

# Dry Gas Pressure Transmitter

## ROSEMOUNT 951 FEATURES:

- *Unparalleled stability to reduce frequency of calibration*
- *Digital HART® communication capability for ease of use*
- *40:1 Rangeability for fewer SKU's and spare parts*
- *Compact design allows for efficient use of space while bracket options provide flexibility in mounting configurations*
- *Superior total performance over full temperature range*



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## Bringing Rosemount Industrial Technology Into New Applications

The Rosemount 951 Dry Gas Pressure Transmitter brings legendary reliability, stability, and accuracy to critical HVAC and cleanroom applications.

### Unparalleled Stability to Reduce Frequency of Calibration

Competitor devices can drift out of specification after just a few months and require re-calibration, which consumes your time, money, and risks regulatory non-compliance.

### Digital HART® Communication Capability

The HART protocol enables quick and easy reranging, calibration, and troubleshooting on the spot. Local zero and span adjustments are standard and allow reranging when a 275/375 HART Communicator isn't available.

### 40:1 Rangeability

40:1 rangeability reduces inventories and allows you to carry just one SKU.

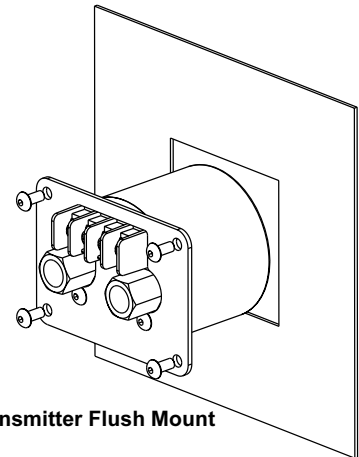
### Compact Design Optimized for Panel Mounting

The Rosemount 951 is more compact than many competitor devices, allowing you to mount transmitters more efficiently within a panel.

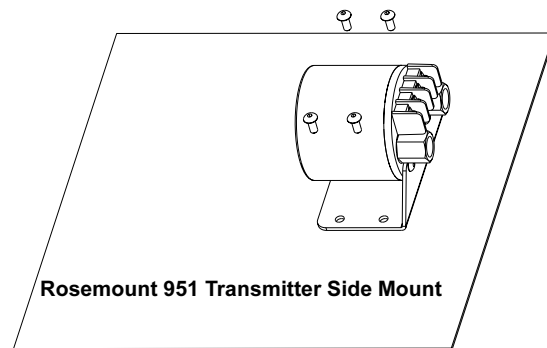
### Superior Performance Over Temperature

Integral temperature measurement means the Rosemount 951 provides superior temperature compensation enabling a more precise pressure measurement over the entire operating temperature range.

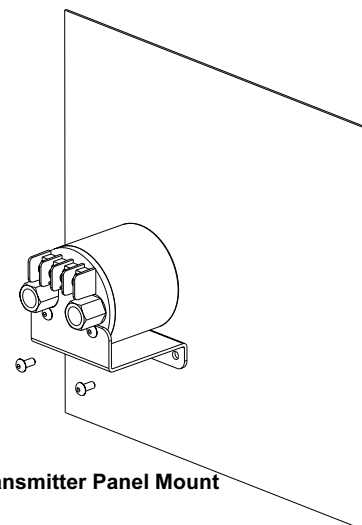
FIGURE 1. Various bracket options offer flexibility in mounting



Rosemount 951 Transmitter Flush Mount



Rosemount 951 Transmitter Side Mount



Rosemount 951 Transmitter Panel Mount

951/951\_08AA, 951\_07AA, 951\_06AA.EPS

# Specifications

## FUNCTIONAL SPECIFICATIONS

### DP/GP Pressure Ranges

Range	Minimum Span	Range and Sensor Limits	
		Upper (URL)	Lower (LRL)
0	0.1 inH <sub>2</sub> O (0.25 mbar)	4 inH <sub>2</sub> O (10 mbar)	-4 inH <sub>2</sub> O (-10 mbar)
1	1.25 inH <sub>2</sub> O (3.10 mbar)	25 inH <sub>2</sub> O (62.3 mbar)	-25 inH <sub>2</sub> O (-62.3 mbar)

### Service

Non-condensing (0-95% relative humidity), non-combustible, non-corrosive, and clean gases.

