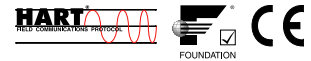


Rosemount 3051S Series of Instrumentation

Scalable Pressure, Flow, and Level Solutions

- Industry leading performance with 0.025% accuracy
- Industry's first %-of-reading flow transmitter delivering a 10x performance improvement
- Industry's first installed 10-year stability
- Unprecedented reliability backed by a 12-year limited warranty
- Scalable SuperModule® Platform enables most cost effective installation and maintenance practices
- Advanced Diagnostics provide process insight to prevent abnormal situations and increase plant productivity
- Safety Certified to IEC 61508
- Wireless output delivers information rich data, with >99% data reliability



COMING SOON

**Rosemount 3051SMV
 MultiVariable™ Transmitter**

Scalability enables the right compensation to meet any DP Flow application.
 Consult factory for availability.

Contents

| | |
|---------------------------------------|------------------|
| Rosemount 3051S Selection Guide | page Pressure-4 |
| Specifications | page Pressure-5 |
| Product Certifications | page Pressure-16 |
| Dimensional Drawings | page Pressure-20 |
| Ordering Information | page Pressure-31 |

Success through innovative measurement

Industry leading performance with 0.025% accuracy

The Rosemount 3051S delivers cutting edge performance beginning with the SuperModule Platform. Among the many advances, Saturn™ sensing technology incorporates a secondary sensor to optimize performance and expand diagnostic capabilities.

Industry's first %-of-reading flow transmitter

Innovative design combined with patented manufacturing techniques deliver a 10x performance improvement and a wide flow turndown with the Ultra for Flow performance class.

Industry's first installed 10-year stability

Stability begins with the all-welded, 316L SST hermetically sealed SuperModule Platform that houses a single electronics board to eliminate moisture and field contaminant effects. See "Long Term Stability" on page Pressure-6 for details.

Unprecedented reliability backed by a 12-year limited warranty

Further enhance installation practices and advanced diagnostic capabilities with the most reliable platform supported by a 12-year limited warranty. See "Warranty" on page Pressure-6 for details.

Scalable SuperModule® Platform



The 3051S powers the PlantWeb® architecture by delivering the industry's best field intelligence with advanced diagnostics for HART and FOUNDATION fieldbus. The Scalable SuperModule Platform provides a foundation for integrated pressure, flow, and level solutions. It allows you to customize performance, functionality, diagnostics, and process connections for your expanding application requirements.

Advanced Diagnostics

The New 3051S ASP™ Diagnostics Suite, which includes Statistical Process Monitoring (SPM), variable logging with time stamp capabilities and advanced process alerts, provides new process insight to prevent abnormal situations.

Wireless Output

The 3051S Wireless Series of Instrumentation utilizes self-organizing network technology, delivering > 99% data reliability and extending the full benefits of PlantWeb to previously inaccessible locations.

Safety Certified to IEC 61508

The 3051S is certified to IEC 61508 for non-redundant use in SIL 1 and SIL 2 Safety Instrumented Systems and redundant use in SIL 3 Safety Instrumented Systems.

Rosemount Pressure Solutions

Rosemount 3051S Series of Instrumentation

Scalable pressure, flow and level measurement solutions improve installation and maintenance practices.

Rosemount 3095 Mass Flow Transmitter

Accurately measures differential pressure, static pressure and process temperature to dynamically calculate fully compensated mass flow.

Rosemount 305, 306 and 304 Manifolds

Factory-assembled, calibrated and seal-tested transmitter-to-manifold assemblies reduce installation costs.

Rosemount 1199 Diaphragm Seals

Provides reliable, remote measurements of process pressure and protects the transmitter from hot, corrosive, or viscous fluids.

Orifice Plate Primary Element Systems: Rosemount 1495 and 1595 Orifice Plates, 1496 Flange Unions and 1497 Meter Sections

A comprehensive offering of orifice plates, flange unions and meter sections that are easy to specify and order. The 1595 Conditioning Orifice provides superior performance in tight fit applications.

Annubar® Flowmeter Series: Rosemount 3051SFA ProBar®, 3095MFA Mass ProBar, and 485

The state-of-the-art, fifth generation Rosemount 485 Annubar combined with the 3051S or 3095 *MultiVariable* transmitter creates an accurate, repeatable and dependable insertion-type flowmeter.

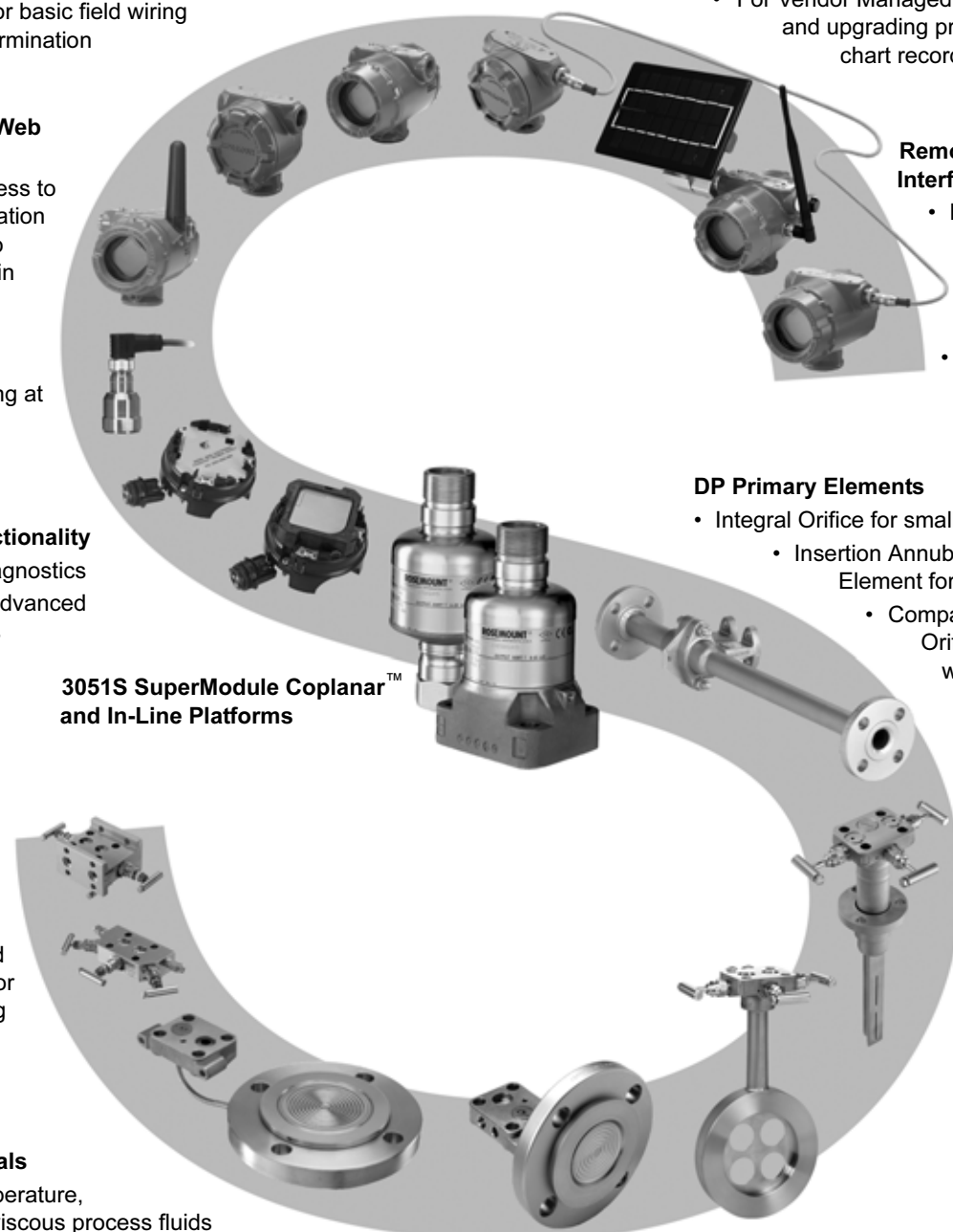
Compact Orifice Flowmeter Series: Rosemount 3051SFC, 3095MFC, and 405

Compact Orifice Flowmeters can be installed between existing flanges, up to a Class 600 (PN100) rating. In tight fit applications, a conditioning orifice plate version is available, requiring only two diameters of straight run upstream and two downstream.

ProPlate® Flowmeter Series: Rosemount 3051SFP ProPlate, 3095MFP Mass ProPlate, and 1195

These integral orifice flowmeters eliminate the inaccuracies that become more pronounced in small orifice line installations. The completely assembled, ready to install flowmeters reduce cost and simplify installation.

Scalable Pressure, Flow, and Level Solutions



Junction Box Housing

- For basic field wiring termination

PlantWeb Housing

- For use with integral LCD Display
- For advanced PlantWeb functionality with HART or FOUNDATION fieldbus

753R Web-Based Monitoring Indicator

- For Vendor Managed Inventory and upgrading pressure chart recorder applications

Remote Display and Interface

- For easy access to information, configuration and troubleshooting at ground level
- Facilitates direct mounting

Wireless PlantWeb Housing

- Provides access to critical information previously too costly to obtain

Quick Connect

- For quick, error-free wiring at start-up

PlantWeb Functionality

- Advanced Diagnostics
- Control and Advanced Computations

DP Primary Elements

- Integral Orifice for small line sizes
- Insertion Annubar® Primary Element for large line sizes
- Compact Conditioning Orifice for installations with minimal straight run piping

3051S SuperModule Coplanar™ and In-Line Platforms

Integral Manifolds

- Coplanar, Traditional, and In-Line styles for direct mounting

Diaphragm Seals

- For high temperature, corrosive or viscous process fluids
- Multiple process connections, direct mount and capillary connections available
- DP Level *Tuned-Systems™* for best performance

Rosemount 3051S Selection Guide

Rosemount 3051S_C Coplanar™ Differential, Gage, and Absolute

See ordering information on page Pressure-31.

- Performance up to 0.025% accuracy and 200:1 rangedown
- Available 10-year stability and 12-year limited warranty
- Coplanar platform enables integrated manifold, primary element and diaphragm seal solutions
- Calibrated spans from 0.1 inH₂O to 4000 psi (0,25 mbar to 276 bar)
- 316L SST, *Hastelloy*® C, *Monel*®, Tantalum, gold-plated *Monel*, or gold-plated 316L SST process isolators



Rosemount 3051S_T In-Line Gage and Absolute

See ordering information on page Pressure-36.

- Performance up to 0.025% accuracy and 200:1 rangedown
- Available 10-year stability and 12-year limited warranty
- Calibrated spans from 0.3 to 10000 psi (20,7 mbar to 689 bar)
- Multiple process connections available
- 316L SST and *Hastelloy* C process isolators



Rosemount 3051S_L Liquid Level

See ordering information on page Pressure-40.

- Performance up to 0.065% accuracy and 100:1 rangedown
- Welded fill fluid system provides best-in-class system reliability
- Flush, 2, 4, and 6-in. extended diaphragms
- Multiple fill fluids and wetted materials available
- Level and volume units, process alerts



Rosemount 3051SF Flowmeters

See Flowmeter Series Offerings

- Flowmeter platforms leverage innovative primary element designs
- Arrives leak-tested, calibrated, and ready-to-install
- Flow units, process alerts, and low flow cut-off
- % of reading performance to 14:1 flow turndown



*Rosemount 3051SFP
Integral Orifice Flowmeter*



*Rosemount 3051SFA
Insertion Annubar Flowmeter*



*Rosemount 3051SFC
Compact Conditioning
Orifice Flowmeter*

Specifications

PERFORMANCE SPECIFICATIONS

For zero-based spans, reference conditions, silicone oil fill, glass-filled PTFE o-rings, SST materials, Coplanar flange (3051S_C) or 1/2 in.- 14 NPT (3051S_T) process connections, digital trim values set equal to range points.

Conformance to specification ($\pm 3\sigma$ (Sigma))

Technology leadership, advanced manufacturing techniques and statistical process control ensure specification conformance to $\pm 3\sigma$ or better.

Digital Output

For FOUNDATION™ fieldbus and wireless devices, use calibrated range in place of span. For the 3051S Wireless transmitter, follow Classic transmitter specifications.

Reference Accuracy

| Models | Ultra ⁽¹⁾ | Classic ⁽¹⁾ | Ultra for Flow ⁽¹⁾⁽²⁾ |
|---------------------|--|---|--|
| 3051S_CD, CG | | | |
| Ranges 2 - 4 | ±0.025% of span. For spans less than 10:1, $\pm \left[0.005 + 0.0035 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.055% of span. For spans less than 10:1, $\pm \left[0.015 + 0.005 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.04% of reading up to 8:1 DP turndown from URL; $\pm [0.04 + 0.0023 (URL/RDG^{(3)})]$ % reading to 200:1 DP turndown from URL |
| Range 5 | ±0.05% of span. For spans less than 10:1, $\pm \left[0.005 + 0.0045 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.065% of span. For spans less than 10:1, $\pm \left[0.015 + 0.005 \left(\frac{URL}{span} \right) \right]$ % of span | N/A |
| Range 1 | ±0.09% of span. For spans less than 15:1, $\pm \left[0.015 + 0.005 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.10% of span. For spans less than 15:1, $\pm \left[0.025 + 0.005 \left(\frac{URL}{span} \right) \right]$ % of span | N/A |
| Range 0 | ±0.09% of span. For spans less than 2:1 = ±0.045% of URL | ±0.10% of span. For spans less than 2:1 = ±0.05% of URL | N/A |
| 3051S_T | | | |
| Ranges 1 - 4 | ±0.025% of span. For spans less than 10:1, $\pm \left[0.004 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.055% of span. For spans less than 10:1, $\pm \left[0.0065 \left(\frac{URL}{span} \right) \right]$ % of span | N/A |
| Range 5 | ±0.04% of span. For spans less than 10:1, $\pm \left[0.004 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.065% of span. For spans less than 10:1, $\pm \left[0.0065 \left(\frac{URL}{span} \right) \right]$ % of span | N/A |
| 3051S_CA | | | |
| Ranges 1 - 4 | ±0.025% of span. For spans less than 10:1, $\pm \left[0.004 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.055% of span. For spans less than 10:1, $\pm \left[0.0065 \left(\frac{URL}{span} \right) \right]$ % of span | N/A |
| Range 0 | ±0.075% of span. For spans less than 5:1, $\pm \left[0.025 + 0.01 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.075% of span. For spans less than 5:1, $\pm \left[0.025 + 0.01 \left(\frac{URL}{span} \right) \right]$ % of span | N/A |
| 3051S_L | | | |
| | ±0.065% of span. For spans less than 10:1, $\pm \left[0.015 + 0.005 \left(\frac{URL}{span} \right) \right]$ % of span | ±0.065% of span. For spans less than 10:1, $\pm \left[0.015 + 0.005 \left(\frac{URL}{span} \right) \right]$ % of span | N/A |

(1) Stated reference accuracy equations include terminal based linearity, hysteresis, and repeatability.

(2) Ultra for Flow available on 3051S_CD Ranges 2-3 only. For calibrated spans from 1:1 to 2:1 of URL, add ±0.005% of span analog output error.

(3) RDG refers to transmitter reading.

Total Performance

| Models | Ultra ⁽¹⁾ | Classic ⁽¹⁾ | Ultra for Flow ⁽¹⁾⁽²⁾ |
|---------------|---|--|---|
| 3051S_ | CD Ranges 2-3 CG Ranges 2-5 T Ranges 2-4 CA Ranges 2-4 | ±0.1% of span; for ±50°F (28°C) temperature changes; 0-100% relative humidity, up to 740 psi (51 bar) line pressure (CD only), from 1:1 to 5:1 rangedown | ±0.15% of span; for ±50°F (28°C) temperature changes; 0-100% relative humidity, up to 740 psi (51 bar) line pressure (CD only), from 1:1 to 5:1 rangedown |

(1) Total performance is based on combined errors of reference accuracy, ambient temperature effect, and line pressure effect.

(2) Ultra for Flow available on 3051S_CD Ranges 2-3 only.

Long Term Stability

| Models | Ultra and Ultra for Flow ⁽¹⁾ | Classic |
|---------------|---|---|
| 3051S_ | CD Ranges 2 - 5 CG Ranges 2 - 5 T Ranges 1 - 5 CA Ranges 1 - 4 | ±0.125% of URL for 5 years; for ±50°F (28°C) temperature changes, up to 1000 psi (68,9 bar) line pressure (CD only) |

(1) Ultra for Flow available on 3051S_CD Ranges 2-3 only.

Warranty⁽¹⁾

| Models | Ultra and Ultra for Flow | Classic |
|---------------|---|--|
| 3051S_ | 12-year limited warranty ⁽²⁾ | 1-year limited warranty ⁽³⁾ |

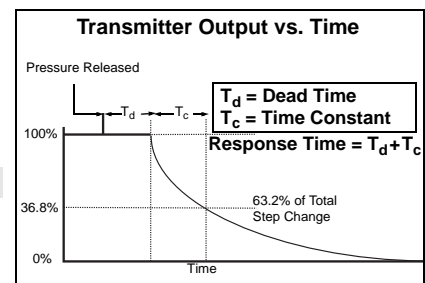
(1) Warranty details can be found in Emerson Process Management Terms & Conditions of Sale, Document 63445, Rev G (10/06).

(2) Rosemount Ultra and Ultra for Flow transmitters have a limited warranty of twelve (12) years from date of shipment. All other provisions of Emerson Process Management standard limited warranty remain the same.

(3) Goods are warranted for twelve (12) months from the date of initial installation or eighteen (18) months from the date of shipment by Seller, whichever period expires first.

Dynamic Performance⁽¹⁾

| | 4 - 20 mA (HART [®]) ⁽²⁾ | Fieldbus protocol ⁽³⁾ | Typical Transmitter Response Time |
|--|---|----------------------------------|-----------------------------------|
| Total Response Time (Td + Tc)⁽⁴⁾ | | | |
| 3051S_C: | | | |
| Ranges 2 - 5: | 100 milliseconds | 152 milliseconds | |
| Range 1: | 255 milliseconds | 307 milliseconds | |
| Range 0: | 700 milliseconds | 752 milliseconds | |
| 3051S_T: | 100 milliseconds | 152 milliseconds | |
| 3051S_L: | See <i>Instrument Toolkit</i> [®] | See <i>Instrument Toolkit</i> | |
| Dead Time (Td)⁽⁵⁾ | 45 milliseconds (nominal) | 97 milliseconds | |
| Update Rate | 22 times per second | 22 times per second | |



(1) Does not apply to wireless output code X. See "Wireless Self-Organizing Networks" on page Pressure-11 for wireless transmit rate.

(2) Dead time and update rate apply to all models and ranges; analog output only

(3) Transmitter fieldbus output only, segment macro-cycle not included.

(4) Nominal total response time at 75 °F (24 °C) reference conditions. For option code DA1, add 45 milliseconds (nominal) to 4-20 mA (HART) total response time values.

(5) For option code DA1, dead time (Td) is 90 milliseconds (nominal).

Ambient Temperature Effect

| Models | Ultra | Classic | Ultra for Flow ⁽¹⁾ |
|----------------------------|---|---|---|
| 3051S_CD, CG | per 50 °F (28 °C) | per 50 °F (28 °C) | per 50 °F (28 °C) |
| Range 2 - 5 ⁽²⁾ | ± (0.009% URL + 0.025% span) from 1:1 to 10:1 ± (0.018% URL + 0.08% span) from >10:1 to 200:1 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 100:1 | From -40 to 185 °F (-40 to 85 °C): ±0.13% reading up to 8:1 DP turndown from URL; ±[0.13 + 0.0187 (URL/RDG ⁽³⁾)]% reading to 100:1 DP turndown from URL |
| Range 0 | ± (0.25% URL + 0.05% span) from 1:1 to 30:1 | ± (0.25% URL + 0.05% span) from 1:1 to 30:1 | N/A |
| Range 1 | ± (0.1% URL + 0.25% span) from 1:1 to 50:1 | ± (0.1% URL + 0.25% span) from 1:1 to 50:1 | N/A |
| 3051S_T | | | N/A |
| Ranges 2 - 4 | ± (0.009% URL + 0.025% span) from 1:1 to 10:1 ± (0.018% URL + 0.08% span) from >10:1 to 100:1 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 100:1 | |
| Range 5 | ± (0.05% URL + 0.075% span) from 1:1 to 10:1 | ± (0.05% URL + 0.075% span) from 1:1 to 5:1 | N/A |
| Range 1 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 100:1 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 100:1 | N/A |
| 3051S_CA | | | N/A |
| Ranges 2 - 4 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 200:1 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 100:1 | |
| Range 0 | ± (0.1% URL + 0.25% span) from 1:1 to 30:1 | ± (0.1% URL + 0.25% span) from 1:1 to 30:1 | N/A |
| Range 1 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 100:1 | ± (0.0125% URL + 0.0625% span) from 1:1 to 5:1 ± (0.025% URL + 0.125% span) from >5:1 to 100:1 | N/A |
| 3051S_L | See <i>Instrument Toolkit</i> . | See <i>Instrument Toolkit</i> . | |

(1) Ultra for Flow available on 3051S_CD Ranges 2-3 only.

(2) Use Classic specification for 3051S_CD Range 5 Ultra.

(3) RDG refers to transmitter reading.

Line Pressure Effect

For line pressures above 2000 psi (137,9 bar) and 3051S_CD Ranges 4-5, see the 3051S Reference Manual (document number 00809-0100-4801).

| Models | Ultra and Ultra for Flow | Classic |
|-----------------|---|---|
| 3051S_CD | | |
| | Zero Error⁽¹⁾ | Zero Error⁽¹⁾ |
| Range 2 - 3 | ± 0.025% URL per 1000 psi (69 bar) | ± 0.05% URL per 1000 psi (69 bar) |
| Range 0 | ± 0.125% URL per 100 psi (6,89 bar) | ± 0.125% URL per 100 psi (6,89 bar) |
| Range 1 | ± 0.25% URL per 1000 psi (69 bar) | ± 0.25% URL per 1000 psi (69 bar) |
| | Span Error⁽²⁾ | Span Error⁽²⁾ |
| Range 2 - 3 | ± 0.1% of reading per 1000 psi (69 bar) | ± 0.1% of reading per 1000 psi (69 bar) |
| Range 0 | ± 0.15% of reading per 100 psi (6,89 bar) | ± 0.15% of reading per 100 psi (6,89 bar) |
| Range 1 | ± 0.4% of reading per 1000 psi (69 bar) | ± 0.4% of reading per 1000 psi (69 bar) |

(1) Zero error can be calibrated out.

(2) Specifications for option code P0 are 2 times those shown above.

