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Find the *Emerson / Rosemount Analytical 3051S2T* at our website: *Click HERE*

Product Data Sheet
00813-0100-4801, Rev HA
November 2006

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® Platform enables more cost effective installation and maintenance practices to meet expanding needs*
- *Advanced PlantWeb® functionality for HART® and FOUNDATION fieldbus™ to increase plant availability*
- *Improved user interface with enhanced Electronic Device Description Language (EDDL)*
- *Safety Certified to IEC 61508*
- *Wireless output with >99% data reliability delivers rich HART data, protected by industry leading security*



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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 IEC 61508

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

Wireless enabled HART solutions

The scalable 3051S enables fully integrated self-organizing wireless solutions to optimize plant performance and reduce risk.

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.

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Scalable Pressure, Flow, and Level Solutions

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

Junction Box Housing
- For basic field wiring termination

753R Web-Based Monitoring Indicator
- For Vendor Managed Inventory and upgrading pressure chart recorder applications

Wireless PlantWeb Housing
- Provides access to critical information previously too costly to obtain

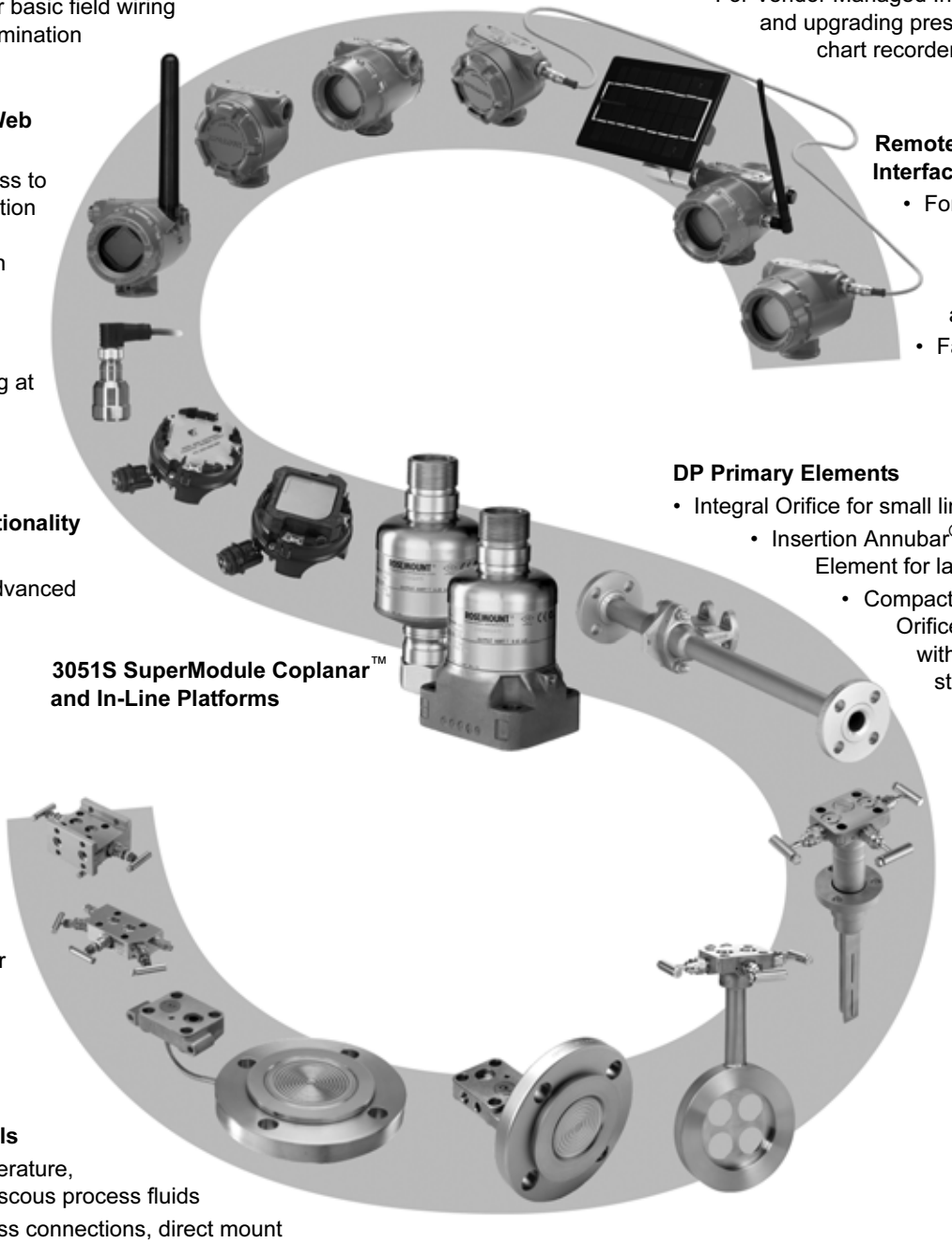
Remote Display and Interface
- For easy access to information, configuration and troubleshooting at ground level
- Facilitates direct mounting

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

PlantWeb Functionality
- Diagnostics
- Control and Advanced Computations

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

3051S SuperModule Coplanar™ and In-Line Platforms



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

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

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Rosemount 3051S Selection Guide

Rosemount 3051S_C *Coplanar*™ Differential, Gage, and Absolute

See ordering information on page 29.



- 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_2O to 4000 psi (0,25 mbar to 276 bar)
- 316L SST, *Hastelloy*® C, *Monel*®, Tantalum, gold-plated *Monel*, or gold-plated 316L SST process isolators

Rosemount 3051S_T In-Line Gage and Absolute

See ordering information on page 34.



- 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 38.



- 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

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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 (±3σ (Sigma))

Technology leadership, advanced manufacturing techniques and statistical process control ensure specification conformance to ±3σ or better.

Digital Output

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

Reference Accuracy

Models	Ultra[1] [2]	Classic[1] [2]	Ultra for Flow[1] [3]
3051S_CD, CG			
Ranges 2 - 4	±0.025% of span. For spans less than 10:1, $\pm\left[0.005 + 0.0035\left(\frac{URL}{span}\right)\right]$% of span	±0.055% of span. For spans less than 10:1, $\pm\left[0.015 + 0.005\left(\frac{URL}{span}\right)\right]$% of span	±0.04% of reading up to 8:1 DP turndown from URL; ±[0.04 + 0.0023 (URL/RDG[4])]% 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	
3051S_T			
Ranges 1 - 4	±0.025% of span. For spans less than 10:1, $\pm\left[0.004\left(\frac{URL}{span}\right)\right]$% of span	±0.055% of span. For spans less than 10:1, $\pm\left[0.0065\left(\frac{URL}{span}\right)\right]$% of span	
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	
3051S_CA			
Ranges 1 - 4	±0.025% of span. For spans less than 10:1, $\pm\left[0.004\left(\frac{URL}{span}\right)\right]$% of span	±0.055% of span. For spans less than 10:1, $\pm\left[0.0065\left(\frac{URL}{span}\right)\right]$% of span	
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	
3051S_L	±0.065% of span. For spans less than 10:1, $\pm\left[0.015 + 0.005\left(\frac{URL}{span}\right)\right]$% of span	±0.065% of span. For spans less than 10:1, $\pm\left[0.015 + 0.005\left(\frac{URL}{span}\right)\right]$% of span	

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

(2) 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.

(3) 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.

(4) RDG refers to transmitter reading.

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Total Performance

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

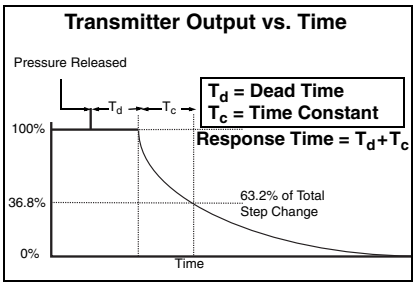
(2) Ultra for Flow applicable for CD Ranges 2-3 only.

Long Term Stability

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

Dynamic Performance[1]

	4 - 20 mA (HART®)[2]	Fieldbus protocol[3]	Typical Transmitter Response Time
Total Response Time (Td + Tc)[4]:			
3051S_C, Ranges 2 - 5:	100 milliseconds	152 milliseconds	
Range 1:	255 milliseconds	307 milliseconds	
Range 0:	700 milliseconds	752 milliseconds	
3051S_T:	100 milliseconds	152 milliseconds	
3051S_L:	See *Instrument Toolkit*™.	See *Instrument Toolkit*	
Process Variable Response Time			
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 *Instrument Toolkit*™	Not Applicable	
Dead Time (Td)[5]	45 milliseconds (nominal)	97 milliseconds	
Update Rate			
3051S	22 times per second	22 times per second	
3051S SIS	11 times per second	Not Applicable	



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

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

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

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

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

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Ambient Temperature Effect

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

(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.

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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	**Zero Error** (1)	**Zero Error**(1)
Range 2 - 3	± 0.025% URL per 1000 psi (69 bar)	± 0.05% URL per 1000 psi (69 bar)
Range 0	± 0.125% URL per 100 psi (6,89 bar)	± 0.125% URL per 100 psi (6,89 bar)
Range 1	± 0.25% URL per 1000 psi (69 bar)	± 0.25% URL per 1000 psi (69 bar)
	Span Error	**Span Error**
Range 2 -3	± 0.1% of reading per 1000 psi (69 bar)	± 0.1% of reading per 1000 psi (69 bar)
Range 0	± 0.15% of reading per 100 psi (6,89 bar)	± 0.15% of reading per 100 psi (6,89 bar)
Range 1	± 0.4% of reading per 1000 psi (69 bar)	± 0.4% of reading per 1000 psi (69 bar)

(1) Zero error can be calibrated out

Mounting Position Effects

Models	Ultra, Ultra for Flow, and Classic
3051S_C	Zero shifts up to ±1.25 inH_2O (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_2O (25,4 mmH_2O); with diaphragm in horizontal plane, zero shift of up to 5 inH_2O (127 mmH_2O) 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 inH2O (63,5 mmH20), 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)

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FUNCTIONAL SPECIFICATIONS

Range and Sensor Limits (1)

Range	Minimum Span 3051S_		Range and Sensor Limits 3051S_			
	Ultra and Ultra for Flow(1)	Classic	Upper (URL)	Lower (LRL)		
				3051S_CD(2)	3051S_CG, LG(3)	3051S_LD(3)
0	0.1 inH_2O (0,25 mbar)	0.1 inH_2O (0,25 mbar)	3.0 inH_2O (7,5 mbar)	–3.0 inH_2O (–7,5 mbar)	NA	NA
1	0.5 inH_2O (1,24 mbar)	0.5 inH_2O (1,24 mbar)	25.0 inH_2O (62,3 mbar)	–25.0 inH_2O (–62,3 mbar)	–25.0 inH_2O (–62,3 mbar)	–25.0 inH_2O (–62,3 mbar)
2	1.3 inH_2O (3,11 mbar)	2.5 inH_2O (6,23 mbar)	250.0 inH_2O (0,62 bar)	–250.0 inH_2O (–0,62 bar)	–250.0 inH_2O (–0,62 bar)	–250.0 inH_2O (–0,62 bar)
3	5.0 inH_2O (12,4 mbar)	10.0 inH_2O (24,9 mbar)	1000.0 inH_2O (2,49 bar)	–1000.0 inH_2O (-2,49 bar)	–393.0 inH_2O (–979 mbar)	–1000.0 inH_2O (–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_2O (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(1) (LRL) (Gage)
	Ultra	Classic			
1	0.3 psi (20,7 mbar)	0.3 psi (20,7 mbar)	30 psi (2,07 bar)	0 psia (0 bar)	–14.7 psig (–1,01 bar)
2	0.75 psi (51,7 mbar)	1.5 psi (0,103 bar)	150 psi (10,34 bar)	0 psia (0 bar)	–14.7 psig (–1,01 bar)
3	4 psi (275,8 mbar)	8 psi (0,55 bar)	800 psi (55,16 bar)	0 psia (0 bar)	–14.7 psig (–1,01 bar)
4	20 psi (1,38 bar)	40 psi (2,76 bar)	4000 psi (275,8 bar)	0 psia (0 bar)	–14.7 psig (–1,01 bar)
5	1000 psi (68,9 bar)	2000 psi (137,9 bar)	10000 psi (689,5 bar)	0 psia (0 bar)	–14.7 psig (–1,01 bar)

(1) Assumes atmospheric pressure of 14.7 psig.

