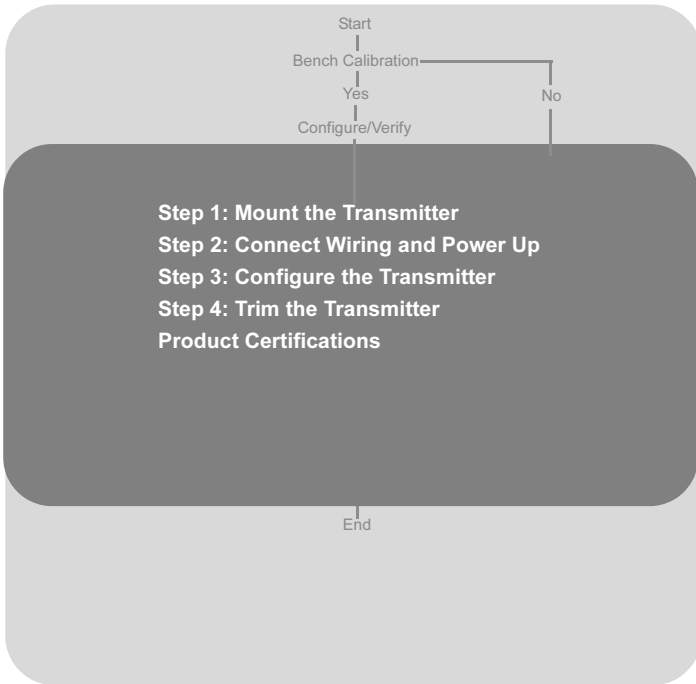


# Rosemount 951 Dry Gas Pressure Transmitter

*Product Discontinued*



**ROSEMOUNT**

[www.rosemount.com](http://www.rosemount.com)



**EMERSON**  
Process Management

**Rosemount 951**

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**⚠ IMPORTANT NOTICE**

This installation guide provides basic guidelines for Rosemount® 951 transmitters. It does not provide detailed instructions for configuration, diagnostics, maintenance, service, or troubleshooting. For more information, Rosemount Inc. has two toll-free assistance numbers:

**Customer Central**

Technical support, quoting, and order-related questions.

United States - 1-800-999-9307 (7:00 am to 7:00 pm CST)

Asia Pacific- 65 777 8211

Europe/ Middle East/ Africa - 49 (8153) 9390

**North American Response Center**

Equipment service needs.

1-800-654-7768 (24 hours—includes Canada)

Outside of these areas, contact your local Emerson Process Management representative.

**Life Support Policy**

Emerson Process Management warrants the Rosemount 951 Pressure Transmitter will perform according to its published specifications. This device is not recommended for use as a critical component in a life support device or system. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

**⚠ WARNING****Electrostatic Discharge (ESD)**

Electrostatic discharge to the wiring terminals may cause permanent damage to the device. Always use proper ESD procedures during installation and maintenance.

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## SERVICE/APPLICATION

Differential pressure measurement of non-corrosive, non-combustible, non-condensing, clean, dry gas only. Intended for indoor, climate controlled ambient environments.

## STEP 1: MOUNT THE TRANSMITTER

### NOTE

Remove the device from humidity resistant packaging in climate-controlled, indoor environment only.

### Mounting Considerations

- Restrain  $\frac{5}{8}$  Hex when torquing process adaptors or connections.
- Process connections should be mounted horizontally or vertically for best performance.
- Maximum pressure may be limited by user-supplied connection fittings or adaptors.

Figure 1. Rosemount 951 Transmitter

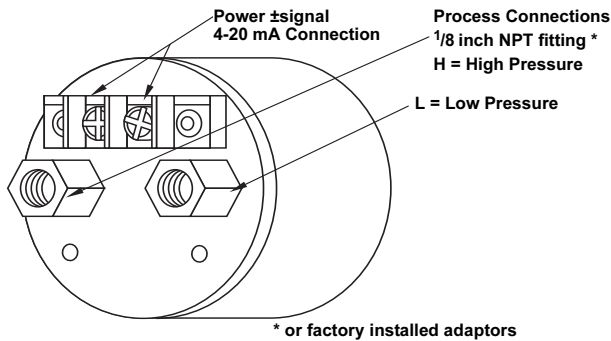
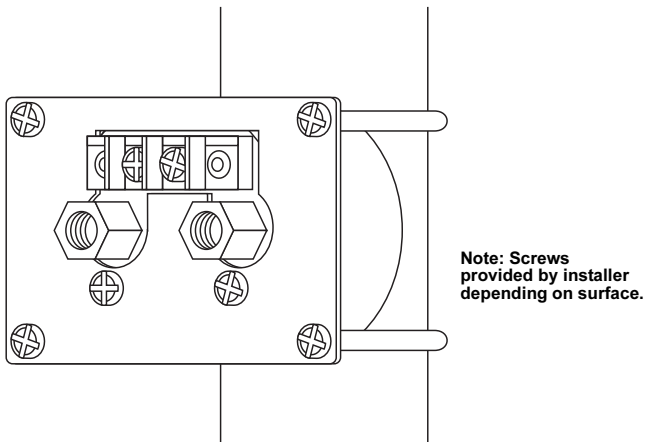
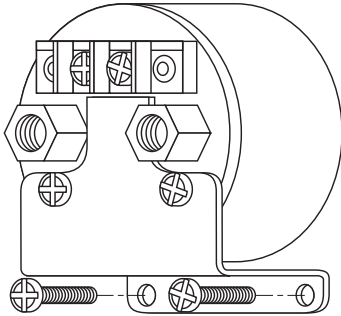