### Output

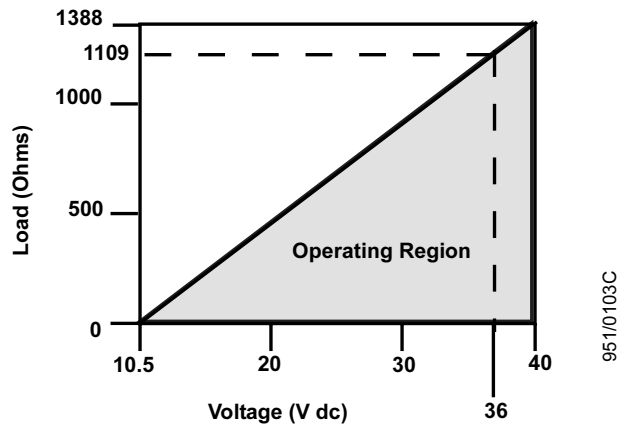
2-wire 4-20 mA; linear or square root  
 HART® digital communication and configuration  
 0-5 V DC (Pending)

### Power Supply & Load Limits

External Power Supply required 10.5 to 36 V  
 Minimum 250 Ohms loop resistance for digital communications

FIGURE 2. Power Supply Load Limitations,  
 4–20 mA Transmitters

**Max. Loop Resistance = 43.5 × (Power Supply Voltage – 10.5)**



Communication requires a minimum loop resistance of 250 ohm.

### Process and Ambient Temperature Limits

-40 to 185°F (-40 to 85°C)

### Static and Overpressure Limit

100 psi (6,89 bar)

### Burst Pressure

500 psi (34,47 bar)

### Humidity Limits

0-95% relative humidity

### Volumetric Displacement

Less than 0.005 in<sup>3</sup>

### Damping

Analog output response to a step input change is user-selectable from 0 to 60 seconds for one time constant. This software damping is in addition to sensor module response time.

### Failure Mode Alarm

If self-diagnostics detect a gross transmitter failure, the analog signal will be driven offscale to alert the user.

TABLE 1. Alarm Configuration

	High Alarm	Low Alarm
Default - High Alarm	≥ 21.75 mA	≤ 3.75 mA

### Turn-On Time

Performance within specifications less than 2.0 seconds after power is applied to the transmitter

# Rosemount 951

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## PHYSICAL SPECIFICATIONS

### Process Connections

$\frac{1}{8}$  inch NPT stainless fittings to accommodate any process connection

Optional: Barbed male adaptors for press on tube connection

Process Connections include HDPE internal filter

### Housing

NEMA 4X Delrin<sup>®</sup> Acetal

IP 65

Anodized aluminum brackets:

- Side
- Flush
- Panel

### Materials Exposed to Gases

- HAVAR<sup>®</sup>
- Nitronic<sup>®</sup> 32
- Hastelloy C-276<sup>®</sup>
- Ceramic
- Silicon Dioxide

### Sensor Module Fill Fluid

None

### Shipping Weight

Approximately 1 lb. (0,45 kg.)

### Electrical Connections

Terminal block with HART interface connections

## PERFORMANCE SPECIFICATIONS

### Reference Accuracy

$\pm 0.25\%$  of span for spans 1:1 to 6:1

$\pm 0.04\%$  of URL for spans 6:1 to 40:1

### Ambient Temperature Effect

$\pm 0.25\%$  URL + 0.05% of Span per 50°F (28°C)

### Mounting Effect

Zero shifts up to  $\pm 0.01$  inH<sub>2</sub>O which can be calibrated out.  
No span effect.