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

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

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

(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.

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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

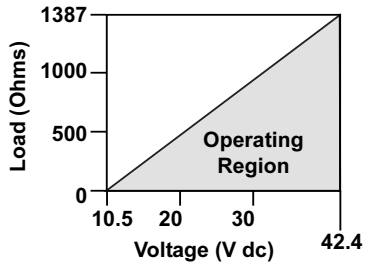
3051S HART Diagnostics transmitter: 12 to 42 Vdc with no load

Load Limitations

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

Standard Transmitter

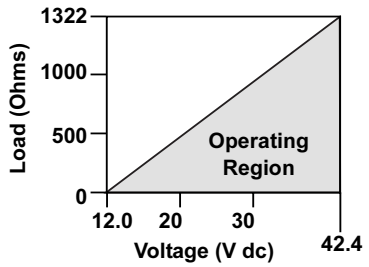
Maximum Loop Resistance = 43.5 * (Power Supply Voltage – 10.5)



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

3051S SIS Safety Transmitter (output code B)
3051S HART Diagnostics Transmitter (option code DA1)

Maximum Loop Resistance = 43.5 * (Power Supply Voltage – 12.0)



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

ASP™ Diagnostics Suite for HART (Option Code DA1)

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

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

FOUNDATION fieldbus

Power Supply

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

Current Draw

17.5 mA for all configurations (including LCD display option)

FOUNDATION fieldbus Parameters

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

Standard Function Blocks

Resource Block

- Contains hardware, electronics, and diagnostic information.

Transducer Block

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

LCD Block

- Configures the local display.

2 Analog Input Blocks

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

PID Block with Auto-tune

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

Backup Link Active Scheduler (LAS)

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

Software Upgrade in the Field

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

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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 Bock

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

Output Splitter Block

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

Control Selector Block

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

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

Fully Compensated Mass Flow Block (Option Code H01)

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

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

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

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

Wireless Self-Organizing Networks

Output

Wireless enabled HART.

Transmit Rate

User selectable, 15 sec. to 60 min.

Wireless Battery

Replaceable, Intrinsically Safe Lithium-thionyl chloride battery pack with Valox® PBT enclosure. 5-year battery life at reference conditions.(1)

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)

(1) Reference conditions are 70 °F (21 °C), transmit rate of once per minute, and routing data for three additional network devices.

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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
At 100 °F (38 °C), the rating decreases with increasing temperature, per ANSI/ASME B16.5.			
DIN	PN 10–40	40 bar	40 bar
DIN	PN 10/16	16 bar	16 bar
DIN	PN 25/40	40 bar	40 bar
At 248 °F (120 °C), the rating decreases with increasing temperature, per DIN 2401.			

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 to137,90 bar)

Burst Pressure Limits

Coplanar or traditional process flange

- 10000 psig (689,5 bar).

3051S_T:

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

Temperature Limits

Ambient

–40 to 185 °F (–40 to 85 °C)
With LCD display(1): –40 to 175 °F (–40 to 80 °C)
With option code P0: –4 to 185 °F (–20 to 85 °C)

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

Storage

–50 to 230 °F (–46 to 110 °C)

With LCD display: –40 to 185 °F (–40 to 85 °C)
With wireless output (code X): –40 to 185 °F (–40 to 85 °C)

Process Temperature Limits

At atmospheric pressures and above.

3051S_C *Coplanar*	
Silicone Fill Sensor(1)	
with *Coplanar* Flange	–40 to 250 °F (–40 to 121 °C)(2)
with Traditional Flange	–40 to 300 °F (–40 to 149 °C)(2)(3)
with Level Flange	–40 to 300 °F (–40 to 149 °C)(2)
with 305 Integral Manifold	–40 to 300 °F (–40 to 149 °C)(2)(3)
Inert Fill Sensor(1)	0 to 185 °F (–18 to 85 °C)(4)(5)
3051S_T In-Line (Process Fill Fluid)	
Silicone Fill Sensor(1)	–40 to 250 °F (–40 to 121 °C)(2)
Inert Fill Sensor(1)	–22 to 250 °F (–30 to 121 °C)(2)
3051S_L Low-Side Temperature Limits	
Silicone Fill Sensor(1)	–40 to 250 °F (–40 to 121 °C)(2)
Inert Fill Sensor(1)	0 to 185 °F (–18 to 85 °C)(2)
3051S_L High-Side Temperature Limits (Process Fill Fluid)	
Syltherm® XLT	–102 to 302 °F (–75 to 150 °C)
D. C.® Silicone 704(6)	32 to 500 °F (0 to 260 °C)
D. C. Silicone 200	–49 to 401 °F (–45 to 205 °C)
Inert (Halocarbon)	–49 to 320 °F (–45 to 160 °C)
Glycerin and Water	5 to 203 °F (–15 to 95 °C)
Neobee M-20®	5 to 437 °F (–15 to 225 °C)
Propylene Glycol and Water	5 to 203 °F (–15 to 95 °C)

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

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

(3) -20 °F (-29 °C) is the lower process temperature limit with option code P0.

(4) 160 °F (71 °C) limit in vacuum service.

(5) Not available for 3051S_CA.

(6) 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^3 (0,08 cm^3)

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.

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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(1)	≥ 22.5 mA	≤ 3.6 mA
Custom levels(2) (3)	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%(1)
Safety response time: 1.5 seconds

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

PHYSICAL SPECIFICATIONS

Electrical Connections

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

Process Connections

3051S_C

1/4–18 NPT on 2 1/8-in. centers

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

3051S_T

1/2–14 NPT female,
Non-Threaded instrument flange (available in SST for Range 1–4 transmitters only),
G1/2 A DIN 16288 Male (available in SST for Range 1–4 transmitters only), or
Autoclave type F-250-C (Pressure relieved 9/16–18 gland thread; 1/4 OD high pressure tube 60° cone; available in SST for Range 5 transmitters only).

3051S_L

High pressure side: 2-in.(50.8mm), 3-in. (72 mm), or 4-in. (102mm), ASME B 16.5 (ANSI) Class 150, 300 or 600 flange; 50, 80 or 100 mm, DIN 2501 PN 40 or 10/16 flange

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

Process-Wetted Parts

Process Isolating Diaphragms

		3051S_		
Isolating Diaphragm Material	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)

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3051S_L Process Wetted Parts

Flanged Process Connection (Transmitter High Side)

Process Diaphragms, Including Process Gasket Surface

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

Extension

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

Mounting Flange

Zinc-cobalt plated CS or 316 SST

Reference Process Connection (Transmitter Low Side)

Isolating Diaphragms

316L SST or *Hastelloy* C-276

Reference Flange and Adapter

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

Non-Wetted Parts

Electronics Housing

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

***Coplanar* Sensor Module Housing**

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

Bolts

Plated carbon steel per ASTM A449, Type 1

Austenitic 316 SST

ASTM A 453, Class A, Grade 660

ASTM A 193, Grade B7M

ASTM A 193, Class 2, Grade B8M

Monel

Sensor Module Fill Fluid

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

Process Fill Fluid (Liquid Level Only)

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

Paint

Polyurethane

Cover O-rings

Buna-N

Wireless Terminal Block and Battery Pack

Valox® PBT

Antenna

Valox® PBT/PC integrated omnidirectional antenna

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Shipping Weights for 3051S

TABLE 2. *SuperModule* Platform weights

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

(1) Flange and bolts not included.

TABLE 3. Transmitter weights without options

Complete Transmitter[1]	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)
3051S_C with wireless *PlantWeb* housing	7.7 (3,5)
3051S_T with wireless *PlantWeb* housing	4.1 (1,8)

(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[1], LCD display for SST *PlantWeb* housing[1]	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[2]	3.3 (1,5)
F13, F23	Traditional flange (*Hastelloy*)	2.7 (1,2)
E12, E22	SST *Coplanar* flange[2]	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[1]	0.1 (0,1)
Junction Box terminal block	0.3 (0,1)
PlantWeb terminal block	0.2 (0,1)
Wireless battery	0.5 (0,2)

(1) Display only

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Product Certifications

HART & FOUNDATION FIELDBUS 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. 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 + A1, A2, and A3 – 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 ⟨Ex⟩ II 1G
EEx ia IIC T5 (T_a = -60 °C to 40 °C) -HART/SIS/Remote Display/Quick Connect/HART Diagnostics
EEx ia IIC T4 (T_a = -60 °C to 70 °C) -HART/SIS/Remote Display/Quick Connect/HART Diagnostics
EEx ia IIC T4 (T_a = -60 °C to 70 °C) -FOUNDATION fieldbus
EEx ia IIC T4 (T_a = -60 °C to 40 °C) -FISCO
CE 1180

TABLE 6. Input Parameters

Loop / Power	Groups
U_i = 30 V	HART / FOUNDATION fieldbus/ Remote Display / SIS / Quick Connect / HART Diagnostics
U_i = 17.5 V	FISCO
I_i = 300 mA	HART / FOUNDATION fieldbus/ Remote Display / SIS / Quick Connect / HART Diagnostics
I_i = 380 mA	FISCO
P_i = 1.0 W	HART / Remote Display / SIS / Quick Connect / HART Diagnostics
P_i = 1.3 W	FOUNDATION fieldbus
P_i = 5.32 W	FISCO
C_i = 30 nF	*SuperModule*™ Platform / Quick Connect
C_i = 11.4 nF	HART / SIS / HART Diagnostics
C_i = 0	FOUNDATION fieldbus / Remote Display / FISCO
L_i = 0	HART / FOUNDATION fieldbus/ SIS / FISCO / Quick Connect / HART Diagnostics
L_i = 60 µH	Remote Display

Special conditions for safe use (x)

1. 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.

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2. 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 ⟨Ex⟩ II 3 G
EEx nL IIC T5 (T_a = -40 °C TO 70 °C)
Ui = 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.

ND ATEX Dust
Certificate No.: BAS01ATEX1374X ⟨Ex⟩ II 1 D
T105°C (-20 °C ≤ T_{amb} ≤ 85 °C)
V_{max} = 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. (The 3051S SuperModule must be properly assembled to the 3051S housing to maintain ingress protection.)