Mounting Position Effects

| Models | Ultra, Ultra for Flow, and Classic |
|-----------------------------|---|
| 3051S_C | Zero shifts up to ±1.25 inH ₂ O (3,11 mbar), which can be calibrated out; no span effect |
| 3051S_L | With liquid level diaphragm in vertical plane, zero shift of up to 1 inH ₂ O (25,4 mmH ₂ O); with diaphragm in horizontal plane, zero shift of up to 5 inH ₂ O (127 mmH ₂ O) plus extension length on extended units; all zero shifts can be calibrated out; no span effect |
| 3051S_T and 3051S_CA | Zero shifts to 2.5 inH ₂ O (63,5 mmH ₂ O), which can be calibrated out; no span effect |

Vibration Effect

Less than ±0.1% of URL when tested per the requirements of IEC60770-1 field or pipeline with high vibration level (10-60 Hz 0.21mm displacement peak amplitude / 60-2000 Hz 3g).

Housing Style codes 1J, 1K, 1L, 2J, 2M

Less than ±0.1% of URL when tested per the requirements of IEC60770-1 field with general application or pipeline with low vibration level (10-60 Hz 0.15mm displacement peak amplitude / 60-500 Hz 2g).

Power Supply Effect

All Models:

Less than ±0.005% of calibrated span per volt

Electromagnetic Compatibility (EMC)

All Models:

Meets all relevant requirements of EN 61326 and NAMUR NE-21.⁽¹⁾

(1) NAMUR NE-21 does not apply to wireless output code X.

Transient Protection (Option T1)

All Models:

Meets IEEE C62.41.2-2002, Location Category B

6 kV crest (0.5 μs - 100 kHz)

3 kA crest (8 × 20 microseconds)

6 kV crest (1.2 × 50 microseconds)

Meets IEEE C37.90.1-2002 Surge Withstand Capability

SWC 2.5 kV crest, 1.0 MHz wave form

FUNCTIONAL SPECIFICATIONS

Range and Sensor Limits

| Range | 3051S_ Minimum Span | | 3051S_ Range and Sensor Limits | | | |
|-------|---|--|---|---|--|---|
| | Ultra and Ultra for Flow ⁽¹⁾ | Classic | Upper (URL) | Lower (LRL) | | |
| | | | | 3051S_CD ⁽²⁾ | 3051S_CG, LG ⁽³⁾⁽⁴⁾ | 3051S_LD ⁽⁴⁾ |
| 0 | 0.1 inH ₂ O (0,25 mbar) | 0.1 inH ₂ O (0,25 mbar) | 3.0 inH ₂ O (7,5 mbar) | -3.0 inH ₂ O (-7,5 mbar) | NA | NA |
| 1 | 0.5 inH ₂ O (1,24 mbar) | 0.5 inH ₂ O (1,24 mbar) | 25.0 inH ₂ O (62,3 mbar) | -25.0 inH ₂ O (-62,3 mbar) | -25.0 inH ₂ O (-62,3 mbar) | -25.0 inH ₂ O (-62,3 mbar) |
| 2 | 1.3 inH ₂ O (3,11 mbar) | 2.5 inH ₂ O (6,23 mbar) | 250.0 inH ₂ O (0,62 bar) | -250.0 inH ₂ O (-0,62 bar) | -250.0 inH ₂ O (-0,62 bar) | -250.0 inH ₂ O (-0,62 bar) |
| 3 | 5.0 inH ₂ O (12,4 mbar) | 10.0 inH ₂ O (24,9 mbar) | 1000.0 inH ₂ O (2,49 bar) | -1000.0 inH ₂ O (-2,49 bar) | -393.0 inH ₂ O (-979 mbar) | -1000.0 inH ₂ O (-2,49 bar) |
| 4 | 1.5 psi (103,4 mbar) | 3.0 psi (206,8 mbar) | 300.0 psi (20,7 bar) | -300.0 psi (-20,7 bar) | -14.2 psig (-979 mbar) | -300.0 psi (-20,7 bar) |
| 5 | 10.0 psi (689,5 mbar) | 20.0 psi (1,38 bar) | 2000.0 psi (137,9 bar) | -2000.0 psi (-137,9 bar) | -14.2 psig (-979 mbar) | -2000.0 psi (-137,9 bar) |

(1) Ultra for Flow available on 3051S_CD Ranges 2-3 only.

(2) Lower (LRL) is 0 inH₂O (0 mbar) for Ultra for Flow.

(3) Assumes atmospheric pressure of 14.7 psig.

(4) When specifying a 3051S_L Ultra, use Classic minimum span.

| Range | 3051S_T Range and Sensor Limits | | | | |
|-------|---------------------------------|----------------------|-----------------------|--------------------|-----------------------------------|
| | Minimum Span | | Upper (URL) | Lower (LRL) (Abs.) | Lower ⁽¹⁾ (LRL) (Gage) |
| | Ultra | Classic | | | |
| 1 | 0.3 psi (20,7 mbar) | 0.3 psi (20,7 mbar) | 30 psi (2,07 bar) | 0 psia (0 bar) | -14.7 psig (-1,01 bar) |
| 2 | 0.75 psi (51,7 mbar) | 1.5 psi (0,103 bar) | 150 psi (10,34 bar) | 0 psia (0 bar) | -14.7 psig (-1,01 bar) |
| 3 | 4 psi (275,8 mbar) | 8 psi (0,55 bar) | 800 psi (55,16 bar) | 0 psia (0 bar) | -14.7 psig (-1,01 bar) |
| 4 | 20 psi (1,38 bar) | 40 psi (2,76 bar) | 4000 psi (275,8 bar) | 0 psia (0 bar) | -14.7 psig (-1,01 bar) |
| 5 | 1000 psi (68,9 bar) | 2000 psi (137,9 bar) | 10000 psi (689,5 bar) | 0 psia (0 bar) | -14.7 psig (-1,01 bar) |

(1) Assumes atmospheric pressure of 14.7 psig.

| 3051S_CA, LA ⁽¹⁾ Range and Sensor Limits | | | | | |
|---|------------------------|------------------------|-----------------------|----------------|--|
| Range | Minimum Span | | Upper (URL) | Lower (LRL) | |
| | Ultra | Classic | | | |
| 0 ⁽²⁾ | 0.167 psia (11,5 mbar) | 0.167 psia (11,5 mbar) | 5 psia (0,34 bar) | 0 psia (0 bar) | |
| 1 | 0.3 psia (20,7 mbar) | 0.3 psia (20,7 mbar) | 30 psia (2,07 bar) | 0 psia (0 bar) | |
| 2 | 0.75 psia (51,7 mbar) | 1.5 psia (0,103 bar) | 150 psia (10,34 bar) | 0 psia (0 bar) | |
| 3 | 4 psia (275,8 mbar) | 8 psia (0,55 bar) | 800 psia (55,16 bar) | 0 psia (0 bar) | |
| 4 | 20 psia (1,38 bar) | 40 psia (2,76 bar) | 4000 psia (275,8 bar) | 0 psia (0 bar) | |

(1) When specifying a 3051S_L Ultra, use Classic minimum span.

(2) Range 0 is not available for 3051S_LA.

Service

Liquid, gas, and vapor applications

4–20 mA/HART

Zero and Span Adjustment

Zero and span values can be set anywhere within the range. Span must be greater than or equal to the minimum span.

Output

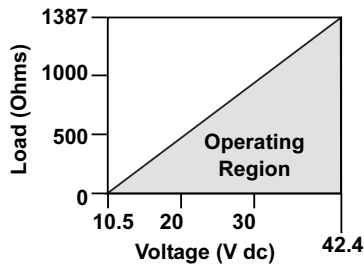
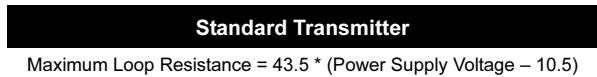
Two-wire 4–20 mA is user-selectable for linear or square root output. Digital process variable superimposed on 4–20 mA signal, available to any host that conforms to the HART protocol.

Power Supply

External power supply required.
3051S transmitter (4–20 mA): 10.5 to 42.4 V dc with no load
3051S HART Diagnostics transmitter: 12 to 42.4 Vdc with no load

Load Limitations

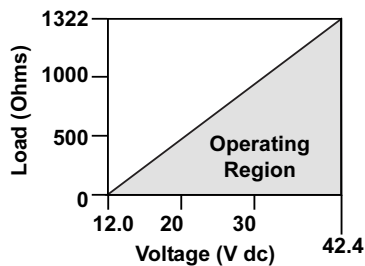
Maximum loop resistance is determined by the voltage level of the external power supply, as described by:



The HART communicator requires a minimum loop resistance of 250Ω for communication.

3051S HART Diagnostics Transmitter (option code DA1)

Maximum Loop Resistance = $43.5 * (\text{Power Supply Voltage} - 12.0)$



The HART communicator requires a minimum loop resistance of 250Ω for communication.

ASP™ Diagnostics Suite for HART (Option Code DA1)

The 3051S provides Abnormal Situation Prevention indication for a breakthrough in diagnostic capability. The New 3051S ASP™ Diagnostics Suite for HART includes Statistical Process Monitoring (SPM), variable logging with time stamp and advanced process alerts. The enhanced EDDL graphic display provides an intuitive and user-friendly interface to better visualize these diagnostics.

The integral SPM technology calculates the mean and standard deviation of the process variable 22 times per second and makes them available to the user. The 3051S uses these values and highly flexible configuration options for customization to detect many user-defined or application specific abnormal situations (e.g. detecting plugged impulse lines and fluid composition change). Variable logging with time stamp and advanced process alerts capture valuable process and sensor data to enable quick troubleshooting of application and installation issues.

FOUNDATION fieldbus

Power Supply

External power supply required; transmitters operate on 9.0 to 32.0 V dc transmitter terminal voltage.

Current Draw

17.5 mA for all configurations (including LCD display option)

FOUNDATION fieldbus Parameters

| | |
|--|-----------|
| Schedule Entries | 14 (max.) |
| Links | 30 (max.) |
| Virtual Communications Relationships (VCR) | 20 (max.) |

Standard Function Blocks

Resource Block

- Contains hardware, electronics, and diagnostic information.

Transducer Block

- Contains actual sensor measurement data including the sensor diagnostics and the ability to trim the pressure sensor or recall factory defaults.

LCD Block

- Configures the local display.

2 Analog Input Blocks

- Processes the measurements for input into other function blocks. The output value is in engineering or custom units and contains a status indicating measurement quality.

PID Block with Auto-tune

- Contains all logic to perform PID control in the field including cascade and feedforward. Auto-tune capability allows for superior tuning for optimized control performance.

Backup Link Active Scheduler (LAS)

The transmitter can function as a Link Active Scheduler if the current link master device fails or is removed from the segment.

Software Upgrade in the Field

Software for the 3051S with FOUNDATION fieldbus is easy to upgrade in the field using the FOUNDATION fieldbus Common Device Software Download procedure.

PlantWeb Alerts

Enable the full power of the PlantWeb digital architecture by diagnosing instrumentation issues, communicating advisory, maintenance, and failure details, and recommending a solution.

Advanced Control Function Block Suite (Option Code A01)

Input Selector Block

- Selects between inputs and generates an output using specific selection strategies such as minimum, maximum, midpoint, average, or first “good.”

Arithmetic Block

- Provides pre-defined application-based equations including flow with partial density compensation, electronic remote seals, hydrostatic tank gauging, ratio control and others.

Signal Characterizer Block

- Characterizes or approximates any function that defines an input/output relationship by configuring up to twenty X, Y coordinates. The block interpolates an output value for a given input value using the curve defined by the configured coordinates.

Integrator Block

- Compares the integrated or accumulated value from one or two variables to pre-trip and trip limits and generates discrete output signals when the limits are reached. This block is useful for calculating total flow, total mass, or volume over time.

Output Splitter Block

- Splits the output of one PID or other control block so that the PID will control two valves or other actuators.

Control Selector Block

- Selects one of up to three inputs (highest, middle, or lowest) that are normally connected to the outputs of PID or other control function blocks.

| Block | Execution Time |
|----------------------|-----------------|
| Resource | - |
| Transducer | - |
| LCD Block | - |
| Analog Input 1, 2 | 20 milliseconds |
| PID with Auto-tune | 35 milliseconds |
| Input Selector | 20 milliseconds |
| Arithmetic | 20 milliseconds |
| Signal Characterizer | 20 milliseconds |
| Integrator | 20 milliseconds |
| Output Splitter | 20 milliseconds |
| Control Selector | 20 milliseconds |

Fully Compensated Mass Flow Block (Option Code H01)

Calculates fully compensated mass flow based on differential pressure with external process pressure and temperature measurements over the fieldbus segment. Configuration for the mass flow calculation is easily accomplished using the Rosemount Engineering Assistant.

ASP™ Diagnostics Suite for FOUNDATION fieldbus (Option Code D01)

The 3051S ASP™ Diagnostics Suite for FOUNDATION fieldbus provides Abnormal Situation Prevention indication and enhanced EDDL graphic displays for easy visual analysis.

The integral Statistical Process Monitoring (SPM) technology calculates the mean and standard deviation of the process variable 22 times per second and makes them available to the user. The 3051S uses these values and highly flexible configuration options for customization to detect many user-defined or application specific abnormal situations (e.g. detecting plugged impulse lines and fluid composition change).

Wireless Self-Organizing Networks

Output

Wireless enabled HART.

Transmit Rate

User selectable, 15 sec. to 60 min.

Power Module

Replaceable, Intrinsically Safe Lithium-thionyl chloride Power Module with polybutadine terephthalate (PBT) enclosure.

Five-year life at one minute transmit rate: ten-year life at ten minute transmit rate.⁽¹⁾

(1) Reference conditions are 70 °F (21 °C), and routing data for three additional network devices.

NOTE

Continuous exposure to ambient temperature limits, -40 °F (-40 °C) or 185 °F (85 °C), may reduce specified life by less than 20 percent.

Overpressure Limits

Transmitters withstand the following limits without damage:

3051S_CD, CG

Range 0: 750 psi (51,7 bar)

Range 1: 2000 psig (137,9 bar)

Ranges 2–5: 3626 psig (250,0 bar)

4500 psig (310,3 bar) for option code P9

6092 psig (420 bar) for option code P0 (3051S2CD only)

3051S_CA

Range 0: 60 psia (4,13 bar)

Range 1: 750 psia (51,7 bar)

Range 2: 1500 psia (103,4 bar)

Range 3: 1600 psia (110,3 bar)

Range 4: 6000 psia (413,7 bar)

3051S_TG, TA

Range 1: 750 psi (51,7 bar)

Range 2: 1500 psi (103,4 bar)

Range 3: 1600 psi (110,3 bar)

Range 4: 6000 psi (413,7 bar)

Range 5: 15000 psi (1034,2 bar)

3051S_LD, LG, LA

Limit is flange rating or sensor rating, whichever is lower (see the table below).

| Standard | Type | CS Rating | SST Rating |
|--|-----------|-----------|------------|
| ANSI/ASME | Class 150 | 285 psig | 275 psig |
| ANSI/ASME | Class 300 | 740 psig | 720 psig |
| ANSI/ASME | Class 600 | 1480 psig | 1440 psig |
| <i>At 100 °F (38 °C), the rating decreases with increasing temperature, per ANSI/ASME B16.5.</i> | | | |
| DIN | PN 10-40 | 40 bar | 40 bar |
| DIN | PN 10/16 | 16 bar | 16 bar |
| DIN | PN 25/40 | 40 bar | 40 bar |
| <i>At 248 °F (120 °C), the rating decreases with increasing temperature, per DIN 2401.</i> | | | |

Static Pressure Limit

3051S_CD Only

Operates within specifications between static line pressures of 0.5 psia and 3626 psig;
4500 psig (310,3 bar) for option code P9
6092 psig (420 bar) for option code P0 (3051S2CD only)
Range 0: 0.5 psia to 750 psig (0,03 to 51,71 bar)
Range 1: 0.5 psia to 2000 psig (0,03 to 137,90 bar)

Burst Pressure Limits

Coplanar or traditional process flange

10000 psig (689,5 bar).

3051S_T:

Ranges 1-4: 11000 psi (758,4 bar)
Range 5: 26000 psig (1792,64 bar)

Temperature Limits

Ambient

-40 to 185 °F (-40 to 85 °C)
With LCD display⁽¹⁾: -40 to 175 °F (-40 to 80 °C)
With option code P0: -20 to 185 °F (-29 to 85 °C)

⁽¹⁾ LCD display may not be readable and LCD updates will be slower at temperatures below -4 °F (-20 °C).

Storage

-50 to 230 °F (-46 to 110 °C)
With LCD display: -40 to 185 °F (-40 to 85 °C)
With wireless output (code X): -40 to 185 °F (-40 to 85 °C)

Process Temperature Limits

At atmospheric pressures and above.

| 3051S_C Coplanar | |
|--|---|
| Silicone Fill Sensor ⁽¹⁾⁽²⁾ | |
| with Coplanar Flange | -40 to 250 °F (-40 to 121 °C) ⁽³⁾ |
| with Traditional Flange | -40 to 300 °F (-40 to 149 °C) ⁽³⁾⁽⁴⁾ |
| with Level Flange | -40 to 300 °F (-40 to 149 °C) ⁽³⁾ |
| with 305 Integral Manifold | -40 to 300 °F (-40 to 149 °C) ⁽³⁾⁽⁴⁾ |
| Inert Fill Sensor ⁽¹⁾⁽⁵⁾ | -40 to 185 °F (-40 to 85 °C) ⁽⁶⁾⁽⁷⁾ |

| 3051S_T In-Line (Process Fill Fluid) | |
|--------------------------------------|--|
| Silicone Fill Sensor ⁽¹⁾ | -40 to 250 °F (-40 to 121 °C) ⁽³⁾ |
| Inert Fill Sensor ⁽¹⁾ | -22 to 250 °F (-30 to 121 °C) ⁽³⁾ |

| 3051S_L Low-Side Temperature Limits | |
|-------------------------------------|--|
| Silicone Fill Sensor ⁽¹⁾ | -40 to 250 °F (-40 to 121 °C) ⁽³⁾ |
| Inert Fill Sensor ⁽¹⁾ | 0 to 185 °F (-18 to 85 °C) ⁽³⁾ |

| 3051S_L High-Side Temperature Limits (Process Fill Fluid) | |
|---|--------------------------------|
| Syltherm [®] XLT | -102 to 302 °F (-75 to 150 °C) |
| D. C. [®] Silicone 704 ⁽⁸⁾ | 32 to 500 °F (0 to 260 °C) |
| D. C. Silicone 200 | -49 to 401 °F (-45 to 205 °C) |
| Inert (Halocarbon) | -49 to 320 °F (-45 to 160 °C) |
| Glycerin and Water | 5 to 203 °F (-15 to 95 °C) |
| Neobee M-20 [®] | 5 to 437 °F (-15 to 225 °C) |
| Propylene Glycol and Water | 5 to 203 °F (-15 to 95 °C) |

⁽¹⁾ Process temperatures above 185 °F (85 °C) require derating the ambient limits by a 1.5:1 ratio. For example, for process temperature of 195 °F (91 °C), new ambient temperature limit is equal to 170 °F (77 °C). This can be determined as follows:
 $(195\text{ °F} - 185\text{ °F}) \times 1.5 = 15\text{ °F}$
 $185\text{ °F} - 15\text{ °F} = 170\text{ °F}$

⁽²⁾ 212 °F (100 °C) is the upper process temperature limit for 3051S_CD0.

⁽³⁾ 220 °F (104 °C) limit in vacuum service; 130 °F (54 °C) for pressures below 0.5 psia.

⁽⁴⁾ -20 °F (-29 °C) is the lower process temperature limit with option code P0.

⁽⁵⁾ 32 °F (0 °C) is the lower process temperature limit for 3051S_CD0.

⁽⁶⁾ 160 °F (71 °C) limit in vacuum service.

⁽⁷⁾ Not available for 3051S_CA.

⁽⁸⁾ Upper limit of 600 °F (315 °C) is available with 1199 seal assemblies mounted away from the transmitter with the use of capillaries and up to 500 °F (260 °C) with direct mount extension.

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Rosemount 3051S

Humidity Limits

0–100% relative humidity

Turn-On Time

Performance within specifications less than 2 seconds (typical) after power is applied to the transmitter.

Volumetric Displacement

Less than 0.005 in³ (0,08 cm³)

Damping

Analog output response to a step 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

HART 4-20mA (output option code A)

If self-diagnostics detect a gross transmitter failure, the analog signal will be driven offscale to alert the user. Rosemount standard (default), NAMUR, and custom alarm levels are available (see Table 1 below).

High or low alarm signal is software-selectable or hardware-selectable via the optional switch (option D1).

TABLE 1. Alarm Configuration

| | High Alarm | Low Alarm |
|--------------------------------|----------------|--------------|
| Default | ≥ 21.75 mA | ≤ 3.75 mA |
| NAMUR compliant ⁽¹⁾ | ≥ 22.5 mA | ≤ 3.6 mA |
| Custom levels ⁽²⁾ | 20.2 - 23.0 mA | 3.6 - 3.8 mA |

(1) Analog output levels are compliant with NAMUR recommendation NE 43, see option codes C4 or C5.

(2) Low alarm must be 0.1 mA less than low saturation and high alarm must be 0.1 mA greater than high saturation.

3051S Safety-Certified Transmitter Failure Values

Safety accuracy: 2.0%⁽¹⁾

Safety response time: 1.5 seconds

(1) A 2% variation of the transmitter mA output is allowed before a safety trip. Trip values in the DCS or safety logic solver should be derated by 2%.

PHYSICAL SPECIFICATIONS

Electrical Connections

¹/₂-14 NPT, G¹/₂, and M20 × 1.5 (CM20) conduit. HART interface connections fixed to terminal block for Output code A.

Process Connections

3051S_C

¹/₄-18 NPT on 2¹/₈-in. centers

¹/₂-14 NPT and RC ¹/₂ on 2-in. (50.8mm), 2¹/₈-in. (54.0 mm), or 2¹/₄-in. (57.2mm) centers (process adapters)

3051S_T

¹/₂-14 NPT female,

Non-Threaded instrument flange (available in SST for Range 1–4 transmitters only),

G¹/₂ A DIN 16288 Male (available in SST for Range 1–4 transmitters only), or

Autoclave type F-250-C (Pressure relieved ⁹/₁₆-18 gland thread; ¹/₄ OD high pressure tube 60° cone; available in SST for Range 5 transmitters only).

3051S_L

High pressure side: 2-in. (50.8mm), 3-in. (72 mm), or 4-in.

