

# Rosemount 3051S Series

- *Industry leading performance with 0.025% accuracy*
- *Industry's first %-of-reading flow transmitter delivering a 10x performance improvement*
- *Industry's first 10-year stability under actual process conditions*
- *Unprecedented reliability backed by a limited 12-year warranty*
- *Scalable SuperModule<sup>®</sup> Platform enables more cost effective installation and maintenance practices to meet expanding needs*
- *Advanced PlantWeb<sup>®</sup> functionality for HART<sup>®</sup> and FOUNDATION fieldbus<sup>™</sup> to increase plant availability*
- *Improved user interface with enhanced Electronic Device Description Language (EDDL)*
- *Safety Certified to IEC61508 by TÜV*



## Contents

Rosemount 3051S Selection Guide .....	page Pressure-4
Specifications .....	page Pressure-5
Product Certifications .....	page Pressure-15
Dimensional Drawings.....	page Pressure-18
Ordering Information .....	page Pressure-27
Rosemount 3051S HART Configuration Data Sheet.....	page Pressure-43

## 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 patent-pending manufacturing techniques deliver a 10x performance improvement and a wide flow turndown with the Ultra for Flow performance class.

### Industry's first 10-year stability under actual process conditions

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.

### Unprecedented reliability backed by a limited 12-year warranty

Further enhance installation practices and advanced diagnostic capabilities with the most reliable platform supported by a 12-year warranty.

### 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 needs.

### Advanced *PlantWeb* functionality



The 3051S powers the *PlantWeb* architecture by delivering the best sensor and transmitter with the scalable *SuperModule* Platform, best installation practices for pressure, flow, and level, and best field intelligence with advanced diagnostics for HART and FOUNDATION fieldbus. This enables proactive maintenance and delivers increased process availability.

### Enhanced EDDL

Improved user interface with better organization of device parameters and built in graphing system.

### Safety Certified to IEC61508 by TÜV

The 3051S is certified by TÜV to IEC61508 for single input use in SIL 2 Safety Instrumented Systems and dual input 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 and 306 Integral Manifolds

Factory-assembled, calibrated and seal-tested manifolds reduce on-site 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.

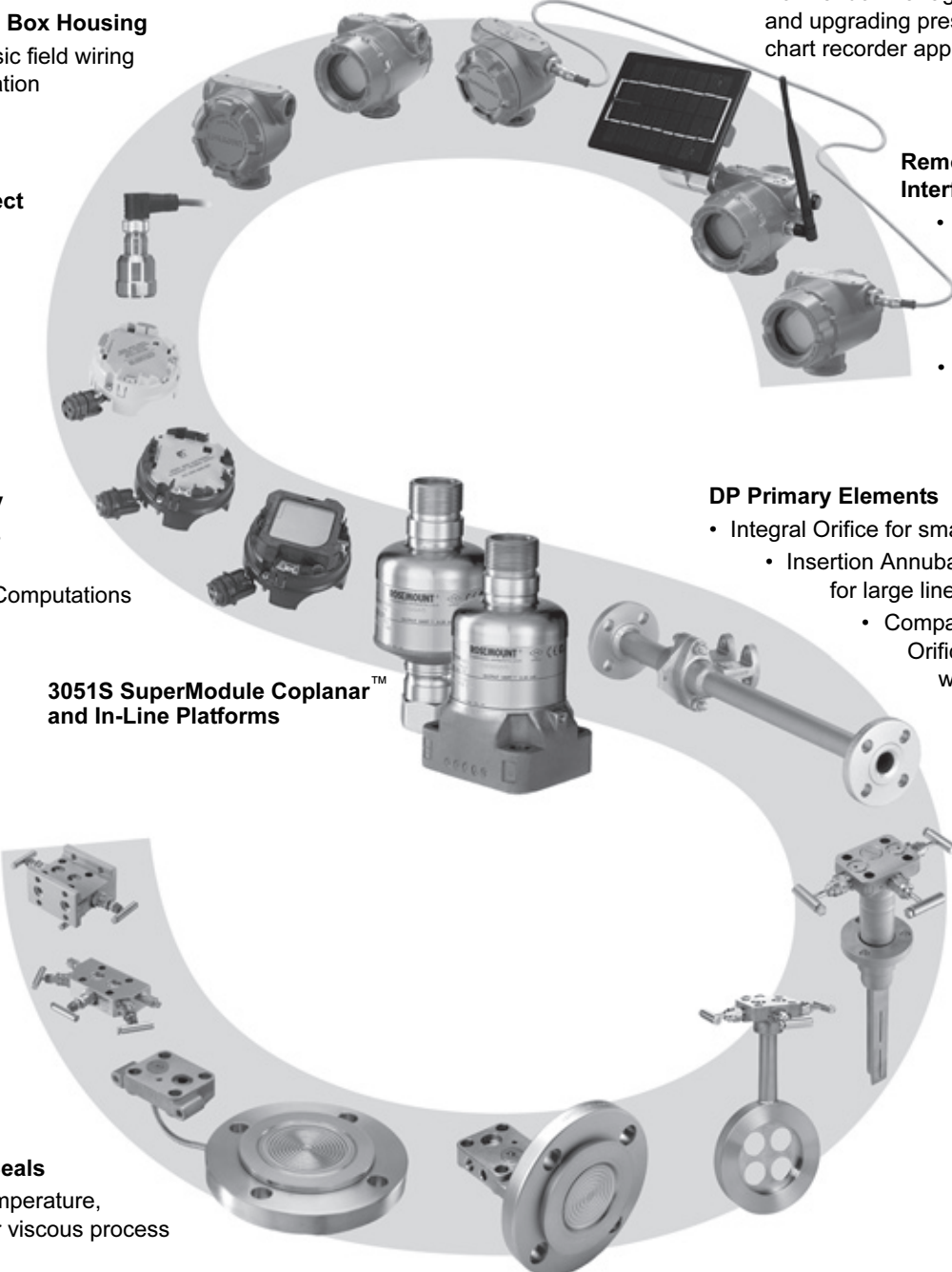
### Compact Orifice Flowmeter Series: Rosemount 3051SFC, 3095MFC, and 405

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



**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

**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

**Quick Connect**

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

**PlantWeb Functionality**

- Diagnostics
- Control and Advanced Computations

**Junction Box Housing**

- For basic field wiring termination

# Rosemount 3051S Series

## Rosemount 3051S Selection Guide

### Rosemount 3051S\_C *Coplanar*<sup>™</sup> Differential, Gage, and Absolute

See ordering information on page Pressure-27.

- Performance up to 0.025% accuracy and 200:1 rangedown
- Available 10-year stability and limited 12-year warranty
- *Coplanar* platform enables integrated manifold, primary element and diaphragm seal solutions
- Calibrated spans from 0.1 inH<sub>2</sub>O to 4000 psi (0,25 mbar to 276 bar)
- 316L SST, *Hastelloy*<sup>®</sup> C, *Monel*<sup>®</sup>, 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-32.

- Performance up to 0.025% accuracy and 200:1 rangedown
- Available 10-year stability and limited 12-year 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-35.

- 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 TFE o-rings, SST materials, *Coplanar* flange (3051S\_C) or 1/2 in.- 14 NPT (3051S\_T) process connections, digital trim values set to equal 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.

#### Reference Accuracy

Models	Ultra <sup>(1) (2) (3)</sup>	Classic <sup>(1) (2) (3)</sup>	Ultra for Flow <sup>(1) (4)</sup>
<b>3051S_CD, CG</b>			
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; $\pm [0.04 + 0.0023 (URL/RDG^{(5)})]$ % 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	
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	
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	
<b>3051S_T</b>			
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	
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	
<b>3051S_CA</b>			
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	
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	
<b>3051S_L</b>			
	±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	

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

(2) For FOUNDATION fieldbus transmitters, use calibrated range in place of span.

(3) For the 3051S SIS Safety Transmitter, follow Classic transmitter specifications. Rangedown is limited to 10:1 with the exception of range 0. The 3051S2CD0 is limited to 2:1 rangedown, 3051S2CA0 is limited to 5:1 rangedown.

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

(5) RDG refers to transmitter reading.

# Rosemount 3051S Series

## Total Performance

Models	Ultra <sup>(1)</sup>	Classic <sup>(1)</sup>	Ultra for Flow <sup>(1)(2)</sup>
<b>3051S_</b>			
CD Ranges 2-3	±0.1% of span; for ±50°F (28°C)	±0.15% of span; for ±50°F (28°C)	±0.1% of reading; for ±50°F (28°C)
CG Ranges 2-5	temperature changes; 0-100%	temperature changes; 0-100%	temperature changes; 0-100%
T Ranges 2-4	relative humidity, up to 740 psi	relative humidity, up to 740 psi	relative humidity, up to 740 psi
CA Ranges 2-4	(51 bar) line pressure (CD only), from 1:1 to 5:1 rangedown.	(51 bar) line pressure (CD only), from 1:1 to 5:1 rangedown.	(51 bar) line pressure, over 8:1 DP turndown from URL.

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

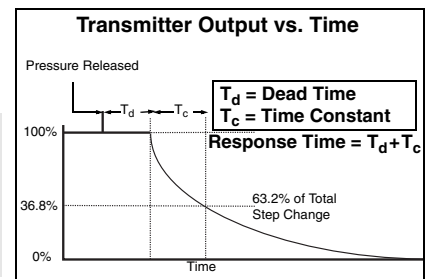
(2) Ultra for Flow applicable for CD Ranges 2-3 only.

## Long Term Stability

Models	Ultra and Ultra for Flow	Classic
<b>3051S_</b>		
CD Ranges 2 - 5	±0.20% of URL for 10 years; for ±50°F (28°C)	±0.125% of URL for 5 years; for ±50°F (28°C)
CG Ranges 2 - 5	temperature changes, up to 1000 psi (68,9 bar)	temperature changes, up to 1000 psi (68,9 bar)
T Ranges 1 - 5 and CA Ranges 1 - 4	line pressure (CD only)	line pressure (CD only)

## Dynamic Performance

	4 - 20 mA (HART®) <sup>(1)</sup>	Fieldbus protocol <sup>(2)</sup>	Typical Transmitter Response Time
<b>Total Response Time (Td + Tc)<sup>(3)</sup>:</b>			
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>	
<b>Process Variable Response Time</b>			
3051S SIS, Ranges 2 - 5	220 milliseconds	Not Applicable	
Range 1:	375 milliseconds	Not Applicable	
Range 0:	820 milliseconds	Not Applicable	
3051S_T:	220 milliseconds	Not Applicable	
3051S_L:	See <i>Instrument Toolkit</i> ™.	Not Applicable	
<b>Dead Time (Td)<sup>(4)</sup></b>	45 milliseconds (nominal)	97 milliseconds	
<b>Update Rate</b>			
3051S	22 times per second	22 times per second	
3051S SIS	11 times per second	Not Applicable	



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

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

(3) Nominal total response time at 75 °F (24 °C) reference conditions. For option code DA1, add 40 milliseconds (nominal) to 4-20 mA (HART®) total response time values.

(4) For option code DA1, dead time (Td) is 85 milliseconds (nominal).

**Ambient Temperature Effect**

Models	Ultra	Classic	Ultra for Flow <sup>(1)</sup>
<b>3051S_CD, CG</b>	<b>per 50 °F (28 °C)</b>	<b>per 50 °F (28 °C)</b>	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 <sup>(2)</sup> )]% reading to 100:1 DP turndown from URL
Range 2 - 5 <sup>(3)</sup>	± (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	
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	
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	
<b>3051S_T</b>			
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 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 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	
Range 1	± (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	
<b>3051S_CA</b>			
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 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	
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	
<b>3051S_L</b>	See <i>Instrument Toolkit</i> <sup>™</sup> .	See <i>Instrument Toolkit</i> .	

(1) Ultra for Flow applicable for CD Ranges 2-3 only.

(2) RDG refers to transmitter reading.

(3) Use Classic specification for 3051S\_CD Range 5 Ultra.

## Line Pressure Effect

For line pressures above 2000 psi (137,9 bar) and ranges 4-5, see the 3051S Series reference manual (document number 00809-0100-4801).

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

(1) Zero error can be calibrated out

## Mounting Position Effects

Models	Ultra, Ultra for Flow, and Classic
3051S_C	Zero shifts up to ±1.25 inH <sub>2</sub> 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 <sub>2</sub> O (25,4 mmH <sub>2</sub> O); with diaphragm in horizontal plane, zero shift of up to 5 inH <sub>2</sub> O (127 mmH <sub>2</sub> 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 <sub>2</sub> O (63,5 mmH <sub>2</sub> 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

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 IEC/EN 61326 and NAMUR NE-21.

## Transient Protection (Option T1)

### All Models:

Meets IEEE C62.41, Category B

6 kV crest (0.5 μs - 100 kHz)

3 kV crest (8 × 20 microseconds)

6 kV crest (1.2 × 50 microseconds)

### General Specifications:

Response Time: < 1 nanosecond

Peak Surge Current: 5000 amps to housing

Peak Transient Voltage: 100 V dc

Loop Impedance: < 25 ohms

Applicable Standards: IEC61000-4-4, IEC61000-4-5

### NOTE:

Calibrations at 68 °F (20 °C) per ASME Z210.1 (ANSI)



**FUNCTIONAL SPECIFICATIONS**

**Range and Sensor Limits <sup>(1)</sup>**

Range	Minimum Span 3051S_			Range and Sensor Limits 3051S_		
	Ultra and Ultra for Flow <sup>(1)</sup>	Classic	Upper (URL)	Lower (LRL)		
				3051S_CD <sup>(2)</sup>	3051S_CG, LG <sup>(3)</sup>	3051S_LD <sup>(3)</sup>
0	0.1 inH <sub>2</sub> O (0,25 mbar)	0.1 inH <sub>2</sub> O (0,25 mbar)	3.0 inH <sub>2</sub> O (7,5 mbar)	-3.0 inH <sub>2</sub> O (-7,5 mbar)	NA	NA
1	0.5 inH <sub>2</sub> O (1,24 mbar)	0.5 inH <sub>2</sub> O (1,24 mbar)	25.0 inH <sub>2</sub> O (62,3 mbar)	-25.0 inH <sub>2</sub> O (-62,3 mbar)	-25.0 inH <sub>2</sub> O (-62,3 mbar)	-25.0 inH <sub>2</sub> O (-62,3 mbar)
2	1.3 inH <sub>2</sub> O (3,11 mbar)	2.5 inH <sub>2</sub> O (6,23 mbar)	250.0 inH <sub>2</sub> O (0,62 bar)	-250.0 inH <sub>2</sub> O (-0,62 bar)	-250.0 inH <sub>2</sub> O (-0,62 bar)	-250.0 inH <sub>2</sub> O (-0,62 bar)
3	5.0 inH <sub>2</sub> O (12,4 mbar)	10.0 inH <sub>2</sub> O (24,9 mbar)	1000.0 inH <sub>2</sub> O (2,49 bar)	-1000.0 inH <sub>2</sub> O (-2,49 bar)	-393.0 inH <sub>2</sub> O (-979 mbar)	-1000.0 inH <sub>2</sub> 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 applicable for CD Ranges 2 – 3 only.
- (2) Lower (LRL) is 0 inH<sub>2</sub>O (0 mbar) for Ultra for Flow.
- (3) When specifying a 3051S\_L Ultra, use Classic minimum span.