E1 ATEX Flameproof
Certificate No.: KEMA00ATEX2143X ⟨Ex⟩ II 1/2 G
EEx d IIC T6 (-50 °C ≤ T_{amb} ≤ 65 °C)
EEx d IIC T5 (-50 °C ≤ T_{amb} ≤ 80 °C)
V_{max} = 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
TC17102	Remote Display

Australian Certifications

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

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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.

IECEx Certifications

I7/IG IECEx Intrinsic Safety
Certificate No.: IECExBAS04.0017X
Ex ia IIC T5 (T_a = -60 °C to 40 °C) -HART/SIS/Remote Display/Quick Connect/HART Diagnostics
Ex ia IIC T4 (T_a = -60 °C to 70 °C) -HART/SIS/Remote Display/Quick Connect/HART Diagnostics
Ex ia IIC T4 (T_a = -60 °C to 70 °C) -FOUNDATION fieldbus
Ex ia IIC T4 (T_a = -60 °C to 40 °C) -FISCO
IP66

TABLE 7. Input Parameters

Loop / Power	Groups
U_i = 30 V	HART / FOUNDATION fieldbus/ Remote Display / SIS / Quick Connect / HART Diagnostics
U_i = 17.5 V	FISCO
I_i = 300 mA	HART / FOUNDATION fieldbus/ Remote Display / SIS / Quick Connect / HART Diagnostics
I_i = 380 mA	FISCO
P_i = 1.0 W	HART / Remote Display / SIS / Quick Connect / HART Diagnostics
P_i = 1.3 W	FOUNDATION fieldbus
P_i = 5.32 W	FISCO
C_i = 30 nF	*SuperModule*™ Platform / Quick Connect
C_i = 11.4 nF	HART / SIS / HART Diagnostics
C_i = 0	FOUNDATION fieldbus / Remote Display / FISCO / Quick Connect / HART Diagnostics
L_i = 0	HART / FOUNDATION fieldbus / SIS / FISCO / Quick Connect / HART Diagnostics
L_i = 60 µH	Remote Display

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

N7 IECEx Type n
Certificate No.: IECExBAS04.0018X
Ex nC IIC T5 (Ta = -40 °C to 70 °C)
Ui = 45 Vdc MAX
IP66
Special conditions for safe use (x)
The apparatus is not capable of withstanding the 500 V insulation test required by Clause 8 of IEC 79-15: 1987.

Combinations of Certifications

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

K1 Combination of E1, I1, N1, and ND
K5 Combination of E5 and I5
K6 Combination of E6 and I6
K7 Combination of E7, I7, and N7
KA Combination of E1, I1, E6, and I6
KB Combination of E5, I5, I6 and E6
KC Combination of E5, E1, I5 and I1
KD Combination of E5, I5, E6, I6, E1, and I1

WIRELESS CERTIFICATIONS

Approved Manufacturing Locations

Rosemount Inc. — Chanhassen, Minnesota USA

Telecommunication Compliance

FCC ID: SJC-M1030
IC ID: 5853A-M1030

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

Factory Mutual (FM) Approvals

I5 FM Intrinsic Safety, Non-Incendive, and Dust Ignition-proof.
Intrinsically Safe for Class I/II/III, Division 1, Groups A, B, C, D, E, F, and G.
Zone Marking: Class I, Zone 0, AEx ia IIIC
Temperature Codes T4 (T_{amb} = -50 to 70° C)
T5 (T_{amb} = -50 to 40° C)
Non-Incendive for Class I, Division 2, Groups A, B, C, and D.
Dust Ignition-proof for Class II/III, Division 1, Groups E, F, and G.
Ambient temperature limits: -50 to 85°C
For use with Rosemount battery pack P/N 00753-9220-XXXX only.
Enclosure Type 4X / IP66

CSA - Canadian Standards Association

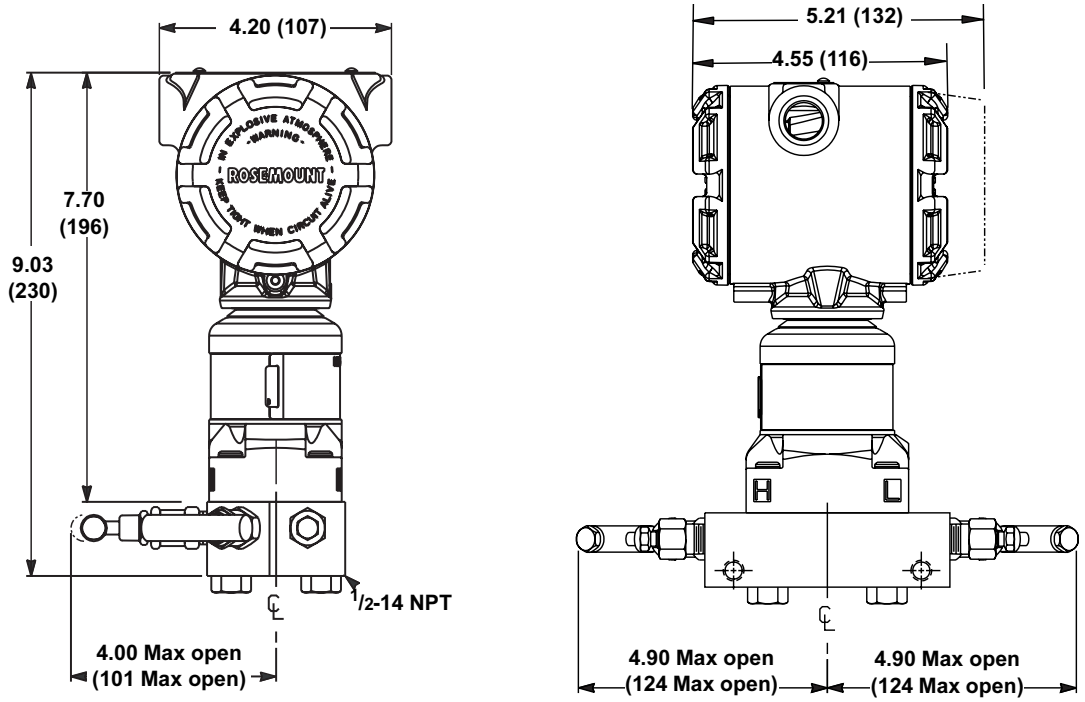
I6 CSA Intrinsic Safety
Intrinsically Safe for Class I, Division 1, Groups A, B, C, and D.
Temp Code T3C
Enclosure Type 4X / IP66
For use with Rosemount battery pack P/N 00753-9220-XXXX only.

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Dimensional Drawings

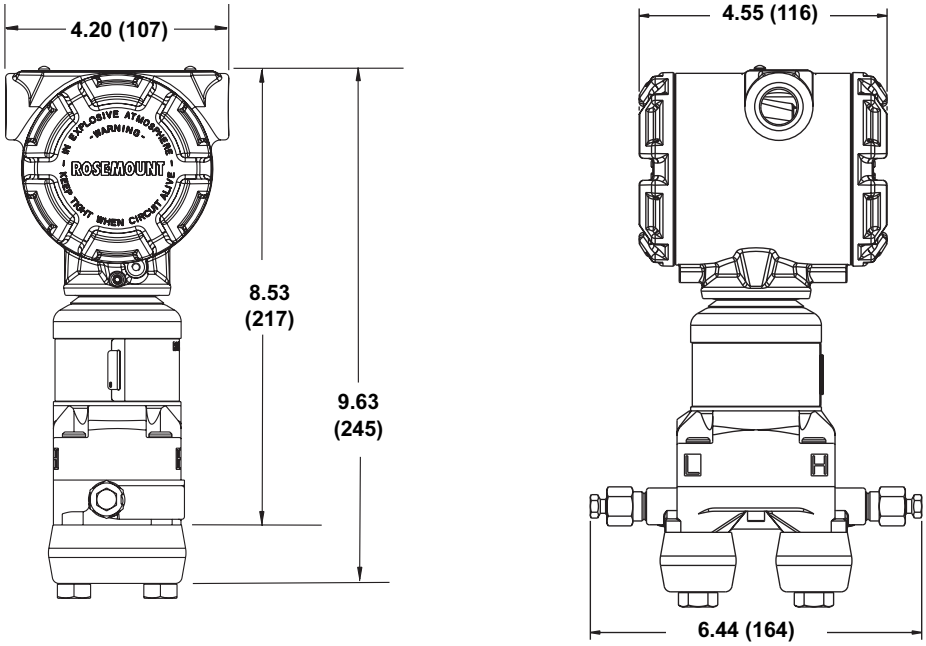
Dimensions are in inches (millimeters).
Process adapters (option D2) and Rosemount 305 integral manifolds must be ordered with the transmitter.

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



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

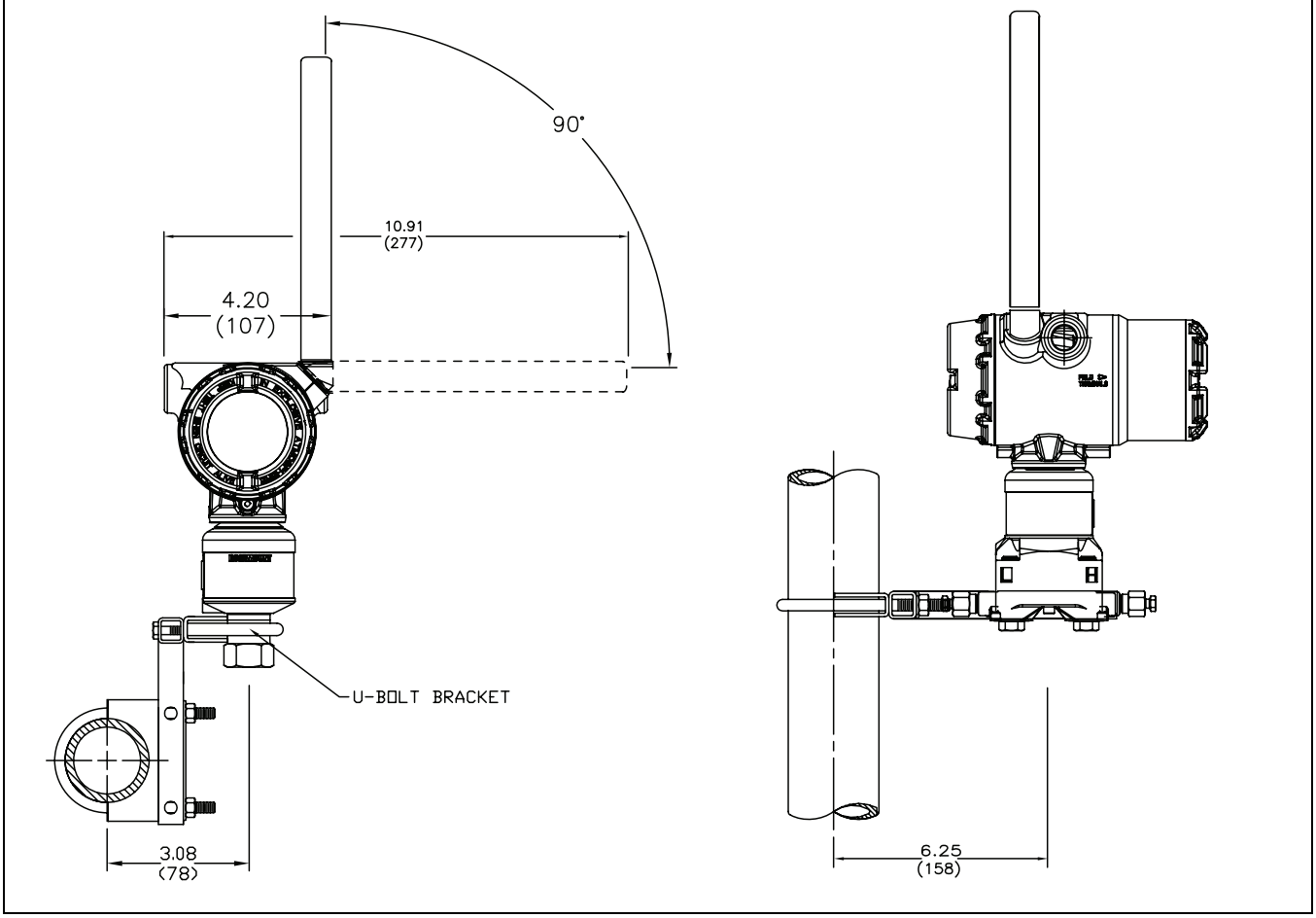
PlantWeb Housing with *Coplanar SuperModule* Platform and *Coplanar* Flange