(102mm), ASME B 16.5 (ANSI) Class 150, 300 or 600 flange; 50, 80 or 100 mm, DIN 2501 PN 40 or 10/16 flange

Low pressure side: ¹/₄-18 NPT on flange, ¹/₂-14 NPT on process adapter

Process-Wetted Parts

Process Isolating Diaphragms

| Isolating Diaphragm Material | 3051S_ | | | | |
|------------------------------|--------|---|----|---|-----------|
| | CD, CG | T | CA | L | See Below |
| 316L SST | • | • | • | | |
| Hastelloy C-276 [®] | • | • | • | | |
| Monel 400 | • | | • | | |
| Tantalum | • | | | | |
| Gold-plated Monel 400 | • | | • | | |
| Gold-plated 316L SST | • | | • | | |

Drain/Vent Valves

316 SST, Hastelloy C-276, or Monel 400 material (Monel is not available with 3051S_L).

Process Flanges and Adapters

Plated carbon steel,

CF-8M (Cast version of 316 SST, material per ASTM-A743),

CW-12MW (Cast version of Hastelloy C-276, material per ASTM-A494),

M-30C (Cast version of Monel 400, material per ASTM-A494).

Wetted O-rings

Glass-filled PTFE

(Graphite-filled PTFE with Isolating Diaphragm code 6)

Rosemount 3051S

3051S_L Process Wetted Parts

Flanged Process Connection (Transmitter High Side)

Process Diaphragms, Including Process Gasket Surface

316L SST, *Hastelloy C-276*, or Tantalum

Extension

CF-3M (Cast version of 316L SST, material per ASTM-A743),
or CW-12MW (Cast version of *Hastelloy C*, material ASTM
A494); fits schedule 40 and 80 pipe

Mounting Flange

Zinc-cobalt plated CS or 316 SST

Reference Process Connection (Transmitter Low Side)

Isolating Diaphragms

316L SST or *Hastelloy C-276*

Reference Flange and Adapter

CF-3M (Cast version of 316L SST, material per ASTM-A743)

Non-Wetted Parts

Electronics Housing

Low-copper aluminum or CF-3M (Cast version of 316L SST)
NEMA 4X, IP 66,
IP 68 (not available with wireless output (code X))

Coplanar Sensor Module Housing

CF-3M (Cast version of 316L SST)

Bolts

Plated carbon steel per ASTM A449, Type 1
Austenitic 316 SST
ASTM A 453, Class A, Grade 660
ASTM A 193, Grade B7M
ASTM A 193, Class 2, Grade B8M
Monel

Sensor Module Fill Fluid

Silicone or inert halocarbon (Inert is not available with
3051S_CA). In-Line series uses Fluorinert[®] FC-43.

Process Fill Fluid (Liquid Level Only)

3051S_L: *Syltherm XLT*, *D.C. Silicone 704*,
D.C. Silicone 200, inert, glycerin and water,
Neobee M-20, propylene glycol and water.

Paint

Polyurethane

Cover O-rings

Buna-N

Wireless Antenna

PBT/ polycarbonate (PC) integrated omnidirectional antenna

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Rosemount 3051S

Shipping Weights for 3051S

TABLE 2. SuperModule Platform weights

| SuperModule Platform | Weight in lb. (kg) |
|-------------------------|--------------------|
| Coplanar ⁽¹⁾ | 3.1 (1,4) |
| In-Line | 1.4 (0,6) |

(1) Flange and bolts not included.

TABLE 3. Transmitter weights without options

| Complete Transmitter ⁽¹⁾ | Weight in lb. (kg) |
|---|--------------------|
| 3051S_C (SST Flange) with junction box housing | 6.3 (2,8) |
| 3051S_T with junction box housing | 3.2 (1,4) |
| 3051S_C (SST Flange) with PlantWeb housing | 6.7 (3,1) |
| 3051S_T with PlantWeb housing | 3.7 (1,7) |
| 3051S_C (SST Flange) with wireless PlantWeb housing | 7.3 (3,3) |
| 3051S_T with wireless PlantWeb housing | 4.2 (1,9) |

(1) Fully functional transmitter with module, housing, terminal block, and covers. Does not include LCD display.

TABLE 4. 3051S_L weights without SuperModule Platform, housing, or transmitter options

| Flange | Flush lb. (kg) | 2-in. Ext. lb (kg) | 4-in. Ext. lb (kg) | 6-in. Ext. lb (kg) |
|-------------------|----------------|--------------------|--------------------|--------------------|
| 2-in., 150 | 9.5 (4,3) | — | — | — |
| 3-in., 150 | 15.7 (7,1) | 16.4 (7,4) | 17.6 (8,0) | 18.9 (8,6) |
| 4-in., 150 | 21.2 (9,6) | 20.9 (9,5) | 22.1 (10,0) | 23.4 (10,6) |
| 2-in., 300 | 11.3 (5,1) | — | — | — |
| 3-in., 300 | 19.6 (8,9) | 20.3 (9,2) | 21.5 (9,8) | 22.8 (10,3) |
| 4-in., 300 | 30.4 (13,8) | 30.3 (13,7) | 31.5 (14,3) | 32.8 (14,9) |
| 2-in., 600 | 12.8 (5,8) | — | — | — |
| 3-in., 600 | 22.1 (10,0) | 22.8 (10,3) | 24.0 (10,9) | 25.3 (11,5) |
| DN 50 / PN 40 | 11.3 (5,1) | — | — | — |
| DN 80 / PN 40 | 16.0 (7,3) | 16.7 (7,6) | 17.9 (8,1) | 19.2 (8,7) |
| DN 100 / PN 10/16 | 11.2 (5,1) | 11.9 (5,4) | 13.1 (5,9) | 14.4 (6,5) |
| DN 100 / PN 40 | 12.6 (5,7) | 13.3 (6,0) | 14.5 (6,6) | 15.8 (7,1) |

TABLE 5. Transmitter option weights

| Option Code | Option | Add lb (kg) |
|-------------|---|------------------------|
| 1J, 1K, 1L | SST PlantWeb housing | 3.5 (1,6) |
| 2J | SST Junction Box housing | 3.4 (1,5) |
| 7J | SST Quick Connect | 0.4 (0,2) |
| 2A, 2B, 2C | Aluminum Junction Box housing | 1.1 (0,5) |
| 1A, 1B, 1C | Aluminum PlantWeb housing | 1.1 (0,5) |
| M5 | LCD display for aluminum PlantWeb housing ⁽¹⁾ , LCD display for SST PlantWeb housing ⁽¹⁾ | 0.8 (0,4) 1.6 (0,7) |
| B4 | SST mounting bracket for Coplanar flange | 1.2 (0,5) |
| B1, B2, B3 | Mounting Bracket for Traditional flange | 1.7 (0,8) |
| B7, B8, B9 | Mounting Bracket for Traditional flange with SST bolts | 1.7 (0,8) |
| BA, BC | SST Bracket for Traditional flange | 1.6 (0,7) |
| B4 | SST Mounting Bracket for In-Line | 1.3 (0,6) |
| F12, F22 | SST Traditional flange with SST Drain Vents ⁽²⁾ | 3.2 (1,5) |
| F13, F23 | Hastelloy C-276 Traditional flange with Hastelloy C-276 Drain Vents ⁽²⁾ | 3.6 (1,6) |
| E12, E22 | SST Coplanar flange with SST Drain Vents ⁽²⁾ | 1.9 (0,9) |
| F14, F24 | Monel Traditional flange with Monel Drain Vents ⁽²⁾ | 3.6 (1,6) |
| F15, F25 | SST Traditional Flange with Hastelloy C-276 Drain Vents ⁽²⁾ | 3.2 (1,5) |
| G21 | Level flange—3 in., 150 | 12.6 (5,7) |
| G22 | Level flange—3 in., 300 | 15.9 (7,2) |
| G11 | Level flange—2 in., 150 | 6.8 (3,1) |
| G12 | Level flange—2 in., 300 | 8.2 (3,7) |
| G31 | DIN Level flange, SST, DN 50, PN 40 | 7.8 (3,5) |
| G41 | DIN Level flange, SST, DN 80, PN 40 | 13.0 (5,9) |

(1) Includes LCD display and display cover.

(2) Includes mounting bolts.

| Item | Weight In lb. (kg) |
|-------------------------|--------------------|
| Aluminum standard cover | 0.4 (0,2) |
| SST standard cover | 1.3 (0,6) |
| Aluminum display cover | 0.7 (0,3) |
| SST display cover | 1.5 (0,7) |
| Wireless extended cover | 0.7 (0,3) |

| Item | Weight In lb. (kg) |
|-----------------------------|--------------------|
| LCD display ⁽¹⁾ | 0.1 (0,04) |
| Junction Box terminal block | 0.2 (0,1) |
| PlantWeb terminal block | 0.2 (0,1) |
| Power Module | 0.5 (0,2) |

(1) Display only.

Product Certifications

Approved Manufacturing Locations

Rosemount Inc. — Chanhassen, Minnesota USA
Emerson Process Management GmbH & Co. — Wessling, Germany
Emerson Process Management Asia Pacific Private Limited — Singapore
Beijing Rosemount Far East Instrument Co., LTD — Beijing, China

Ordinary Location Certification for FM

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).

European Directive Information

The EC declaration of conformity for all applicable European directives for this product can be found at www.rosemount.com. A hard copy may be obtained by contacting an Emerson Process Management representative.

ATEX Directive (94/9/EC)

Emerson Process Management complies with the ATEX Directive.

European Pressure Equipment Directive (PED) (97/23/EC)

Models 3051S_CA4; 3051S_CD2, 3, 4, 5; (also with P9 option)
Pressure Transmitters — QS Certificate of Assessment - EC No. PED-H-100, Module H Conformity Assessment
All other Model 3051S Pressure Transmitters — Sound Engineering Practice
Transmitter Attachments: Diaphragm Seal - Process Flange - Manifold — Sound Engineering Practice
Primary Elements, Flowmeter
— See appropriate Primary Element QIG

Electro Magnetic Compatibility (EMC) (2004/108/EC)

All Models: EN 50081-1: 1992; EN 50082-2:1995; EN 61326-1:1997 + A1, A2, and A3 – Industrial

Radio and Telecommunications Terminal Equipment Directive (R&TTE)(1999/5/EC)

Emerson Process Management complies with the R&TTE Directive.

HART & FOUNDATION Fieldbus Hazardous Locations Certifications

North American Certifications

FM Approvals

E5 Explosion-proof for Class I, Division 1, Groups B, C, and D; Dust Ignition-proof for Class II and Class III, Division 1, Groups E, F, and G; hazardous locations; enclosure Type 4X, conduit seal not required when installed according to Rosemount drawing 03151-1003.

15/IE Intrinsically Safe for use in Class I, Division 1, Groups A, B, C, and D; Class II, Division 1, Groups E, F, and G; Class III, Division 1; Class I, Zone 0 AEx ia IIC when connected in accordance with Rosemount drawing 03151-1006; Non-Incendive for Class I, Division 2, Groups A, B, C, and D Enclosure Type 4X
For entity parameters see control drawing 03151-1006.

Canadian Standards Association (CSA)

E6 Explosion-proof for Class I, Division 1, Groups B, C, and D; Dust Ignition-proof for Class II and Class III, Division 1, Groups E, F, and G; suitable for Class I, Division 2, Groups A, B, C, and D, when installed per Rosemount drawing 03151-1013, CSA Enclosure Type 4X; conduit seal not required.

16/IF Intrinsically Safe for Class I, Division 1, Groups A, B, C, and D when connected in accordance with Rosemount drawings 03151-1016;
For entity parameters see control drawing 03151-1016.

European Certifications

11/IA ATEX Intrinsic Safety


Certificate No.: BAS01ATEX1303X  II 1G
EEx ia IIC T4 (T_a = -60 °C to 70 °C) -HART/Remote Display/Quick Connect/HART Diagnostics
EEx ia IIC T4 (T_a = -60 °C to 70 °C) -FOUNDATION fieldbus
EEx ia IIC T4 (T_a = -60 °C to 40 °C) -FISCO
IP66
CE 1180

TABLE 6. Input Parameters

| Loop / Power | Groups |
|--------------------------|---|
| U _i = 30 V | HART / FOUNDATION fieldbus/ Remote Display / Quick Connect / HART Diagnostics |
| U _i = 17.5 V | FISCO |
| I _i = 300 mA | HART / FOUNDATION fieldbus/ Remote Display / Quick Connect / HART Diagnostics |
| I _i = 380 mA | FISCO |
| P _i = 1.0 W | HART / Remote Display / Quick Connect / HART Diagnostics |
| P _i = 1.3 W | FOUNDATION fieldbus |
| P _i = 5.32 W | FISCO |
| C _i = 30 nF | SuperModule Platform / Quick Connect |
| C _i = 11.4 nF | HART / HART Diagnostics |
| C _i = 0 | FOUNDATION fieldbus / Remote Display / FISCO |
| L _i = 0 | HART / FOUNDATION fieldbus/ FISCO / Quick Connect / HART Diagnostics |
| L _i = 60 µH | Remote Display |


Special conditions for safe use (x)

- The apparatus, excluding the Types 3051 S-T and 3051 S-C (In-line and Coplanar SuperModule Platforms respectively), is not capable of withstanding the 500V test as defined in Clause 6.4.12 of EN 50020. This must be considered during installation.
- The terminal pins of the Types 3051 S-T and 3051 S-C must be protected to IP20 minimum.

Product Data Sheet


00813-0100-4801, Rev KA
Catalog 2008-2009

Rosemount 3051S

N1 ATEX Type n
Certificate No.: BAS01ATEX3304X  II 3 G
EEx nL IIC T4 ($T_a = -40\text{ °C TO } 70\text{ °C}$)
 $U_i = 45\text{ Vdc max}$
IP66
CE


Special conditions for safe use (x)

The apparatus is not capable of withstanding the 500V insulation test required by Clause 9.1 of EN 50021: 1999. This must be taken into account when installing the apparatus.

ND ATEX Dust
Certificate No.: BAS01ATEX1374X  II 1 D
 $T_{105\text{ °C}} (-20\text{ °C} \leq T_{\text{amb}} \leq 85\text{ °C})$
 $V_{\text{max}} = 42.4\text{ volts max}$
 $A = 22\text{ mA}$
IP66
CE 1180

Special conditions for safe use (x)

1. The user must ensure that the maximum rated voltage and current (42.4 volts, 22 milliampere, DC) are not exceeded. All connections to other apparatus or associated apparatus shall have control over this voltage and current equivalent to a category "ib" circuit according to EN 50020.
2. Cable entries must be used which maintain the ingress protection of the enclosure to at least IP66.
3. Unused cable entries must be filled with suitable blanking plugs which maintain the ingress protection of the enclosure to at least IP66.
4. Cable entries and blanking plugs must be suitable for the ambient range of the apparatus and capable of withstanding a 7J impact test.
5. The 3051S must be securely screwed in place to maintain the ingress protection of the enclosure. (The 3051S SuperModule must be properly assembled to the 3051S housing to maintain ingress protection.)

E1 ATEX Flameproof
Certificate No.: KEMA00ATEX2143X  II 1/2 G
EEx d IIC T6 ($-50\text{ °C} \leq T_{\text{amb}} \leq 65\text{ °C}$)
EEx d IIC T5 ($-50\text{ °C} \leq T_{\text{amb}} \leq 80\text{ °C}$)
 $V_{\text{max}} = 42.4\text{V}$
CE 1180

Special conditions for safe use (x)

This device contains a thin wall diaphragm. Installation, maintenance and use shall take into account the environmental conditions to which the diaphragm will be subjected. The manufacturer's instructions for installation and maintenance shall be followed in detail to assure safety during its expected lifetime. The Model 3051S pressure transmitter must include a Series 300S housing integrally mounted to a Series Model 3051S Sensor module as per Rosemount drawing 03151-1023.

Japanese Certifications

E4 TIIS Flameproof
Ex d IIC T6

| Certificate | Description |
|-------------|--|
| TC15682 | Coplanar with Junction Box Housing |
| TC15683 | Coplanar with PlantWeb Housing |
| TC15684 | Coplanar with PlantWeb Housing and LCD Display |
| TC15685 | In-Line SST with Junction Box Housing |
| TC15686 | In-Line <i>Hastelloy</i> with Junction Box Housing |
| TC15687 | In-Line SST with PlantWeb Housing |
| TC15688 | In-Line <i>Hastelloy</i> with PlantWeb Housing |
| TC15689 | In-Line SST with PlantWeb Housing and LCD Display |
| TC15690 | In-Line <i>Hastelloy</i> with PlantWeb Housing and LCD Display |
| TC17102 | Remote Display |

Australian Certifications

E7 SAA Flameproof and Dust Ignition-proof
Certification No.: AUS Ex 3798X
Ex d IIC T6 ($T_a = 60\text{ °C}$) IP66
DIP A21 TA T6 ($T_a = 60\text{ °C}$) IP66

Special conditions for safe use (x)

1. It is a condition of safe use that each housing shall be connected to external circuits via suitable conduit or Standards Australia certified cable glands. Where only one entry is used for connection to external circuits, the unused entry shall be closed by means of the blanking plug supplied by the equipment manufacturer or by a suitable Standards Australia certified blanking plug.
2. It is a condition of safe use that a dielectric strength test shall be applied whenever the terminal block is changed or replaced in either the dual compartment or single compartment housings. The breakdown current shall be less than 5 mA, when 500 V, 47 to 62 Hz, is applied for one minute. Note: if tested with an optional T1 transient protector terminal block fitted, the protection will operate and hence there will be no current indicated.
3. It is a condition of safe use that each transmitter module shall be used with a Model 300S housing, in order to comply with flameproof requirements.
4. It is a condition of safe use that each model 300S housing fitted with a transmitter module shall be marked with the same certification marking code information. Should the housing be replaced after initial supply to another model 300S housing, the replacement housing shall have the same certification marking code information as the housing it replaces.

IECEX Certifications

I7/IG IECEX Intrinsic Safety

Certificate No.: IECEXBAS04.0017X

Ex ia IIC T4 ($T_a = -60\text{ °C}$ to 70 °C) -HART/Remote

Display/Quick Connect/HART Diagnostics

Ex ia IIC T4 ($T_a = -60\text{ °C}$ to 70 °C) -FOUNDATION fieldbus

Ex ia IIC T4 ($T_a = -60\text{ °C}$ to 40 °C) -FISCO

IP66

TABLE 7. Input Parameters

| Loop / Power | Groups |
|-------------------------------|---|
| $U_i = 30\text{ V}$ | HART / FOUNDATION fieldbus/ Remote Display / Quick Connect / HART Diagnostics |
| $U_i = 17.5\text{ V}$ | FISCO |
| $I_i = 300\text{ mA}$ | HART / FOUNDATION fieldbus/ Remote Display / Quick Connect / HART Diagnostics |
| $I_i = 380\text{ mA}$ | FISCO |
| $P_i = 1.0\text{ W}$ | HART / Remote Display / Quick Connect / HART Diagnostics |
| $P_i = 1.3\text{ W}$ | FOUNDATION fieldbus |
| $P_i = 5.32\text{ W}$ | FISCO |
| $C_i = 30\text{ nF}$ | SuperModule Platform / Quick Connect |
| $C_i = 11.4\text{ nF}$ | HART / HART Diagnostics |
| $C_i = 0$ | FOUNDATION fieldbus / Remote Display / FISCO / Quick Connect / HART Diagnostics |
| $L_i = 0$ | HART / FOUNDATION fieldbus / FISCO / Quick Connect / HART Diagnostics |
| $L_i = 60\text{ }\mu\text{H}$ | Remote Display |

Special conditions for safe use (x)

1. The Models 3051S HART 4-20mA, 3051S fieldbus, 3051S Profibus and 3051S FISCO are not capable of withstanding the 500V test as defined in clause 6.4.12 of IEC 60079-11. This must be taken into account during installation.
2. The terminal pins of the Types 3051S-T and 3051S-C must be protected to IP20 minimum.

N7 IECEX Type n

Certificate No.: IECEXBAS04.0018X

Ex nC IIC T4 ($T_a = -40\text{ °C}$ to 70 °C)

$U_i = 45\text{ Vdc MAX}$

IP66

Special conditions for safe use (x)

The apparatus is not capable of withstanding the 500 V insulation test required by Clause 8 of IEC 79-15: 1987.

Combinations of Certifications

Stainless steel certification tag is provided when optional approval is specified. Once a device labeled with multiple approval types is installed, it should not be reinstalled using any other approval types. Permanently mark the approval label to distinguish it from unused approval types.

K1 Combination of E1, I1, N1, and ND

K5 Combination of E5 and I5

K6 Combination of E6 and I6

K7 Combination of E7, I7, and N7

KA Combination of E1, I1, E6, and I6

KB Combination of E5, I5, I6 and E6

KC Combination of E5, E1, I5 and I1

KD Combination of E5, I5, E6, I6, E1, and I1

WIRELESS CERTIFICATIONS

Telecommunication Compliance

All wireless devices require certification to ensure that they adhere to regulations regarding the use of the RF spectrum. Nearly every country requires this type of product certification. Emerson is working with governmental agencies around the world to supply fully compliant products and remove the risk of violating country directives or laws governing wireless device usage.

FCC and IC Approvals

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: This device may not cause harmful interference this device must accept any interference received, including interference that may cause undesired operation. This device must be installed to ensure a minimum antenna separation distance of 20cm from all persons.

Ordinary Location Certification for FM

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).

European Directive Information

The EC declaration of conformity for all applicable European directives for this product can be found at www.rosemount.com. A hard copy may be obtained by contacting an Emerson Process Management representative.

ATEX Directive (94/9/EC)

Emerson Process Management complies with the ATEX Directive.

European Pressure Equipment Directive (PED) (97/23/EC)

- Models 3051S_CA4; 3051S_CD2, 3, 4, 5; (also with P9 option)
- Pressure Transmitters — QS Certificate of Assessment - EC No. PED-H-100, Module H Conformity Assessment
- All other Model 3051S Pressure Transmitters — Sound Engineering Practice
- Transmitter Attachments: Diaphragm Seal - Process Flange - Manifold — Sound Engineering Practice
- Primary Elements, Flowmeter
- See appropriate Primary Element QIG

Electro Magnetic Compatibility (EMC) (2004/108/EC)

- All Models: EN 50081-1: 1992; EN 50082-2:1995;
- EN 61326-1:1997 + A1, A2, and A3 – Industrial

Radio and Telecommunications Terminal Equipment Directive (R&TTE)(1999/5/EC)

Emerson Process Management complies with the R&TTE Directive.