3051S_T Range and Sensor Limits					
Range	Minimum Span		Upper (URL)	Lower (LRL) (Abs.)	Lower <sup>(1)</sup> (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 <sup>(1)</sup> Range and Sensor Limits				
Range	Minimum Span		Upper (URL)	Lower (LRL)
	Ultra	Classic		
0 <sup>(2)</sup>	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.

(1) For the 3051S SIS Safety Transmitter, rangedown is limited to 10:1 on all models with the exception of range 0. The 3051S2CD0 is limited to 2:1 rangedown, the 3051S2CA0 is limited to 5:1 rangedown.

## 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.

Standard transmitter (4–20 mA): 10.5 to 42.4 V dc with no load

3051S SIS Safety transmitter: 12 to 42 Vdc with no load

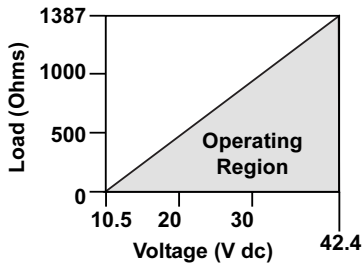
3051S HART Diagnostics transmitter: 12 to 42 Vdc with no load

### Load Limitations

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

#### Standard Transmitter

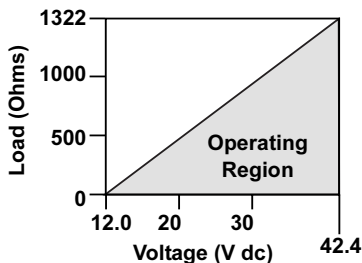
Maximum Loop Resistance =  $43.5 * (\text{Power Supply Voltage} - 10.5)$



The HART communicator requires a minimum loop resistance of  $250\Omega$  for communication.

#### 3051S SIS Safety Transmitter (output code B) 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  $250\Omega$  for communication.

## HART Diagnostics Suite (Option Code DA1)

The 3051S HART Diagnostics Transmitter provides Abnormal Situation Prevention (ASP) indication, device operating hours, variable logging, 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 ASP algorithm uses these values and highly flexible configuration options for customization to detect many user-defined or application specific abnormal situations (e.g. plugged impulse line detection).

The device operating hours are logged along with the occurrence of diagnostic events 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	25 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 3095 Engineering Assistant.

**FOUNDATION fieldbus Diagnostics Suite (Option Code D01)**

3051S FOUNDATION fieldbus Diagnostics provide Abnormal Situation Prevention (ASP) 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 ASP algorithm uses these values and highly flexible configuration options for customization to detect many user-defined or application specific abnormal situations (e.g. plugged impulse line detection).

**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)

# Rosemount 3051S Series

## 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: –4 to 175 °F (–20 to 80 °C)

With option code P0: –4 to 185 °F (–20 to 85 °C)

### Storage

–50 to 230 °F (–46 to 110 °C)

With LCD display: –40 to 185 °F (–40 to 85 °C)

### Process Temperature Limits

At atmospheric pressures and above.

3051S_C Coplanar	
Silicone Fill Sensor <sup>(1)</sup>	
with <i>Coplanar</i> Flange	–40 to 250 °F (–40 to 121 °C) <sup>(2)</sup>
with Traditional Flange	–40 to 300 °F (–40 to 149 °C) <sup>(2)</sup>
with Level Flange	–40 to 300 °F (–40 to 149 °C) <sup>(2)</sup>
with 305 Integral Manifold	–40 to 300 °F (–40 to 149 °C) <sup>(2)</sup>
Inert Fill Sensor <sup>(1)</sup>	0 to 185 °F (–18 to 85 °C) <sup>(3)(4)</sup>
3051S_T In-Line (Process Fill Fluid)	
Silicone Fill Sensor <sup>(1)</sup>	–40 to 250 °F (–40 to 121 °C) <sup>(2)</sup>
Inert Fill Sensor <sup>(1)</sup>	–22 to 250 °F (–30 to 121 °C) <sup>(2)</sup>
3051S_L Low-Side Temperature Limits	
Silicone Fill Sensor <sup>(1)</sup>	–40 to 250 °F (–40 to 121 °C) <sup>(2)</sup>
Inert Fill Sensor <sup>(1)</sup>	0 to 185 °F (–18 to 85 °C) <sup>(2)</sup>
3051S_L High-Side Temperature Limits (Process Fill Fluid)	
Syltherm <sup>®</sup> XLT	–100 to 300 °F (–73 to 149 °C)
D.C. <sup>®</sup> Silicone 704 <sup>(5)</sup>	60 to 400 °F (15 to 205 °C)
D.C. Silicone 200	–40 to 400 °F (–40 to 205 °C)
Inert	–50 to 350 °F (–45 to 177 °C)
Glycerin and Water	0 to 200 °F (–18 to 93 °C)
Neobee M-20 <sup>®</sup>	0 to 400 °F (–18 to 205 °C)
Propylene Glycol and H <sub>2</sub> O	0 to 200 °F (–18 to 93 °C)

(1) Process temperatures above 185 °F (85 °C) require derating the ambient limits by a 1.5:1 ratio.

(2) 220 °F (104 °C) limit in vacuum service; 130 °F (54 °C) for pressures below 0.5 psia.

(3) 160 °F (71 °C) limit in vacuum service.

(4) Not available for 3051S\_CA.

(5) 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.

## 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 in<sup>3</sup> (0,08 cm<sup>3</sup>)

## Damping

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

## Failure Mode Alarm

### HART 4-20mA (output option codes A and B)

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 <sup>(1)</sup>	≥ 22.5 mA	≤ 3.6 mA
Custom levels <sup>(2) (3)</sup>	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.

(3) Not available with the 3051S SIS Safety Transmitter.

## 3051S SIS Safety Transmitter Failure Values

Safety accuracy: 2.0%<sup>(1)</sup>

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**

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

**Process Connections**

**3051S\_C**

<sup>1</sup>/<sub>4</sub>-18 NPT on 2<sup>1</sup>/<sub>8</sub>-in. centers  
<sup>1</sup>/<sub>2</sub>-14 NPT and RC <sup>1</sup>/<sub>2</sub> on 2-in.(50.8mm), 2<sup>1</sup>/<sub>8</sub>-in. (54.0 mm), or 2<sup>1</sup>/<sub>4</sub>-in. (57.2mm) centers (process adapters)

**3051S\_T**

<sup>1</sup>/<sub>2</sub>-14 NPT female,  
Non-Threaded instrument flange (available in SST for Range 1-4 transmitters only),  
G<sup>1</sup>/<sub>2</sub> A DIN 16288 Male (available in SST for Range 1-4 transmitters only), or  
Autoclave type F-250-C (Pressure relieved <sup>9</sup>/<sub>16</sub>-18 gland thread; <sup>1</sup>/<sub>4</sub> 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: <sup>1</sup>/<sub>4</sub>-18 NPT on flange, <sup>1</sup>/<sub>2</sub>-14 NPT on process adapter

**Process-Wetted Parts**

**Process Isolating Diaphragms**

Isolating Diaphragm Material	3051S_				
	CD, CG	T	CA	L	
316L SST	•	•	•		See Below
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 TFE  
(Graphite-filled TFE with Isolating Diaphragm code 6)

**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

**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

# Rosemount 3051S Series

## Shipping Weights for 3051S

TABLE 2. SuperModule Platform weights

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

(1) Flange and bolts not included.

TABLE 3. Transmitter weights without options

Complete Transmitter <sup>(1)</sup>	Add Weight In lb (kg)
3051S_C with junction box housing	6.9 (3,1)
3051S_T with junction box housing	3.3 (1,5)
3051S_C with PlantWeb housing	7.2 (3,3)
3051S_T with PlantWeb housing	3.6 (1,6)

(1) Fully functional transmitter with terminal block, covers, and SST flange.

TABLE 4. 3051S\_L weights without options

Flange	Flush lb. (kg)	2-in. Ext. lb (kg)	4-in. Ext. lb (kg)	6-in. Ext. lb (kg)
2-in., 150	12.5 (5,7)	—	—	—
3-in., 150	17.5 (7,9)	19.5 (8,8)	20.5 (9,3)	21.5 (9,8)
4-in., 150	23.5 (10,7)	26.5 (12,0)	28.5 (12,9)	30.5 (13,8)
2-in., 300	17.5 (7,9)	—	—	—
3-in., 300	22.5 (10,2)	24.5 (11,1)	25.5 (11,6)	26.5 (12,0)
4-in., 300	32.5 (14,7)	35.5 (16,1)	37.5 (17,0)	39.5 (17,9)
2-in., 600	15.3 (6,9)	—	—	—
3-in., 600	25.2 (11,4)	27.2 (12,3)	28.2 (12,8)	29.2 (13,2)
DN 50 / PN 40	13.8 (6,2)	—	—	—
DN 80 / PN 40	19.5 (8,8)	21.5 (9,7)	22.5 (10,2)	23.5 (10,7)
DN 100 / PN 10/16	17.8 (8,1)	19.8 (9,0)	20.8 (9,5)	21.8 (9,9)
DN 100 / PN 40	23.2 (10,5)	25.2 (11,5)	26.2 (11,9)	27.2 (12,3)

TABLE 5. Transmitter option weights

Option Code	Option	Add lb (kg)
1J, 1K, 1L	SST PlantWeb housing	3.4 (1,5)
2J	SST Junction Box housing	3.3 (1,5)
7J	SST Quick Connect	0.35 (0,16)
2A, 2B, 2C	Aluminum Junction Box housing	1.2 (0,5)
1A, 1B, 1C	Aluminum PlantWeb housing	1.2 (0,5)
M5	LCD display for aluminum PlantWeb housing <sup>(1)</sup> , LCD display for SST PlantWeb housing <sup>(1)</sup>	0.8 (0,4) 1.72 (0,8)
B4	SST mounting bracket for Coplanar flange	0.6 (0,3)
B1, B2, B3	Mounting Bracket for Traditional flange	2.3 (1,0)
B7, B8, B9	Mounting Bracket for Traditional flange with SST bolts	2.3 (1,0)
BA, BC	SST Bracket for Traditional flange	2.3 (1,0)
F12, F22	SST Traditional flange <sup>(2)</sup>	3.3 (1,5)
F13, F23	Traditional flange (Hastelloy)	2.7 (1,2)
E12, E22	SST Coplanar flange <sup>(2)</sup>	1.9 (0,9)
F14, F24	Traditional flange (Monel)	2.6 (1,2)
F15, F25	Traditional Flange (SST with Hastelloy D/V)	2.5 (1,1)
G21	Level flange—3 in., 150	10.8 (4,9)
G22	Level flange—3 in., 300	14.3 (6,5)
G11	Level flange—2 in., 150	10.7 (4,9)
G12	Level flange—2 in., 300	14.0 (6,4)
G31	DIN Level flange, SST, DN 50, PN 40	8.3 (3,8)
G41	DIN Level flange, SST, DN 80, PN 40	13.7 (6,2)

(1) Includes LCD display connector board and display cover

(2) Includes mounting bolts

Item	Weight In lb. (kg)
Aluminum standard cover	0.4 (0,2)
SST standard cover	1.26 (0,6)
Aluminum display cover	0.7 (0,3)
SST display cover	1.56 (0,7)
LCD display <sup>(1)</sup>	0.1 (0,1)
Junction Box terminal block	0.3 (0,1)
PlantWeb terminal block	0.2 (0,1)

(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

### European Directive Information

The EC declaration of conformity for all applicable European directives for this product can be found at [www.rosemount.com](http://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-20, 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) (89/336/EEC)

All Models: EN 50081-1: 1992; EN 50082-2:1995; EN 61326-1:1997 – Industrial

### 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).

### 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.
- I5/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.
- I6/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

#### I1/IA ATEX Intrinsic Safety

Certificate No.: BAS01ATEX1303X  II 1G  
Ex ia IIC T5 (T<sub>a</sub> = -60 °C to 40 °C) -HART/SIS/Remote Meter  
Ex ia IIC T4 (T<sub>a</sub> = -60 °C to 70 °C) -HART/SIS/Remote Meter  
Ex ia IIC T4 (T<sub>a</sub> = -60 °C to 70 °C) -FOUNDATION fieldbus  
Ex ia IIC T4 (T<sub>a</sub> = -60 °C to 40 °C) -FISCO

**CE** 1180


TABLE 6. Input Parameters

Loop / Power	Groups
U <sub>i</sub> = 30 V	HART / FOUNDATION fieldbus / Remote Display / SIS
U <sub>i</sub> = 17.5 V	FISCO
I <sub>i</sub> = 300 mA	HART / FOUNDATION fieldbus / Remote Display / SIS
I <sub>i</sub> = 380 mA	FISCO
P <sub>i</sub> = 1.0 W	HART / Remote Display / SIS
P <sub>i</sub> = 1.3 W	FOUNDATION fieldbus
P <sub>i</sub> = 5.32 W	FISCO
C <sub>i</sub> = 30 nF	SuperModule™ Platform
C <sub>i</sub> = 11.4 nF	HART / SIS
C <sub>i</sub> = 0	FOUNDATION fieldbus / Remote Display / FISCO
L <sub>i</sub> = 0	HART / FOUNDATION fieldbus / SIS / FISCO
L <sub>i</sub> = 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.


#### N1

ATEX Type n  
Certificate No.: BAS01ATEX3304X  II 3 G  
EEx nL IIC T5 (T<sub>a</sub> = -40 °C TO 70 °C)  
U<sub>i</sub> = 45 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.