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

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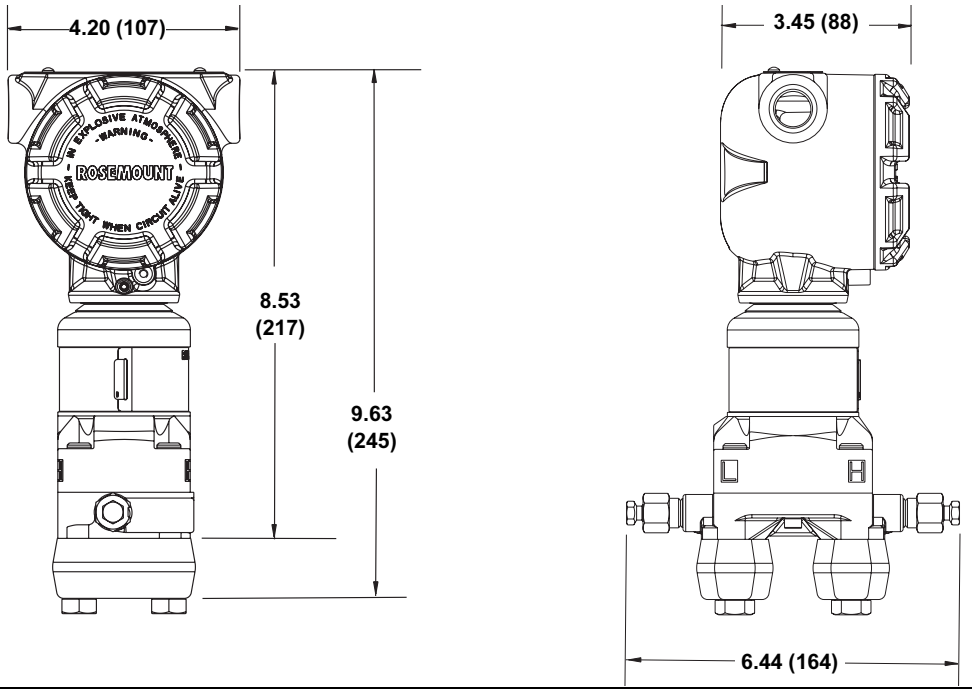
Wireless PlantWeb Housing with Coplanar and In-Line SuperModule Platform



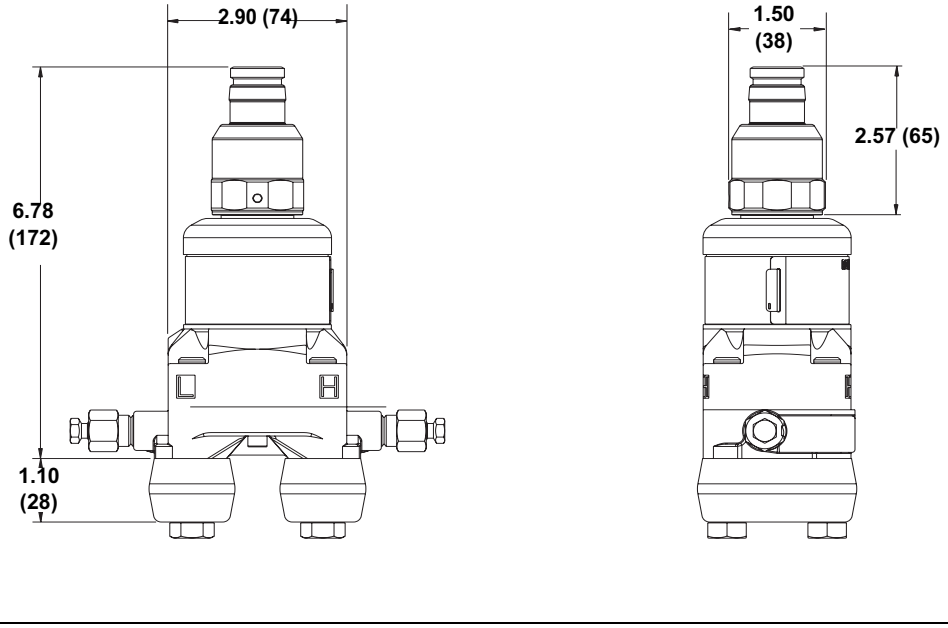
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Junction Box Housing with *Coplanar SuperModule* Platform and *Coplanar* Flange



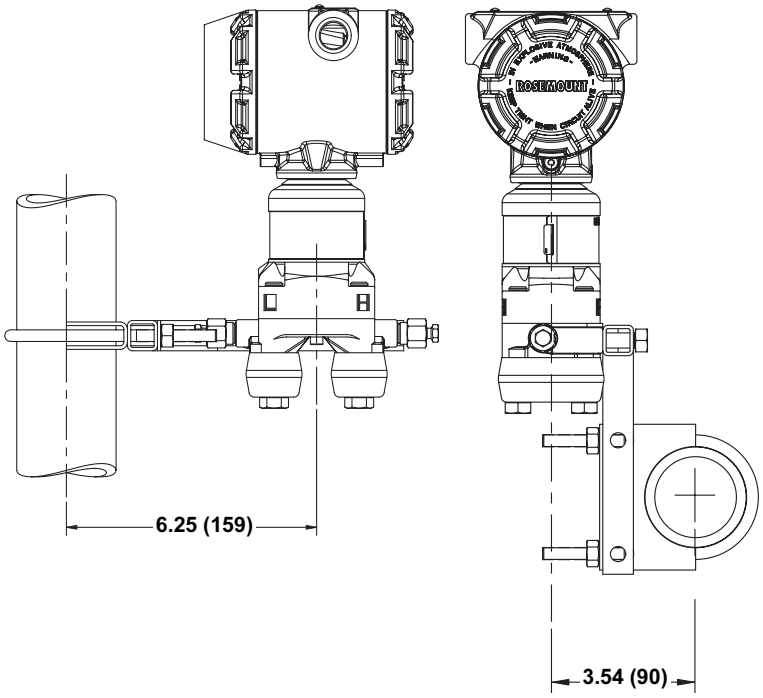
Quick Connect with *Coplanar SuperModule* Platform and *Coplanar* Flange



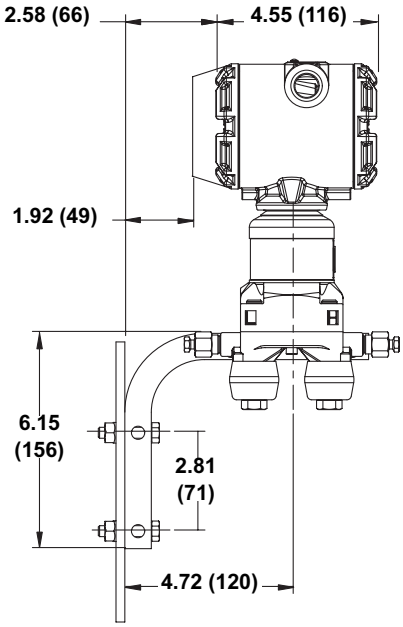
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Coplanar Flange Mounting Configurations