Hazardous Locations Certifications

North American Certifications


Factory Mutual (FM) Approvals

- I5** FM Intrinsically Safe, Non-Incendive, and Dust Ignition-proof. Intrinsically Safe for Class I/II/III, Division 1, Groups A, B, C, D, E, F, and G. Zone Marking: Class I, Zone 0, AEx ia IIC Temperature Codes T4 ($T_{amb} = -50$ to $70^{\circ}C$) Non-Incendive for Class I, Division 2, Groups A, B, C, and D. Dust Ignition-proof for Class II/III, Division 1, Groups E, F, and G. Ambient temperature limits: -50 to $85^{\circ}C$ For use with Rosemount SmartPower options 00753-9220-XXXX only. Enclosure Type 4X / IP66

CSA - Canadian Standards Association

- I6** CSA Intrinsically Safe Intrinsically Safe for Class I, Division 1, Groups A, B, C, and D. Temp Code T3C Enclosure Type 4X / IP66 For use with Rosemount SmartPower options 00753-9220-XXXX only.

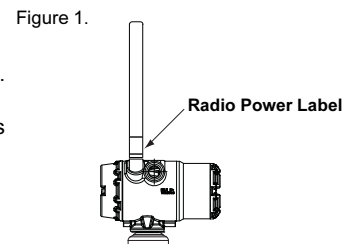
European Certifications

- I1** ATEX Intrinsic Safety Certificate No.: BAS01ATEX1303X  II 1G Ex ia IIC T4 ($T_a = -60^{\circ}C$ to $70^{\circ}C$) IP66 For use with Rosemount SmartPower options 00753-9220-XXXX only. CE 1180



| Country | Restriction |
|----------|--|
| Bulgaria | General authorization required for outdoor use and public service |
| France | Outdoor use limited to 10mW e.i.r.p. |
| Italy | If used outside of own premises, general authorization is required. |
| Norway | May be restricted in the geographical area within a radius of 20 km from the center of Ny-Alesund. |
| Romania | Use on a secondary basis. Individual license required. |

Radio Power Label (See Figure 1) indicates output power configuration of the radio. Devices with this label are configured for output power less than 10 mW e.i.r.p. At time of purchase the customer must specify ultimate country of installation and operation.



IECEX Certifications

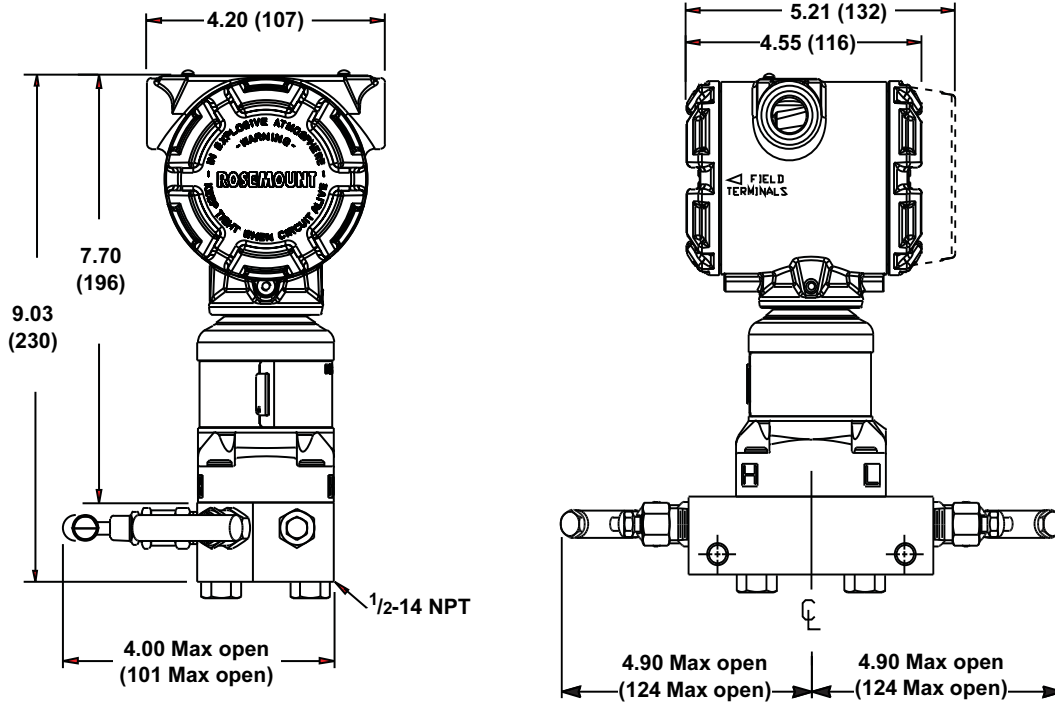
- I7** IECEX Intrinsic Safety Certificate No.: IECEX BAS 04.0017X Ex ia IIC T4 ($T_a = -60^{\circ}C$ to $70^{\circ}C$) For use with Rosemount SmartPower options 00753-9220-XXXX only. IP66

Dimensional Drawings

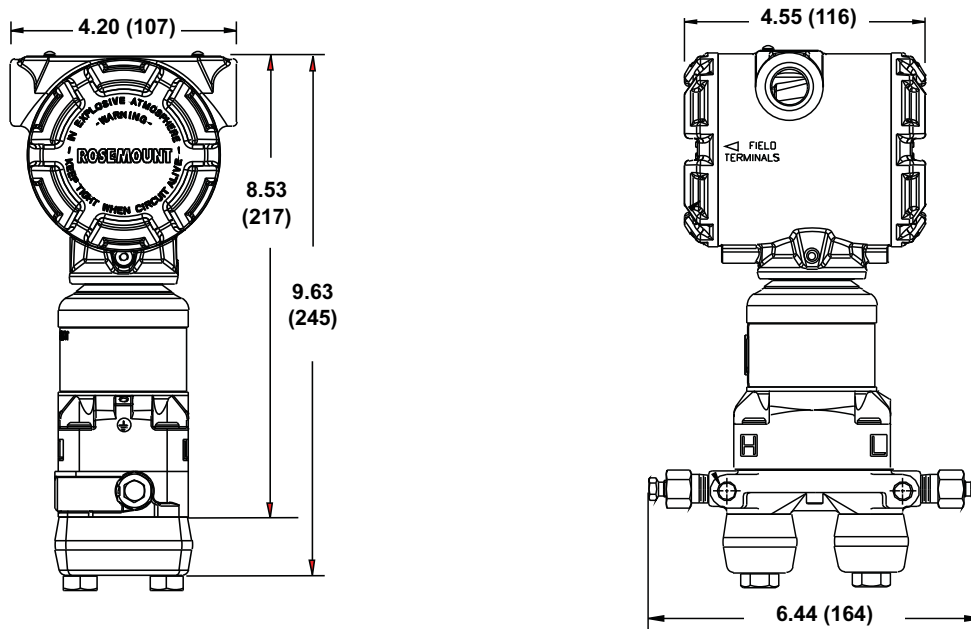
Dimensions are in inches (millimeters).

Process adapters (option D2) and Rosemount 305 integral manifolds must be ordered with the transmitter.

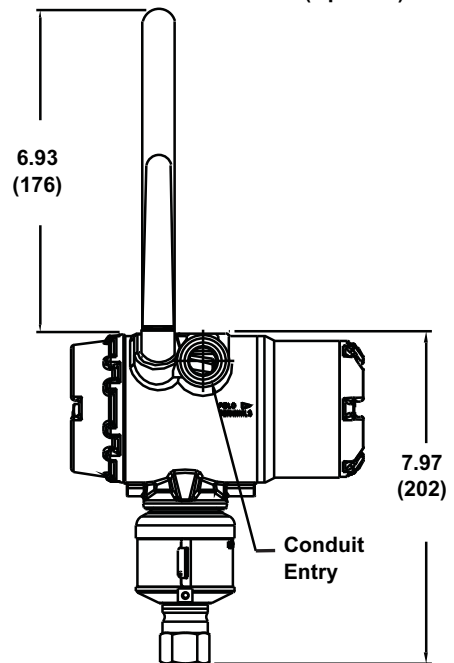
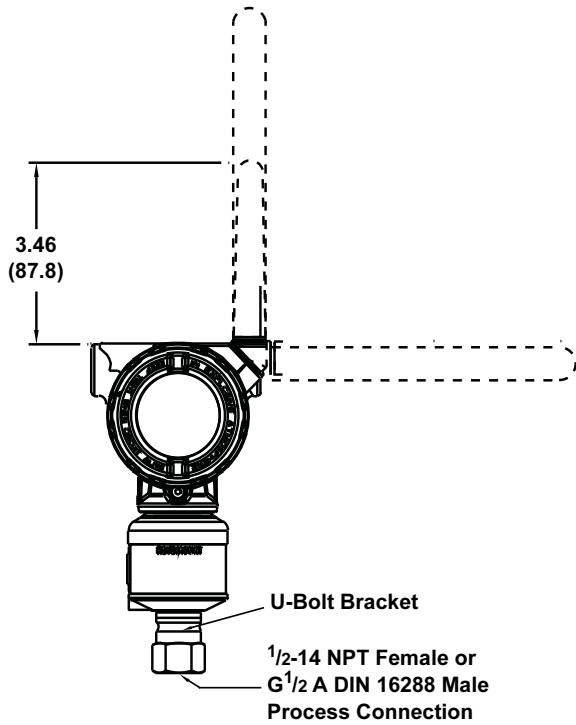
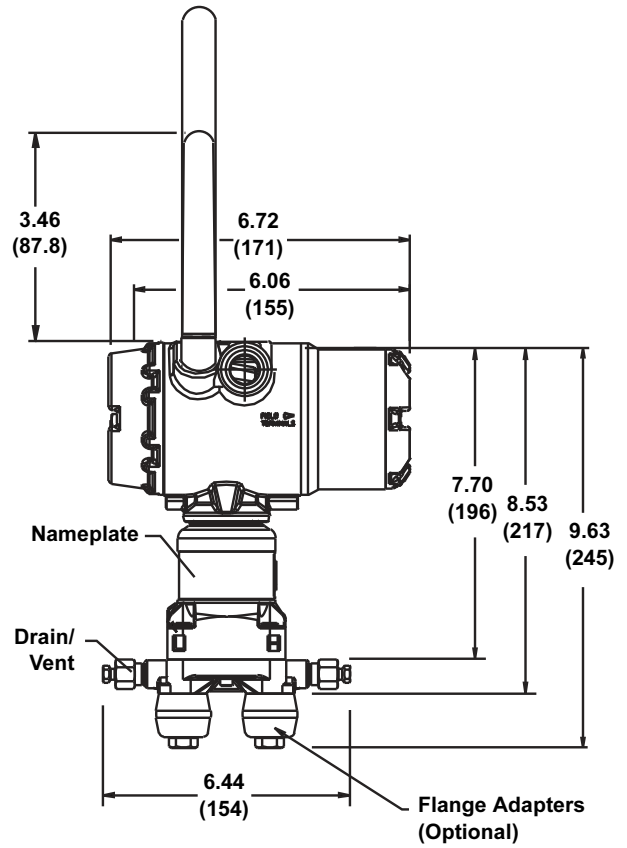
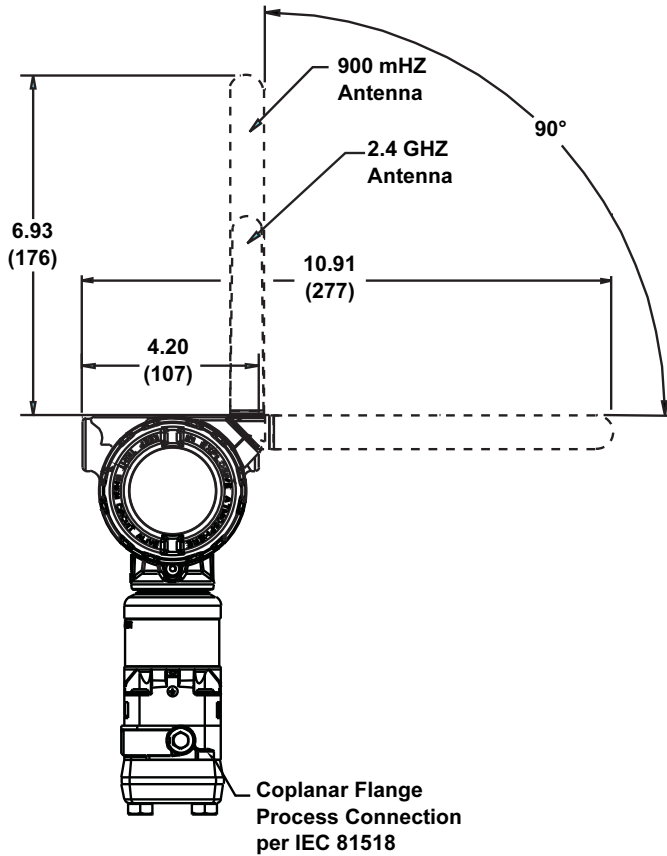
PlantWeb Housing with Coplanar SuperModule Platform and 305 Coplanar Integral Manifold



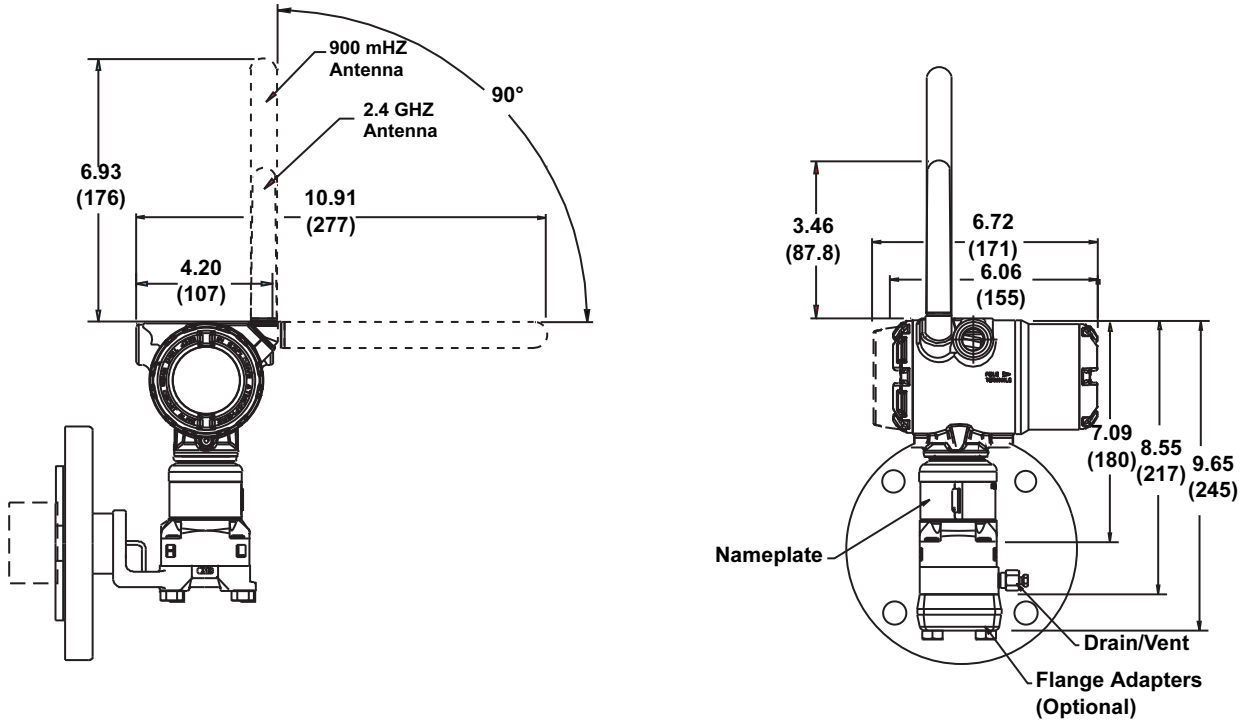
PlantWeb Housing with Coplanar SuperModule Platform and Coplanar Flange



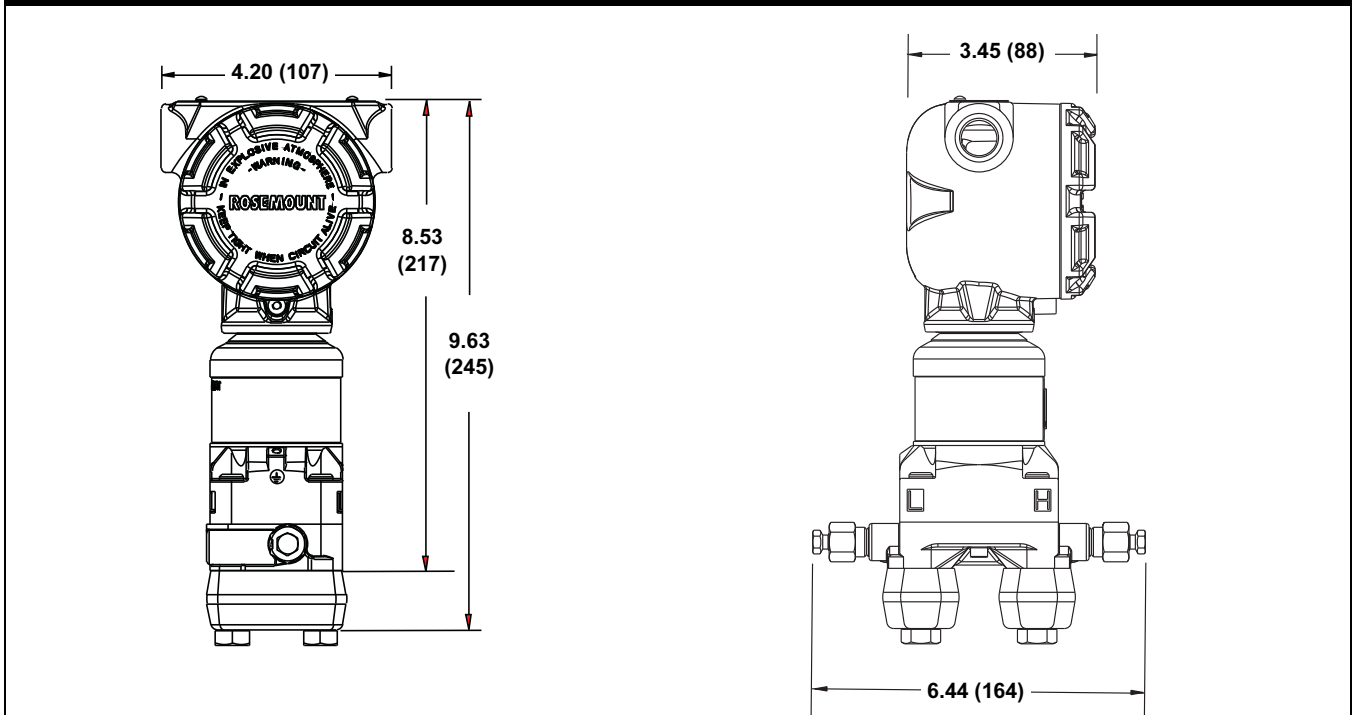
Wireless PlantWeb Housing with In-Line and Coplanar SuperModule Platform



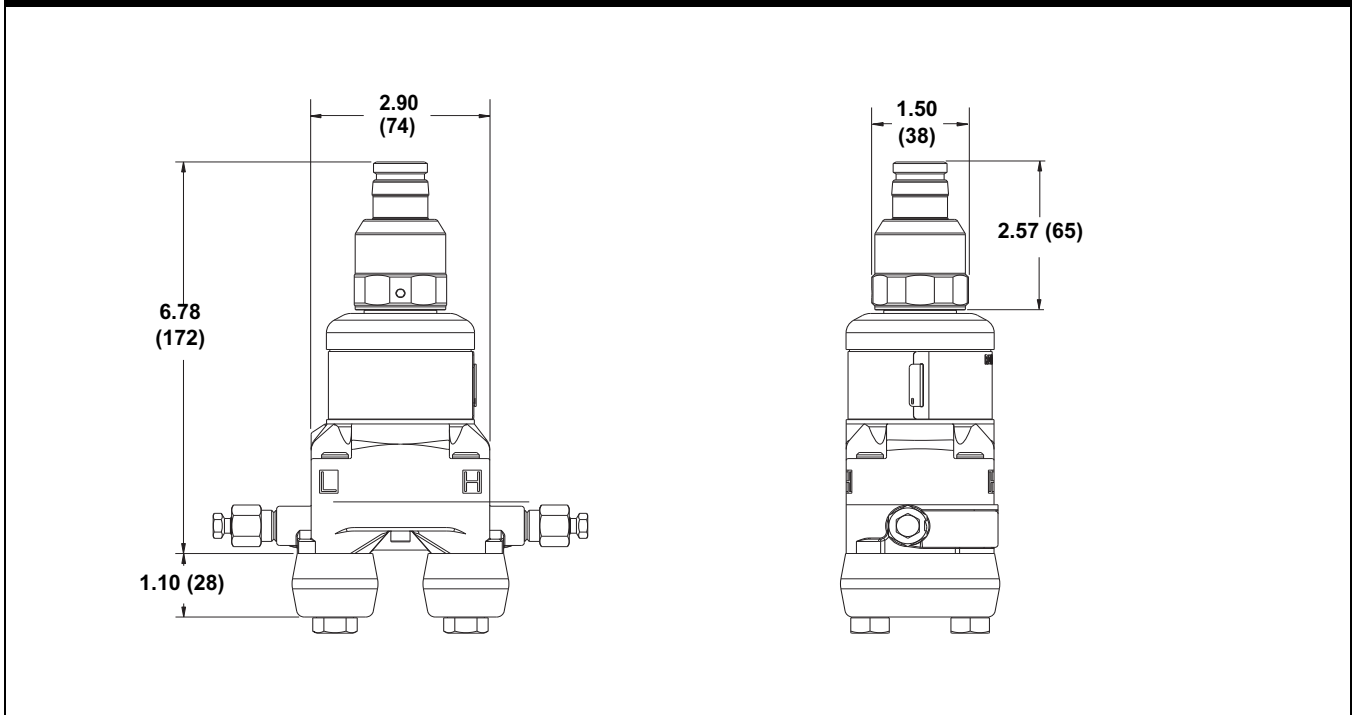
Wireless PlantWeb Housing with 3051S_L Liquid Level