# Rosemount 3051S Series

**ND** ATEX Dust  
Certificate No.: BAS01ATEX1374X  II 1 D  
T105°C (-20 °C ≤ T<sub>amb</sub> ≤ 85 °C)  
V<sub>max</sub> = 42.4 volts max  
A = 24 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.

**E1** ATEX Flameproof  
Certificate No.: KEMA00ATEX2143X  II 1/2 G  
EEx d IIC T6 (-50 °C ≤ T<sub>amb</sub> ≤ 65 °C)  
EEx d IIC T5 (-50 °C ≤ T<sub>amb</sub> ≤ 80 °C)  
V<sub>max</sub> = 42.4V  
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** JIS 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 Hastelloy with Junction Box Housing
TC15687	In-Line SST with PlantWeb Housing
TC15688	In-Line Hastelloy with Plantweb Housing
TC15689	In-Line SST with Plantweb Housing and LCD Display
TC15690	In-Line Hastelloy with PlantWeb Housing and LCD Display

## Australian Certifications

**E7** SAA Explosion-proof and Dust Ignition-proof  
Certification No.: AUS Ex 3798X  
Ex d IIC T6 (T<sub>a</sub> = 60°C) IP66  
DIP A21 TA T6 (T<sub>a</sub> = 60°C) IP66

**Special conditions for safe use (x)**

1. It is a condition of manufacture that each transmitter module shall be pressure tested in accordance with clause 4.3 of AS 2380.2 at minimum pressure of 1450 kPa. As the model 300S housing passed tests at 4 times the reference pressures (400 kPa for single and 3800 kPa for dual compartment housing) and are not of welded construction, they may be exempted from the routing pressure test of clause 4.3 of AS 2380.2.
2. It is a condition of manufacture that each transmitter module and housing combination shall be subjected to a routine high voltage test in accordance with clause 6.2 of AS 2380.1, with the following variation. The test voltage applied to each single or dual compartment housing shall not be less than 500 V, 47 to 62 Hz, for a period of not less than one minute, with a breakdown current of less than 5 mA.
3. 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.
4. 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.
5. 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.
6. 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.



# Product Data Sheet

00813-0100-4801, Rev GA

April 2006

# Rosemount 3051S Series

## IECEX Certifications

### I7/IG IECEX Intrinsic Safety

Certificate No.: IECEXBAS04.0017X

Ex ia IIC T5 ( $T_a = -60\text{ °C to }40\text{ °C}$ ) -HART/SIS/Remote Meter

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

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

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

IP66

TABLE 7. Input Parameters

Loop / Power	Groups
$U_i = 30\text{ V}$	HART / FOUNDATION fieldbus/ Remote Display / SIS
$U_i = 17.5\text{ V}$	FISCO
$I_i = 300\text{ mA}$	HART / FOUNDATION fieldbus/ Remote Display / SIS
$I_i = 380\text{ mA}$	FISCO
$P_i = 1.0\text{ W}$	HART / Remote Display / SIS
$P_i = 1.3\text{ W}$	FOUNDATION fieldbus
$P_i = 5.32\text{ W}$	FISCO
$C_i = 30\text{ nF}$	<i>SuperModule™</i> Platform
$C_i = 11.4\text{ nF}$	HART / SIS
$C_i = 0$	FOUNDATION fieldbus / Remote Display / FISCO
$L_i = 0$	HART / FOUNDATION fieldbus/ SIS / FISCO

### 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 T5 ( $T_a = -40\text{ °C to }70\text{ °C}$ )

$U_i = 45\text{ Vdc MAX}$

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

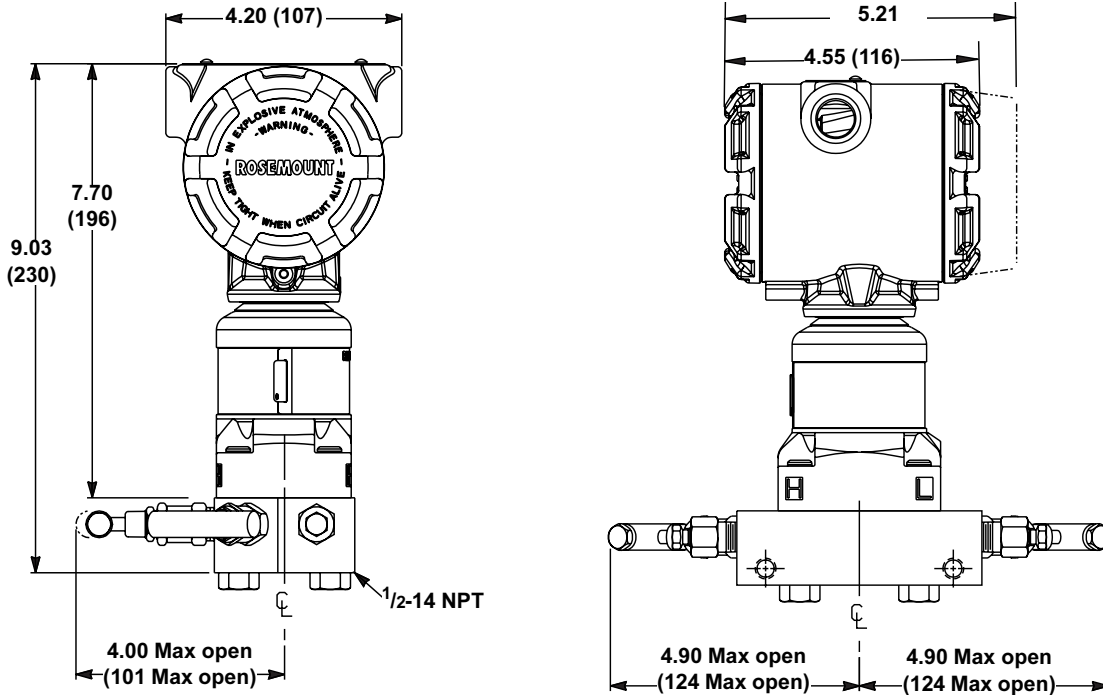
**KD** Combination of E5, I5, E6, I6, E1, and I1

## Dimensional Drawings

Dimensions are in inches (millimeters).

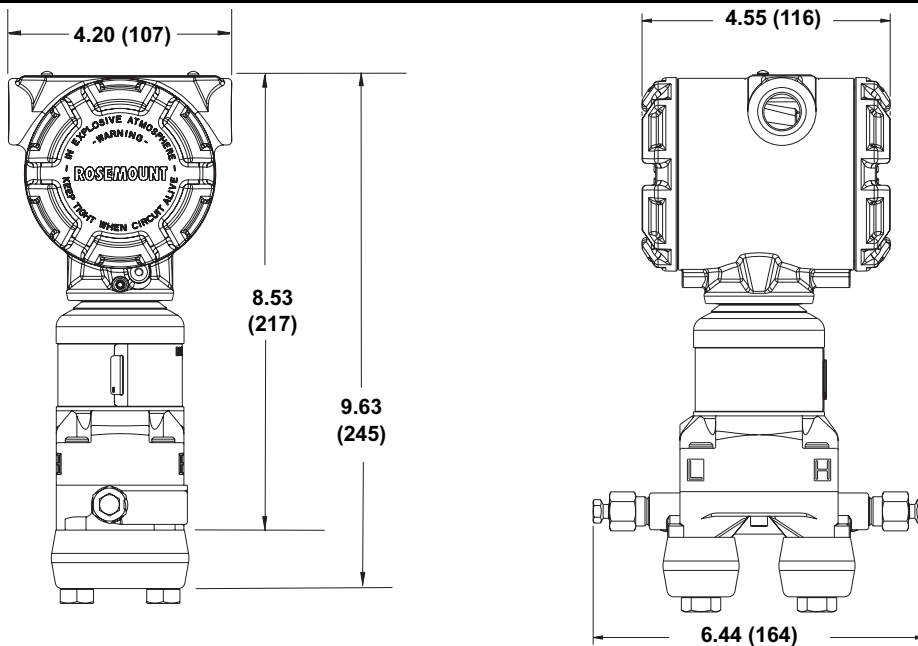
Process adapters (option D2) and Rosemount 305 integral manifolds must be ordered with the transmitter.