Pipe Mount

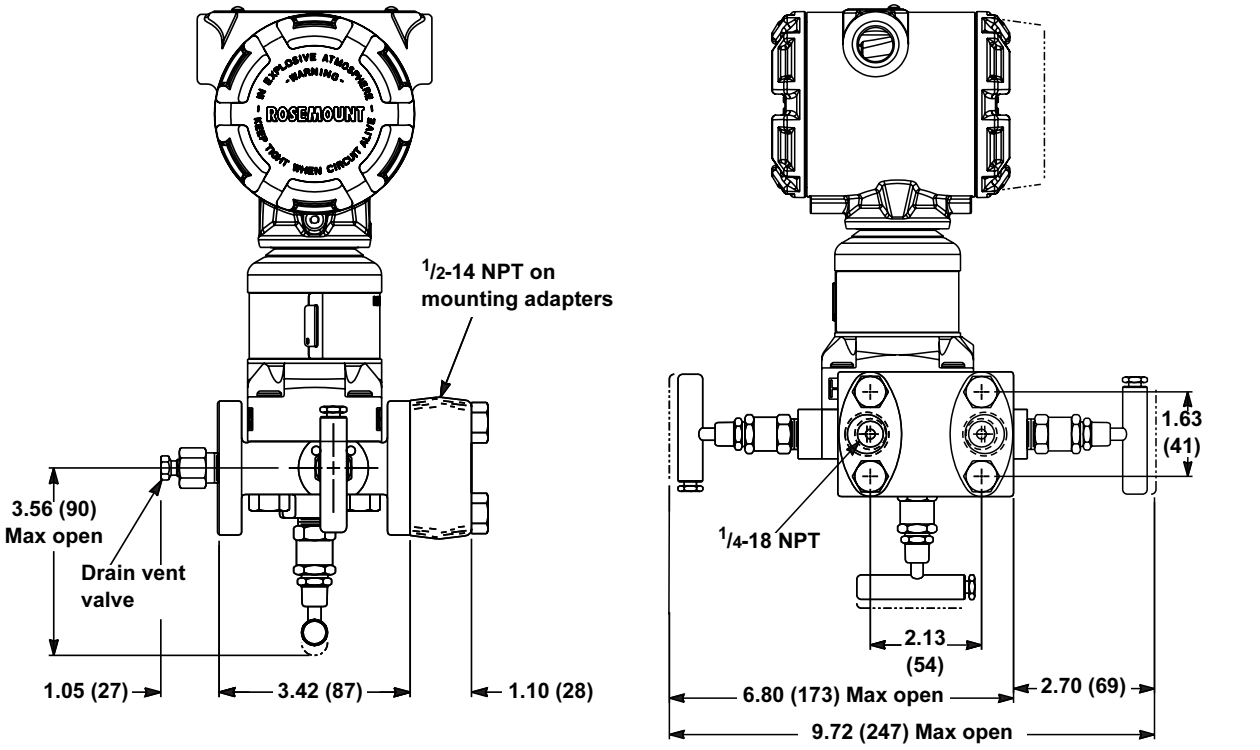


Panel Mount

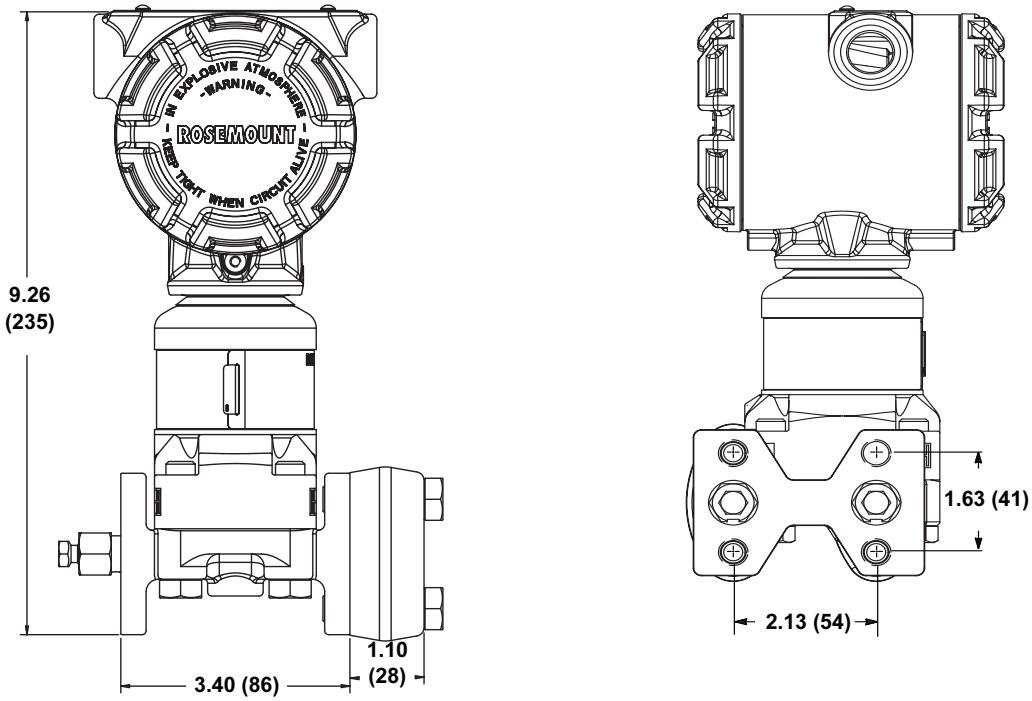


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PlantWeb Housing with *Coplanar SuperModule* Platform and 305 Traditional Integral Manifold



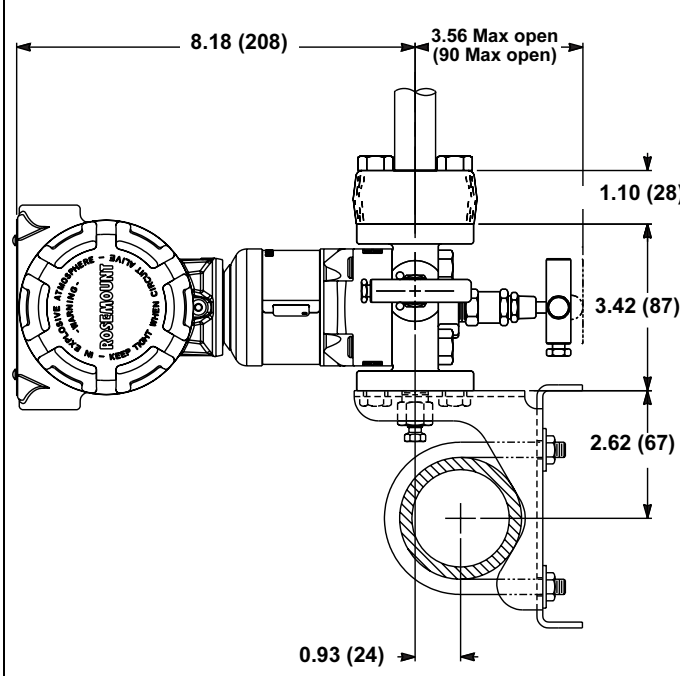
PlantWeb Housing with *Coplanar SuperModule* Platform and Traditional Flange

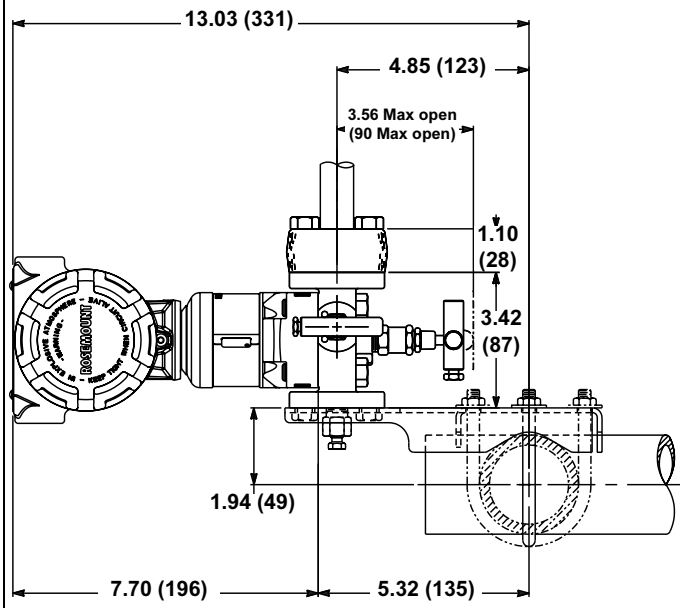


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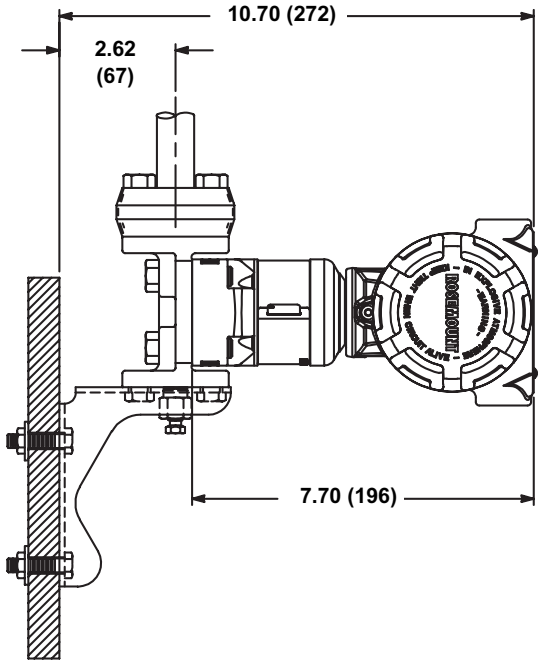
Traditional Flange Mounting Configurations

Pipe Mount 305 Integral Manifold





Panel Mount

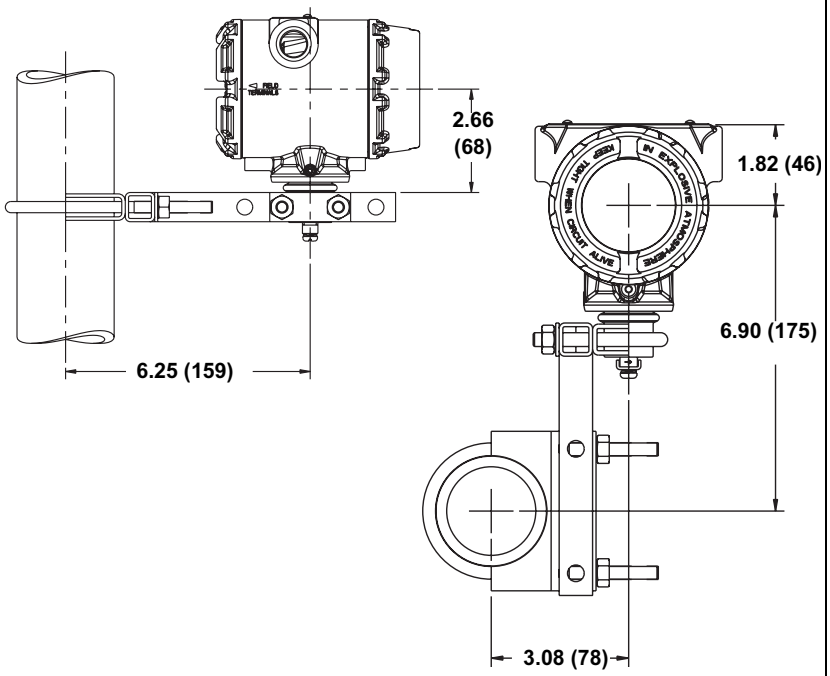


3051S/COPLANAR/3151_A01E, 3151_F519A

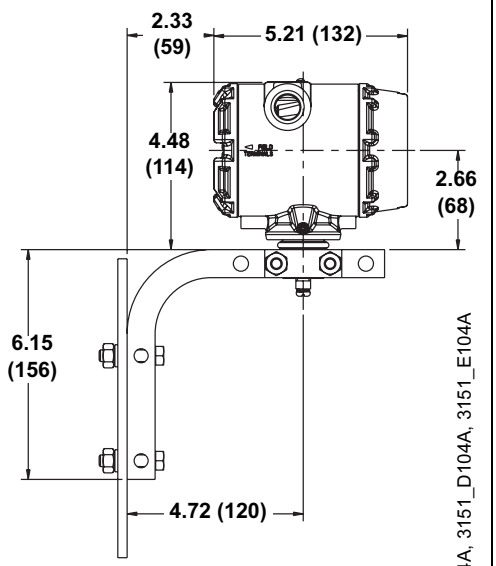
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Remote Mount LCD Display and Interface Mounting Configurations

Pipe Mount

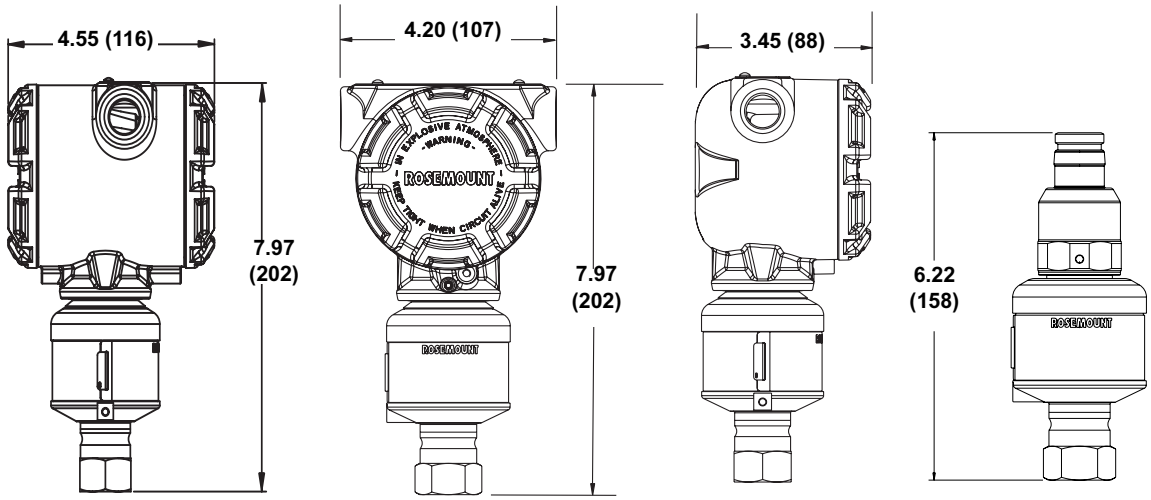


Panel Mount



3051S/3151_C104A, 3151_D104A, 3151_E104A

PlantWeb Housing, Junction Box Housing, and Quick Connect with In-Line *SuperModule* Platform