### Time Response

Less than 200 milliseconds

### Stability

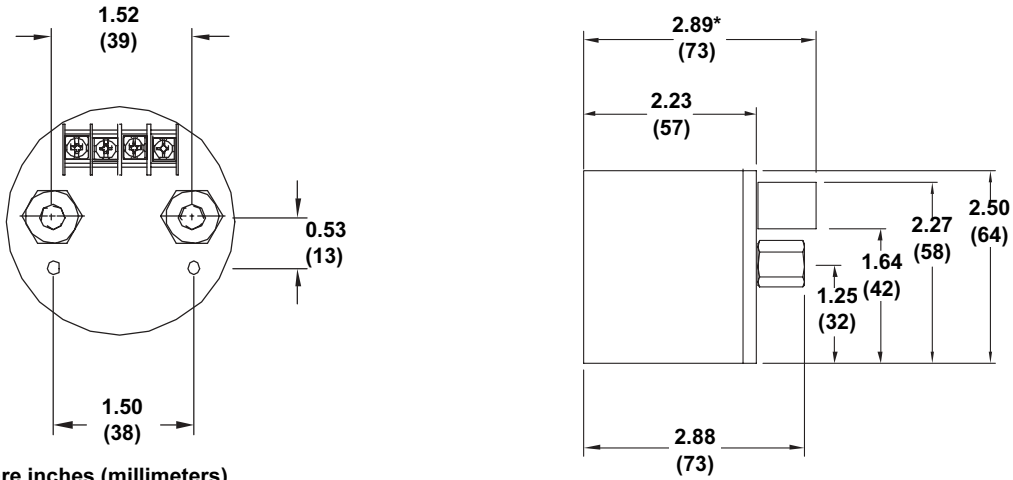
0.125% of URL for 12 months

### Power Supply Effect

Less than  $\pm 0.01\%$  of calibrated span per volt

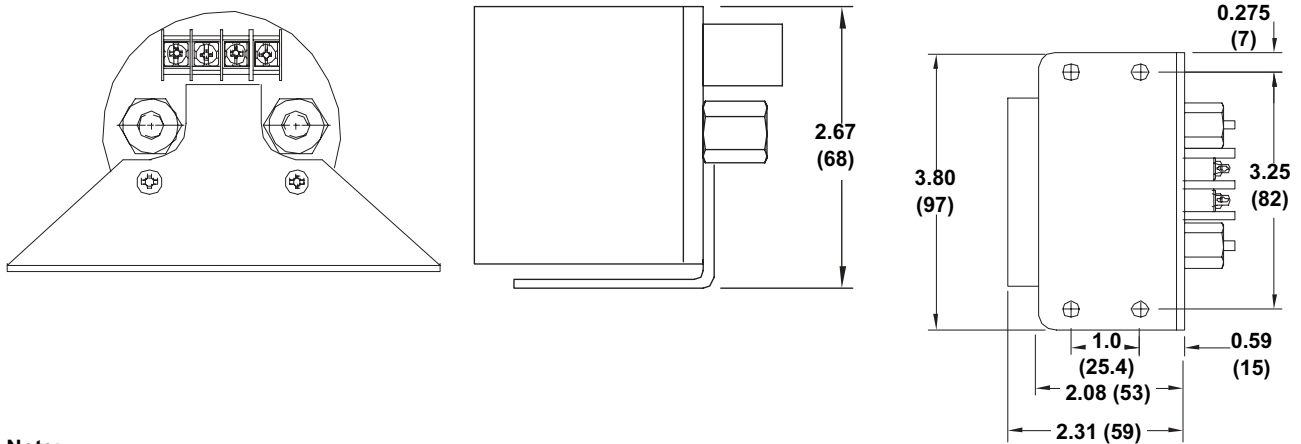
## Dimensional Drawings

FIGURE 3. Rosemount 951 Dry Gas Pressure Transmitter Dimensional Drawings



**Note:**  
 Dimensions are inches (millimeters)

FIGURE 4. Rosemount 951 Dry Gas Pressure Transmitter Side Mount Dimensional Drawings