### PlantWeb Housing with Coplanar SuperModule Platform and 305 Coplanar Integral Manifold



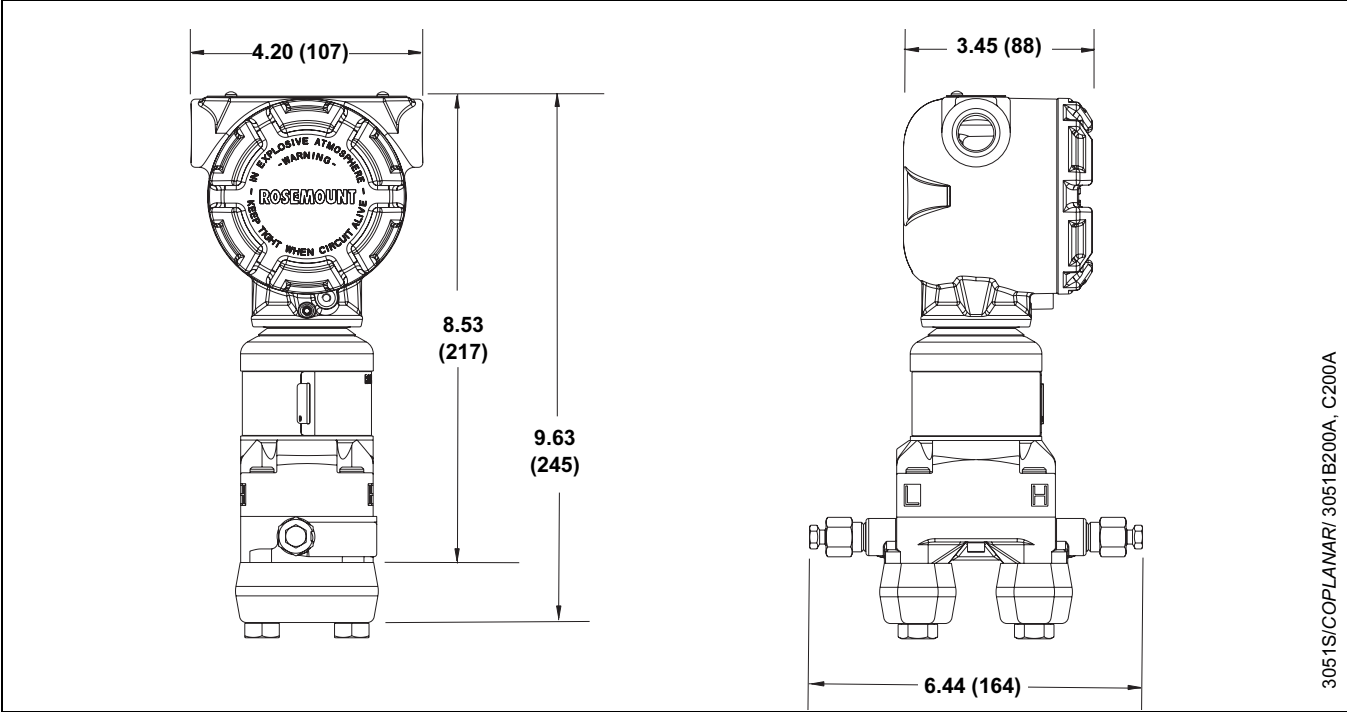
3051S/COPLANAR/3151\_A01A, 3151\_A01B

### PlantWeb Housing with Coplanar SuperModule Platform and Coplanar Flange

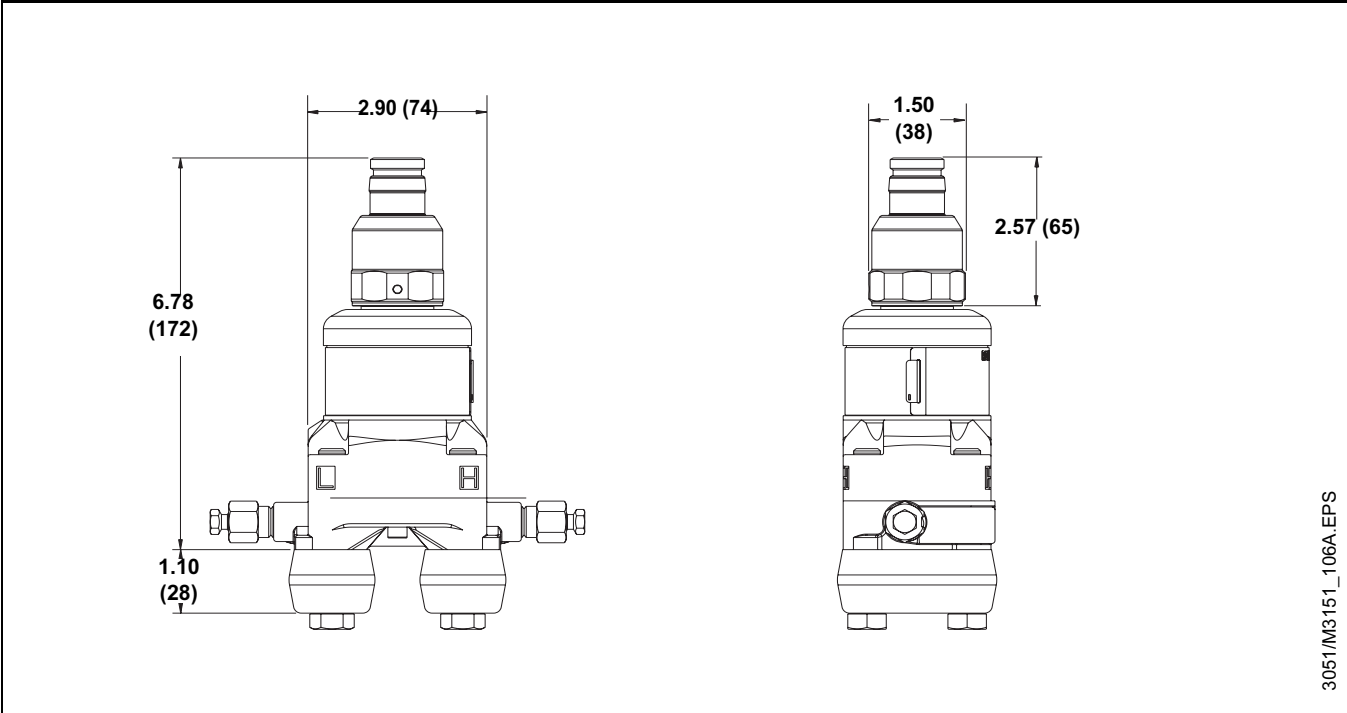


3051S/COPLANAR/3151\_C101A, 3051\_C200A

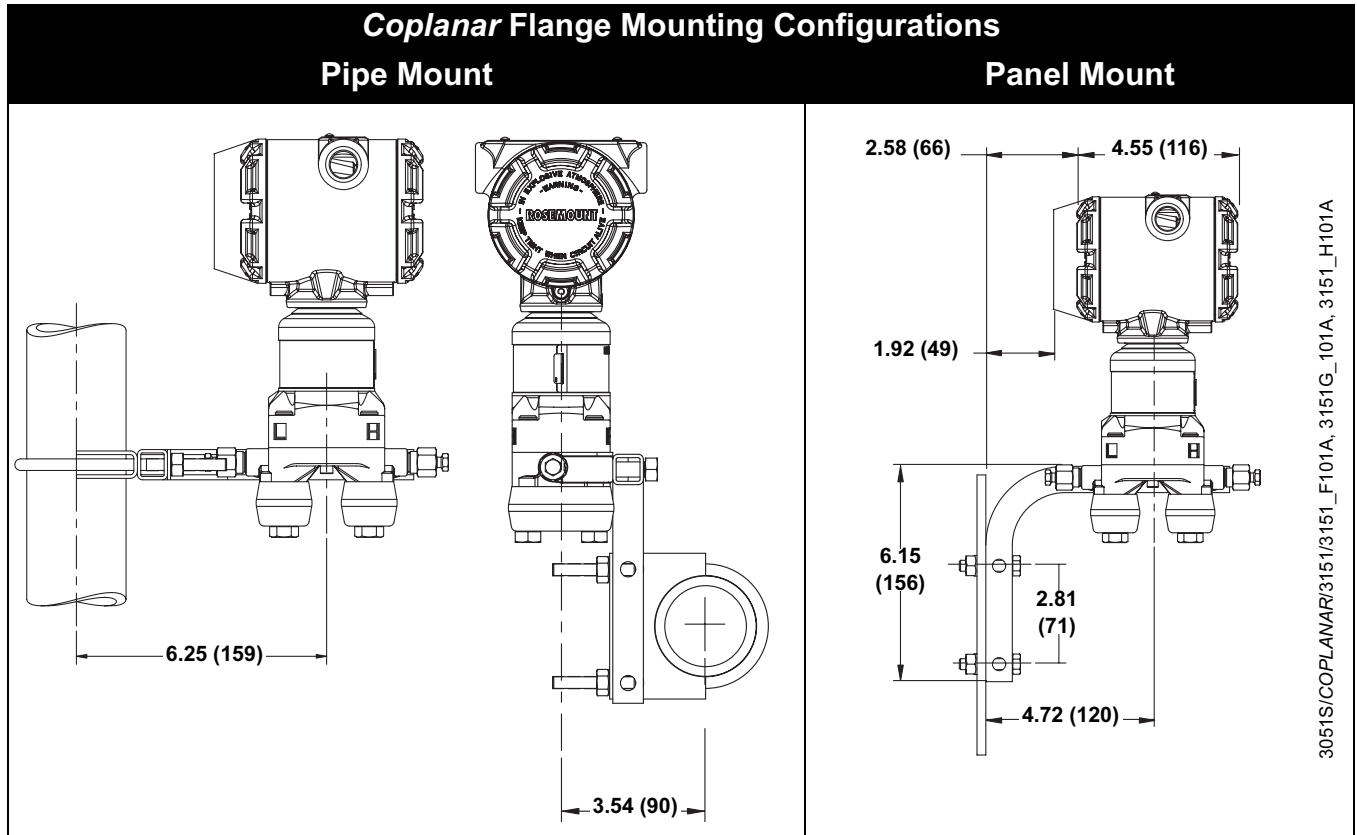
**Junction Box Housing with Coplanar SuperModule Platform and Coplanar Flange**



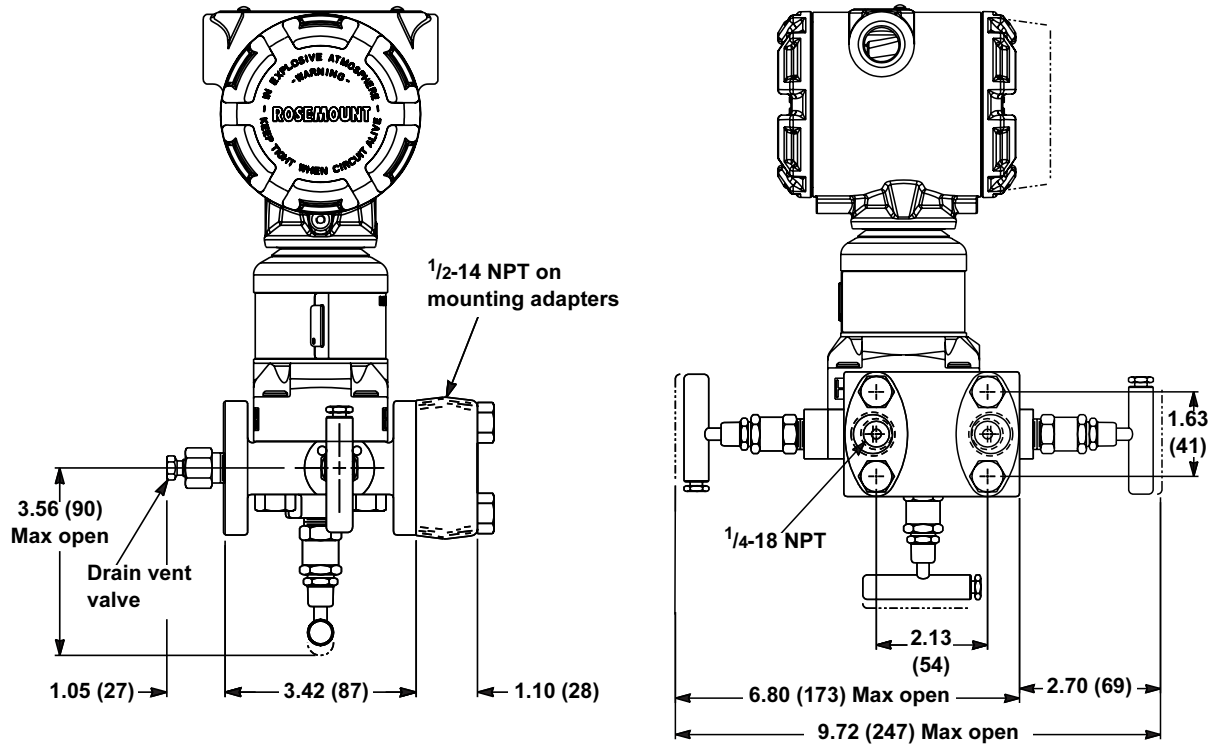
**Quick Connect with Coplanar SuperModule Platform and Coplanar Flange**



# Rosemount 3051S Series

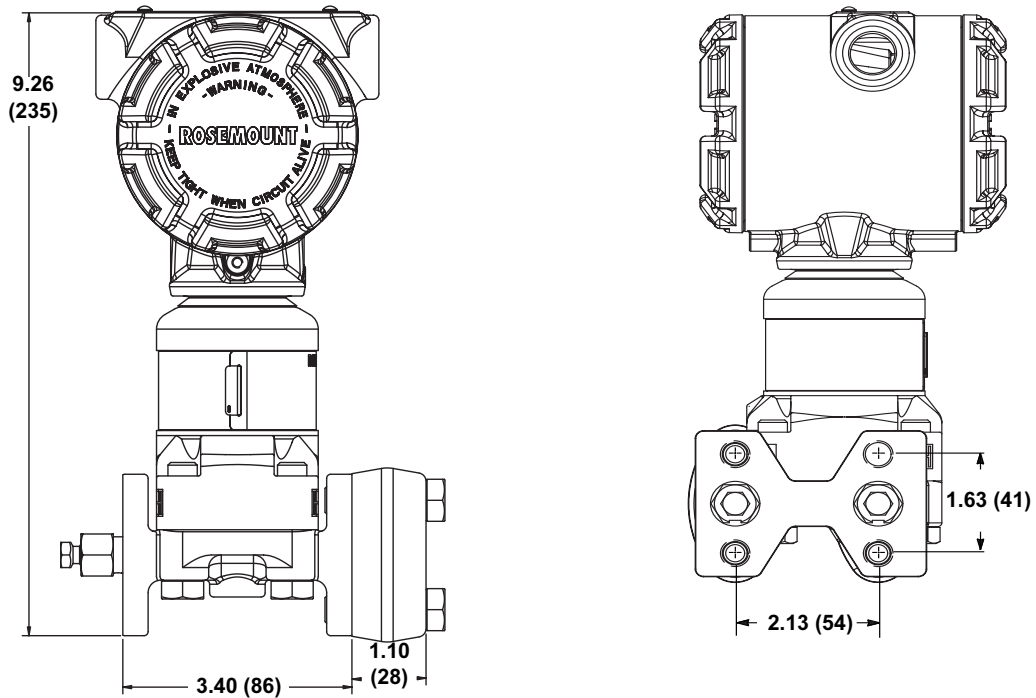


**PlantWeb Housing with Coplanar SuperModule Platform and 305 Traditional Integral Manifold**



3051S/COPLANAR/3151\_A01D, 3151\_A01C

**PlantWeb Housing with Coplanar SuperModule Platform and Traditional Flange**



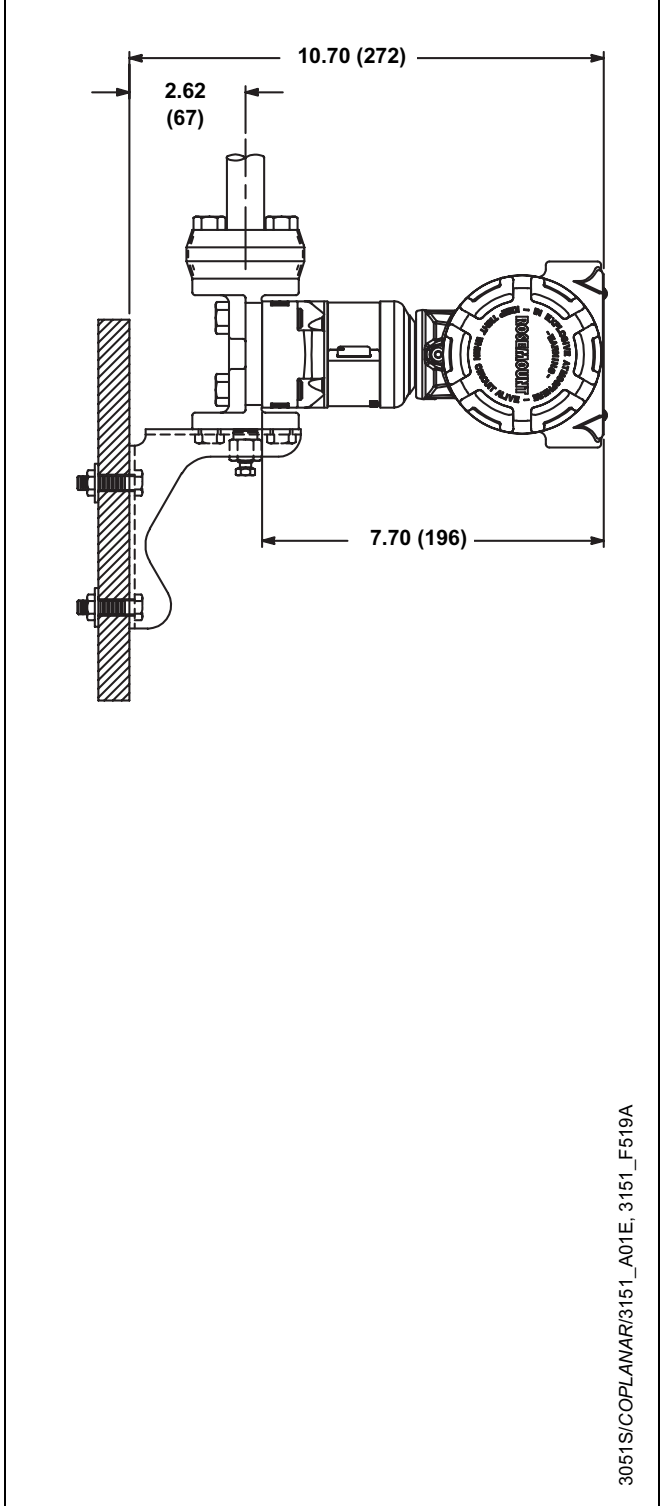
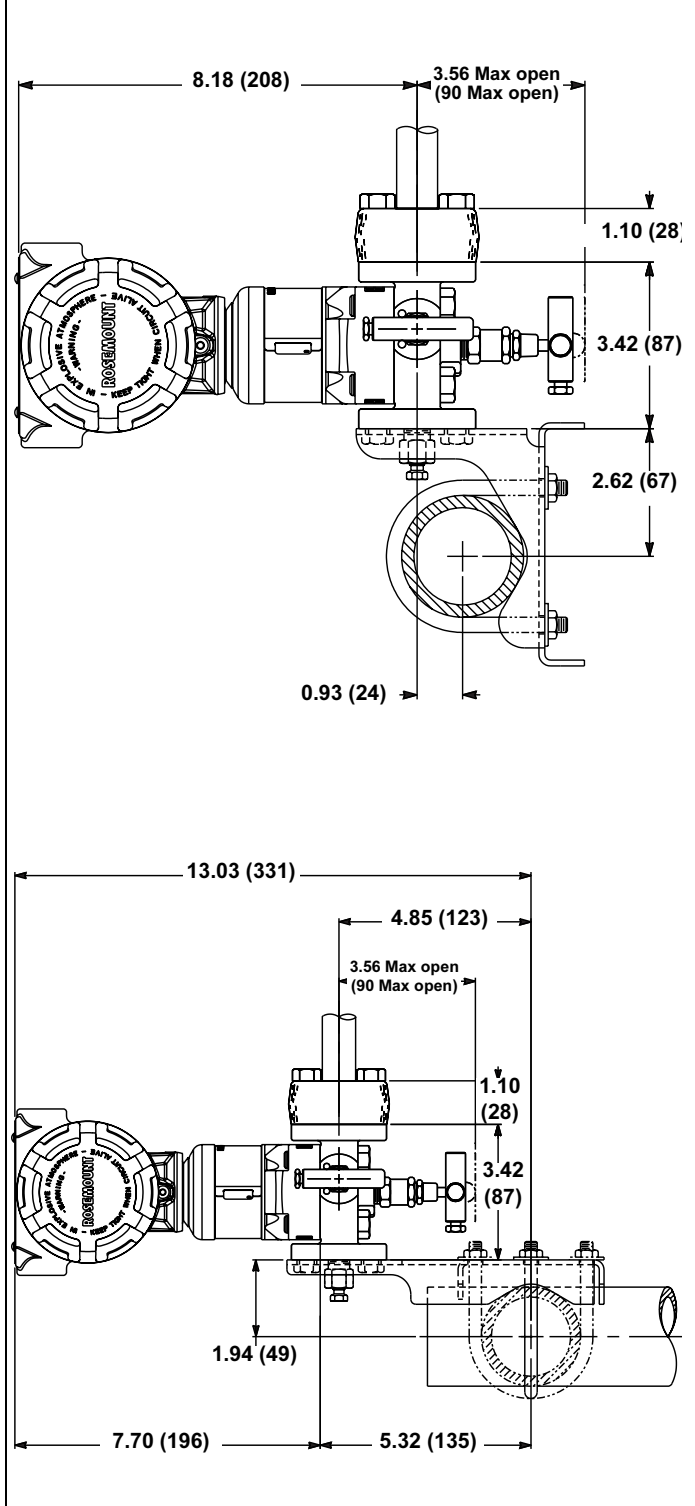
3051S/COPLANAR/3151\_B102A, 3151\_A102A

