

ROSEMOUNT SPECIFICATIONS

Model 2088 Absolute and Gage Pressure Transmitter

1. EQUIPMENT DESCRIPTION

- Two-wire, microprocessor-based absolute or gage pressure transmitter with analog or digital (smart) output.
- Small, lightweight design (2 lb [0.9 kg]) which allows for optional mounting bracket use.
- Modular electronics incorporating replaceable circuitry.

2. REFERENCES

- Material supplied under this specification shall be in conformance with:
 - National Electrical Code (NFPA 70) 501-5 by incorporating a two-compartment electronics housing for separation of the process medium and the electrical conduit.
 - National Electrical Manufacturer's Association (NEMA) standard number classification ICS6 "Enclosure for industrial controls and systems," 4X.
 - Factory Mutual (FM), Canadian Standards Association (CSA), CENELEC, SAA standards for explosion-proof enclosure and intrinsically safe electronic circuitry.
 - Japanese Industrial Standard (JIS) for explosion-proof enclosure.
- Manufacturer must be certified as meeting the requirements of ISO 9001.

3. ENVIRONMENTAL CONDITIONS

- The instrument selected shall be suitable for the following conditions:
 - Humidity: 0 to 100% relative humidity.
 - Ambient temperature limits: -40 to 185 °F (-40 to 85 °C).
- Transmitter shall have a dual-compartment housing with a moisture barrier totally isolating the electronic circuitry from the field wiring and calibration terminals.

4. PROCESS CONDITIONS

- Suitable for liquid, gas, and vapor service.
- Process temperature limits: -40 to 250 °F (-40 to 121 °C).
- Pressure limits: minimum of twice the upper range limit of the transmitter.

5. ELECTRICAL

- Transmitter shall be certified for use in hazardous areas by a recognized authority such as Factory Mutual.
- Electrical connections shall be ½-14 NPT, CM 20 or PG 13.5 conduit.
- Transmitter to be factory sealed; conduit seal not required to meet FM explosion-proof requirements.

6. POWER SUPPLY

- Transmitter shall operate on 10.5 to 36 V dc with no load (6-14 V dc for low power).

7. RANGES

- Ranges shall be available from 0-1 psi to 0-4,000 psi (0-6.89 kPa to 0-27.6 MPa)

8. OUTPUTS

- Outputs shall be a 4-20 mA dc digital HART protocol signal and a 4-20 mA analog signal (1-5 V dc for low power).
- Self diagnostics capability with downscale failure mode.
- Transmitter must have adjustable calibration to allow turn down of at least 10:1 or 20:1 for smart output.
- Zero and span adjustments shall be non-interactive with each other and also non-active during transmitter operation.

9. PERFORMANCE

- The transmitter shall meet the following performance criteria as a minimum:
 - Accuracy: $\pm 0.25\%$ of calibrated span.
 - Ambient Temperature Effects (per 100 °F [55 °C]):

Temperature	Ranges between 0–3 and 0–4,000 psi (0–20.7 kPa to 0–27.6 MPa)	Ranges below 0–3 psi (0–20.7 kPa)
–40 to 0 °F (–40 to –18 °C)	$\pm(0.7\% \text{ URL} + 0.8\% \text{ Span})$	$\pm(1.3\% \text{ URL} + 0.5\% \text{ Span})$
0 to 140 °F (–18 to 60 °C)	$\pm(0.5\% \text{ URL} + 0.5\% \text{ Span})$	$\pm(1.0\% \text{ URL} + 0.5\% \text{ Span})$
140 to 185 °F (60 to 85 °C)	$\pm(0.7\% \text{ URL} + 0.8\% \text{ Span})$	$\pm(1.3\% \text{ URL} + 0.5\% \text{ Span})$

- Stability: $\pm 0.10\%$ of upper range limit for 12 months for smart output.
- $\pm 0.25\%$ of upper range limit for 12 months for analog output.
- Vibration: $\pm 0.1\%$ of upper range limit when subjected to 2 g (15–150 Hz) and 1 g (150–2000 Hz).
- Radio Frequency Interference: $\pm 0.25\%$ of upper range limit from 20–1000 MHz at 30 V/m with leads in conduit. $\pm 0.25\%$ of upper range limit at 10 V/m with unshielded twisted pair (no conduit).

10. OPTIONS

- The following options shall be available:
 - Digital indicating meter.
 - Remote diaphragm seals.
 - Mounting bracket.
 - Transient protection
 - Assembly to Model 306 Integral Manifold

Rosemount Inc.

8200 Market Boulevard
Chanhassen, MN 55317 USA
Tel 1-800-999-9307
Telex 4310012
Fax (612) 949-7001
© 1998 Rosemount, Inc.



Fisher-Rosemount Limited

Heath Place
Bognor Regis
West Sussex PO22 9SH
England
Tel 44 (1243) 863 121
Fax 44 (1243) 867 5541

Fisher-Rosemount

Singapore Pte Ltd.
1 Pandan Crescent
Singapore 128461
Tel (65) 777-8211
Fax (65) 777-0947
Tlx RS 61117 FRSP

All rights reserved.

<http://www.rosemount.com>



00815-0100-4690 Rev. BB 11/98

ROSEMOUNT®

FISHER-ROSEMOUNT™ Managing The Process Better.™