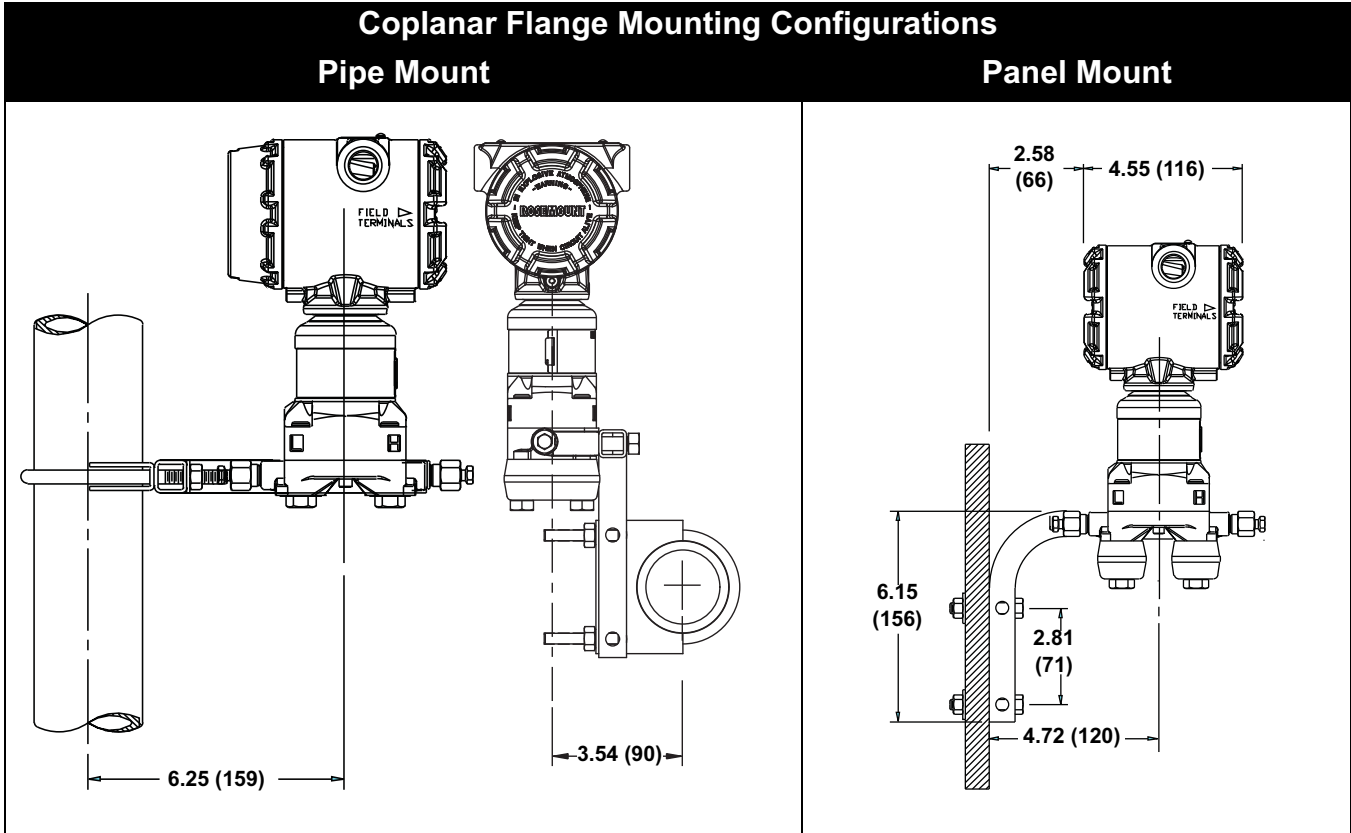


Junction Box Housing with Coplanar SuperModule Platform and Coplanar Flange

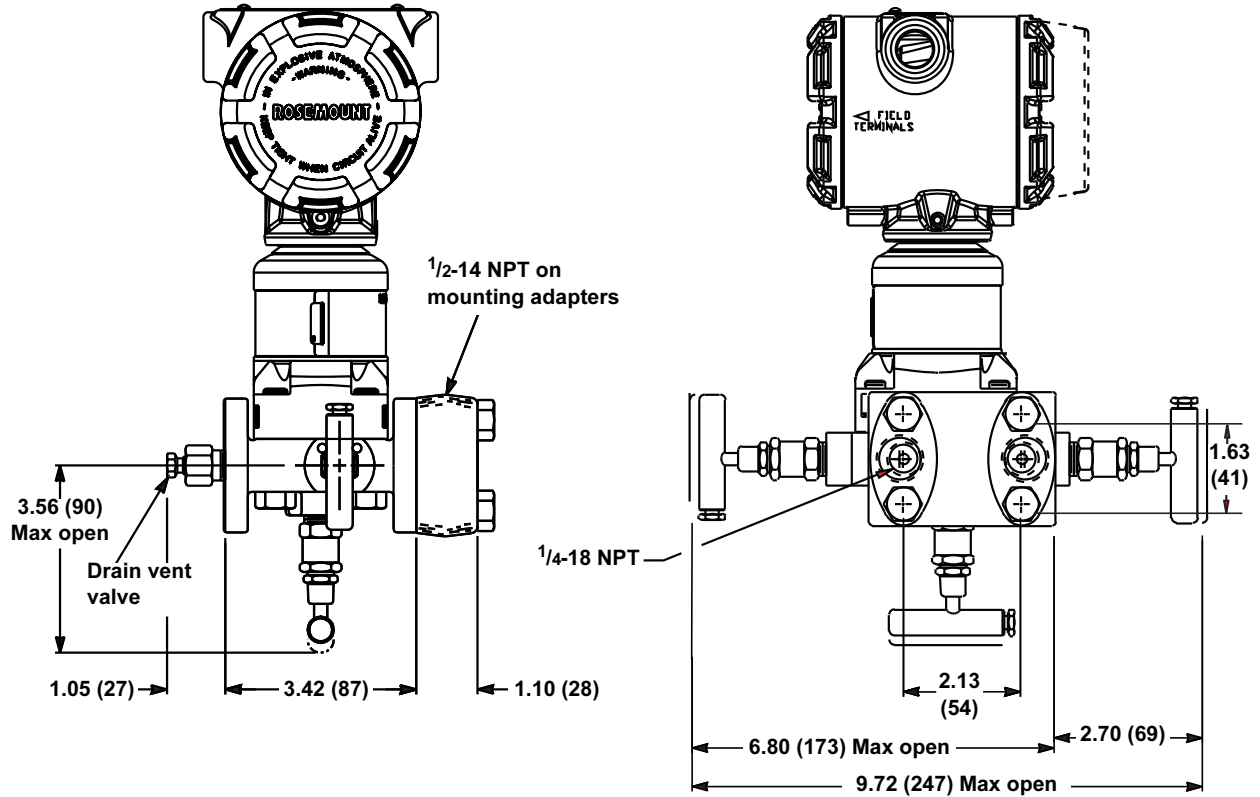


Quick Connect with Coplanar SuperModule Platform and Coplanar Flange

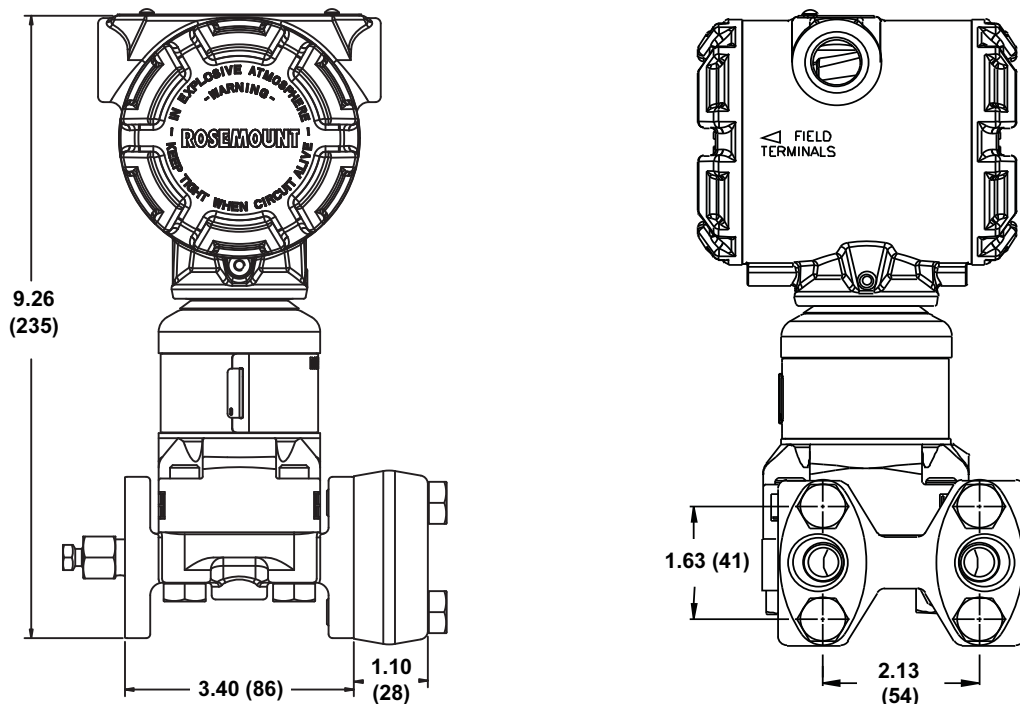


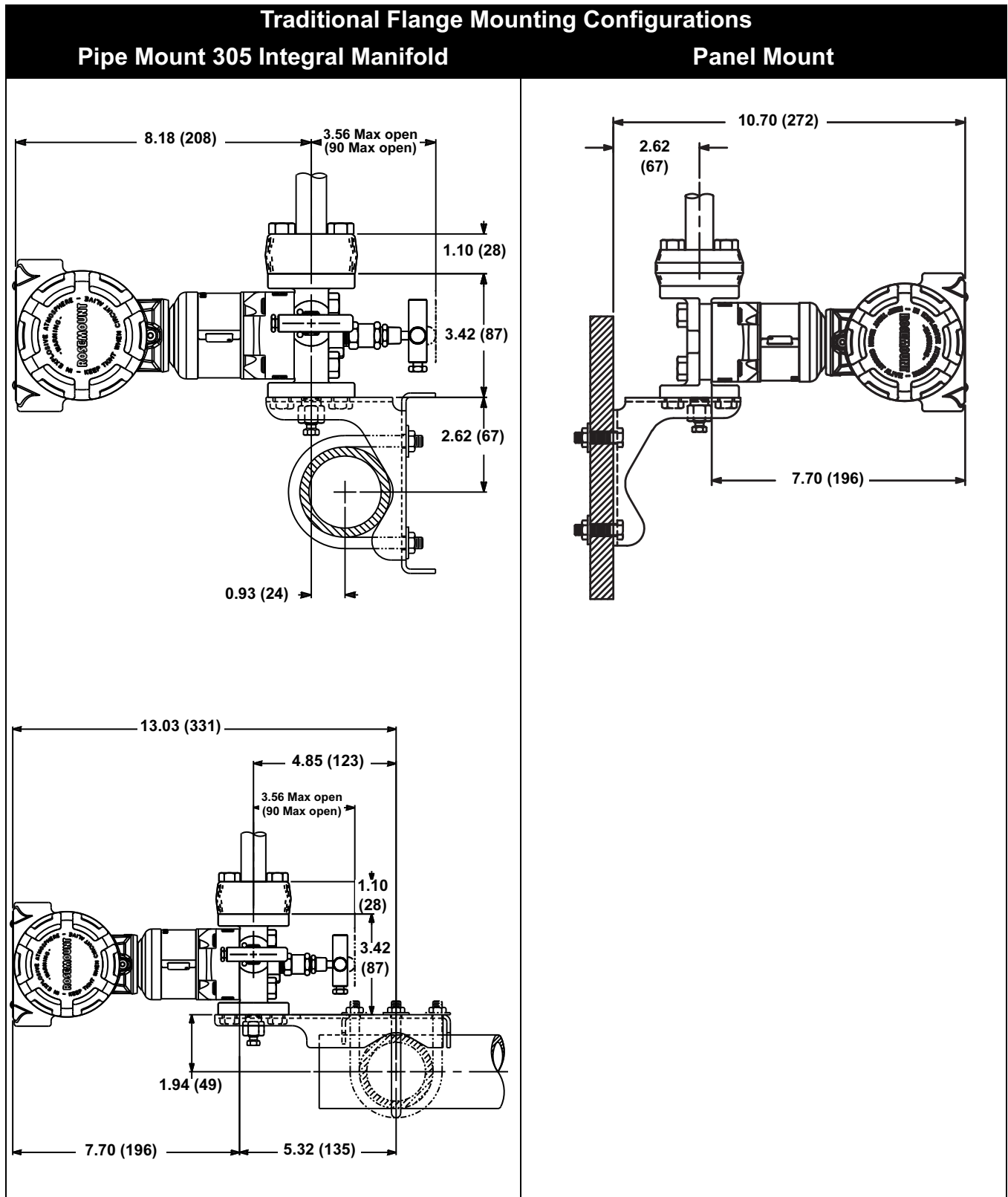


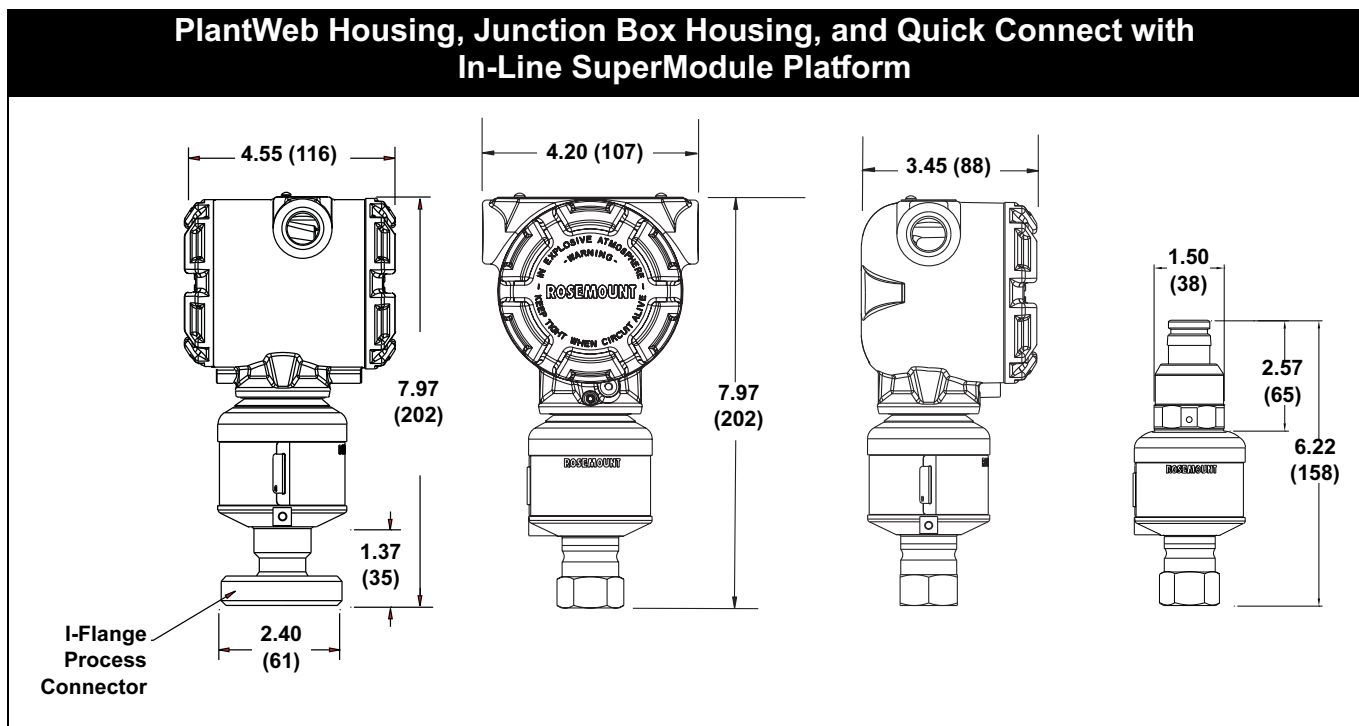
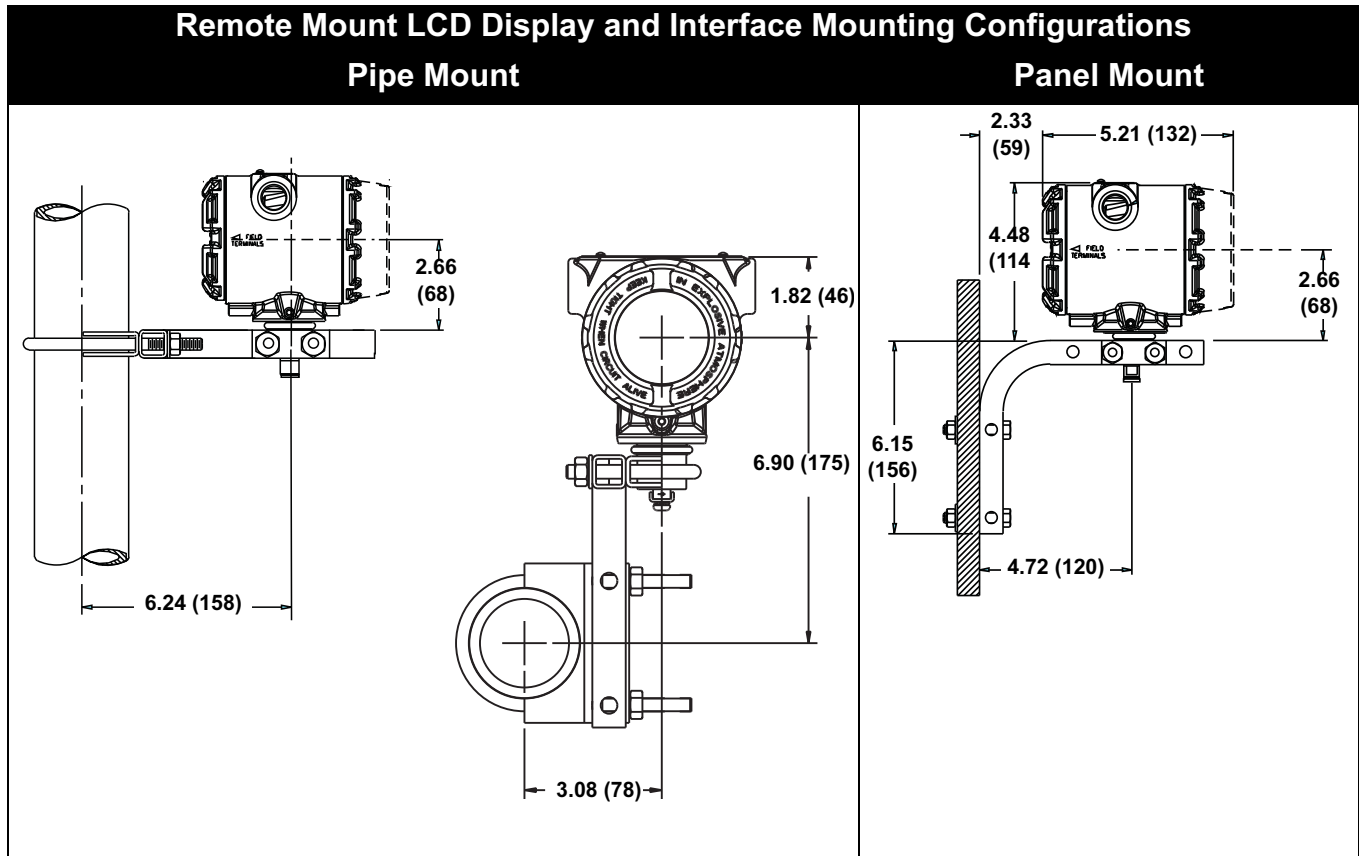
PlantWeb Housing with Coplanar SuperModule Platform and 305 Traditional Integral Manifold



PlantWeb Housing with Coplanar SuperModule Platform and Traditional Flange



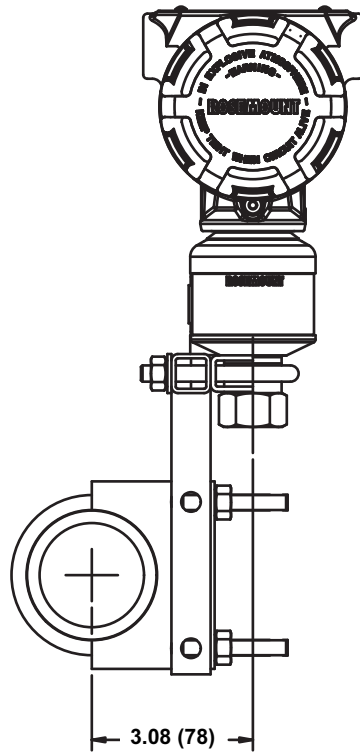
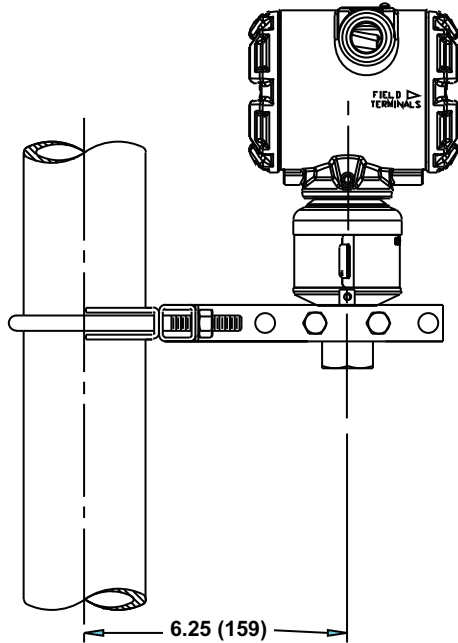