# Rosemount 3051S Series

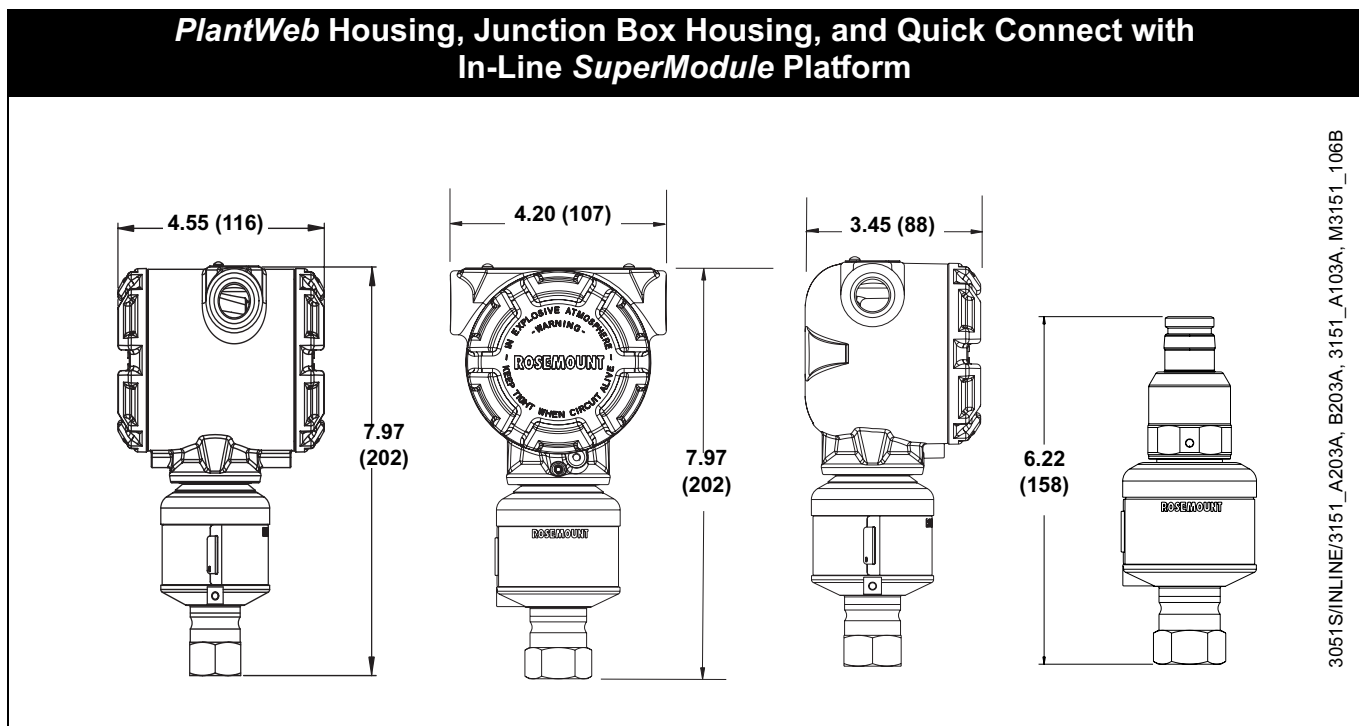
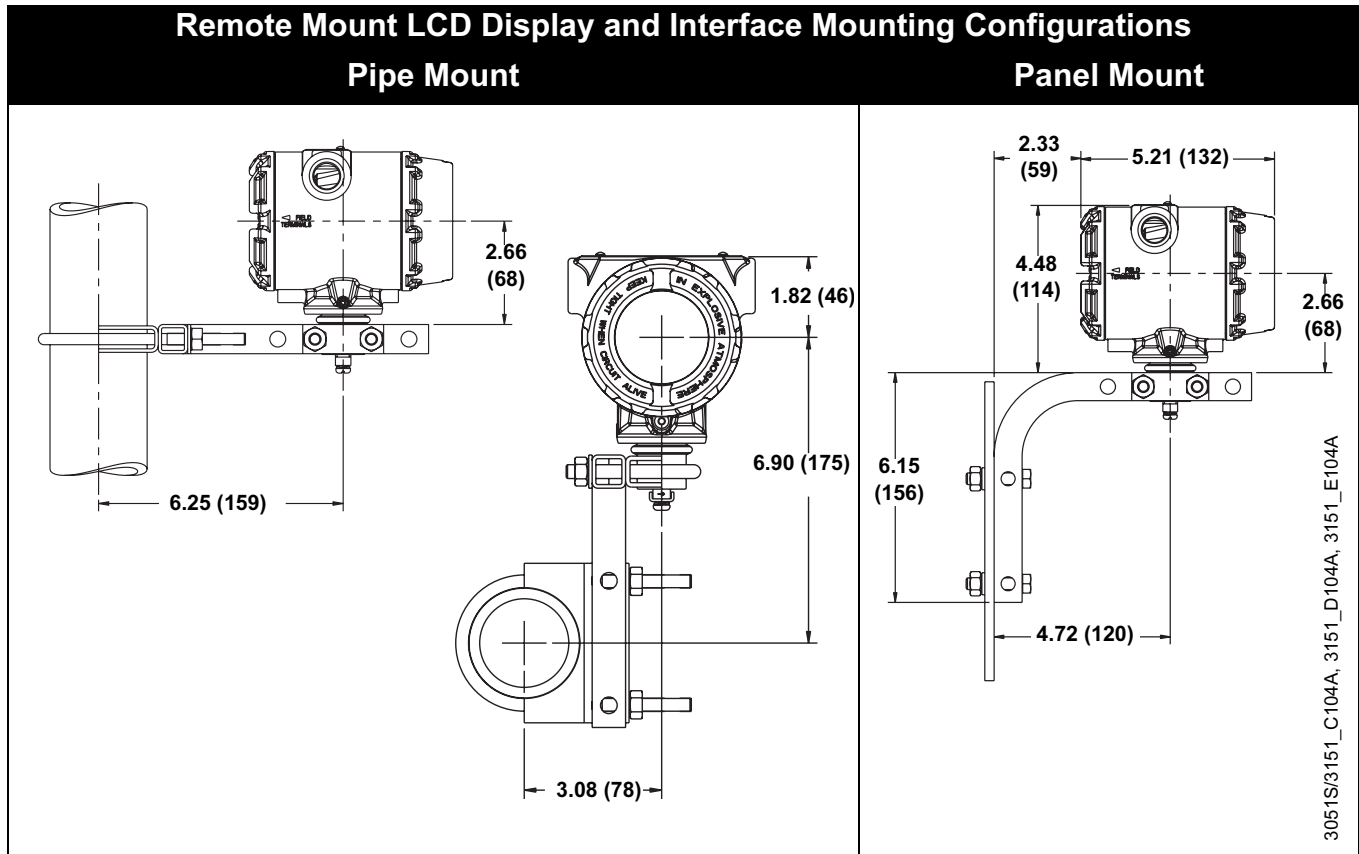
## Traditional Flange Mounting Configurations