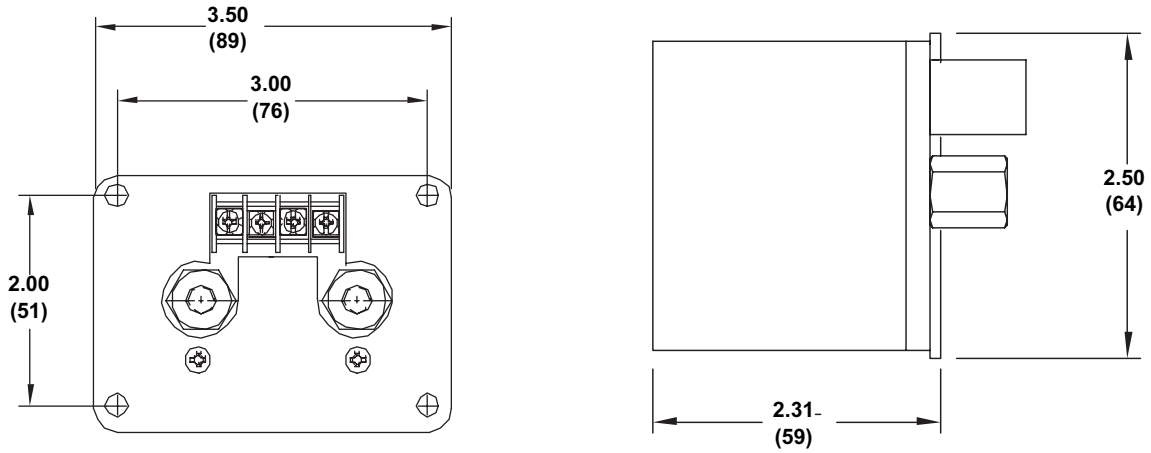


**Note:**  
 Dimensions are inches (millimeters)

951/951\_24AA.EPS, 951\_25AA.EPS

951/951\_17AA.EPS, 951\_18AA.EPS, 951\_19AA.EPS

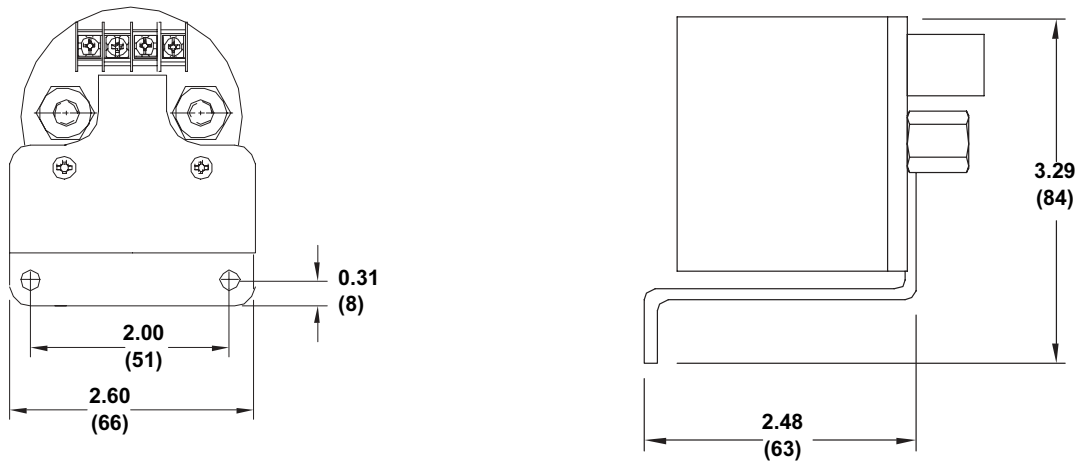
FIGURE 5. Rosemount 951 Dry Gas Pressure Transmitter Flush Mount Dimensional Drawings