Figure 2. Rosemount 951 Transmitter with Optional Flush Mount Bracket



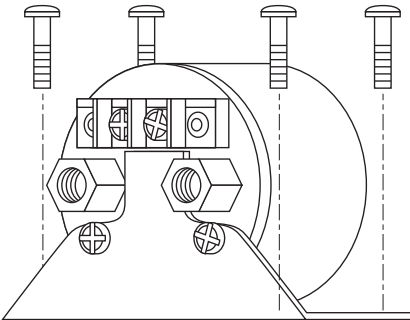
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Figure 3. Rosemount 951 Transmitter with Optional Panel Mount Bracket



**Note: Screws provided by installer depending on surface.**

Figure 4. Rosemount 951 Transmitter with Optional Side Mount Bracket



**Note: Screws provided by installer depending on surface.**

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## STEP 2: CONNECT WIRING AND POWER UP

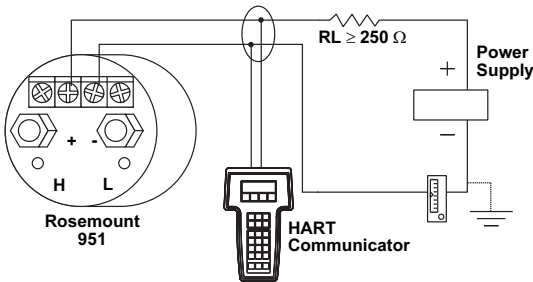
1. Use proper Electrostatic Discharge (ESD) procedures when connecting wiring to the device.
2. Connect the positive lead to the "+" terminal, and the negative lead to the "-" terminal.

### NOTE

Twisted pairs yield best results; shielded signal wiring is not necessary. Use 24 AWG or larger wire and do not exceed 5,000 feet (1,500 meters).

Figure 5 shows the wiring connections necessary to power a Rosemount 951 and enable communications with a hand-held HART communicator.

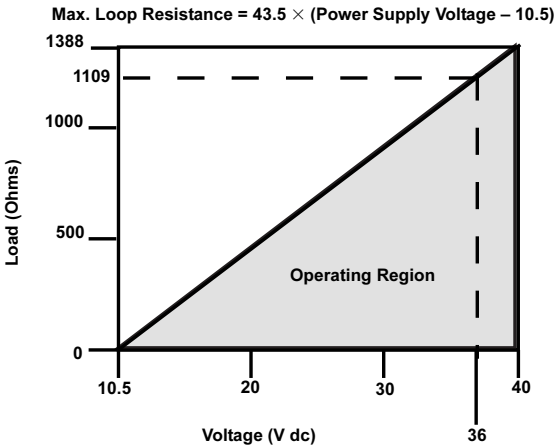
Figure 5. Rosemount 951 Wiring



## Power Supply

The dc power supply should provide power with less than two percent ripple. The total resistance load is the sum of the resistance of the signal leads and the load resistance of the controller, indicator, and related pieces.

Figure 6. Power Supply Load Limitations, 4–20 mA Transmitters



Communication requires a minimum loop resistance of 250 ohms.

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**STEP 3: CONFIGURE THE TRANSMITTER**

A check (✓) indicates the basic configuration parameters. At minimum, these parameters should be verified as part of the configuration and startup procedure if a HART Communicator is used.

Function	HART Fast Key Sequence
Alarm Level Config.	1, 4, 2, 7, 6
Alarm and Saturation Levels	1, 4, 2, 7
Analog Output Alarm Direction	1, 4, 2, 7, 1
Analog Output Trim	1, 2, 3, 2
Burst Mode On/Off	1, 4, 3, 3, 3
Burst Options	1, 4, 3, 3, 4
✓ Damping	1, 3, 6
Date	1, 3, 4, 1
Descriptor	1, 3, 4, 2
Digital To Analog Trim (4-20 mA Output)	1, 2, 3, 2, 1
Field Device Information	1, 4, 4, 1
Loop Test	1, 2, 2
Lower Sensor Trim	1, 2, 3, 3, 2
Message	1, 3, 4, 3
Number of Requested Preambles	1, 4, 3, 3, 2
Poll Address	1, 4, 3, 3, 1
Poll a Multidropped Transmitter	Left Arrow, 4, 1, 1
Rerange- Keypad Input	1, 2, 3, 1, 1
Saturation Level Config.	1, 4, 2, 7, 7
Scaled D/A Trim (4–20 mA Output)	1, 2, 3, 2, 2
Self Test (Transmitter)	1, 2, 1, 1
Sensor Information	1, 4, 4, 2
Sensor Temperature	1, 1, 4
Sensor Trim	1, 2, 3, 3
Sensor Trim Points	1, 2, 3, 3, 5
Status	1, 2, 1, 2
✓ Tag	1, 3, 1
✓ Transfer Function (Setting Output Type)	1, 3, 5
✓ Units (Process Variable)	1, 3, 2
Upper Sensor Trim	1, 2, 3, 3, 3
Zero Trim	1, 2, 3, 3, 1

