

Rosemount Pressure Transmitters

Product information for five Emerson Rosemount pressure transmitters

This sheet covers the Emerson **Rosemount 3051** and **2051** pressure transmitter families, the higher-performance **3051S** and **3051S MultiVariable** (3051SMV), and the high-pressure oil and gas **4600** panel transmitter.

At a glance

Product	Type	Range	Accuracy	Outputs
Rosemount 3051	DP / gauge / absolute	-3 to +3 inH ₂ O up to +/-2000 psi (DP)	0.04% of span	4-20 mA HART, FF, PROFIBUS PA, WirelessHART
Rosemount 3051S	DP / gauge / absolute, scalable	Scalable; up to 200:1 rangedown	Ultra 0.025% of span	4-20 mA HART, WirelessHART, FF
Rosemount 2051	DP / gauge / absolute	-25 inH ₂ O up to +/-2000 psi (DP)	0.05% (P8 option)	4-20 mA HART, FF, PROFIBUS PA, WirelessHART
Rosemount 4600	Gauge / absolute, high pressure	0-30 psi up to 0-20,000 psi	0.25% of calibrated span	4-20 mA HART 7
Rosemount 3051S MultiVariable	DP + static pressure + temperature	Scalable DP; 200:1 rangedown	0.04% of reading (Ultra for Flow)	4-20 mA HART, WirelessHART, FF

Common features

- 4 to 20 mA output with HART communication on all five models
- WirelessHART and FOUNDATION Fieldbus available on the 3051, 3051S, 2051 and 3051SMV families
- 316L stainless steel and Alloy C-276 diaphragm options across the range
- SIL 2/3 certification or capability on the 3051, 3051S and 2051 families
- Hazardous-area approvals including FM, CSA, ATEX and IECEx

Product profiles

Rosemount 3051

Differential, gauge and absolute pressure transmitter

Widely used pressure transmitter family, available in coplanar (3051C), in-line (3051T) and flowmeter (3051CF) versions.

- Range codes 0 to 5; differential from +/-3 inH₂O (range 0) up to +/-2000 psi (range 5)
- Reference accuracy 0.04% of span; installed performance 0.14% of span
- Long-term stability 0.2% of URL over 10 years
- Diaphragm materials: 316L stainless steel, Alloy C-276, Alloy 400, tantalum and gold-plated
- SIL 2/3 certified (IEC 61508); hazardous-area approvals including ATEX and IECEx

Rosemount 3051S

Series of instrumentation, ultra performance

High-performance, scalable version of the 3051 with Ultra and Ultra for Flow performance classes.

- Ultra: +/-0.025% of span accuracy, 200:1 rangedown and 15-year stability
- Ultra for Flow: +/-0.04% of reading with 14:1 flow turndown
- 15-year limited warranty on Ultra versions
- WirelessHART at 2.4 GHz (IEC 62591) with a power module life of up to 10 years
- SIL 3 capable (IEC 61508); cold ambient option to -50 C

Rosemount 2051

Differential, gauge and absolute pressure transmitter

Pressure transmitter family in coplanar (2051C), in-line (2051T) and gauge (2051G) versions.

- 2051C differential ranges from +/-25 inH₂O up to +/-2000 psi
- 2051T gauge ranges from -14.7 to +30 psi up to -14.7 to +10,000 psi
- High-performance P8 option: 0.05% reference accuracy and 10-year stability
- HART 4-20 mA with revision 5 default and revision 7 configurable
- SIL 2/3 certification available with the HART 4-20 mA output

Rosemount 4600

Oil and gas panel pressure transmitter

All-welded stainless steel pressure transmitter for oil and gas panels and high-pressure applications.

- Six ranges: 0-30, 0-150, 0-800, 0-5,000, 0-10,000 and 0-20,000 psi, with 40:1 rangeability
- Reference accuracy +/-0.25% of calibrated span
- Supply 10 to 42.4 V DC; HART needs at least 250 ohm loop resistance
- Process connections 1/4-18 NPT, 1/2-14 NPT and Autoclave F-250-C (ranges 5 and 6)
- 316L SST or Alloy C-276 diaphragm, NEMA 4X housing, ambient -40 to 85 C, response time 200 ms or less

Rosemount 3051S MultiVariable

3051SMV MultiVariable transmitter

Measures differential pressure, static pressure and process temperature in one device to calculate fully compensated mass and energy flow.

- Measures differential pressure, static pressure and process temperature
- Fully compensated mass and energy flow, with compensation for 25+ variables
- Ultra for Flow: 0.04% of reading differential pressure accuracy and 200:1 rangedown
- Supports HART, WirelessHART and FOUNDATION Fieldbus
- Part of the 3051S series, with SIL 3 capability on the series

Notes and sources

Ranges are shown in the units Emerson uses in its data sheets (inH₂O and psi); 1 psi is about 0.069 bar and 1 inH₂O is about 2.49 mbar. The 3051 and 2051 data sheet excerpts retrieved did not state supply voltage, response time or ambient temperature, so these are not listed for those models. The 3051S Ultra figures (0.025% span, 15-year stability) apply to the Ultra performance class only; other classes of the 3051S are specified in the data sheet. The 3051SMV accuracy shown is for the Ultra for Flow variant.

The 4600 is an oil and gas panel transmitter; its +/-0.25% accuracy is lower than the 3051 family, and its range suits much higher pressures. Accuracy, ranges and options depend on the model code selected.

Compiled from Emerson Rosemount product data sheets for the 3051, 3051S / 3051SMV, 2051 and 4600. Confirm against the current Emerson documentation before quoting or ordering.