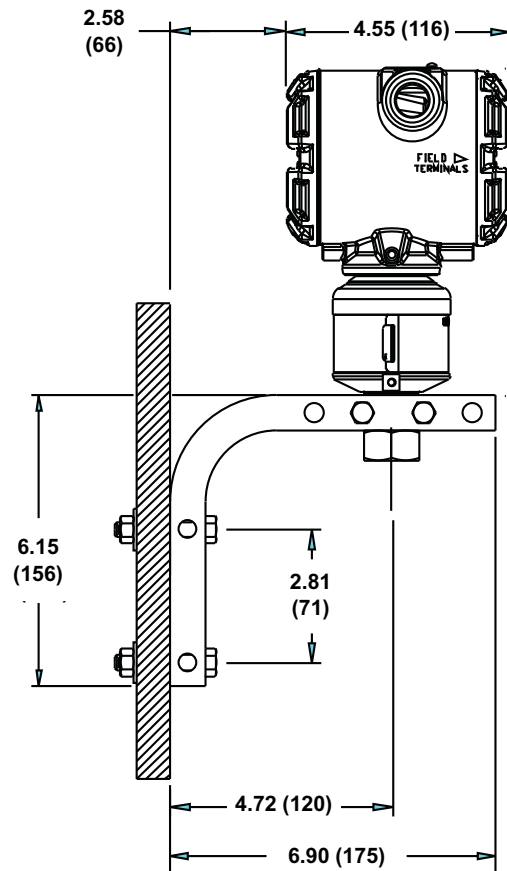
Rosemount 3051S

In-line Mounting Configurations with Optional Mounting Bracket

Pipe Mount

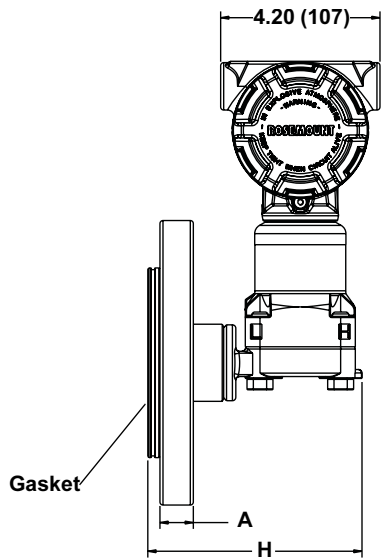


Panel Mount

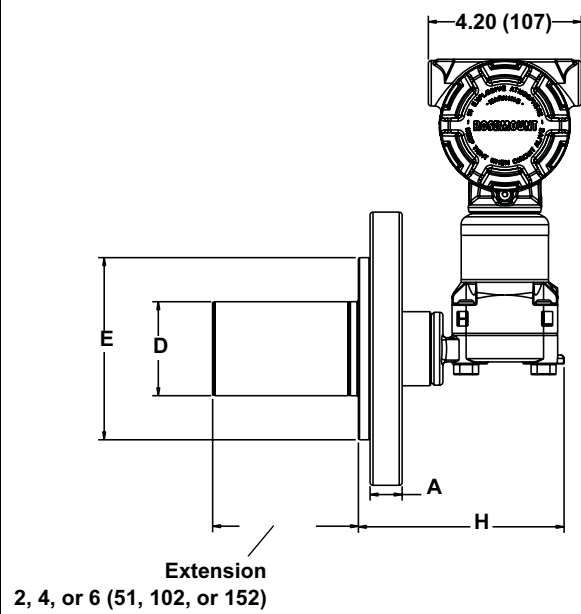


3051S_L Liquid Level

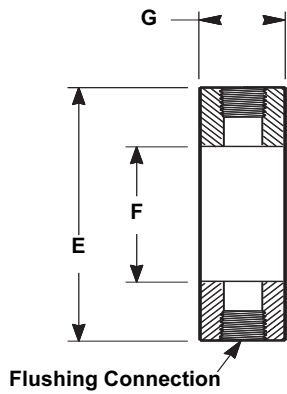
Flush Flanged Configuration



Extended Flanged Configuration

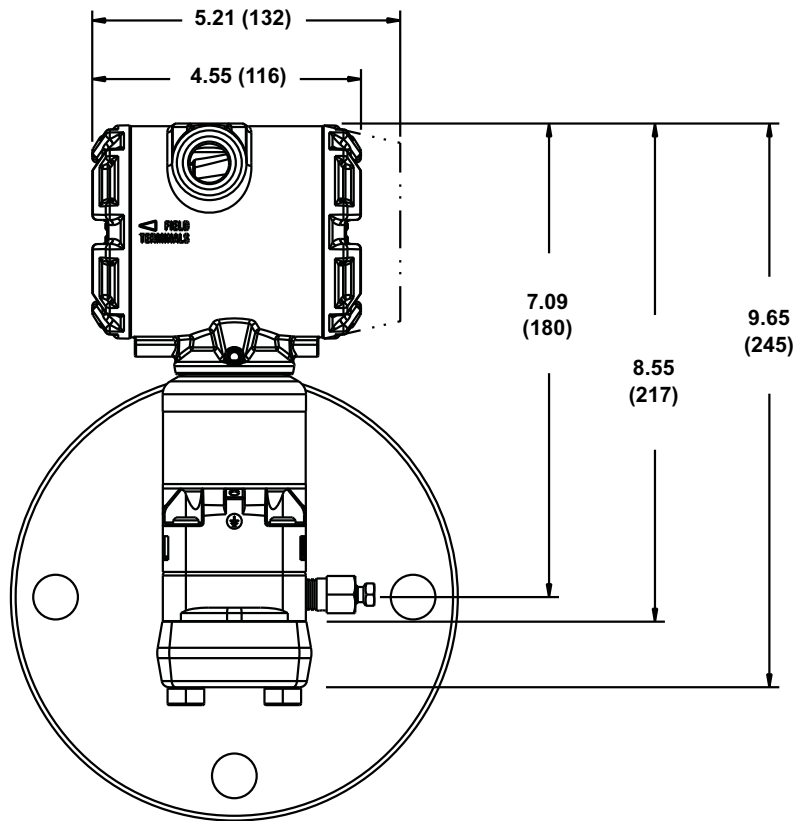
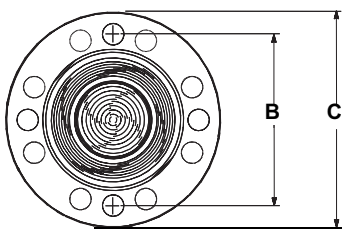


Optional Flushing Connection Ring (Lower Housing)



Flushing Connection

Diaphragm Assembly and Mounting Flange



Rosemount 3051S

TABLE 8. 3051S_L Dimensional Specifications

Except where indicated, dimensions are in inches (millimeters).

| Class | Pipe Size | Flange Thickness A | Bolt Circle Diameter B | Outside Diameter C | No. of Bolts | Bolt Hole Diameter | Extension Diameter ⁽¹⁾ D | O.D. Gasket Surface E |
|-----------------------|-----------|--------------------|------------------------|--------------------|--------------|--------------------|-------------------------------------|-----------------------|
| ASME B16.5 (ANSI) 150 | 2 (51) | 0.69 (18) | 4.75 (121) | 6.0 (152) | 4 | 0.75 (19) | NA | 3.6 (92) |
| | 3 (76) | 0.88 (22) | 6.0 (152) | 7.5 (191) | 4 | 0.75 (19) | 2.58 (66) | 5.0 (127) |
| | 4 (102) | 0.88 (22) | 7.5 (191) | 9.0 (229) | 8 | 0.75 (19) | 3.5 (89) | 6.2 (158) |
| ASME B16.5 (ANSI) 300 | 2 (51) | 0.82 (21) | 5.0 (127) | 6.5 (165) | 8 | 0.75 (19) | NA | 3.6 (92) |
| | 3 (76) | 1.06 (27) | 6.62 (168) | 8.25 (210) | 8 | 0.88 (22) | 2.58 (66) | 5.0 (127) |
| | 4 (102) | 1.19 (30) | 7.88 (200) | 10.0 (254) | 8 | 0.88 (22) | 3.5 (89) | 6.2 (158) |
| ASME B16.5 (ANSI) 600 | 2 (51) | 1.00 (25) | 5.0 (127) | 6.5 (165) | 8 | 0.75 (19) | NA | 3.6 (92) |
| | 3 (76) | 1.25 (32) | 6.62 (168) | 8.25 (210) | 8 | 0.88 (22) | 2.58 (66) | 5.0 (127) |
| DIN 2501 PN 10–40 | DN 50 | 20 mm | 125 mm | 165 mm | 4 | 18 mm | NA | 4.0 (102) |
| DIN 2501 PN 25/40 | DN 80 | 24 mm | 160 mm | 200 mm | 8 | 18 mm | 65 mm | 5.4 (138) |
| | DN 100 | 24 mm | 190 mm | 235 mm | 8 | 22 mm | 89 mm | 6.2 (158) |
| DIN 2501 PN 10/16 | DN 100 | 20 mm | 180 mm | 220 mm | 8 | 18 mm | 89 mm | 6.2 (158) |

| Class | Pipe Size | Process Side F | Lower Housing G | | |
|-----------------------|-----------|----------------|-----------------|-----------|------------|
| | | | 1/4 NPT | 1/2 NPT | H |
| ASME B16.5 (ANSI) 150 | 2 (51) | 2.12 (54) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| | 3 (76) | 3.6 (91) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| | 4 (102) | 3.6 (91) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| ASME B16.5 (ANSI) 300 | 2 (51) | 2.12 (54) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| | 3 (76) | 3.6 (91) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| | 4 (102) | 3.6 (91) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| ASME B16.5 (ANSI) 600 | 2 (51) | 2.12 (54) | 0.97 (25) | 1.31 (33) | 7.65 (194) |
| | 3 (76) | 3.6 (91) | 0.97 (25) | 1.31 (33) | 7.65 (194) |
| DIN 2501 PN 10–40 | DN 50 | 2.4 (61) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| DIN 2501 PN 25/40 | DN 80 | 3.6 (91) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| | DN 100 | 3.6 (91) | 0.97 (25) | 1.31 (33) | 5.65 (143) |
| DIN 2501 PN 10/16 | DN 100 | 3.6 (91) | 0.97 (25) | 1.31 (33) | 5.65 (143) |

(1) Tolerances are 0.040 (1,02), -0.020 (0,51).

Ordering Information

Rosemount 3051S Series Coplanar

| Model | Transmitter Type | | | |
|--------------------|--|--|---------------------------------|------------------------|
| 3051S | Scalable pressure transmitter | | | |
| Code | Performance Class | | | |
| 1 ⁽¹⁾ | Ultra: 0.025% span accuracy, 200:1 rangedown, 10-year stability, 12-year limited warranty | | | |
| 3 ⁽²⁾ | Ultra for Flow: 0.04% reading accuracy, 200:1 rangedown, 10-year stability, 12-year limited warranty | | | |
| 2 | Classic: 0.055% span accuracy, 100:1 rangedown, 5-year stability | | | |
| Code | Connection Type | | | |
| C | Coplanar | | | |
| Code | Measurement Type ⁽³⁾ | | | |
| D | Differential | | | |
| G | Gage | | | |
| A | Absolute | | | |
| Code | Pressure Range | | | |
| | Differential | Gage | Absolute | |
| 0A ⁽⁴⁾ | -3 to 3 inH ₂ O (-7,47 to 7,47 mbar) | N/A | 0 to 5 psia (0 to 0,34 bar) | |
| 1A | -25 to 25 inH ₂ O (-62,2 to 62,2 mbar) | -25 to 25 inH ₂ O (-62,2 to 62,2 mbar) | 0 to 30 psia (0 to 2,06 bar) | |
| 2A | -250 to 250 inH ₂ O (-623 to 623 mbar) | -250 to 250 inH ₂ O (-623 to 623 mbar) | 0 to 150 psia (0 to 10,34 bar) | |
| 3A | -1000 to 1000 inH ₂ O (-2,5 to 2,5 bar) | -393 to 1000 inH ₂ O (-0,98 to 2,5 bar) | 0 to 800 psia (0 to 55,2 bar) | |
| 4A | -300 to 300 psi (-20,7 to 20,7 bar) | -14.2 to 300 psig (-0,98 to 21 bar) | 0 to 4000 psia (0 to 275,8 bar) | |
| 5A | -2000 to 2000 psi (-137,9 to 137,9 bar) | -14.2 to 2000 psig (-0,98 to 137,9 bar) | N/A | |
| Code | Isolating Diaphragm | | | |
| 2 ⁽⁵⁾ | 316L SST | | | |
| 3 ⁽⁵⁾ | <i>Hastelloy C-276</i> | | | |
| 4 | <i>Monel 400</i> | | | |
| 5 ⁽⁶⁾ | Tantalum | | | |
| 6 | Gold-plated <i>Monel 400</i> <i>Note: Includes graphite-filled PTFE o-ring.</i> | | | |
| 7 | Gold-plated 316L SST | | | |
| Code | Process Connection ⁽⁷⁾ | Size | Material Type ⁽⁸⁾ | |
| | | | Flange Material | Drain Vent |
| 000 | None | | | |
| A11 | Assemble to Rosemount 305 integral manifold | | | |
| A12 | Assemble to 304 or AMF manifold and 316 SST traditional flange | | | |
| B11 ⁽⁹⁾ | Assemble to one Rosemount 1199 diaphragm seal | | | |
| B12 ⁽⁹⁾ | Assemble to two Rosemount 1199 diaphragm seals | | | |
| C11 | Assemble to Rosemount 405 primary element | | | |
| D11 | Assemble to Rosemount 1195 integral orifice and Rosemount 305 integral manifold | | | |
| EA2 | Assemble to Rosemount Annubar Primary Element with Coplanar flange | | 316 SST | 316 SST |
| EA3 | Assemble to Rosemount Annubar Primary Element with Coplanar flange | | <i>Hastelloy C-276</i> | <i>Hastelloy C-276</i> |
| EA5 | Assemble to Rosemount Annubar Primary Element with Coplanar flange | | 316 SST | <i>Hastelloy C-276</i> |
| E11 | Coplanar flange | 1/4-18 NPT | CS | 316 SST |
| E12 | Coplanar flange | 1/4-18 NPT | 316 SST | 316 SST |
| E13 ⁽⁵⁾ | Coplanar flange | 1/4-18 NPT | <i>Hastelloy C-276</i> | <i>Hastelloy C-276</i> |
| E14 | Coplanar flange | 1/4-18 NPT | <i>Monel 400</i> | <i>Monel 400</i> |
| E15 ⁽⁵⁾ | Coplanar flange | 1/4-18 NPT | 316 SST | <i>Hastelloy C-276</i> |
| E16 ⁽⁵⁾ | Coplanar flange | 1/4-18 NPT | CS | <i>Hastelloy</i> |
| E21 | Coplanar flange | RC 1/4 | CS | 316 SST |
| E22 | Coplanar flange | RC 1/4 | 316 SST | 316 SST |
| E23 ⁽⁵⁾ | Coplanar flange | RC 1/4 | <i>Hastelloy C-276</i> | <i>Hastelloy C-276</i> |
| E24 | Coplanar flange | RC 1/4 | <i>Monel 400</i> | <i>Monel 400</i> |
| E25 ⁽⁵⁾ | Coplanar flange | RC 1/4 | 316 SST | <i>Hastelloy C-276</i> |
| E26 ⁽⁵⁾ | Coplanar flange | RC 1/4 | CS | <i>Hastelloy C-276</i> |
| F12 | Traditional flange | 1/4-18 NPT | 316 SST | 316 SST |
| F13 ⁽⁵⁾ | Traditional flange | 1/4-18 NPT | <i>Hastelloy C-276</i> | <i>Hastelloy C-276</i> |
| F14 | Traditional flange | 1/4-18 NPT | <i>Monel 400</i> | <i>Monel 400</i> |

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| | | | Flange Material | Drain Vent | Bolting |
|--------------------|----------------------------------|----------------------|------------------------|-------------------|------------------|
| F15 ⁽⁵⁾ | Traditional flange | 1/4-18 NPT | 316 SST | Hastelloy C-276 | |
| F22 | Traditional flange | RC 1/4 | 316 SST | 316 SST | |
| F23 ⁽⁵⁾ | Traditional flange | RC 1/4 | Hastelloy C-276 | Hastelloy C-276 | |
| F24 | Traditional flange | RC 1/4 | Monel 400 | Monel 400 | |
| F25 ⁽⁵⁾ | Traditional flange | RC 1/4 | 316 SST | Hastelloy C-276 | |
| F32 | Bottom vent traditional flange | 1/4-18 NPT | 316 SST | 316 SST | |
| F52 | DIN-compliant traditional flange | 1/4-18 NPT | 316 SST | 316 SST | 7/16-in. bolting |
| F62 | DIN-compliant traditional flange | 1/4-18 NPT | 316 SST | 316 SST | M10 bolting |
| F72 | DIN-compliant traditional flange | 1/4-18 NPT | 316 SST | 316 SST | M12 bolting |
| G11 | Vertical mount level flange | 2-in. ANSI class 150 | 316 SST | 316 SST | |
| G12 | Vertical mount level flange | 2-in. ANSI class 300 | 316 SST | 316 SST | |
| G14 ⁽⁵⁾ | Vertical mount level flange | 2-in. ANSI class 150 | Hastelloy C-276 | Hastelloy C-276 | |
| G15 ⁽⁵⁾ | Vertical mount level flange | 2-in. ANSI class 300 | Hastelloy C-276 | Hastelloy C-276 | |
| G21 | Vertical mount level flange | 3-in. ANSI class 150 | 316 SST | 316 SST | |
| G22 | Vertical mount level flange | 3-in. ANSI class 300 | 316 SST | 316 SST | |
| G24 ⁽⁵⁾ | Vertical mount level flange | 3-in. ANSI class 150 | Hastelloy C-276 | Hastelloy C-276 | |
| G25 ⁽⁵⁾ | Vertical mount level flange | 3-in. ANSI class 300 | Hastelloy C-276 | Hastelloy C-276 | |
| G31 | Vertical mount level flange | DIN- DN 50 PN 40 | 316 SST | 316 SST | |
| G41 | Vertical mount level flange | DIN- DN 80 PN 40 | 316 SST | 316 SST | |

| Code | Output⁽¹⁰⁾ |
|-------------------|--|
| A | 4-20 mA with digital signal based on HART protocol |
| F ⁽¹¹⁾ | FOUNDATION fieldbus protocol |
| X ⁽¹²⁾ | Wireless (Requires wireless options and wireless housing 5A) |

| Code | Housing Style | Material⁽⁸⁾ | Conduit Entry Size |
|--------------------|---|-------------------------------|---------------------------|
| 00 | None (SuperModule Platform only, no housing included) | | |
| 01 ⁽¹³⁾ | Assemble to Rosemount 753R Web-Based Monitoring Indicator | | |
| 1A | PlantWeb housing | Aluminum | 1/2-14 NPT |
| 1B | PlantWeb housing | Aluminum | M20 x 1.5 (CM20) |
| 1C | PlantWeb housing | Aluminum | G1/2 |
| 1J | PlantWeb housing | 316L SST | 1/2-14 NPT |
| 1K | PlantWeb housing | 316L SST | M20 x 1.5 (CM20) |
| 1L | PlantWeb housing | 316L SST | G1/2 |
| 5A | Wireless PlantWeb housing | Aluminum | 1/2-14 NPT |
| 2A | Junction Box housing | Aluminum | 1/2-14 NPT |
| 2B | Junction Box housing | Aluminum | M20 x 1.5 (CM20) |
| 2C | Junction Box housing | Aluminum | G1/2 |
| 2J | Junction Box housing | 316L SST | 1/2-14 NPT |
| 2E | Junction Box Housing with output for remote display and interface | Aluminum | 1/2-14 NPT |
| 2F | Junction Box Housing with output for remote display and interface | Aluminum | M20 x 1.5 (CM20) |
| 2G | Junction Box Housing with output for remote display and interface | Aluminum | G1/2 |
| 2M | Junction Box Housing with output for remote display and interface | 316L SST | 1/2-14 NPT |
| 7J ⁽¹⁴⁾ | Quick Connect (A size Mini, 4-pin male termination) | 316L SST | |

| Code | Options |
|-------------|----------------|
|-------------|----------------|

| PlantWeb Control Functionality | |
|---------------------------------------|---|
| A01 ⁽¹⁵⁾ | FOUNDATION fieldbus Advanced Control Function Block Suite |

| PlantWeb Diagnostic Functionality | |
|--|---------------------------------------|
| D01 ⁽¹⁵⁾ | FOUNDATION fieldbus Diagnostics Suite |
| DA1 ⁽¹⁶⁾ | HART Diagnostics Suite |

| PlantWeb Enhanced Measurement Functionality | |
|--|-----------------------------------|
| H01 ⁽¹⁵⁾⁽¹⁷⁾ | Fully Compensated Mass Flow Block |

| Code | Wireless Options - Select code from each wireless category (example: WA2WK1) |
|-------------|---|
|-------------|---|

| Wireless Transmit Rate | |
|-------------------------------|---------------------------------|
| WA | User Configurable Transmit Rate |

| Operating Frequency and Protocol | |
|---|--------------------|
| 1 | 2.4 GHz DSSS, HART |
| 2 | 900 MHz FHSS, HART |

| Antenna | |
|----------------|-----------------------------------|
| WK | Omnidirectional, Integral Antenna |

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SmartPower™

- 1 Long-life Power Module Adapter, Intrinsically Safe
NOTE: Long-life Power Module must be shipped separately, order Part No. 00753-9220-0001.