**STEP 4: TRIM THE TRANSMITTER****NOTE**

Transmitters are shipped from Rosemount Inc. fully calibrated per request or by the factory default of full scale (span = upper range limit.)

**Zero Trim**

A zero trim is a single-point adjustment used for compensating mounting position. When performing a zero trim, ensure that the equalizing valve is open (if present).

If zero offset is less than 3% of true zero, follow the “Using the 275/375 HART Communicator” instructions below to perform a zero trim. If zero offset is greater than 3% of true zero, follow the “Local Re-ranging and Trim” instructions below to rerange.

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### Using the 275/375 HART Communicator

HART Fast Keys	Steps
1, 2, 3, 3, 1	<ol style="list-style-type: none"><li>1. Equalize or vent the transmitter and connect HART communicator.</li><li>2. At the menu, input the HART Fast Key sequence.</li><li>3. Follow the commands to perform a zero trim.</li></ol>

### Local Re-ranging and Trim

Both 4 and 20 mA points can be adjusted at the transmitter to a desired zero and full scale using the adjustment key or LCD adjustment buttons while powered.



Caution: Make sure no high voltage is present.

#### NOTE

More comprehensive adjustment is possible with a HART Communicator.

#### Zero - 4 mA point

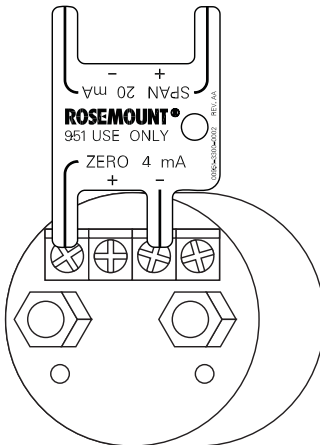
##### Without an LCD display

1. Using an appropriate quality pressure source, apply a pressure equivalent to the desired lower range value to the transmitter. If zero, make sure the High (H) and Low (L) pressure ports are at the same pressure.
2. Touch the key to the terminals, as shown in Figure 7, for at least two seconds but no longer than ten seconds.

##### With an LCD display

1. Using an appropriate quality pressure source, apply a pressure equivalent to the desired lower range value to the transmitter. If zero, make sure the High (H) and Low (L) pressure ports are at the same pressure.
2. Push and hold the zero LCD adjustment button for at least ten seconds but no longer than ten seconds.

Figure 7. Zero 4 mA



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### Span - 20 mA point

#### Without an LCD display

1. Using an appropriate quality pressure source, apply a pressure equivalent to the desired upper range value.
2. Touch the key to the terminals, as shown in Figure 8, for at least two seconds but no longer than ten seconds.

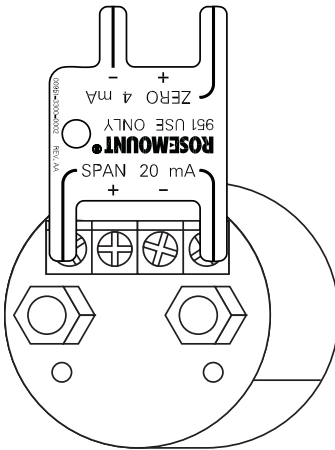
#### With an LCD display

1. Using an appropriate quality pressure source, apply a pressure equivalent to the desired upper range value.
2. Push and hold the span LCD adjustment button for at least two seconds but no longer than ten seconds.

### NOTE

The Span is maintained when the 4 mA point is set. The span changes only when the 20 mA point is set. Changing the span should not be required as a result of installation.

Figure 8. Span 20 mA



## PRODUCT CERTIFICATIONS

### Approved Manufacturing Locations

Rosemount Inc. — Chanhassen, Minnesota USA

### European Directive Information

The EC declaration of conformity for all applicable European directives for this product can be found on the Rosemount website at [www.rosemount.com](http://www.rosemount.com). A hard copy may be obtained by contacting an Emerson Process Management representative.

### Ordinary Location Certification for Factory Mutual

As standard, the transmitter has been examined and tested to determine that the design meets basic electrical, mechanical, and fire protection requirements by FM, a nationally recognized testing laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).