### Pipe Mount 305 Integral Manifold

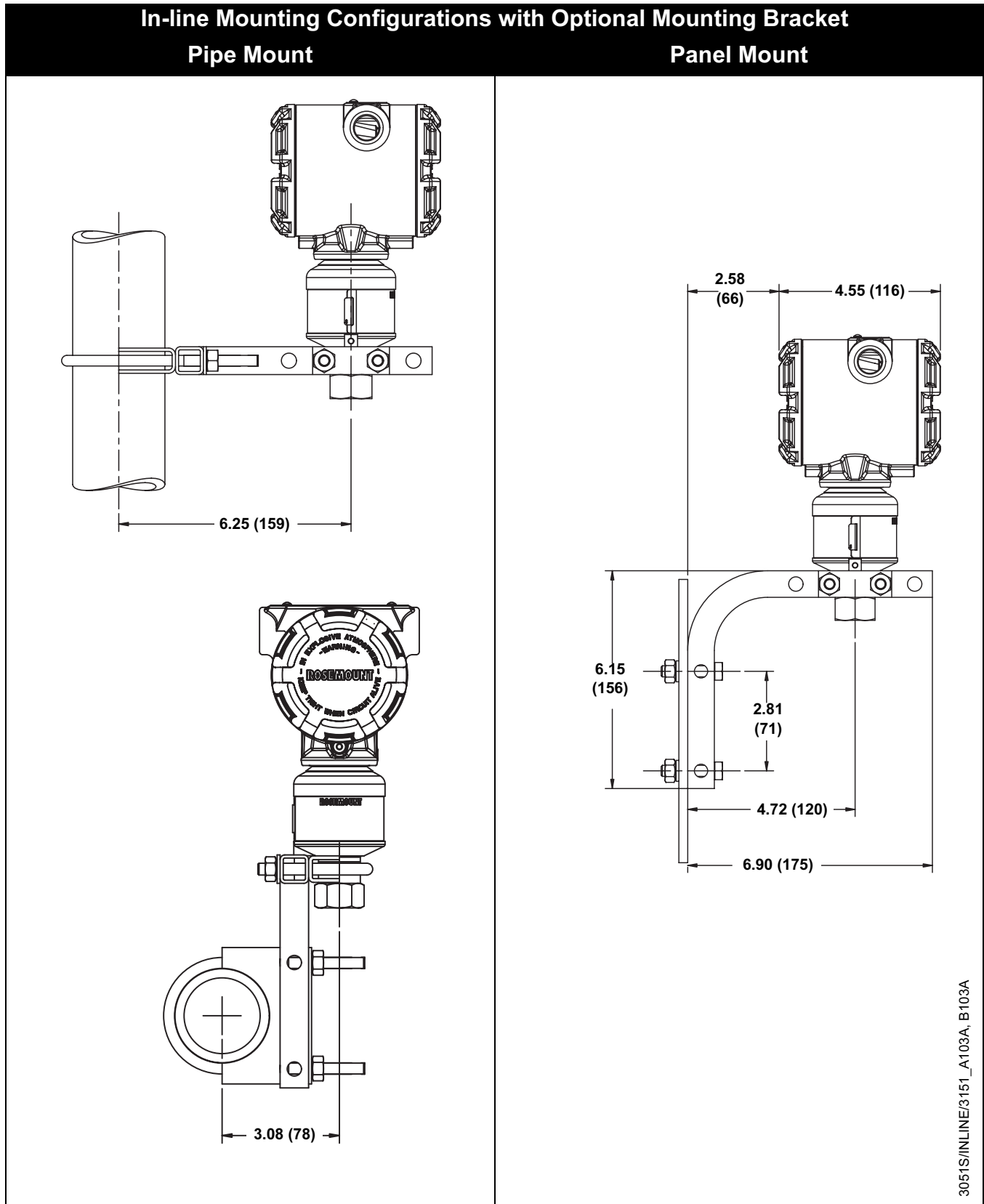
### Panel Mount



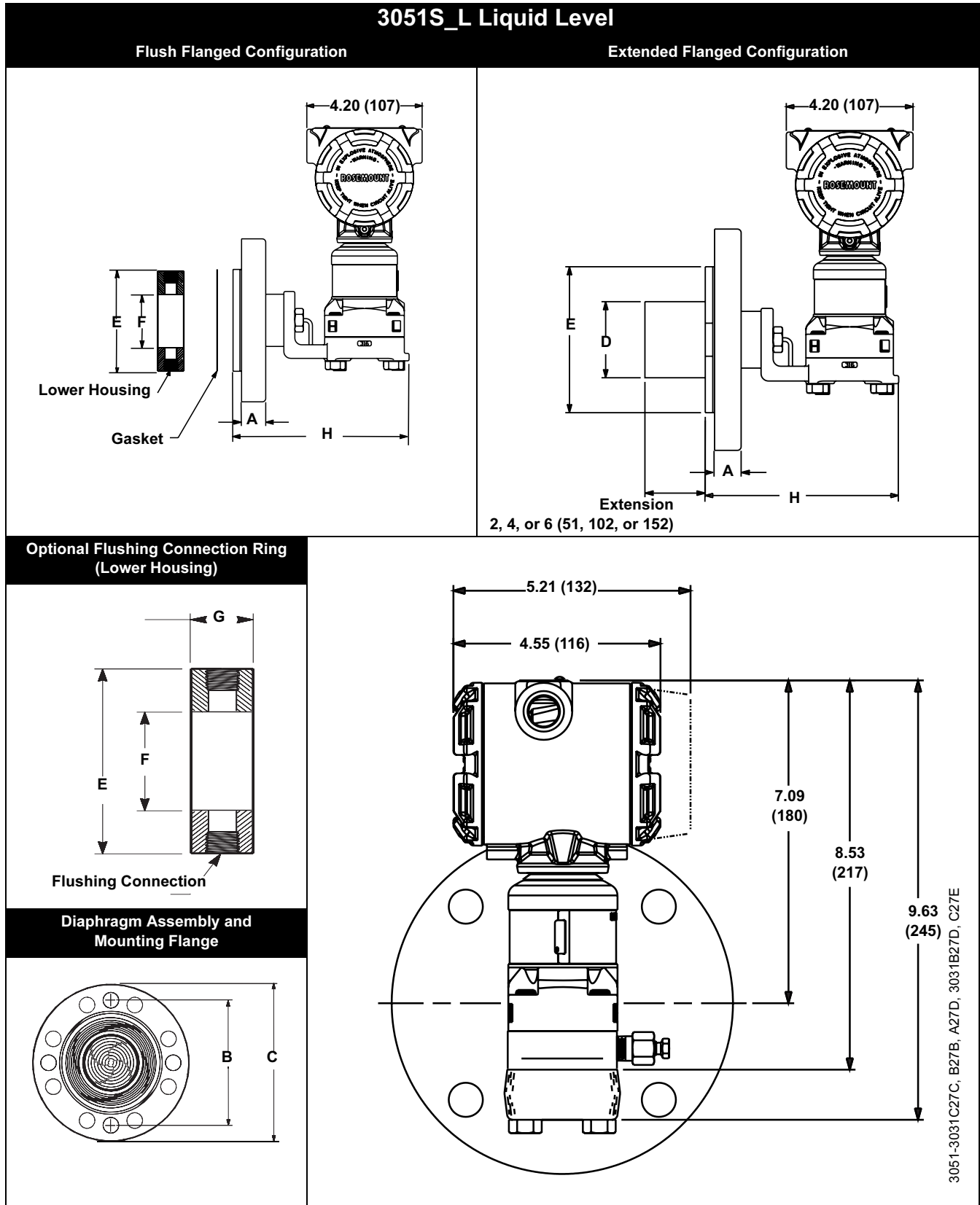
3051S/COPLANAR/3151\_A01E, 3151\_F519A



# Rosemount 3051S Series







# Rosemount 3051S Series

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 <sup>(1)</sup> 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)	6.66 (169)
	3 (76)	3.6 (91)	0.97 (25)	1.31 (33)	6.66 (169)
	4 (102)	3.6 (91)	0.97 (25)	1.31 (33)	6.66 (169)
ASME B16.5 (ANSI) 300	2 (51)	2.12 (54)	0.97 (25)	1.31 (33)	6.66 (169)
	3 (76)	3.6 (91)	0.97 (25)	1.31 (33)	6.66 (169)
	4 (102)	3.6 (91)	0.97 (25)	1.31 (33)	6.66 (169)
ASME B16.5 (ANSI) 600	2 (51)	2.12 (54)	0.97 (25)	1.31 (33)	8.66 (219)
	3 (76)	3.6 (91)	0.97 (25)	1.31 (33)	8.66 (219)
DIN 2501 PN 10–40	DN 50	2.4 (61)	0.97 (25)	1.31 (33)	6.66 (169)
DIN 2501 PN 25/40	DN 80	3.6 (91)	0.97 (25)	1.31 (33)	6.66 (169)
	DN 100	3.6 (91)	0.97 (25)	1.31 (33)	6.66 (169)
DIN 2501 PN 10/16	DN 100	3.6 (91)	0.97 (25)	1.31 (33)	6.66 (169)

(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 <sup>(1)</sup>	Ultra: 0.025% span accuracy, 200:1 rangedown, 10-year stability, limited 12-year warranty			
3 <sup>(2)</sup>	Ultra for Flow: 0.04% reading accuracy, 200:1 rangedown, 10-year stability, limited 12-year warranty			
2	Classic: 0.055% span accuracy, 100:1 rangedown, 5-year stability			
Code	Connection Type			
C	Coplanar			
Code	Measurement Type <sup>(3)</sup>			
D	Differential			
G	Gage			
A	Absolute			
Code	Pressure Range			
	Differential	Gage	Absolute	
0A <sup>(4)</sup>	-3 to 3 inH <sub>2</sub> O (-7,47 to 7,47 mbar)	N/A	0 to 5 psia (0 to 0,34 bar)	
1A	-25 to 25 inH <sub>2</sub> O (-62,2 to 62,2 mbar)	-25 to 25 inH <sub>2</sub> O (-62,2 to 62,2 mbar)	0 to 30 psia (0 to 2,06 bar)	
2A	-250 to 250 inH <sub>2</sub> O (-623 to 623 mbar)	-250 to 250 inH <sub>2</sub> O (-623 to 623 mbar)	0 to 150 psia (0 to 10,34 bar)	
3A	-1000 to 1000 inH <sub>2</sub> O (-2,5 to 2,5 bar)	-393 to 1000 inH <sub>2</sub> 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 <sup>(5)</sup>	316L SST			
3 <sup>(5)</sup>	Hastelloy C-276			
4	Monel 400			
5 <sup>(6)</sup>	Tantalum			
6	Gold-plated Monel 400 Note: Includes graphite-filled TFE o-ring.			
7	Gold-plated 316L SST			
Code	Process Connection <sup>(7)</sup>	Size	Material Type <sup>(8)</sup>	
			Flange Material	Drain Vent
000	None			
A11	Assemble to Rosemount 305 integral manifold			
B11 <sup>(9)</sup>	Assemble to one Rosemount 1199 diaphragm seal			
B12 <sup>(9)</sup>	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		Hastelloy C-276	Hastelloy C-276
EA5	Assemble to Rosemount Annubar Primary Element with Coplanar flange		316 SST	Hastelloy C-276
E11	Coplanar flange	1/4-18 NPT	CS	316 SST
E12	Coplanar flange	1/4-18 NPT	316 SST	316 SST
E13 <sup>(5)</sup>	Coplanar flange	1/4-18 NPT	Hastelloy C-276	Hastelloy C-276
E14	Coplanar flange	1/4-18 NPT	Monel 400	Monel 400
E15 <sup>(5)</sup>	Coplanar flange	1/4-18 NPT	316 SST	Hastelloy C-276
E16 <sup>(5)</sup>	Coplanar flange	1/4-18 NPT	CS	Hastelloy
E21	Coplanar flange	RC 1/4	CS	316 SST
E22	Coplanar flange	RC 1/4	316 SST	316 SST
E23 <sup>(5)</sup>	Coplanar flange	RC 1/4	Hastelloy C-276	Hastelloy C-276
E24	Coplanar flange	RC 1/4	Monel 400	Monel 400
E25 <sup>(5)</sup>	Coplanar flange	RC 1/4	316 SST	Hastelloy C-276
E26 <sup>(5)</sup>	Coplanar flange	RC 1/4	CS	Hastelloy C-276
F12	Traditional flange	1/4-18 NPT	316 SST	316 SST
F13 <sup>(5)</sup>	Traditional flange	1/4-18 NPT	Hastelloy C-276	Hastelloy C-276
F14	Traditional flange	1/4-18 NPT	Monel 400	Monel 400

## Rosemount 3051S Series

			Flange Material	Drain Vent	Bolting
F15 <sup>(5)</sup>	Traditional flange	1/4–18 NPT	316 SST	Hastelloy C-276	
F22	Traditional flange	RC 1/4	316 SST	316 SST	
F23 <sup>(5)</sup>	Traditional flange	RC 1/4	Hastelloy C-276	Hastelloy C-276	
F24	Traditional flange	RC 1/4	Monel 400	Monel 400	
F25 <sup>(5)</sup>	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		
G12	Vertical mount level flange	2-in. ANSI class 300	316 SST		
G14 <sup>(5)</sup>	Vertical mount level flange	2-in. ANSI class 150	Hastelloy C-276		
G15 <sup>(5)</sup>	Vertical mount level flange	2-in. ANSI class 300	Hastelloy C-276		
G21	Vertical mount level flange	3-in. ANSI class 150	316 SST		
G22	Vertical mount level flange	3-in. ANSI class 300	316 SST		
G24 <sup>(5)</sup>	Vertical mount level flange	3-in. ANSI class 150	Hastelloy C-276		
G25 <sup>(5)</sup>	Vertical mount level flange	3-in. ANSI class 300	Hastelloy C-276		
G31	Vertical mount level flange	DIN- DN 50 PN 40	316 SST		
G41	Vertical mount level flange	DIN- DN 80 PN 40	316 SST		

Code	Output <sup>(10)</sup>
A	4–20 mA with digital signal based on HART protocol
B <sup>(11)</sup>	4–20 mA Safety Certified with digital signal based on HART protocol
F <sup>(12)</sup>	FOUNDATION fieldbus protocol

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

Code	Options
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<b>PlantWeb Control Functionality</b>	
A01 <sup>(15)</sup>	FOUNDATION fieldbus Advanced Control Function Block Suite

<b>PlantWeb Diagnostic Functionality</b>	
D01 <sup>(15)</sup>	FOUNDATION fieldbus Diagnostics Suite
DA1 <sup>(16)</sup>	HART Diagnostics Suite

<b>PlantWeb Enhanced Measurement Functionality</b>	
H01 <sup>(15)(17)</sup>	Fully Compensated Mass Flow Block

<b>Mounting Brackets<sup>(18)</sup></b>	
B4	<i>Coplanar</i> 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

## Product Data Sheet

00813-0100-4801, Rev GA

April 2006

# Rosemount 3051S Series

### Special Configuration (Software)

C1 <sup>(19)</sup>	Custom software configuration <i>Note: A Configuration Data Sheet must be completed, see page Pressure-43.</i>
C3	Gage pressure calibration on Rosemount 3051S_CA4 only
C4 <sup>(19)</sup>	NAMUR alarm and saturation levels, high alarm
C5 <sup>(19)</sup>	NAMUR alarm and saturation levels, low alarm
C6 <sup>(1)(19)</sup>	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 page Pressure-43.</i>
C7 <sup>(1)(19)</sup>	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 page Pressure-43.</i>
C8 <sup>(19)</sup>	Low alarm (standard Rosemount alarm and saturation levels)

### Special Configuration (Hardware)

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

### Product Certifications<sup>(20)</sup>

E1	ATEX Flameproof
I1	ATEX Intrinsically Safe
IA	ATEX FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only
N1	ATEX Type n
K1	ATEX Flameproof, Intrinsically Safe, Type n, Dust (combination of E1, I1, N1, and ND)
ND	ATEX Dust
E4	JIS Flameproof
E5	FM Explosion-proof
I5	FM Intrinsically Safe, Non-incendive
IE	FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only
K5	FM Explosion-proof, Intrinsically Safe, Non-incendive (combination of E5 and I5)
E6	CSA Explosion-proof, Division 2
I6	CSA Intrinsically Safe
IF	CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only
K6	CSA Explosion-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)
D3 <sup>(11)(21)</sup>	Measurement Canada Accuracy Approval
E7	SAA Flameproof, Dust Ignition-proof
I7	IECEx Intrinsically Safe
IG	IECEx FISCO Intrinsically Safe
N7	IECEx Type n
K7	SAA Flameproof, Dust Ignition-proof, IECEx Intrinsically Safe, and Type n (combination of E7, I7, and N7)
KA	ATEX and CSA Flameproof, Intrinsically Safe (combination of E1, I1, E6, 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, 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, Non-incendive (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, I5, E6, I6, E1, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i>
DW <sup>(22)</sup>	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 Teflon <sup>®</sup> (PTFE) o-ring
L4 <sup>(18)</sup>	Austenitic 316 SST bolts
L5 <sup>(18)</sup>	ASTM A 193, Grade B7M bolts
L6 <sup>(18)</sup>	Monel bolts
L7 <sup>(18)</sup>	ASTM A 453, Class A, Grade 660 bolts

# Rosemount 3051S Series

L8 <sup>(18)</sup>	ASTM A 193, Class 2, Grade B8M bolts
<b>Digital Display<sup>(23)</sup></b>	
M5	PlantWeb LCD Display
M7 <sup>(1)(24)</sup>	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 <sup>(1)(24)</sup>	Remote mount LCD display and interface, 50 ft. (15 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output
M9 <sup>(1)(24)</sup>	Remote mount LCD display and interface, 100 ft. (31 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output
<b>Special Procedures</b>	
P1	Hydrostatic testing with certificate
P2 <sup>(18)</sup>	Cleaning for special services
P3 <sup>(18)</sup>	Cleaning for less than 1PPM chlorine/fluorine
P9	4500 psig (310 bar) static pressure limit (Rosemount 3051S_CD only)
P0 <sup>(25)</sup>	6092 psig (420 bar) static pressure limit (Rosemount 3051S2CD only)
<b>Special Certifications</b>	
Q4	Calibration certificate
QP	Calibration certificate and tamper evident seal
Q8	Material traceability certification per EN 10204 3.1.B
QS <sup>(26)</sup>	Certificate of FMEDA Data
Q16	Surface finish certification for sanitary remote seals
<b>Terminal Blocks</b>	
T1 <sup>(27)</sup>	Transient terminal block
T2 <sup>(28)</sup>	Terminal block with WAGO <sup>®</sup> spring clamp terminals
T3 <sup>(28)</sup>	Transient terminal block with WAGO spring clamp terminals
<b>Conduit Electrical Connector</b>	
GE <sup>(29)</sup>	M12, 4-pin, Male Connector (eurofast <sup>®</sup> )
GM <sup>(29)</sup>	A size Mini, 4-pin, Male Connector (minifast <sup>®</sup> )
<b>Typical Model Number: 3051S1CD 2A 2 E12 A 1A DA1 B4 M5</b>	

- (1) Not available with output code B.
- (2) Not available with output code B or Housing code 01. This option is only available with range codes 2A and 3A, 316L SST 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) Process connection option codes B12, C11, D11, EA2, EA3 and EA5 are only available on differential Measurement Type, code D.
- (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 and Hardware Adjustments option code D1. For the 3051S SIS Safety Transmitter, rangedown is limited to 10:1 on all models with the exception of range 0. The 3051S2CD0 is limited to 2:1 rangedown, the 3051S2CA0 is limited to 5:1 rangedown.
- (12) Requires PlantWeb housing.
- (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, Non-incendive (option code I5) or ATEX Intrinsically Safe (option code I1). 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.
- (17) Requires Rosemount 3095 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.