Code Options

Mounting Brackets⁽¹⁸⁾

- B4 Coplanar flange bracket, all SST, 2-in. pipe and panel
B1 Traditional flange bracket, CS, 2-in. pipe
B2 Traditional flange bracket, CS, panel
B3 Traditional flange flat bracket, CS, 2-in. pipe
B7 Traditional flange bracket, B1 with SST bolts
B8 Traditional flange bracket, B2 with SST bolts
B9 Traditional flange bracket, B3 with SST bolts
BA Traditional flange bracket, B1, all SST
BC Traditional flange bracket, B3, all SST

Special Configuration (Software)

- C1⁽¹⁹⁾ Custom software configuration
Note: A Configuration Data Sheet must be completed, see document number 00806-0100-4801 for HART and 00806-0100-4802 for wireless.
C2 Custom flow configuration
Note: Requires option code H01. A Configuration Data Sheet must be completed, see document number 00806-0100-4801.
C3 Gage pressure calibration on Rosemount 3051S_CA4 only
C4⁽¹⁾⁽¹⁹⁾ NAMUR alarm and saturation levels, high alarm
C5⁽¹⁾⁽¹⁹⁾ NAMUR alarm and saturation levels, low alarm
C6⁽¹⁾⁽¹⁹⁾ Custom alarm and saturation signal levels, high alarm
Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see document number 00806-0100-4801.
C7⁽¹⁾⁽¹⁹⁾ Custom alarm and saturation signal levels, low alarm
Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see document number 00806-0100-4801.
C8⁽¹⁾⁽¹⁹⁾ Low alarm (standard Rosemount alarm and saturation levels)

Special Configuration (Hardware)

- D1⁽¹⁾⁽¹⁹⁾ Hardware adjustments (zero, span, alarm, security)
Note: Not available with housing style codes 00, 01, 2E, 2F, 2G, 2M, 5A, or 7J.
D2⁽¹⁸⁾ 1/2-14 NPT Process adapters
D4 External ground screw assembly
D5⁽¹⁸⁾ Delete transmitter drain/vent valves (install plugs)
D7⁽¹⁸⁾ Coplanar flange without drain/vent ports
D8⁽¹⁸⁾ Ceramic drain/vent valves
D9⁽¹⁸⁾ RC 1/2 process adapters

Product Certifications⁽²⁰⁾

- E1 ATEX Flameproof
I1 ATEX Intrinsic Safety
IA ATEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only
N1 ATEX Type n
K1 ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND)
ND ATEX Dust
E4 TIIS Flameproof
E5 FM Explosion-proof, Dust Ignition-proof
I5 FM Intrinsically Safe, Division 2
IE FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only
K5 FM Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5 and I5)
E6 CSA Explosion-proof, Dust Ignition-proof, Division 2
I6 CSA Intrinsically Safe
IF CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only
K6 CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)
D3⁽²¹⁾ Measurement Canada Accuracy Approval
E7 SAA Flameproof, Dust Ignition-proof
I7 IECEx Intrinsic Safety
IG IECEx FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only
N7 IECEx Type n
K7 SAA Flameproof, Dust Ignition-proof, IECEx Intrinsic Safety, Type n (combination of E7, I7, and N7)

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| | |
|--|--|
| KA | ATEX and CSA Flameproof, Intrinsically Safe, Division 2 (combination of E1, E6, I1, and I6) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| KB | FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5, E6, I5, and I6) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| KC | FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination of E5, E1, I5, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| KD | FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of E5, E6, E1, I5, I6, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| DW ⁽²²⁾ | NSF Drinking Water Approval |
| Alternate Materials of Construction | |
| L1 | Inert sensor fill fluid (differential and gage only) <i>Note: Silicone fill fluid is standard.</i> |
| L2 | Graphite-filled PTFE o-ring |
| L4 ⁽¹⁸⁾ | Austenitic 316 SST bolts |
| L5 ⁽¹⁸⁾ | ASTM A 193, Grade B7M bolts |
| L6 ⁽¹⁸⁾ | Monel bolts |
| L7 ⁽¹⁸⁾ | ASTM A 453, Class A, Grade 660 bolts |
| L8 ⁽¹⁸⁾ | ASTM A 193, Class 2, Grade B8M bolts |
| Digital Display⁽²³⁾ | |
| M5 | PlantWeb LCD Display |
| M7 ⁽¹⁾⁽²⁴⁾ | Remote mount LCD display and interface, no cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output <i>Note: Use Belden 3084A cable or equivalent. Contact an Emerson Process Management representative for additional information.</i> |
| M8 ⁽¹⁾⁽²⁴⁾ | Remote mount LCD display and interface, 50 ft. (15 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output |
| M9 ⁽¹⁾⁽²⁴⁾ | Remote mount LCD display and interface, 100 ft. (31 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output |
| Special Procedures | |
| P1 ⁽²⁵⁾ | Hydrostatic testing with certificate |
| P2 ⁽¹⁸⁾ | Cleaning for special services |
| P3 ⁽¹⁸⁾ | Cleaning for less than 1PPM chlorine/fluorine |
| P9 | 4500 psig (310 bar) static pressure limit (Rosemount 3051S_CD only) |
| P0 ⁽²⁶⁾ | 6092 psig (420 bar) static pressure limit (Rosemount 3051S2CD only) |
| Special Certifications | |
| Q4 | Calibration certificate |
| QP | Calibration certificate and tamper evident seal |
| Q8 ⁽¹⁾ | Material traceability certification per EN 10204 3.1.B |
| QS ⁽¹⁾⁽²⁷⁾ | Prior-use certificate of FMEDA Data |
| QT ⁽²⁸⁾ | Safety-certified to IEC 61508 with certificate of FMEDA data |
| Q16 ⁽¹⁾ | Surface finish certification for sanitary remote seals |
| QZ | Remote Seal System Performance Calculation Report |
| Terminal Blocks | |
| T1 ⁽²⁹⁾ | Transient terminal block |
| T2 ⁽³⁰⁾ | Terminal block with WAGO [®] spring clamp terminals |
| T3 ⁽³⁰⁾ | Transient terminal block with WAGO spring clamp terminals |
| Conduit Electrical Connector | |
| GE ⁽³¹⁾ | M12, 4-pin, Male Connector (<i>eurofast</i> [®]) |
| GM ⁽³¹⁾ | A size Mini, 4-pin, Male Connector (<i>minifast</i> [®]) |

Typical Model Number: 3051S1CD 2A 2 E12 A 1A DA1 B4 M5

- (1) Not available with output code X.
- (2) Not available with output code X or Housing code 01. This option is only available with range codes 2A and 3A, 316L SST or Hastelloy C-276 isolating diaphragm and silicone fill fluid.
- (3) Performance Class code 3 is available with Measurement Type code D only.
- (4) 3051S_CD0 is only available with traditional flange, 316 SST diaphragm material, silicone fill fluid, and Bolting option L4.
- (5) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.
- (6) Tantalum diaphragm material is only available for ranges 2A - 5A, differential and gage.
- (7) "Assemble to" items are specified separately and require a completed model number. Process connection option codes B12, C11, D11, EA2, EA3, and EA5 are only available on differential Measurement Type, code D.

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- (8) *Material specified is cast as follows: CF-8M is the cast version of 316 SST, CF-3M is the cast version of 316L SST, CW-12MW is the cast version of Hastelloy C-276, M-30C is the cast version of Monel 400. For housing, material is aluminum with polyurethane paint.*
- (9) *Consult an Emerson Process Management representative for performance specifications.*
- (10) *For spare SuperModule Platforms, select output code A.*
- (11) *Requires PlantWeb housing.*
- (12) *Available approvals are FM Intrinsically Safe, Division 2 (option code I5), CSA Intrinsically Safe (option code I6), ATEX Intrinsic Safety (option code I1; only available with 2.4 GHz), and IECEx Intrinsic Safety (option code I7; only available with 2.4 GHz).*
- (13) *Available with output code A only. Not available with approvals. See Rosemount 753R Product Data Sheet, 00813-0100-4379, to specify Web-Based Monitoring Indicator. Does not integrate into plant host systems.*
- (14) *Available with output code A only. Available approvals are FM Intrinsically Safe, Division 2 (option code I5), ATEX Intrinsic Safety (option code I1), or IECEx Intrinsic Safety (option code I7). Contact an Emerson Process Management representative for additional information.*
- (15) *Requires PlantWeb housing and output code F.*
- (16) *Requires PlantWeb housing and output code A. Includes Hardware Adjustments as standard. Not available with option code QT.*
- (17) *Requires Rosemount Engineering Assistant to configure.*
- (18) *Not available with process connection option code A11.*
- (19) *Not available with output code F or Housing code 01.*
- (20) *Valid when SuperModule Platform and housing have equivalent approvals.*
- (21) *Requires PlantWeb housing and Hardware Adjustments option code D1. Limited availability depending on transmitter type and range. Contact an Emerson Process Management representative for additional information.*
- (22) *Requires 316L SST wetted materials, glass-filled PTFE O-ring (standard), and Process Connection code E12 or F12.*
- (23) *Not available with Housing code 01 or 7J.*
- (24) *Not available with output code F, Housing code 01, option code DA1, or option code QT.*
- (25) *P1 is not available with 3051S_CA0.*
- (26) *Requires 316L SST or Hastelloy C-276 diaphragm material, assemble to Rosemount 305 integral manifold or DIN-compliant traditional flange process connection, and bolting option L8. Limited to Pressure Range (Differential), ranges 2A – 5A.*
- (27) *Not available with Housing code 01.*
- (28) *Not available with output code F or X. Not available with housing code 01 or 7J.*
- (29) *Not available with Housing code 00, 01, 5A, or 7J.*
- (30) *Available with output code A and PlantWeb housing only.*
- (31) *Not available with Housing code 00, 01, 5A, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Division 2 (option code I5) or FM FISCO Intrinsically Safe (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain outdoor rating (NEMA 4X and IP66).*

Rosemount 3051S

Rosemount 3051S Series In-Line

| Model | Transmitter Type | | |
|--------------------|---|---------------------------|--------------------|
| 3051S | Scalable pressure transmitter | | |
| Code | Performance Class | | |
| 1 ⁽¹⁾ | Ultra: 0.025% span accuracy, 200:1 rangedown, 10-year stability, 12-year limited warranty | | |
| 2 | Classic: 0.055% span accuracy, 100:1 rangedown, 5-year stability | | |
| Code | Device Type | | |
| T | In-Line | | |
| Code | Measurement Type | | |
| G | Gage | | |
| A | Absolute | | |
| Code | Pressure Range | | |
| | TG | TA | |
| 1A | -14.7 to 30 psi (-1,0 to 2,1 bar) | 0 to 30 psia (2,1 bar) | |
| 2A | -14.7 to 150 psi (-1,0 to 10,3 bar) | 0 to 150 psia (10,3 bar) | |
| 3A | -14.7 to 800 psi (-1,0 to 55 bar) | 0 to 800 psia (55 bar) | |
| 4A | -14.7 to 4000 psi (-1,0 to 276 bar) | 0 to 4000 psia (276 bar) | |
| 5A | -14.7 to 10000 psi (-1,0 to 689 bar) | 0 to 10000 psia (689 bar) | |
| Code | Isolating Diaphragm / Process Connection Material | | |
| 2 ⁽²⁾ | 316L SST | | |
| 3 ⁽²⁾ | Hastelloy C-276 | | |
| Code | Process Connection Style ⁽³⁾ | | |
| A11 | Assemble to Rosemount 306 integral manifold | | |
| B11 ⁽⁴⁾ | Assemble to one Rosemount 1199 diaphragm seal | | |
| E11 | 1/2-14 NPT female | | |
| F11 | Non-threaded instrument-flange (I-flange) (Range 1-4 only) | | |
| G11 | G 1/2 A DIN 16288 male (Range 1-4 only) | | |
| H11 | Coned and threaded, compatible with autoclave type F-250-C (Range 5A only) | | |
| Code | Output ⁽⁵⁾ | | |
| A | 4-20 mA with digital signal based on HART protocol | | |
| F ⁽⁶⁾ | FOUNDATION fieldbus protocol | | |
| X ⁽⁷⁾ | Wireless (Requires wireless options and wireless housing 5A) | | |
| Code | Housing Style | Materials ⁽⁸⁾ | Conduit Entry Size |
| 00 | None (SuperModule Platform only, no housing included) | | |
| 01 ⁽⁹⁾ | Assemble to Rosemount 753R Web-Based Monitoring Indicator | | |
| 1A | PlantWeb housing | Aluminum | 1/2-14 NPT |
| 1B | PlantWeb housing | Aluminum | M20 x 1.5 (CM20) |
| 1C | PlantWeb housing | Aluminum | G 1/2 |
| 1J | PlantWeb housing | 316L SST | 1/2-14 NPT |
| 1K | PlantWeb housing | 316L SST | M20 x 1.5 (CM20) |
| 1L | PlantWeb housing | 316L SST | G 1/2 |
| 5A | Wireless PlantWeb housing | Aluminum | 1/2-14 NPT |
| 2A | Junction Box housing | Aluminum | 1/2-14 NPT |
| 2B | Junction Box housing | Aluminum | M20 x 1.5 (CM20) |
| 2C | Junction Box housing | Aluminum | G 1/2 |
| 2J | Junction Box housing | 316L SST | 1/2-14 NPT |
| 2E | Junction Box housing with output for remote interface | Aluminum | 1/2-14 NPT |
| 2F | Junction Box housing with output for remote interface | Aluminum | M20 x 1.5 (CM20) |
| 2G | Junction Box housing with output for remote interface | Aluminum | G 1/2 |
| 2M | Junction Box housing with output for remote interface | 316L SST | 1/2-14 NPT |
| 7J ⁽¹⁰⁾ | Quick Connect (A size Mini, 4-pin male termination) | 316L SST | |

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| Code | Options |
|--|--|
| PlantWeb Control Functionality | |
| A01 ⁽¹¹⁾ | FOUNDATION fieldbus Advanced Control Function Block Suite |
| PlantWeb Diagnostic Functionality | |
| D01 ⁽¹¹⁾ | FOUNDATION fieldbus Diagnostics Suite |
| DA1 ⁽¹²⁾ | HART Diagnostics Suite |
| Code Wireless Options - Select code from each wireless category (example: WA2WK1) | |
| Wireless Transmit Rate | |
| WA | User Configurable Transmit Rate |
| Operating Frequency and Protocol | |
| 1 | 2.4 GHz DSSS, HART |
| 2 | 900 MHz FHSS, HART |
| Antenna | |
| WK | Omnidirectional, Integral Antenna |
| SmartPower™ | |
| 1 | Long-life Power Module Adapter, Intrinsically Safe NOTE: Long-life Power Module must be shipped separately, order Part No. 00753-9220-0001. |
| Code Options | |
| Mounting Bracket | |
| B4 | Bracket, all SST, 2-in. pipe and panel |
| Special Configuration (Software)⁽¹³⁾ | |
| C1 ⁽¹³⁾ | Custom software configuration <i>Note: A Configuration Data Sheet must be completed, see document number 00806-0100-4801 for HART and 00806-0100-4802 for wireless.</i> |
| C4 ⁽¹⁾⁽¹³⁾ | NAMUR alarm and saturation values, high alarm |
| C5 ⁽¹⁾⁽¹³⁾ | NAMUR alarm and saturation values, low alarm |
| C6 ⁽¹⁾⁽¹³⁾ | Custom alarm and saturation signal levels, high alarm <i>Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see document number 00806-0100-4801.</i> |
| C7 ⁽¹⁾⁽¹³⁾ | Custom alarm and saturation signal levels, low alarm <i>Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see document number 00806-0100-4801.</i> |
| C8 ⁽¹⁾⁽¹³⁾ | Low alarm (Standard Rosemount alarm and saturation signal levels) |
| Special Configuration (Hardware) | |
| D1 ⁽¹⁾⁽¹³⁾ | Hardware adjustments (zero, span, alarm, security) <i>Note: Not available with Housing Style codes 00, 01, 2E, 2F, 2G, 2M, 5A, or 7J.</i> |
| D4 | External ground screw assembly |
| Product Certifications⁽¹⁴⁾ | |
| E1 | ATEX Flameproof |
| I1 | ATEX Intrinsic Safety |
| IA | ATEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only |
| N1 | ATEX Type n |
| K1 | ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND) |
| ND | ATEX Dust |
| E4 | TIIS Flameproof |
| E5 | FM Explosion-proof, Dust Ignition-proof |
| I5 | FM Intrinsically Safe, Division 2 |
| IE | FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only |
| K5 | FM Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5 and I5) |
| E6 | CSA Explosion-proof, Dust Ignition-proof, Division 2 |
| I6 | CSA Intrinsically Safe |
| IF | CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only |
| K6 | CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6) |
| D3 ⁽¹⁵⁾ | Measurement Canada Accuracy Approval |
| E7 | SAA Flameproof, Dust Ignition-proof |
| I7 | IECEX Intrinsic Safety |
| IG | IECEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only |
| N7 | IECEX Type n |
| K7 | SAA Flameproof, Dust Ignition-proof, IECEX Intrinsic Safety, Type n (combination of E7, I7, and N7) |

| | |
|--------------------|--|
| KA | ATEX and CSA Flameproof, Intrinsically Safe, Division 2 (combination of E1, E6, I1, and I6) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| KB | FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5, E6, I5, and I6) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| KC | FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination of E5, E1, I5, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| KD | FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of E5, E6, E1, I5, I6, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> |
| DW ⁽¹⁶⁾ | NSF Drinking Water Approval |

Alternate Materials of Construction

| | |
|----|---|
| L1 | Inert sensor fill fluid <i>Note: Silicone fill fluid is standard.</i> |
|----|---|

Digital Display⁽¹⁷⁾

| | |
|-----------------------|--|
| M5 | PlantWeb LCD Display |
| M7 ⁽¹⁾⁽¹⁸⁾ | Remote mount LCD display and interface, no cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output <i>Note: Use Belden 3084A cable or equivalent. Contact an Emerson Process Management representative for additional information.</i> |
| M8 ⁽¹⁾⁽¹⁸⁾ | Remote mount LCD display and interface, 50 ft. (15 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output |
| M9 ⁽¹⁾⁽¹⁸⁾ | Remote mount LCD display and interface, 100 ft. (31 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output |

Special Procedures

| | |
|--------------------|--|
| P1 | Hydrostatic testing with certificate |
| P2 ⁽¹⁹⁾ | Cleaning for special services |
| P3 ⁽¹⁹⁾ | Cleaning for less than 1 PPM chlorine/fluorine |

Special Certifications

| | |
|-----------------------|--|
| Q4 | Calibration certificate |
| QP | Calibration certificate and tamper evident seal |
| Q8 ⁽¹⁾ | Material traceability certification per EN 10204 3.1.B |
| QS ⁽¹⁾⁽²⁰⁾ | Prior-use certificate of FMEDA Data |
| QT ⁽²¹⁾ | Safety-certified to IEC 61508 with certificate of FMEDA data |
| Q16 ⁽¹⁾ | Surface finish certification for sanitary remote seals |
| QZ | Remote Seal System Performance Calculation Report |

Terminal Blocks

| | |
|--------------------|--|
| T1 ⁽²²⁾ | Transient terminal block |
| T2 ⁽²³⁾ | Terminal block with WAGO [®] spring clamp terminals |
| T3 ⁽²³⁾ | Transient terminal block with WAGO spring clamp terminals |

Conduit Electrical Connector

| | |
|--------------------|---|
| GE ⁽²⁴⁾ | M12, 4-pin, Male Connector (<i>euromast</i> [®]) |
| GM ⁽²⁴⁾ | A size Mini, 4-pin, Male Connector (<i>minifast</i> [®]) |

Typical Model Number: 3051S1TG 2A 2 E11 A 1A DA1 B4 M5

- (1) Not available with output code X.
- (2) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.
- (3) "Assemble to" items are specified separately and require a completed model number.
- (4) Contact an Emerson Process Management representative for performance specifications.
- (5) For spare SuperModule Platforms, select output code A.
- (6) Requires PlantWeb housing.
- (7) Available approvals are FM Intrinsically Safe, Division 2 (option code I5), CSA Intrinsically Safe (option code I6), ATEX Intrinsic Safety (option code I1; only available with 2.4 GHz), and IECEx Intrinsic Safety (option code I7; only available with 2.4 GHz).
- (8) Material specified is cast as follows: CF-3M is the cast version of 316L SST. For housing, material is aluminum with polyurethane paint.
- (9) Available with output code A only. Not available with approvals. See Rosemount 753R Product Data Sheet, 00813-0100-4379, to specify Web-Based Monitoring Indicator. Does not integrate into plant host systems.
- (10) Available with output code A only. Available approvals are FM Intrinsically Safe, Division 2 (option code I5), ATEX Intrinsic Safety (option code I1), or IECEx Intrinsic Safety (option code I7). Contact an Emerson Process Management representative for additional information.
- (11) Requires PlantWeb housing and output code F.
- (12) Requires PlantWeb housing and output code A. Includes Hardware Adjustments as standard. Not available with option code QT.
- (13) Not available with output code F or Housing code 01.
- (14) Valid when SuperModule Platform and housing have equivalent approvals.

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- (15) Requires PlantWeb housing and Hardware Adjustments option code D1. Limited availability depending on transmitter type and range. Contact an Emerson Process Management representative for additional information.*
- (16) Requires 316L SST wetted materials and Process Connection code E11 or G11.*
- (17) Not available with Housing code 01 and 7J.*
- (18) Not available with output code F, Housing code 01, option code DA1, or option code QT.*
- (19) Not available with process connection option code A11.*
- (20) Not available with Housing code 01.*
- (21) Not available with output code F or X. Not available with housing code 01 or 7J.*
- (22) Not available with Housing code 00, 01, 5A, or 7J.*
- (23) Available with output code A and PlantWeb housing only.*
- (24) Not available with Housing code 00, 01, 5A, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Division 2 (option code I5) or FM FISCO Intrinsically Safe (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain outdoor rating (NEMA 4X and IP66).*

Rosemount 3051S

Rosemount 3051S Series Liquid Level

Select either FF diaphragm seal type (see "Flush Flanged Seal" on page Pressure-41) or for EF diaphragm seal type (see "Extended Flanged Seal" on page Pressure-42) and then finish this selection by choosing transmitter options.

| Model | Transmitter Type | | |
|-------------------|---|--|--------------------------|
| 3051S | Scalable pressure transmitter | | |
| Code | Performance Class | | |
| 1 ⁽¹⁾ | Ultra: 0.065% span accuracy, 100:1 rangedown, 12-year limited warranty | | |
| 2 | Classic: 0.065% span accuracy, 100:1 rangedown | | |
| Code | Connection Type | | |
| L | Level | | |
| Code | Measurement Type | | |
| D | Differential | | |
| G | Gage | | |
| A | Absolute | | |
| Code | Pressure Range | | |
| | Differential (LD) | Gage (LG) | Absolute (LA) |
| 1A | -25 to 25 inH ₂ O (-62,2 to 62,2 mbar) | -25 to 25 inH ₂ O (-62,2 to 62,2 mbar) | 0 to 30 psia (2,1 bar) |
| 2A | -250 to 250 inH ₂ O (-623 to 623 mbar) | -250 to 250 inH ₂ O (-623 to 623 mbar) | 0 to 150 psia (10 bar) |
| 3A | -1000 to 1000 inH ₂ O (-2,5 to 2,5 bar) | -393 to 1000 inH ₂ O (-0,98 to 2,5 bar) | 0 to 800 psia (55 bar) |
| 4A | -300 to 300 psi (-20,7 to 20,7 bar) | -14.2 to 300 psig (-0,98 to 21 bar) | 0 to 4000 psia (276 bar) |
| 5A | -2000 to 2000 psi (-137,9 to 137,9 bar) | -14.2 to 2000 psig (-0,98 to 137,9 bar) | N/A |
| Code | Output ⁽²⁾ | | |
| A | 4-20 mA with digital signal based on HART protocol | | |
| F ⁽³⁾ | FOUNDATION fieldbus protocol | | |
| X ⁽⁴⁾ | Wireless (Requires wireless options and wireless housing 5A) | | |
| Code | Housing Style | Material ⁽⁵⁾ | Conduit Entry |
| 00 | None (SuperModule Platform only, no housing included) | | |
| 01 ⁽⁶⁾ | Assemble to Rosemount 753R Web-Based Monitoring Indicator | | |
| 1A | PlantWeb housing | Aluminum | 1/2-14 NPT |
| 1B | PlantWeb housing | Aluminum | M20 x 1.5 (CM20) |
| 1C | PlantWeb housing | Aluminum | G1/2 |
| 1J | PlantWeb housing | 316L SST | 1/2-14 NPT |
| 1K | PlantWeb housing | 316L SST | M20 x 1.5 (CM20) |
| 1L | PlantWeb housing | 316L SST | G1/2 |
| 5A | Wireless PlantWeb housing | Aluminum | 1/2-14 NPT |
| 2A | Junction Box housing | Aluminum | 1/2-14 NPT |
| 2B | Junction Box housing | Aluminum | M20 x 1.5 (CM20) |
| 2C | Junction Box housing | Aluminum | G1/2 |
| 2J | Junction Box housing | 316L SST | 1/2-14 NPT |
| 2E | Junction Box with output for remote interface | Aluminum | 1/2-14 NPT |
| 2F | Junction Box with output for remote interface | Aluminum | M20 x 1.5 (CM20) |
| 2G | Junction Box with output for remote interface | Aluminum | G1/2 |
| 2M | Junction Box with output for remote interface | 316L SST | 1/2-14 NPT |
| 7J ⁽⁷⁾ | Quick Connect (A size Mini, 4-pin male termination) | 316L SST | |
| Code | Seal System Type | | |
| 1 | Direct-mount diaphragm seal system | | |
| Code | High Pressure Side Extension (between transmitter flange and seal) | | |
| 0 | Direct-mount (No extension) | | |
| Code | Low Pressure Side Connection (sensor module) | | |
| 1 | One capillary connection remote diaphragm seal (see Rosemount 1199 ordering table for seal information) | | |
| 2 | 316L SST isolator / 316 SST transmitter flange | | |
| 3 | Hastelloy C-276 isolator / 316 SST transmitter flange | | |
| Code | Capillary Length | | |
| 0 | N/A | | |
| Code | Diaphragm Seal Fill Fluid | | |
| A | Syltherm XLT | | |
| C | D. C. Silicone 704 | | |
| D | D. C. Silicone 200 | | |
| H | Inert (Halocarbon) | | |
| G | Glycerine and Water | | |
| N | Neobee M-20 | | |
| P | Propylene Glycol and Water | | |

Next, select either Flush Flanged (FF) diaphragm seal (see page Pressure-41) or Extended Flanged (EF) diaphragm seal(see page Pressure-42).