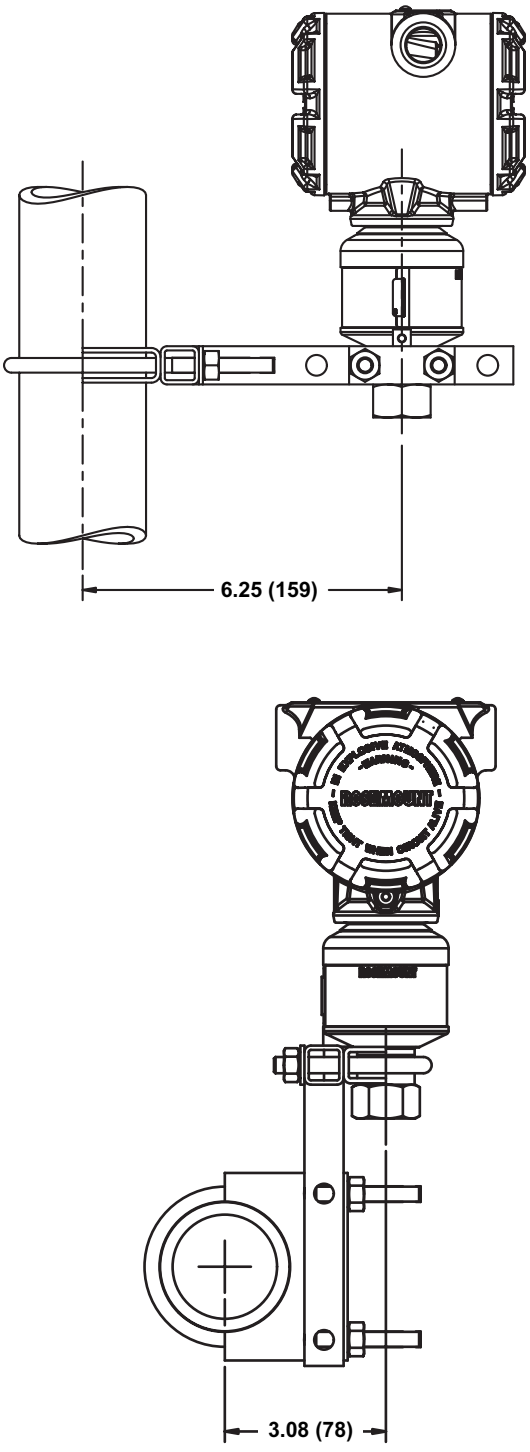


3051S/INLINE/3151_A203A, B203A, 3151_A103A, M3151_106B

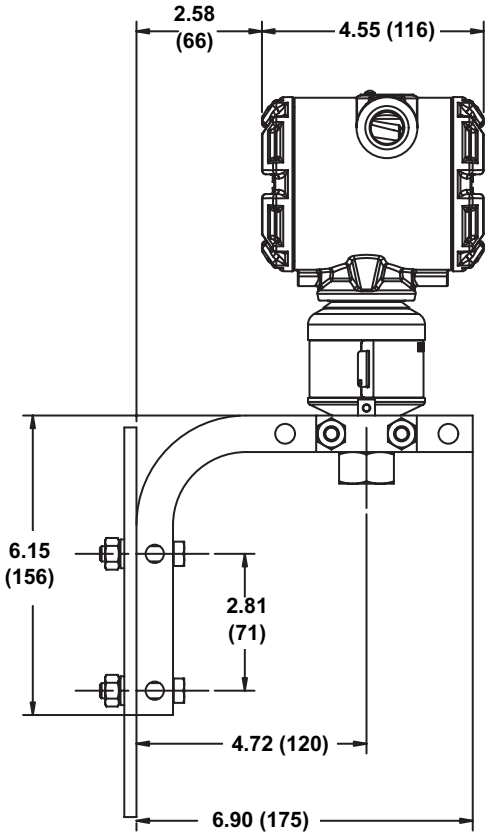
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In-line Mounting Configurations with Optional Mounting Bracket

Pipe Mount



Panel Mount

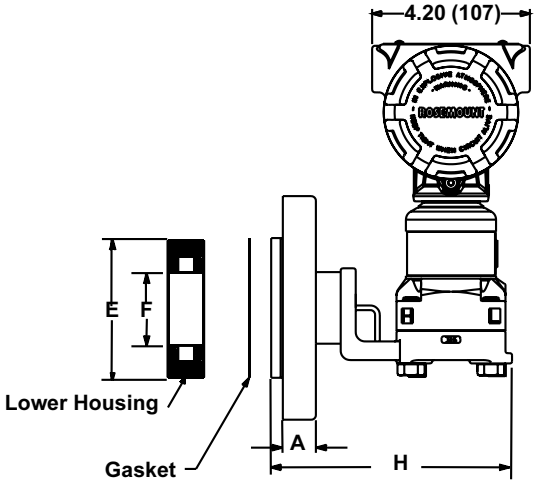


3051S/INLINE/3151_A103A, B103A

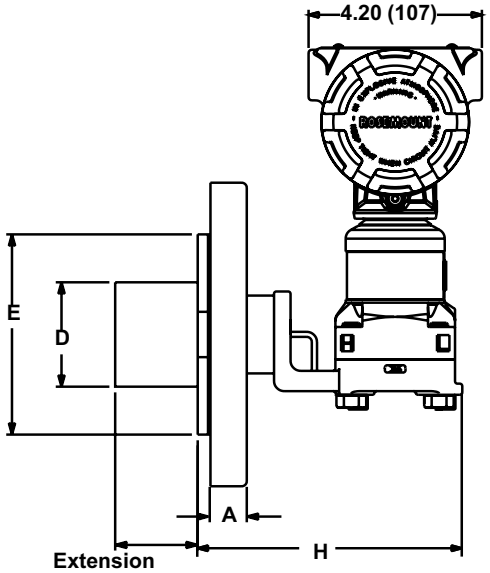
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3051S_L Liquid Level

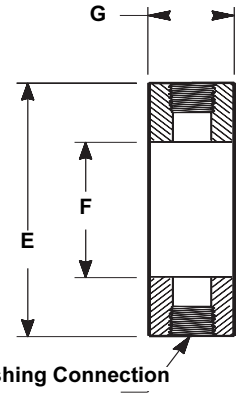
Flush Flanged Configuration



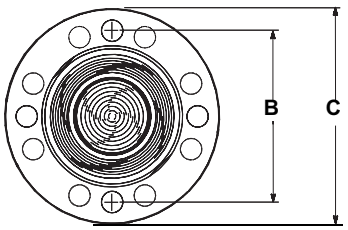
Extended Flanged Configuration

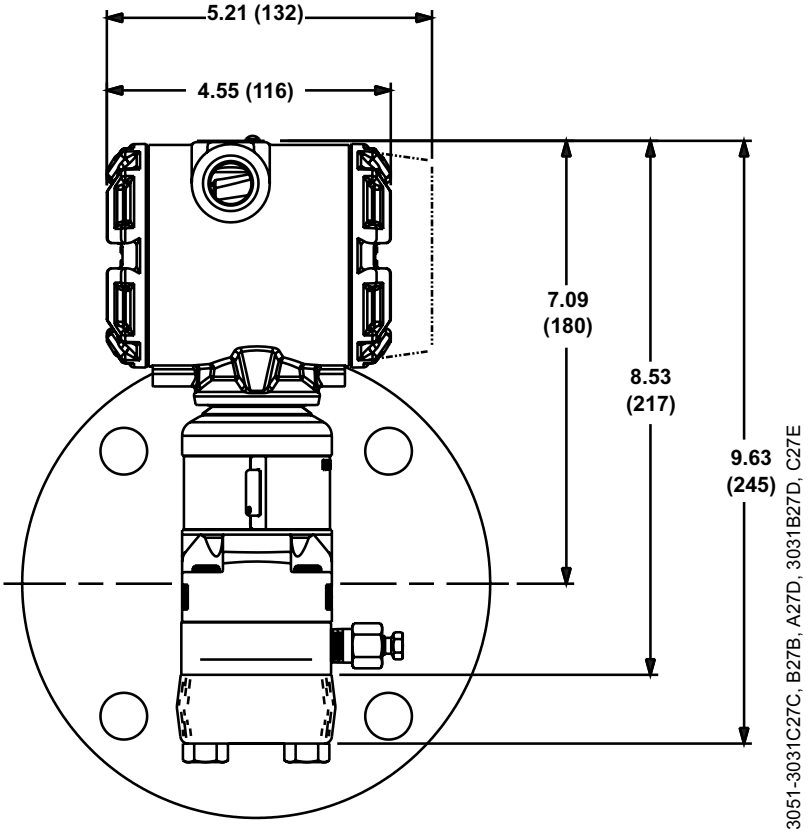


Optional Flushing Connection Ring (Lower Housing)



Diaphragm Assembly and Mounting Flange





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TABLE 8. 3051S_L Dimensional Specifications

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

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

Class	Pipe Size	Process Side F	Lower Housing G		H
			1/4 NPT	1/2 NPT	
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).