## Product Data Sheet

00813-0100-4801, Rev GA

April 2006

# Rosemount 3051S Series

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- (21) 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 TFE 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, or option code DA1.*
- (25) 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.*
- (26) Not available with Housing code 01.*
- (27) Not available with Housing code 00, 01, or 7J.*
- (28) Available with output code A and PlantWeb housing only.*
- (29) Not available with Housing code 00, 01, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Non-incendive approval (option code I5) or FM FISCO Intrinsically Safe approval (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain NEMA 4X rating.*

# Rosemount 3051S Series

## Rosemount 3051S Series In-Line

Model	Transmitter Type		
3051S	Scalable pressure transmitter		
Code	Performance Class		
1 <sup>(1)</sup>	Ultra: 0.025% span accuracy, 200:1 rangedown, 10-year stability, limited 12-year 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 <sup>(2)</sup>	316L SST		
3 <sup>(2)</sup>	Hastelloy C-276		
Code	Process Connection Style		
A11	Assemble to Rosemount 306 integral manifold		
B11 <sup>(3)</sup>	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	G1/2 A DIN 16288 male (Range 1-4 only)		
H11	Coned and threaded, compatible with autoclave type F-250-C (Range 5A only)		
Code	Output <sup>(4)</sup>		
A	4-20 mA with digital signal based on HART protocol		
B <sup>(5)</sup>	4-20 mA Safety Certified with digital signal based on HART protocol		
F <sup>(6)</sup>	FOUNDATION fieldbus protocol		
Code	Housing Style	Materials <sup>(7)</sup>	Conduit Entry Size
00	None ( <i>SuperModule</i> Platform only, no housing included)		
01 <sup>(8)</sup>	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	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	G1/2
2M	Junction Box housing with output for remote interface	316L SST	1/2-14 NPT
7J <sup>(9)</sup>	Quick Connect (A size Mini, 4-pin male termination)	316L SST	
Code	Options		
<b>PlantWeb Control Functionality</b>			
A01 <sup>(10)</sup>	FOUNDATION fieldbus Advanced Control Function Block Suite		
<b>PlantWeb Diagnostic Functionality</b>			
D01 <sup>(10)</sup>	FOUNDATION fieldbus Diagnostics Suite		



# Product Data Sheet

00813-0100-4801, Rev GA

April 2006

# Rosemount 3051S Series

DA1<sup>(11)</sup> HART Diagnostics Suite

## PlantWeb Enhanced Measurement Functionality

H01<sup>(10)(12)</sup> Fully Compensated Mass Flow Block

## Mounting Bracket

B4 Bracket, all SST, 2-in. pipe and panel

## Special Configuration (Software)<sup>(13)</sup>

C1 Custom software configuration

*Note: A Configuration Data Sheet must be completed, see page Pressure-43.*

C4 NAMUR alarm and saturation values, high alarm

C5 NAMUR alarm and saturation values, low alarm

C6<sup>(1)</sup> Custom alarm and saturation signal levels, high alarm

*Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see page Pressure-43.*

C7<sup>(1)</sup> Custom alarm and saturation signal levels, low alarm

*Note: Requires option code C1, custom software configuration. A Configuration Data Sheet must be completed, see page Pressure-43.*

C8 Low alarm (Standard Rosemount alarm and saturation signal levels)

## Special Configuration (Hardware)

D1<sup>(13)</sup> Hardware adjustments (zero, span, alarm, security)

*Note: Not available with Housing Style codes 00, 01, 2E, 2F, 2G, 2M, or 7J.*

D4 External ground screw assembly

## Product Certifications<sup>(14)</sup>

E1 ATEX Flameproof

I1 ATEX Intrinsically Safe

IA ATEX FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only

N1 ATEX Type n

K1 ATEX Flameproof, Intrinsically Safe, Type n, Dust (combination of E1, I1, N1, and ND)

ND ATEX Dust

E4 JIS Flameproof

E5 FM Explosion-proof

I5 FM Intrinsically Safe, Non-incendive

IE FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only

K5 FM Explosion-proof, Intrinsically Safe, Non-incendive (combination of E5 and I5)

E6 CSA Explosion-proof, Division 2

I6 CSA Intrinsically Safe

IF CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only

K6 CSA Explosion-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)

D3<sup>(5)(15)</sup> Measurement Canada Accuracy Approval

E7 SAA Flameproof, Dust Ignition-proof

I7 IECEx Intrinsically Safe

IG IECEx FISCO Intrinsically Safe

N7 IECEx Type n

K7 SAA Flameproof, Dust Ignition-proof, IECEx Intrinsically Safe, and Type n (combination of E7, I7, and N7)

KA ATEX and CSA Flameproof, Intrinsically Safe (combination of E1, I1, E6, and I6)

*Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.*

KB FM and CSA Explosion-proof, Intrinsically Safe, Division 2 (combination of E5, E6, I5, and I6)

*Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.*

KC FM and ATEX Explosion-proof, Intrinsically Safe, Non-incendive (combination of E5, E1, I5, and I1)

*Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.*

KD FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of E5, I5, E6, I6, E1, and I1)

*Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.*

DW<sup>(16)</sup> NSF Drinking Water Approval

## Alternate Materials of Construction

L1 Inert sensor fill fluid

*Note: Silicone fill fluid is standard.*

## Digital Display<sup>(17)</sup>

M5 PlantWeb LCD Display

M7<sup>(1)(18)</sup> Remote mount LCD display and interface, no cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output

*Note: Use Belden 3084A cable or equivalent. Contact an Emerson Process Management representative for additional information.*

M8<sup>(1)(18)</sup> Remote mount LCD display and interface, 50 ft. (15 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output

M9<sup>(1)(18)</sup> Remote mount LCD display and interface, 100 ft. (31 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output

# Rosemount 3051S Series

## Special Procedures

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

## Special Certifications

Q4	Calibration certificate
QP	Calibration certificate and tamper evident seal
Q8	Material traceability certification per EN 10204 3.1.B
QS <sup>(20)</sup>	Certificate of FMEDA Data
Q16	Surface finish certification for sanitary remote seals

## Terminal Blocks

T1 <sup>(21)</sup>	Transient terminal block
T2 <sup>(22)</sup>	Terminal block with WAGO <sup>®</sup> spring clamp terminals
T3 <sup>(22)</sup>	Transient terminal block with WAGO spring clamp terminals

## Conduit Electrical Connector

GE <sup>(23)</sup>	M12, 4-pin, Male Connector ( <i>eurofast</i> <sup>®</sup> )
GM <sup>(23)</sup>	A size Mini, 4-pin, Male Connector ( <i>minifast</i> <sup>®</sup> )

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

- (1) Not available with output code B.
- (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) Contact a Rosemount representative for performance specifications.
- (4) For spare SuperModule Platforms, select output code A.
- (5) Requires PlantWeb housing and Hardware Adjustments option code D1. For the 3051S SIS Safety Transmitter, rangedown is limited to 10:1.
- (6) Requires PlantWeb housing.
- (7) Material specified is cast as follows: CF-3M is the cast version of 316L SST. For housing, material is aluminum with polyurethane paint.
- (8) 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.
- (9) Available with output code A only. Available approvals are FM Intrinsically Safe, Non-incendive (option code I5) or ATEX Intrinsically Safe (option code I1). Contact an Emerson Process Management representative for additional information.
- (10) Requires PlantWeb housing and output code F.
- (11) Requires PlantWeb housing and output code A. Includes Hardware Adjustments as standard.
- (12) Requires Rosemount 3095 Engineering Assistant to configure.
- (13) Not available with output code F or Housing code 01.
- (14) Valid when SuperModule Platform and housing have equivalent approvals.
- (15) 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, or option code DA1.
- (19) Not available with process connection option code A11.
- (20) Not available with Housing code 01.
- (21) Not available with Housing code 00, 01, or 7J.
- (22) Available with output code A and PlantWeb housing only.
- (23) Not available with Housing code 00, 01, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Non-incendive approval (option code I5) or FM FISCO Intrinsically Safe approval (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain NEMA 4X rating.

**Rosemount 3051S Series Liquid Level**

Select either FF diaphragm seal type (see “Flush Flanged Seal” on page 36) or for EF diaphragm seal type (see “Extended Flanged Seal” on page 37) and then finish this selection by choosing transmitter options.

Model	Transmitter Type		
3051S	Scalable pressure transmitter		
Code	Performance Class		
1 <sup>(1)</sup>	Ultra: 0.065% span accuracy, 100:1 rangedown, limited 12-year 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 <sub>2</sub> O (-62,2 to 62,2 mbar)	-25 to 25 inH <sub>2</sub> O (-62,2 to 62,2 mbar)	0 to 30 psia (2,1 bar)
2A	-250 to 250 inH <sub>2</sub> O (-623 to 623 mbar)	-250 to 250 inH <sub>2</sub> O (-623 to 623 mbar)	0 to 150 psia (10 bar)
3A	-1000 to 1000 inH <sub>2</sub> O (-2,5 to 2,5 bar)	-393 to 1000 inH <sub>2</sub> 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 <sup>(2)</sup>		
A	4-20 mA with digital signal based on HART protocol		
B <sup>(3)</sup>	4-20 mA Safety Certified with digital signal based on HART protocol		
F <sup>(4)</sup>	FOUNDATION fieldbus protocol		
Code	Housing Style	Material <sup>(5)</sup>	Conduit Entry
00	None ( <i>SuperModule</i> Platform only, no housing included)		
01 <sup>(6)</sup>	Assemble to Rosemount 753R Web-Based Monitoring Indicator		
1A	<i>PlantWeb</i> housing	Aluminum	1/2-14 NPT
1B	<i>PlantWeb</i> housing	Aluminum	M20 x 1.5 (CM20)
1C	<i>PlantWeb</i> housing	Aluminum	G <sup>1</sup> / <sub>2</sub>
1J	<i>PlantWeb</i> housing	316L SST	1/2-14 NPT
1K	<i>PlantWeb</i> housing	316L SST	M20 x 1.5 (CM20)
1L	<i>PlantWeb</i> housing	316L SST	G <sup>1</sup> / <sub>2</sub>
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 <sup>1</sup> / <sub>2</sub>
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	G <sup>1</sup> / <sub>2</sub>
2M	Junction Box with output for remote interface	316L SST	1/2-14 NPT
7J <sup>(7)</sup>	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	<i>Hastelloy C-276</i> isolator / 316 SST transmitter flange		
Code	Capillary Length		
0	N/A		
Code	Diaphragm Seal Fill Fluid		
A	<i>Syltherm XLT</i>		
C	D. C. Silicone 704		
D	D. C. Silicone 200		
H	Inert (Halocarbon)		
G	Glycerine and Water		
N	<i>Neobee M-20</i>		
P	Propylene Glycol and Water		

Next, select either Flush Flanged (FF) diaphragm seal (see page 36) or Extended Flanged (EF) diaphragm seal (see page Pressure-37).

# Rosemount 3051S Series

## Seal Options (page Pressure-36—37)

### 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 <sup>(8)</sup> (3)	CS
DC	Tantalum - seam welded <sup>(8)</sup>	316 SST
Code	Lower Housing Material (High Side) <sup>(9)</sup>	
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: Gaskets	
SJ	Teflon <sup>®</sup> (PTFE) gasket for lower housing	
SK	Gylon gasket for lower housing	
SN	Grafoil <sup>™</sup> gasket for lower housing	
Code	Other Options	
ST <sup>(10)</sup>	Materials per NACE MR0175	

Continue with transmitter options on page Pressure-37

- (1) Not available with output code B.
- (2) For spare SuperModule Platforms, select output code A.
- (3) Requires PlantWeb housing and Hardware Adjustments option code D1. For the 3051S SIS Safety Transmitter, rangedown is limited to 10:1.
- (4) Requires PlantWeb housing.
- (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, Non-incendive (option code I5) or ATEX Intrinsically Safe (option code I1). 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.

**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-35**

(— = Not Applicable • = Applicable)

Code	Options	LD	LG	LA
<b>PlantWeb Control Functionality</b>				
A01 <sup>(1)</sup>	FOUNDATION fieldbus Advanced Control Function Block Suite			
<b>PlantWeb Diagnostic Functionality</b>				
D01 <sup>(1)</sup>	FOUNDATION fieldbus Diagnostics Suite			
DA1 <sup>(2)</sup>	HART Diagnostics Suite			
<b>PlantWeb Enhanced Measurement Functionality</b>				
H01 <sup>(1)(3)</sup>	Fully Compensated Mass Flow Block			
<b>Special Configuration (Software)</b>				
C1 <sup>(4)</sup>	Custom software configuration <i>Note: A Configuration Data Sheet must be completed, see page Pressure-43.</i>			
C3	Gage pressure calibration on Rosemount 3051S_LA only			
C4 <sup>(4)</sup>	NAMUR alarm and saturation levels, high alarm			
C5 <sup>(4)</sup>	NAMUR alarm and saturation levels, low alarm			
C6 <sup>(4)(5)</sup>	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 page Pressure-43.</i>			
C7 <sup>(4)(5)</sup>	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 page Pressure-43.</i>			
C8 <sup>(4)</sup>	Low alarm (standard Rosemount alarm and saturation levels)			
<b>Special Configuration (hardware)</b>				
D1	Hardware adjustments (zero, span, alarm, security) <i>Note: Not available with fieldbus protocol or Housing Style codes 00, 01, 2E, 2F, 2G, 2M, 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)	•	—	—
<b>Product Certifications<sup>(6)</sup></b>				
E1	ATEX Flameproof			
I1	ATEX Intrinsically Safe			
IA	ATEX FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only			

