicated.

Functions

1. The monitor shall measure the differential pressure between two spaces using industrial grade differential pressure transducers.
2. Differential pressure and alarm outputs shall be provided for remote monitoring. The remote alarm circuit shall be connected through a Form C dry contact.
3. The monitor panel shall display the differential pressure. Status LEDs and a local audible alarm with a silence switch shall be provided.
4. Selections and adjustments that may be made at the jobsite shall include positive or negative pressurization mode, alarm setpoints and a 1 to 30 second alarm activation delay.

Transducer Performance

1. Differential pressure transducer performance shall be:
Accuracy: $\pm 0.5\%$ F.S. Terminal Point ($\pm 0.35\%$ F.S. BFSL)
Hysteresis: $\pm 0.05\%$
Linearity: $\pm 0.4\%$
Repeatability: $\pm 0.1\%$
Temperature Effects: $< \pm 0.03\%$ F.S./ $^{\circ}\text{F}$
Over-pressure: 5 psi proof
Response: < 0.25 seconds for full span input
Noise Filtration: Low pass filter, factory set @ 0.8Hz