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Ordering Information

Rosemount 3051S Series *Coplanar*

Model	Transmitter Type			
3051S	Scalable pressure transmitter			
Code	**Performance Class**			
1[1]	Ultra: 0.025% span accuracy, 200:1 rangedown, 10-year stability, limited 12-year warranty			
3[2]	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[3]**			
D	Differential			
G	Gage			
A	Absolute			
Code	**Pressure Range**			
	Differential	**Gage**	**Absolute**	
0A[4]	-3 to 3 inH_2O (-7,47 to 7,47 mbar)	N/A	0 to 5 psia (0 to 0,34 bar)	
1A	-25 to 25 inH_2O (-62,2 to 62,2 mbar)	-25 to 25 inH_2O (-62,2 to 62,2 mbar)	0 to 30 psia (0 to 2,06 bar)	
2A	-250 to 250 inH_2O (-623 to 623 mbar)	-250 to 250 inH_2O (-623 to 623 mbar)	0 to 150 psia (0 to 10,34 bar)	
3A	-1000 to 1000 inH_2O (-2,5 to 2,5 bar)	-393 to 1000 inH_2O (-0,98 to 2,5 bar)	0 to 800 psia (0 to 55,2 bar)	
4A	-300 to 300 psi (-20,7 to 20,7 bar)	-14.2 to 300 psig (-0,98 to 21 bar)	0 to 4000 psia (0 to 275,8 bar)	
5A	-2000 to 2000 psi (-137,9 to 137,9 bar)	-14.2 to 2000 psig (-0,98 to 137,9 bar)	N/A	
Code	**Isolating Diaphragm**			
2[5]	316L SST			
3[5]	*Hastelloy* C-276			
4	*Monel* 400			
5[6]	Tantalum			
6	Gold-plated *Monel* 400 *Note: Includes graphite-filled TFE o-ring.*			
7	Gold-plated 316L SST			
Code	**Process Connection[7]**	**Size**	**Material Type[8]**	
			Flange Material	**Drain Vent**	**Bolting**
000	None				
A11	Assemble to Rosemount 305 integral manifold				
A12	Assemble to 304 or AMF manifold and 316 SST traditional flange				
B11[9]	Assemble to one Rosemount 1199 diaphragm seal				
B12[9]	Assemble to two Rosemount 1199 diaphragm seals				
C11	Assemble to Rosemount 405 primary element				
D11	Assemble to Rosemount 1195 integral orifice and Rosemount 305 integral manifold				
EA2	Assemble to Rosemount *Annubar* Primary Element with *Coplanar* flange		316 SST	316 SST	
EA3	Assemble to Rosemount *Annubar* Primary Element with *Coplanar* flange		*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[5]	*Coplanar* flange	1/4–18 NPT	*Hastelloy* C-276	*Hastelloy* C-276	
E14	*Coplanar* flange	1/4–18 NPT	*Monel* 400	*Monel* 400	
E15[5]	*Coplanar* flange	1/4–18 NPT	316 SST	*Hastelloy* C-276	
E16[5]	*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[5]	*Coplanar* flange	RC 1/4	*Hastelloy* C-276	*Hastelloy* C-276	
E24	*Coplanar* flange	RC 1/4	*Monel* 400	*Monel* 400	
E25[5]	*Coplanar* flange	RC 1/4	316 SST	*Hastelloy* C-276	
E26[5]	*Coplanar* flange	RC 1/4	CS	*Hastelloy* C-276	
F12	Traditional flange	1/4–18 NPT	316 SST	316 SST	
F13[5]	Traditional flange	1/4–18 NPT	*Hastelloy* C-276	*Hastelloy* C-276	
F14	Traditional flange	1/4–18 NPT	*Monel* 400	*Monel* 400	

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			Flange Material	Drain Vent	Bolting
F15[5]	Traditional flange	1/4–18 NPT	316 SST	*Hastelloy* C-276	
F22	Traditional flange	RC 1/4	316 SST	316 SST	
F23[5]	Traditional flange	RC 1/4	*Hastelloy* C-276	*Hastelloy* C-276	
F24	Traditional flange	RC 1/4	*Monel* 400	*Monel* 400	
F25[5]	Traditional flange	RC 1/4	316 SST	*Hastelloy* C-276	
F32	Bottom vent traditional flange	1/4–18 NPT	316 SST	316 SST	
F52	DIN-compliant traditional flange	1/4–18 NPT	316 SST	316 SST	7/16-in. bolting
F62	DIN-compliant traditional flange	1/4–18 NPT	316 SST	316 SST	M10 bolting
F72	DIN-compliant traditional flange	1/4–18 NPT	316 SST	316 SST	M12 bolting
G11	Vertical mount level flange	2-in. ANSI class 150	316 SST		
G12	Vertical mount level flange	2-in. ANSI class 300	316 SST		
G14[5]	Vertical mount level flange	2-in. ANSI class 150	*Hastelloy* C-276		
G15[5]	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[5]	Vertical mount level flange	3-in. ANSI class 150	*Hastelloy* C-276		
G25[5]	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[10]
A	4–20 mA with digital signal based on HART protocol
B[11]	4–20 mA Safety Certified with digital signal based on HART protocol
F[12]	FOUNDATION fieldbus protocol
X[13]	Wireless (Requires wireless options, wireless housing 5A, and custom software configuration C1)

Code	Housing Style	Material[8]	Conduit Entry Size
00	None (*SuperModule* Platform only, no housing included)		
01[14]	Assemble to Rosemount 753R Web-Based Monitoring Indicator		
1A	*PlantWeb* housing	Aluminum	1/2–14 NPT
1B	*PlantWeb* housing	Aluminum	M20 x 1.5 (CM20)
1C	*PlantWeb* housing	Aluminum	G1/2
1J	*PlantWeb* housing	316L SST	1/2–14 NPT
1K	*PlantWeb* housing	316L SST	M20 x 1.5 (CM20)
1L	*PlantWeb* housing	316L SST	G1/2
5A	Wireless *PlantWeb* housing	Aluminum	1/2–14 NPT
2A	Junction Box housing	Aluminum	1/2–14 NPT
2B	Junction Box housing	Aluminum	M20 x 1.5 (CM20)
2C	Junction Box housing	Aluminum	G1/2
2J	Junction Box housing	316L SST	1/2–14 NPT
2E	Junction Box Housing with output for remote display and interface	Aluminum	1/2–14 NPT
2F	Junction Box Housing with output for remote display and interface	Aluminum	M20 x 1.5 (CM20)
2G	Junction Box Housing with output for remote display and interface	Aluminum	G1/2
2M	Junction Box Housing with output for remote display and interface	316L SST	1/2–14 NPT
7J[15]	Quick Connect (A size Mini, 4-pin male termination)	316L SST	

Code	Options
***PlantWeb* Control Functionality**	
A01[16]	FOUNDATION fieldbus Advanced Control Function Block Suite
***PlantWeb* Diagnostic Functionality**	
D01[16]	FOUNDATION fieldbus Diagnostics Suite
DA1[17]	HART Diagnostics Suite
***PlantWeb* Enhanced Measurement Functionality**	
H01[16][18]	Fully Compensated Mass Flow Block

Code	Wireless Options - Select code from each wireless category (example: WA2WK1)
Wireless Transmit Rate	
WA	User Configurable Transmit Rate
Operating Frequency and Protocol	
2	900 MHz FHSS, HART
Antenna	
WK	Integral, Omnidirectional Antenna
SmartPower™	
1	Long-life Battery Pack

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Code	Options
Mounting Brackets[19]	
B4	*Coplanar* flange bracket, all SST, 2-in. pipe and panel
B1	Traditional flange bracket, CS, 2-in. pipe
B2	Traditional flange bracket, CS, panel
B3	Traditional flange flat bracket, CS, 2-in. pipe
B7	Traditional flange bracket, B1 with SST bolts
B8	Traditional flange bracket, B2 with SST bolts
B9	Traditional flange bracket, B3 with SST bolts
BA	Traditional flange bracket, B1, all SST
BC	Traditional flange bracket, B3, all SST
Special Configuration (Software)	
C1[20]	Custom software configuration *Note: A Configuration Data Sheet must be completed, see page 46.*
C3	Gage pressure calibration on Rosemount 3051S_CA4 only
C4[20][21]	NAMUR alarm and saturation levels, high alarm
C5[20][21]	NAMUR alarm and saturation levels, low alarm
C6[1][20]	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 46.*
C7[1][20]	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 46.*
C8[20][21]	Low alarm (standard Rosemount alarm and saturation levels)
Special Configuration (Hardware)	
D1[20][21]	Hardware adjustments (zero, span, alarm, security) *Note: Not available with housing style codes 00, 01, 2E, 2F, 2G, 2M, 5A, or 7J.*
D2[19]	Process adapters 1/2-14 NPT
D4	External ground screw assembly
D5[19]	Delete transmitter drain/vent valves (install plugs)
D7[19]	*Coplanar* flange without drain/vent ports
D8[19]	Ceramic drain/vent valves
D9[19]	RC 1/2 process adapters
Product Certifications[22]	
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[11][23]	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[24]	NSF Drinking Water Approval

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Alternate Materials of Construction	
L1	Inert sensor fill fluid (differential and gage only) *Note: Silicone fill fluid is standard.*
L2	Graphite-filled *Teflon*® (PTFE) o-ring
L4(19)	Austenitic 316 SST bolts
L5(19)	ASTM A 193, Grade B7M bolts
L6(19)	*Monel* bolts
L7(19)	ASTM A 453, Class A, Grade 660 bolts
L8(19)	ASTM A 193, Class 2, Grade B8M bolts
Digital Display(25)	
M5	*PlantWeb* LCD Display
M7(1)(26)	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(1)(26)	Remote mount LCD display and interface, 50 ft. (15 m) cable; *PlantWeb* housing, SST bracket, requires 4-20 mA / HART output
M9(1)(26)	Remote mount LCD display and interface, 100 ft. (31 m) cable; *PlantWeb* housing, SST bracket, requires 4-20 mA / HART output
Special Procedures	
P1	Hydrostatic testing with certificate
P2(19)	Cleaning for special services
P3(19)	Cleaning for less than 1PPM chlorine/fluorine
P9	4500 psig (310 bar) static pressure limit (Rosemount 3051S_CD only)
P0(27)	6092 psig (420 bar) static pressure limit (Rosemount 3051S2CD only)
Special Certifications	
Q4	Calibration certificate
QP	Calibration certificate and tamper evident seal
Q8(21)	Material traceability certification per EN 10204 3.1.B
QS(28)(21)	Certificate of FMEDA Data
Q16(21)	Surface finish certification for sanitary remote seals
Terminal Blocks	
T1(29)	Transient terminal block
T2(30)	Terminal block with WAGO® spring clamp terminals
T3(30)	Transient terminal block with WAGO spring clamp terminals
Conduit Electrical Connector	
GE(31)	M12, 4-pin, Male Connector (*eurofast*®)
GM(31)	A size Mini, 4-pin, Male Connector (*minifast*®)

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

(1) Not available with output codes B and X.

(2) Not available with output codes B and X 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 approvals are FM Intrinsically Safe, Non-Incendive (option code I5) and CSA Intrinsically Safe (option code I6).

(14) 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.

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(15) Available with output code A only. Available approvals are FM Intrinsically Safe, Non-Incendive (option code I5), ATEX Intrinsically Safe (option code I1), or IECEx Intrinsically Safe (option code I7). Contact an Emerson Process Management representative for additional information.

(16) Requires PlantWeb housing and output code F.

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

(18) Requires Rosemount Engineering Assistant to configure.

(19) Not available with process connection option code A11.

(20) Not available with output code F or Housing code 01.

(21) Not available with output code X.

(22) Valid when SuperModule Platform and housing have equivalent approvals.

(23) Limited availability depending on transmitter type and range. Contact an Emerson Process Management representative for additional information.

(24) Requires 316L SST wetted materials, glass-filled TFE O-ring (standard), and Process Connection code E12 or F12.

(25) Not available with Housing code 01 or 7J.

(26) Not available with output code F, Housing code 01, or option code DA1.

(27) 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.

(28) Not available with Housing code 01.

(29) Not available with Housing code 00, 01, 5A, or 7J.

(30) Available with output code A and PlantWeb housing only.

(31) Not available with Housing code 00, 01, 5A, or 7J. Available with Intrinsically Safe approvals only. For FM Intrinsically Safe, 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 outdoor rating (NEMA 4X and IP66).