**Note:**  
 Dimensions are inches (millimeters)

951/951\_22AA.EPS, 951\_23AA.EPS

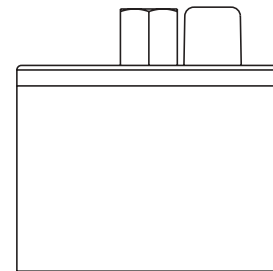
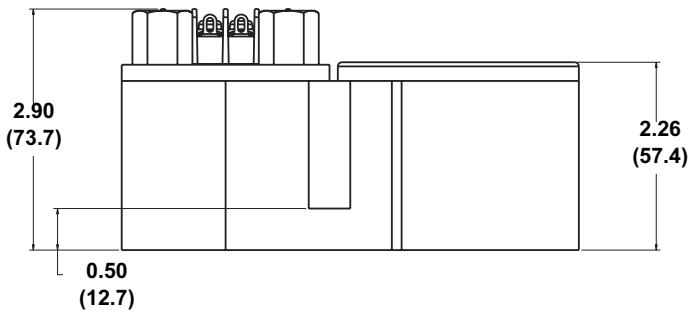
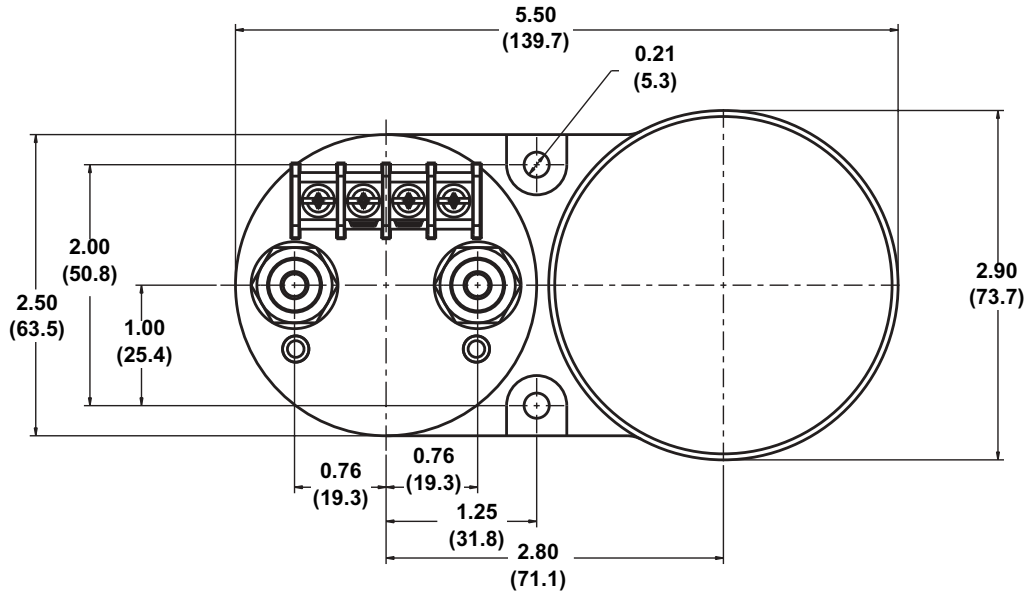
FIGURE 6. Rosemount 951 Dry Gas Pressure Transmitter Panel Mount Dimensional Drawings



**Note:**  
 Dimensions are inches (millimeters)

951/951\_20AA.EPS, 951\_21AA.EPS

FIGURE 7. Rosemount 951 Dry Gas Pressure Transmitter with optional LCD Meter Dimensional Drawings



**Note:**  
 Dimensions are inches (millimeters)

## Ordering Information

<b>Model</b>	<b>Product Type</b>
951D	Air Flow Differential Pressure Transmitter
<b>Code</b>	<b>Pressure Range</b>
0	-4 to 4 inH <sub>2</sub> O
1	-25 to 25 inH <sub>2</sub> O
<b>Code</b>	<b>Transmitter Output</b>
A1	4-20mA with Digital Signal Based on HART Protocol
<b>Code</b>	<b>Process Connection Style</b>
K01	1/8 inch NPT
K03	Barbed Fitting (brass) compatible with 1/8 inch ID tubing
K04	Barbed Fitting (brass) compatible with 3/16 inch ID tubing
K05	Barbed Fitting (brass) compatible with 6 mm ID tubing
<b>Code</b>	<b>Mounting Bracket</b>
B1	Bracket, Panel Mount
B2	Bracket, Flush Mount
B3	Bracket, Side Mount
B0	No Bracket
<b>Code</b>	<b>Options</b>
	<b>Software Configuration</b>
C1	Custom Software Configuration (A Configuration Data Sheet must be completed)
	<b>Digital LCD Meter</b>
M5	Digital LCD Meter
	<b>Calibration Data Certification</b>
Q4	Calibration data certificate consistent with ISO 10474 2.1 or EN 10204 2.1
QP	Calibration Certificate & Tamper Evident Seal
<b>Typical Model Number: 951 D 1 A1 K01 B1 C1 Q4</b>	







# Rosemount 951

**Product Data Sheet**  
00813-0100-4362, Rev CA  
August 2004

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Cover Photo: 951/ 951\_02aa.tif*

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