# Rosemount 3051S Series

N1	ATEX Type n
K1	ATEX Flameproof, Intrinsically Safe, Type n, Dust (combination of E1, I1, N1, and ND)
ND	ATEX Dust
E4	JIS Flameproof
E5	FM Explosion-proof
I5	FM Intrinsically Safe, Non-incendive
IE	FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only
K5	FM Explosion-proof, Intrinsically Safe, Non-incendive (combination of E5 and I5)
E6	CSA Explosion-proof, Division 2
I6	CSA Intrinsically Safe
IF	CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only
K6	CSA Explosion-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)
D3 <sup>(7)(8)</sup>	Measurement Canada Accuracy Approval
E7	SAA Flameproof, Dust Ignition-proof
I7	IECEX Intrinsically Safe
IG	IECEX FISCO Intrinsically Safe
N7	IECEX Type n
K7	SAA Flameproof, Dust Ignition-proof, IECEX Intrinsically Safe, and Type n (combination of E7, I7, and N7)
KA	ATEX and CSA Flameproof, Intrinsically Safe (combination of E1, I1, E6, 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, 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, Non-incendive (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, I5, E6, I6, E1, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i>
<b>Alternate Materials of Construction</b>	
L1	Inert sensor fill fluid (differential and gage only) <i>Note: Silicone fill fluid is standard.</i>
L2	Graphite-filled TFE 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
<b>Digital Display<sup>(9)</sup></b>	
M5	PlantWeb LCD Display
M7 <sup>(5)(10)</sup>	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 <sup>(5)(10)</sup>	Remote mount LCD display and interface, 50 ft. (15 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output
M9 <sup>(5)(10)</sup>	Remote mount LCD display and interface, 100 ft. (31 m) cable; PlantWeb housing, SST bracket, requires 4-20 mA / HART output
<b>Special Procedures</b>	
P1	Hydrostatic testing with certificate
P2	Cleaning for special services
P3	Cleaning for less than 1PPM chlorine/fluorine
<b>Special Certifications</b>	
Q4	Calibration certificate
QP	Calibration certificate and tamper evident seal
Q8	Material traceability certification per EN 10204 3.1.B
QS <sup>(11)</sup>	Certificate of FMEDA Data
<b>Terminal blocks</b>	
T1 <sup>(12)</sup>	Transient terminal block
T2 <sup>(13)</sup>	Terminal block with WAGO® spring clamp terminals
T3 <sup>(13)</sup>	Transient terminal block with WAGO spring clamp terminals
<b>Conduit Electrical Connector</b>	
GE <sup>(14)</sup>	M12, 4-pin, Male Connector (eurofast®)
GM <sup>(14)</sup>	A size Mini, 4-pin, Male Connector (minifast®)
<b>Typical Model Number for FF seal: 3051S2LD 2A A 1A 1 0 2 0 D FF 7 1 DA 0 0</b>	
<b>Typical Model Number for EF seal: 3051S2LD 2A A 1A 1 0 2 0 D EF 7 1 DA 2 0</b>	

(1) Requires PlantWeb housing and output code F.

(2) Requires PlantWeb housing and output code A. Includes Hardware Adjustments as standard.

(3) Requires Rosemount 3095 Engineering Assistant to configure.

- (4) *Not available with output code F or Housing code 01.*
- (5) *Not available with output code B.*
- (6) *Valid when SuperModule Platform and housing have equivalent approvals.*
- (7) *Requires PlantWeb Housing and Hardware Adjustments option code D1.*
- (8) *Limited availability depending on transmitter type and range. Contact a sales representative for additional information.*
- (9) *Not available with Housing Code 01 or 7J.*
- (10) *Not available with output code F, Housing code 01, or option code DA1.*
- (11) *Not available with Housing Code 01.*
- (12) *Not available with Housing code 00, 01, or 7J.*
- (13) *Available with output code A and PlantWeb housing only.*
- (14) *Not available with Housing code 00, 01, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Non-incendive approval (option code I5) or FM FISCO Intrinsically Safe approval (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain NEMA 4X rating.*

# Rosemount 3051S Series

## Rosemount 300S Series Housing “Kit”

Model			
300S	Housing “Kit” for Rosemount 3051S Scalable Pressure Transmitter		
Code	Housing Style	Material <sup>(1)</sup>	Conduit Entry
1A	<i>PlantWeb</i> housing	Aluminum	1/2–14 NPT
1B	<i>PlantWeb</i> housing	Aluminum	M20 x 1.5 (CM20)
1C	<i>PlantWeb</i> housing	Aluminum	G <sup>1/2</sup>
1J	<i>PlantWeb</i> housing	316L SST	1/2–14 NPT
1K	<i>PlantWeb</i> housing	316L SST	M20 x 1.5 (CM20)
1L	<i>Plantweb</i> housing	316L SST	G <sup>1/2</sup>
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 <sup>1/2</sup>
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 <sup>1/2</sup>
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 <sup>1/2</sup>
3J	Remote mount display and interface housing	316L SST	1/2–14 NPT
7J <sup>(2)</sup>	Quick Connect (A size Mini, 4-pin male termination)	316L SST	
Code	Output		
A	4–20 mA with digital signal based on HART protocol		
B <sup>(3)</sup>	4–20 mA Safety Certified with digital signal based on HART protocol		
F <sup>(4)</sup>	FOUNDATION fieldbus protocol		
Code	Options		
<b><i>PlantWeb</i> Control Functionality</b>			
A01 <sup>(5)</sup>	FOUNDATION fieldbus Advanced Control Function Block Suite		
<b><i>PlantWeb</i> Diagnostic Functionality</b>			
D01 <sup>(5)</sup>	FOUNDATION fieldbus Diagnostics Suite		
DA1 <sup>(6)</sup>	HART Diagnostics Suite		
<b><i>PlantWeb</i> Enhanced Measurement Functionality</b>			
H01 <sup>(5)(7)</sup>	Fully Compensated Mass Flow Block		
<b>Special Configuration (Hardware)</b>			
D1 <sup>(8)</sup>	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>		
D4	External ground screw assembly		
<b>Product Certifications</b>			
E1	ATEX Flameproof		
I1	ATEX Intrinsically Safe		
IA	ATEX FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only		
N1	ATEX Type n		
K1	ATEX Flameproof, Intrinsically Safe, Type n, Dust (combination of E1, I1, N1, and ND)		
ND	ATEX Dust		
E4	JIS Flameproof		
E5	FM Explosion-proof		
I5	FM Intrinsically Safe, Non-incendive		
IE	FM FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only		
K5	FM Explosion-proof, Intrinsically Safe, Non-incendive (combination of E5 and I5)		
E6	CSA Explosion-proof, Division 2		
I6	CSA Intrinsically Safe		
IF	CSA FISCO Intrinsically Safe; for FOUNDATION fieldbus protocol only		
K6	CSA Explosion-proof, Intrinsically Safe, Division 2 (combination of E6 and I6)		
E7	SAA Flameproof, Dust Ignition-proof		
I7	IECEx Intrinsically Safe		
IG	IECEx FISCO Intrinsically Safe		
N7	IECEx Type n		



## Product Data Sheet

00813-0100-4801, Rev GA

April 2006

# Rosemount 3051S Series

K7	SAA Flameproof, Dust Ignition-proof, IECEx Intrinsically Safe, and Type n (combination of E7, I7, and N7)
KA	ATEX and CSA Flameproof, Intrinsically Safe (combination of E1, I1, E6, 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, 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, Non-incendive (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, I5, E6, I6, E1, and I1) <i>Note: Only available on Housing Style codes 00, IA, IJ, 2A, 2J, 2E, or 2M.</i>
<b>Digital Display<sup>(9)</sup></b>	
M5	PlantWeb LCD Display
M7 <sup>(10)</sup>	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 <sup>(10)</sup>	Remote mount LCD display and interface, 50 ft. (15 m) cable; SST bracket, requires 4-20 mA / HART output
M9 <sup>(10)</sup>	Remote mount LCD display and interface, 100 ft. (31 m) cable; SST bracket, requires 4-20 mA / HART output
<b>Terminal Blocks</b>	
T1 <sup>(11)</sup>	Transient terminal block
T2 <sup>(12)</sup>	Terminal block with WAGO <sup>®</sup> spring clamp terminals
T3 <sup>(12)</sup>	Transient terminal block with WAGO spring clamp terminals
<b>Conduit Electrical Connector</b>	
GE <sup>(13)</sup>	M12, 4-pin, Male Connector (eurofast <sup>®</sup> )
GM <sup>(13)</sup>	A size Mini, 4-pin, Male Connector (minifast <sup>®</sup> )
<b>Typical Model Number: 300S 1A A E5</b>	

- (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 and Hardware Adjustment option code D1.
- (4) Requires PlantWeb housing.
- (5) Requires PlantWeb housing and output code F.
- (6) Requires PlantWeb housing and output code A. Includes Hardware Adjustments as standard.
- (7) Requires Rosemount 3095 Engineering Assistant to configure.
- (8) Not available with output code F.
- (9) Not available with Housing code 7J.
- (10) Not available with output code B, output code F, or option code DA1. Only available on Housing Style codes 3A, 3B, 3C, or 3J.
- (11) Not available with Housing code 3A, 3B, 3C, 3J, or 7J.
- (12) Available with output code A and PlantWeb housing only.
- (13) Not available with Housing code 00, 01, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, Non-incendive approval (option code I5) or FM FISCO Intrinsically Safe approval (option code IE), install in accordance with Rosemount drawing 03151-1009 to maintain NEMA 4X rating.

# Rosemount 3051S Series

## ACCESSORIES

### Rosemount 3095 Engineering Assistant (EA) Software Packages

The Rosemount 3095 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

### 3095 Engineering Assistant Software Packages

Code	Product Description
EA	Engineering Assistant Software program
Code	Diskette Type
2 <sup>(1)</sup>	EA Software Rev. 5, CD-ROM
Code	Language
E	English
Code	Modem and Connecting Cables
O	None
C	FOUNDATION fieldbus PCM-CIA Interface Card and Cables
Code	Operating Software
N	EA Rev. 5
Code	License
1	Single PC license
2	Site license
<b>Typical Model Number: EA 2 E O N 1</b>	

(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

# Rosemount 3051S HART Configuration Data Sheet

\* = Defaults

CONFIGURATION DATA SHEET	
Customer _____	P.O. No. _____
Model No. _____	Line Item _____

OUTPUT INFORMATION: (Software Selectable)	
Eng. Units =	<input type="checkbox"/> <b>InH<sub>2</sub>O<sup>(2)</sup> *</b> <input type="checkbox"/> psi <sup>(3)</sup> <input type="checkbox"/> Pa <input type="checkbox"/> ftH <sub>2</sub> O <input type="checkbox"/> MPa <input type="checkbox"/> inHg <input type="checkbox"/> bar <input type="checkbox"/> kPa <input type="checkbox"/> g/cm <sup>2</sup> <input type="checkbox"/> mbar <input type="checkbox"/> Torr <input type="checkbox"/> mmH <sub>2</sub> O <input type="checkbox"/> inH <sub>2</sub> O at 4 °C <input type="checkbox"/> Atm <input type="checkbox"/> kg/cm <sup>2</sup> <input type="checkbox"/> mmHg <input type="checkbox"/> mmH <sub>2</sub> O at 4 °C
output =	<input type="checkbox"/> <b>Linear *</b> <input type="checkbox"/> Square Root (For DP transmitters only)
Transmitter Sensor Temp. Units <sup>(1)</sup> =	<input type="checkbox"/> °C * <input type="checkbox"/> °F
Range Points: 4mA =	_____ (0) *                    20mA = _____ (URL) *
Damping <sup>(1)</sup> (0–60 sec.):	_____ (0.4 sec.) *

TAGGING INFORMATION
<input type="checkbox"/> Wired (5 lines of 17 characters)
_____ _____ _____ _____ _____
<input type="checkbox"/> Permanent (3 lines of 40 characters)
_____ _____ _____
Standard Software Tag: _____ (First 8 characters of wired or permanent tagging information—8 characters max)

TRANSMITTER INFORMATION <sup>(1)</sup>
Descriptor: _____ <div style="text-align: center; font-size: small;">(16 characters)</div>
Message: _____ <div style="text-align: center; font-size: small;">(32 characters)</div>
Date: <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <div style="display: flex; justify-content: space-around; font-size: small;"> <span>Day</span> <span>Month</span> <span>Year</span> </div>



SCALED VARIABLE INFORMATION <sup>(1) (2)</sup>	
Scaled Units =  _ _ _ _ _ _ _ _  (5 characters max—spaces consume 0-9, A-Z, /, %, -, and * character positions)	
Transfer Function=	
<input type="checkbox"/> <b>Linear *</b>	<input type="checkbox"/> Square Root
<b>Linear Scaled Variable</b> (with Linear option only)	<b>Square Root Scaled Variable</b> (with Square Root option only)
Low pressure value  _ _ _ _ _ _ _ _  (Eng. Units)	Low pressure value: 0 (Eng. Units)
High pressure value  _ _ _ _ _ _ _ _  (Eng. Units)	High pressure value  _ _ _ _ _ _ _ _  (Eng. Units)
Low scaled value  _ _ _ _ _ _ _ _  (Scaled Units)	Low scaled value: 0 (Scaled Units)
High scaled value  _ _ _ _ _ _ _ _  (Scaled Units)	High scaled value  _ _ _ _ _ _ _ _  (Scaled Units)
<b>Linear Offset</b>  _ _ _ _ _ _ _ _  (Eng. Units)	<b>Low Flow Cut</b> <input type="checkbox"/> On <input type="checkbox"/> <b>Off *</b>  _ _ _ _ _ _ _ _  (Scaled unit)
Range Values—both categories must be completed. (used when scaled variable is set to primary variable)	
LRV  _ _ _ _ _ _ _ _  (Scaled Unit) (seven characters max)	URV  _ _ _ _ _ _ _ _  (Scaled Unit) (seven characters max)
PROCESS ALERT SETPOINTS <sup>(1)</sup>	
Process alert setpoints are values set by the user where the transmitter outputs a HART message and digital display information when the applied pressure or temperature goes outside the designated range. The pressure values are limited to the range of the transmitter.	
Pressure Process Alert (HART signal only) <input type="checkbox"/> On <input type="checkbox"/> <b>Off *</b>	Temperature Process Alert (HART signal only) <input type="checkbox"/> On <input type="checkbox"/> <b>Off *</b>
<input type="checkbox"/> Low alert  _ _ _ _ _ _ _ _  (Eng. Unit)	<input type="checkbox"/> Low alert  _ _ _ _ _ _ _ _  (Temp. Unit -40°F, -40 °C)
(LRL ≤ Low Alert ≤ High Alert ≤ URL)	
<input type="checkbox"/> High Alert  _ _ _ _ _ _ _ _  (Eng. Unit)	<input type="checkbox"/> High Alert  _ _ _ _ _ _ _ _  (Temp. Unit 185°F, 85 °C)

(1) Requires a C1 option code.

(2) Not available with output code B.

# Rosemount 3051S Series

**Product Data Sheet**

00813-0100-4801, Rev GA

April 2006

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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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