Seal Options (page Pressure-41—42)

Flush Flanged Seal

| Code | Process Connection Style | |
|--------------------|--|-----------------------------|
| FF | Flush Flanged, Ra 125-250 gasket surface | |
| Code | Diaphragm Seal Size (High Side) | |
| G | 2-in./DN 50 | |
| 7 | 3-in. | |
| J | DN 80 | |
| 9 | 4-in./DN 100 | |
| Code | Flange Rating (High Side) | |
| 1 | Class 150 | |
| 2 | Class 300 | |
| 4 | Class 600 | |
| G | PN 40 | |
| E | PN 10/16; available with 4 in. DN 100 only | |
| Code | Isolator Material | Flange Material (High Side) |
| CA | 316L SST | CS |
| DA | 316L SST | 316 SST |
| CB | Hastelloy | CS |
| DB | Hastelloy | 316 SST |
| CC | Tantalum - seam welded ⁽⁸⁾ | CS |
| DC | Tantalum - seam welded ⁽⁸⁾ | 316 SST |
| Code | Lower Housing Material (High Side) ⁽⁹⁾ | |
| 0 | None | |
| A | 316 SST | |
| B | Hastelloy | |
| Code | Flushing Connection Quantity and Size (Lower Housing, High Side) | |
| 0 | None | |
| 1 | 1 (1/4-in.) | |
| 3 | 2 (1/4-in.) | |
| 7 | 1 (1/2-in.) | |
| 9 | 2 (1/2-in.) | |
| Code | Seal Options: Flushing Connections | |
| SD | Hastelloy C-276 Plug in Flushing Connection | |
| SG | 316 SST Plug in Flushing Connection | |
| SH | 316 SST Vent/Drain Valve in Flushing Connection | |
| Code | Seal Options: Gaskets | |
| SJ | PTFE gasket for lower housing | |
| SK | Gylon gasket for lower housing | |
| SN | Grafoil™ gasket for lower housing | |
| Code | Other Options | |
| ST ⁽¹⁰⁾ | Materials per NACE MR0175/ISO 15156, MR0103 | |

Continue with transmitter options on page Pressure-42

- (1) Not available with output code X.
- (2) For spare SuperModule Platforms, select output code A.
- (3) Requires PlantWeb housing.
- (4) Available approvals are FM Intrinsically Safe, Division 2 (option code I5), CSA Intrinsically Safe (option code I6), ATEX Intrinsic Safety (option code I1; only available with 2.4 GHz), and IECEx Intrinsic Safety (option code I7; only available with 2.4 GHz).
- (5) Material specified is cast as follows: CF-3M is the cast version of 316L SST. For housing, material is aluminum with polyurethane paint.
- (6) Available with output code A only. Not available with approvals. See Rosemount 753R Product Data Sheet, 00813-0100-4379, to specify Web-Based Monitoring Indicator. Does not integrate into plant host systems.
- (7) Available with output code A only. Available approvals are FM Intrinsically Safe, Division 2 (option code I5), ATEX Intrinsic Safety (option code I1), or IECEx Intrinsic Safety (option code I7). Contact an Emerson Process Management representative for additional information.
- (8) Not recommended for use with spiral wound metallic gaskets (see 1199 product data sheet, document 00813-0100-4016 for additional options).
- (9) Standard gasket for lower housing consists of non-asbestos fiber.
- (10) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

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Extended Flanged Seal

| Code | Process Connection Style | |
|------|---|-----------------------------|
| EF | Extended flanged, Ra 125-250 gasket surface | |
| Code | Diaphragm Seal Size (High Side) | |
| 7 | 3-in./DN 80, 2.58-in. diaphragm | |
| 9 | 4-in./DN 100, 3.5-in. diaphragm | |
| Code | Flange Rating (High Side) | |
| 1 | Class 150 | |
| 2 | Class 300 | |
| 4 | Class 600 | |
| G | PN 40 | |
| E | PN 10/16; available with 4 in. DN 100 only | |
| Code | Isolator Material and Extension Material | Flange Material (High Side) |
| CA | 316L SST | CS |
| DA | 316L SST | 316 SST |
| CB | Hastelloy | CS |
| DB | Hastelloy | 316 SST |
| Code | Extension Length (High Side, 1st Position) | |
| 2 | 2-in./50 mm | |
| 4 | 4-in./100 mm | |
| 6 | 6-in./150 mm | |
| Code | Extension Length (High Side, 2nd Position) | |
| 0 | 0-in./0 mm | |

Continue with transmitter options below

Transmitter Options continued from page Pressure-40

(— = Not Applicable • = Applicable)

| Code | Options |
|-----------------------------------|--|
| PlantWeb Control Functionality | |
| A01 ⁽¹⁾ | FOUNDATION fieldbus Advanced Control Function Block Suite |
| PlantWeb Diagnostic Functionality | |
| D01 ⁽¹⁾ | FOUNDATION fieldbus Diagnostics Suite |
| DA1 ⁽²⁾ | HART Diagnostics Suite |
| Code | Wireless Options - Select code from each wireless category (example: WA2WK1) |
| Wireless Transmit Rate | |
| WA | User Configurable Transmit Rate |
| Operating Frequency and Protocol | |
| 1 | 2.4 GHz DSSS, HART |
| 2 | 900 MHz FHSS, HART |
| Antenna | |
| WK | Omnidirectional, Integral Antenna |
| SmartPower™ | |
| 1 | Long-life Power Module Adapter, Intrinsically Safe NOTE: Long-life Power Module must be shipped separately, order Part No. 00753-9220-0001. |
| Code | Options |
| Special Configuration (Software) | |
| C1 ⁽³⁾ | Custom software configuration <i>Note: A Configuration Data Sheet must be completed, see document number 00806-0100-4801 for HART and 00806-0100-4802 for wireless.</i> |
| C3 | Gage pressure calibration on Rosemount 3051S_LA4 only |
| C4 ⁽³⁾⁽⁴⁾ | NAMUR alarm and saturation levels, high alarm |
| C5 ⁽³⁾⁽⁴⁾ | NAMUR alarm and saturation levels, low alarm |
| C6 ⁽³⁾⁽⁴⁾ | Custom alarm and saturation signal levels, high alarm <i>Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see document number 00806-0100-4801.</i> |
| C7 ⁽³⁾⁽⁴⁾ | Custom alarm and saturation signal levels, low alarm <i>Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see document number 00806-0100-4801.</i> |
| C8 ⁽³⁾⁽⁴⁾ | Low alarm (standard Rosemount alarm and saturation levels) |

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| Special Configuration (hardware) | | LD | LG | LA |
|---|--|-----------|-----------|-----------|
| D1 ⁽⁴⁾ | Hardware adjustments (zero, span, alarm, security) <i>Note: Not available with fieldbus protocol or Housing Style codes 00, 01, 2E, 2F, 2G, 2M, 5A, or 7J.</i> | • | • | • |
| D2 | 1/2-14 NPT process connections process adapters | • | — | — |
| D4 | External ground screw assembly | • | • | • |
| D5 | Delete transmitter drain/vent valves (install plugs) | • | — | — |
| D8 | Ceramic drain/vent valves | • | — | — |
| D9 | RC 1/2 process connections (process adapters) | • | — | — |
| Product Certifications⁽⁵⁾ | | | | |
| E1 | ATEX Flameproof | | | |
| I1 | ATEX Intrinsic Safety | | | |
| IA | ATEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only | | | |
| N1 | ATEX Type n | | | |
| K1 | ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND) | | | |
| ND | ATEX Dust | | | |
| E4 | TIIS Flameproof | | | |
| E5 | FM Explosion-proof, Dust Ignition-proof | | | |
| I5 | FM Intrinsically Safe, Division 2 | | | |
| IE | FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only | | | |
| K5 | FM Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5 and I5) | | | |
| E6 | CSA Explosion-proof, Dust Ignition-proof, Division 2 | | | |
| I6 | CSA Intrinsically Safe | | | |
| IF | CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only | | | |
| K6 | CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6) | | | |
| D3 ⁽⁶⁾ | Measurement Canada Accuracy Approval | | | |
| E7 | SAA Flameproof, Dust Ignition-proof | | | |
| I7 | IECEX Intrinsic Safety | | | |
| IG | IECEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only | | | |
| N7 | IECEX Type n | | | |
| K7 | SAA Flameproof, Dust Ignition-proof, IECEX Intrinsic Safety, Type n (combination of E7, I7, and N7) | | | |
| KA | ATEX and CSA Flameproof, Intrinsically Safe, Division 2 (combination of E1, E6, I1, and I6) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> | | | |
| KB | FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5, E6, I5, and I6) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> | | | |
| KC | FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination of E5, E1, I5, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> | | | |
| KD | FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of E5, E6, E1, I5, I6, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i> | | | |
| Alternate Materials of Construction | | | | |
| L1 | Inert sensor fill fluid (differential and gage only) <i>Note: Silicone fill fluid is standard.</i> | | | |
| L2 | Graphite-filled PTFE o-ring | | | |
| L4 | Austenitic 316 SST bolts | | | |
| L5 | ASTM A 193, Grade B7M bolts | | | |
| L6 | Monel bolts | | | |
| L7 | ASTM A 453, Class A, Grade 660 bolts | | | |
| L8 | ASTM A 193, Class 2, Grade B8M bolts | | | |
| Digital Display⁽⁷⁾ | | | | |
| M5 | PlantWeb LCD Display | | | |
| M7 ⁽⁴⁾⁽⁸⁾ | Remote mount LCD display and interface, no cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output <i>Note: Use Belden 3084A cable or equivalent. Contact an Emerson Process Management representative for additional information.</i> | | | |
| M8 ⁽⁴⁾⁽⁸⁾ | Remote mount LCD display and interface, 50 ft. (15 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output | | | |
| M9 ⁽⁴⁾⁽⁸⁾ | Remote mount LCD display and interface, 100 ft. (31 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output | | | |
| Special Procedures | | | | |
| P1 | Hydrostatic testing with certificate | | | |
| P2 | Cleaning for special services | | | |
| P3 | Cleaning for less than 1PPM chlorine/fluorine | | | |
| Special Certifications | | | | |
| Q4 | Calibration certificate | | | |
| QP | Calibration certificate and tamper evident seal | | | |
| Q8 ⁽⁴⁾ | Material traceability certification per EN 10204 3.1.B | | | |
| QS ⁽⁴⁾⁽⁹⁾ | Prior-use certificate of FMEDA Data | | | |
| QT ⁽¹⁰⁾ | Safety-certified to IEC 61508 with certificate of FMEDA data | | | |
| QZ | Remote Seal System Performance Calculation Report | | | |

Rosemount 3051S

Terminal blocks

| | |
|--------------------|---|
| T1 ⁽¹¹⁾ | Transient terminal block |
| T2 ⁽¹²⁾ | Terminal block with WAGO® spring clamp terminals |
| T3 ⁽¹²⁾ | Transient terminal block with WAGO spring clamp terminals |

Conduit Electrical Connector

| | |
|--------------------|---|
| GE ⁽¹³⁾ | M12, 4-pin, Male Connector (<i>eurofast</i> ®) |
| GM ⁽¹³⁾ | A size Mini, 4-pin, Male Connector (<i>minifast</i> ®) |

| | | | | | | | | | | | | | | | |
|--|-----------------|-----------|----------|-----------|----------|----------|----------|----------|----------|-----------|----------|----------|-----------|----------|----------|
| Typical Model Number for FF seal: | 3051S2LD | 2A | A | 1A | 1 | 0 | 2 | 0 | D | FF | 7 | 1 | DA | 0 | 0 |
| Typical Model Number for EF seal: | 3051S2LD | 2A | A | 1A | 1 | 0 | 2 | 0 | D | EF | 7 | 1 | DA | 2 | 0 |

- (1) Requires PlantWeb housing and output code F.
- (2) Requires PlantWeb housing and output code A. Includes Hardware Adjustments as standard. Not available with option code QT.
- (3) Not available with output code F or Housing code 01.
- (4) Not available with output code X.
- (5) Valid when SuperModule Platform and housing have equivalent approvals.
- (6) Requires PlantWeb housing and Hardware Adjustments option code D1. Limited availability depending on transmitter type and range. Contact an Emerson Process Management representative for additional information.
- (7) Not available with Housing Code 01 or 7J.
- (8) Not available with output code F, Housing code 01, option code DA1, or option code QT.
- (9) Not available with Housing code 01.
- (10) Not available with output code F or X. Not available with housing code 01 or 7J.
- (11) Not available with Housing code 00, 01, 5A, or 7J.
- (12) Available with output code A and PlantWeb housing only.
- (13) Not available with Housing code 00, 01, 5A, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Division 2 (option code I5) or FM FISCO Intrinsically Safe (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain outdoor rating (NEMA 4X and IP66).

Rosemount 300S Series Housing “Kit”

| Model | | | |
|--|--|-------------------------------|----------------------|
| 300S | Housing “Kit” for Rosemount 3051S Scalable Pressure Transmitter | | |
| Code | Housing Style | Material⁽¹⁾ | Conduit Entry |
| 1A | PlantWeb housing | Aluminum | 1/2–14 NPT |
| 1B | PlantWeb housing | Aluminum | M20 x 1.5 (CM20) |
| 1C | PlantWeb housing | Aluminum | G ^{1/2} |
| 1J | PlantWeb housing | 316L SST | 1/2–14 NPT |
| 1K | PlantWeb housing | 316L SST | M20 x 1.5 (CM20) |
| 1L | PlantWeb housing | 316L SST | G ^{1/2} |
| 2A | Junction Box housing | Aluminum | 1/2–14 NPT |
| 2B | Junction Box housing | Aluminum | M20 x 1.5 (CM20) |
| 2C | Junction Box housing | Aluminum | G ^{1/2} |
| 2J | Junction Box housing | 316L SST | 1/2–14 NPT |
| 2E | Junction Box housing with output for remote interface | Aluminum | 1/2–14 NPT |
| 2F | Junction Box housing with output for remote interface | Aluminum | M20 x 1.5 (CM20) |
| 2G | Junction Box housing with output for remote interface | Aluminum | G ^{1/2} |
| 2M | Junction Box housing with output for remote interface | 316L SST | 1/2–14 NPT |
| 3A | Remote mount display and interface housing | Aluminum | 1/2–14 NPT |
| 3B | Remote mount display and interface housing | Aluminum | M20 x 1.5 (CM20) |
| 3C | Remote mount display and interface housing | Aluminum | G ^{1/2} |
| 3J | Remote mount display and interface housing | 316L SST | 1/2–14 NPT |
| 7J ⁽²⁾ | Quick Connect (A size Mini, 4-pin male termination) | 316L SST | |
| Code | Output | | |
| A | 4-20 mA with digital signal based on HART protocol | | |
| F ⁽³⁾ | FOUNDATION fieldbus protocol | | |
| Code | Options | | |
| PlantWeb Control Functionality | | | |
| A01 ⁽⁴⁾ | FOUNDATION fieldbus Advanced Control Function Block Suite | | |
| PlantWeb Diagnostic Functionality | | | |
| D01 ⁽⁴⁾ | FOUNDATION fieldbus Diagnostics Suite | | |
| DA1 ⁽⁵⁾ | HART Diagnostics Suite | | |
| Special Configuration (Hardware) | | | |
| D1 ⁽⁶⁾ | Hardware adjustments (zero, span, alarm, security) <i>Note: Not available with Housing Style codes 2E, 2F, 2G, 2M, 3A, 3B, 3C, 3J, or 7J.</i> | | |
| Product Certifications | | | |
| E1 | ATEX Flameproof | | |
| I1 | ATEX Intrinsic Safety | | |
| IA | ATEX FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only | | |
| N1 | ATEX Type n | | |
| K1 | ATEX Flameproof, Intrinsic Safety, Type n, Dust (combination of E1, I1, N1, and ND) | | |
| ND | ATEX Dust | | |
| E5 | FM Explosion-proof, Dust Ignition-proof | | |
| I5 | FM Intrinsically Safe, Division 2 | | |
| IE | FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only | | |
| K5 | FM Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5 and I5) | | |
| E6 | CSA Explosion-proof, Dust Ignition-proof, Division 2 | | |
| I6 | CSA Intrinsically Safe | | |
| IF | CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only | | |
| K6 | CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E6 and I6) | | |
| E7 | SAA Flameproof, Dust Ignition-proof | | |
| I7 | IECEx Intrinsic Safety | | |
| IG | IECEx FISCO Intrinsic Safety; for FOUNDATION fieldbus protocol only | | |
| N7 | IECEx Type n | | |
| K7 | SAA Flameproof, Dust Ignition-proof, IECEx Intrinsic Safety, Type n (combination of E7, I7, and N7) | | |

Rosemount 3051S

| | |
|----|--|
| KA | ATEX and CSA Flameproof, Intrinsically Safe, Division 2 (combination of E1, E6, I1, and I6) <i>Note: Only available on Housing Style codes IA, IJ, 2A, 2J, 2E, 2M, 3A, or 3J.</i> |
| KB | FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, Division 2 (combination of E5, E6, I5, and I6) <i>Note: Only available on Housing Style codes IA, IJ, 2A, 2J, 2E, 2M, 3A, or 3J.</i> |
| KC | FM and ATEX Explosion-proof, Intrinsically Safe, Division 2 (combination of E5, E1, I5, and I1) <i>Note: Only available on Housing Style codes IA, IJ, 2A, 2J, 2E, 2M, 3A, or 3J.</i> |
| KD | FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of E5, E6, E1, I5, I6, and I1) <i>Note: Only available on Housing Style codes IA, IJ, 2A, 2J, 2E, 2M, 3A, or 3J.</i> |

Digital Display⁽⁷⁾

| | |
|-------------------|--|
| M5 | PlantWeb LCD Display |
| M7 ⁽⁸⁾ | Remote mount LCD display and interface, no cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output <i>Note: Use Belden 3084A cable or equivalent. Contact an Emerson Process Management representative for additional information.</i> |
| M8 ⁽⁸⁾ | Remote mount LCD display and interface, 50 ft. (15 m) cable; SST bracket, requires 4-20 mA / HART output |
| M9 ⁽⁸⁾ | Remote mount LCD display and interface, 100 ft. (31 m) cable; SST bracket, requires 4-20 mA / HART output |

Terminal Blocks

| | |
|--------------------|--|
| T1 ⁽⁹⁾ | Transient terminal block |
| T2 ⁽¹⁰⁾ | Terminal block with WAGO [®] spring clamp terminals |
| T3 ⁽¹⁰⁾ | Transient terminal block with WAGO spring clamp terminals |

Conduit Electrical Connector

| | |
|--------------------|--|
| GE ⁽¹¹⁾ | M12, 4-pin, Male Connector (<i>euromast[®]</i>) |
| GM ⁽¹¹⁾ | A size Mini, 4-pin, Male Connector (<i>minifast[®]</i>) |

Typical Model Number: 300S 1A A E5

- (1) Material specified is cast as follows: CF-3M is the cast version of 316L SST. For housing, material is aluminum with polyurethane paint.
- (2) Available with output code A only. Not available with approvals. Contact an Emerson Process Management representative for additional information.
- (3) Requires PlantWeb housing.
- (4) Requires PlantWeb housing and output code F.
- (5) Requires PlantWeb housing and output code A. Includes Hardware Adjustments as standard.
- (6) Not available with output code F.
- (7) Not available with Housing code 7J.
- (8) Not available with output code F or option code DA1. Only available on Housing Style codes 3A, 3B, 3C, or 3J.
- (9) Not available with Housing code 3A, 3B, 3C, 3J, or 7J.
- (10) Available with output code A and PlantWeb housing only.
- (11) Not available with Housing code 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Division 2 (option code I5) or FM FISCO Intrinsically Safe (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain outdoor rating (NEMA 4X and IP66).

ACCESSORIES

**Rosemount Engineering Assistant (EA)
 Software Packages**

The Rosemount Engineering Assistant software supports mass flow configuration for FOUNDATION fieldbus. The package is available with or without modem and connecting cables. All configurations are packaged separately.

For best performance of the EA Software, the following computer hardware and software is recommended:

- Pentium, 800MHz personal computer or above
- 512 MB RAM
- 350 MB of available hard disk space
- Mouse or other pointing device
- Color computer display
- Microsoft® Windows™ 2000 or XP

Engineering Assistant Software Packages

| Code | Product Description |
|--|--|
| EA | Engineering Assistant Software Package |
| Code | Software Version |
| 2 ⁽¹⁾ | EA Rev. 5 (Compatible with 3095, 3051S FOUNDATION fieldbus, and 333) |
| Code | Language |
| E | English |
| Code | Modem and Connecting Cables |
| O | None |
| E | 770 USB to FOUNDATION fieldbus Interface |
| C | FOUNDATION fieldbus PCM-CIA Interface Card and Cables |
| Code | License |
| N1 | Single PC license |
| N2 | Site license |
| Typical Model Number: EA 2 E O N1 | |

(1) EA-FOUNDATION fieldbus supports Windows 2000 and XP.

Accessories

| Item Description | Part Number |
|--|-----------------|
| FOUNDATION fieldbus PCM-CIA Interface Card and Cables Only | 03095-5108-0001 |

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This 3051 product may be protected by one or more of the following: U.S. Patent Nos. 4466290; 4612812; 4866435; 4988990; 5083091; 5122794; 5166678; 5248167; 5287746; 5333504; 5585777; 6017143; 6119047; Des. 439177; Des. 439178; Des. 439179; Des. 439180; Des. 439181; Des. 441672. May depend on model. Other U.S. and foreign patents issued and pending.

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