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Rosemount 3051S Series In-Line

Model	Transmitter Type		
3051S	Scalable pressure transmitter		
Code	**Performance Class**		
1[1]	Ultra: 0.025% span accuracy, 200:1 rangedown, 10-year stability, 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[2]	316L SST		
3[2]	*Hastelloy* C-276		
Code	**Process Connection Style**		
A11	Assemble to Rosemount 306 integral manifold		
B11[3]	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[4]**		
A	4–20 mA with digital signal based on HART protocol		
B[5]	4–20 mA Safety Certified with digital signal based on HART protocol		
F[6]	FOUNDATION fieldbus protocol		
X[7]	Wireless (Requires wireless options, wireless housing 5A, and custom software configuration C1)		
Code	**Housing Style**	**Materials[8]**	**Conduit Entry Size**
00	None (*SuperModule* Platform only, no housing included)		
01[9]	Assemble to Rosemount 753R Web-Based Monitoring Indicator		
1A	*PlantWeb* housing	Aluminum	1/2–14 NPT
1B	*PlantWeb* housing	Aluminum	M20 x 1.5 (CM20)
1C	*PlantWeb* housing	Aluminum	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
5A	Wireless *PlantWeb* housing	Aluminum	1/2–14 NPT
2A	Junction Box housing	Aluminum	1/2–14 NPT
2B	Junction Box housing	Aluminum	M20 x 1.5 (CM20)
2C	Junction Box housing	Aluminum	G 1/ 2
2J	Junction Box housing	316L SST	1/2–14 NPT
2E	Junction Box housing with output for remote interface	Aluminum	1/2–14 NPT
2F	Junction Box housing with output for remote interface	Aluminum	M20 x 1.5 (CM20)
2G	Junction Box housing with output for remote interface	Aluminum	G1/2
2M	Junction Box housing with output for remote interface	316L SST	1/2–14 NPT
7J[10]	Quick Connect (A size Mini, 4-pin male termination)	316L SST	

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Code	Options
***PlantWeb* Control Functionality**	
A01[11]	FOUNDATION fieldbus Advanced Control Function Block Suite
***PlantWeb* Diagnostic Functionality**	
D01[11]	FOUNDATION fieldbus Diagnostics Suite
DA1[12]	HART Diagnostics Suite
***PlantWeb* Enhanced Measurement Functionality**	
H01[11][13]	Fully Compensated Mass Flow Block

Code	Wireless Options - Select code from each wireless category (example: WA2WK1)
Wireless Transmit Rate	
WA	User Configurable Transmit Rate
Operating Frequency and Protocol	
2	900 MHz FHSS, HART
Antenna	
WK	Integral, Omnidirectional Antenna
SmartPower™	
1	Long-life Battery Pack

Code	Options
Mounting Bracket	
B4	Bracket, all SST, 2-in. pipe and panel
Special Configuration (Software)[14]	
C1[14]	Custom software configuration *Note: A Configuration Data Sheet must be completed, see page 46.*
C4[14][15]	NAMUR alarm and saturation values, high alarm
C5[14][15]	NAMUR alarm and saturation values, low alarm
C6[1][14]	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 46.*
C7[1][14]	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 46.*
C8[14][15]	Low alarm (Standard Rosemount alarm and saturation signal levels)
Special Configuration (Hardware)	
D1[14][15]	Hardware adjustments (zero, span, alarm, security) *Note: Not available with Housing Style codes 00, 01, 2E, 2F, 2G, 2M, 5A, or 7J.*
D4	External ground screw assembly
Product Certifications[16]	
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[5][17]	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.*

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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(18)	NSF Drinking Water Approval
Alternate Materials of Construction	
L1	Inert sensor fill fluid *Note: Silicone fill fluid is standard.*
Digital Display(19)	
M5	*PlantWeb* LCD Display
M7(1)(20)	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(1)(19)	Remote mount LCD display and interface, 50 ft. (15 m) cable; *PlantWeb* housing, SST bracket, requires 4-20 mA / HART output
M9(1)(19)	Remote mount LCD display and interface, 100 ft. (31 m) cable; *PlantWeb* housing, SST bracket, requires 4-20 mA / HART output
Special Procedures	
P1	Hydrostatic testing with certificate
P2(21)	Cleaning for special services
P3(21)	Cleaning for less than 1 PPM chlorine/fluorine
Special Certifications	
Q4	Calibration certificate
QP	Calibration certificate and tamper evident seal
Q8(15)	Material traceability certification per EN 10204 3.1.B
QS(15)(22)	Certificate of FMEDA Data
Q16(15)	Surface finish certification for sanitary remote seals
Terminal Blocks	
T1(23)	Transient terminal block
T2(24)	Terminal block with WAGO® spring clamp terminals
T3(24)	Transient terminal block with WAGO spring clamp terminals
Conduit Electrical Connector	
GE(25)	M12, 4-pin, Male Connector (*eurofast*®)
GM(25)	A size Mini, 4-pin, Male Connector (*minifast*®)

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

(1) Not available with output codes B and X.

(2) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

(3) 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) Available approvals are FM Intrinsically Safe, Non-Incendive (option code I5) and CSA Intrinsically Safe (option code I6).

(8) Material specified is cast as follows: CF-3M is the cast version of 316L SST. For housing, material is aluminum with polyurethane paint.

(9) Available with output code A only. Not available with approvals. See Rosemount 753R Product Data Sheet, 00813-0100-4379, to specify Web-Based Monitoring Indicator. Does not integrate into plant host systems.

(10) Available with output code A only. Available approvals are FM Intrinsically Safe, Non-Incendive (option code I5), ATEX Intrinsically Safe (option code I1), or IECEx Intrinsically Safe (option code I7). Contact an Emerson Process Management representative for additional information.

(11) Requires PlantWeb housing and output code F.

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

(13) Requires Rosemount Engineering Assistant to configure.

(14) Not available with output code F or Housing code 01.

(15) Not available with output code X.

(16) Valid when SuperModule Platform and housing have equivalent approvals.

(17) Limited availability depending on transmitter type and range. Contact an Emerson Process Management representative for additional information.

(18) Requires 316L SST wetted materials and Process Connection code E11 or G11.

(19) Not available with Housing code 01 and 7J.

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(20) Not available with output code F, Housing code 01, or option code DA1.

(21) Not available with process connection option code A11.

(22) Not available with Housing code 01.

(23) Not available with Housing code 00, 01, 5A, or 7J.

(24) Available with output code A and PlantWeb housing only.

(25) Not available with Housing code 00, 01, 5A, 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 outdoor rating (NEMA 4X and IP66).

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Rosemount 3051S Series Liquid Level

Select either FF diaphragm seal type (see Flush Flanged Seal on page 39) or for EF diaphragm seal type (see Extended Flanged Seal on page 40) and then finish this selection by choosing transmitter options.

Model	Transmitter Type		
3051S	Scalable pressure transmitter		
Code	**Performance Class**		
1[1]	Ultra: 0.065% span accuracy, 100:1 rangedown, 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_2O (-62,2 to 62,2 mbar)	-25 to 25 inH_2O (-62,2 to 62,2 mbar)	0 to 30 psia (2,1 bar)
2A	-250 to 250 inH_2O (-623 to 623 mbar)	-250 to 250 inH_2O (-623 to 623 mbar)	0 to 150 psia (10 bar)
3A	-1000 to 1000 inH_2O (-2,5 to 2,5 bar)	-393 to 1000 inH_2O (-0,98 to 2,5 bar)	0 to 800 psia (55 bar)
4A	-300 to 300 psi (-20,7 to 20,7 bar)	-14.2 to 300 psig (-0,98 to 21 bar)	0 to 4000 psia (276 bar)
5A	-2000 to 2000 psi (-137,9 to 137,9 bar)	-14.2 to 2000 psig (-0,98 to 137,9 bar)	N/A
Code	**Output[2]**		
A	4-20 mA with digital signal based on HART protocol		
B[3]	4-20 mA Safety Certified with digital signal based on HART protocol		
F[4]	FOUNDATION fieldbus protocol		
X[5]	Wireless (Requires wireless options, wireless housing 5A, and custom software configuration C1)		
Code	**Housing Style**	**Material[6]**	**Conduit Entry**
00	None (*SuperModule* Platform only, no housing included)		
01[7]	Assemble to Rosemount 753R Web-Based Monitoring Indicator		
1A	*PlantWeb* housing	Aluminum	1/2–14 NPT
1B	*PlantWeb* housing	Aluminum	M20 x 1.5 (CM20)
1C	*PlantWeb* housing	Aluminum	G1/2
1J	*PlantWeb* housing	316L SST	1/2–14 NPT
1K	*PlantWeb* housing	316L SST	M20 x 1.5 (CM20)
1L	*PlantWeb* housing	316L SST	G1/2
5A	Wireless *PlantWeb* housing	Aluminum	1/2–14 NPT
2A	Junction Box housing	Aluminum	1/2–14 NPT
2B	Junction Box housing	Aluminum	M20 x 1.5 (CM20)
2C	Junction Box housing	Aluminum	G1/2
2J	Junction Box housing	316L SST	1/2–14 NPT
2E	Junction Box with output for remote interface	Aluminum	1/2–14 NPT
2F	Junction Box with output for remote interface	Aluminum	M20 x 1.5 (CM20)
2G	Junction Box with output for remote interface	Aluminum	G1/2
2M	Junction Box with output for remote interface	316L SST	1/2–14 NPT
7J[8]	Quick Connect (A size Mini, 4-pin male termination)	316L SST	
Code	**Seal System Type**		
1	Direct-mount diaphragm seal system		
Code	**High Pressure Side Extension (between transmitter flange and seal)**		
0	Direct-mount (No extension)		
Code	**Low Pressure Side Connection (sensor module)**		
1	One capillary connection remote diaphragm seal (see Rosemount 1199 ordering table for seal information)		
2	316L SST isolator / 316 SST transmitter flange		
3	*Hastelloy* C-276 isolator / 316 SST transmitter flange		
Code	**Capillary Length**		
0	N/A		
Code	**Diaphragm Seal Fill Fluid**		
A	*Syltherm* XLT		
C	D. C. Silicone 704		
D	D. C. Silicone 200		
H	Inert (Halocarbon)		
G	Glycerine and Water		
N	*Neobee M-20*		
P	Propylene Glycol and Water		

Next, select either Flush Flanged (FF) diaphragm seal (see page 39) or Extended Flanged (EF) diaphragm seal (see page 40).

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Seal Options (page 39—40)

Flush Flanged Seal

Code	Process Connection Style	
FF	Flush Flanged, Ra 125-250 gasket surface	
Code	**Diaphragm Seal Size (High Side)**	
G	2-in./DN 50	
7	3-in.	
J	DN 80	
9	4-in./DN 100	
Code	**Flange Rating (High Side)**	
1	Class 150	
2	Class 300	
4	Class 600	
G	PN 40	
E	PN 10/16; available with 4 in. DN 100 only	
Code	**Isolator Material**	**Flange Material (High Side)**
CA	316L SST	CS
DA	316L SST	316 SST
CB	*Hastelloy*	CS
DB	*Hastelloy*	316 SST
CC	Tantalum - seam welded(8)(9)	CS
DC	Tantalum - seam welded(9)	316 SST
Code	**Lower Housing Material (High Side)(10)**	
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*® (PTFE) gasket for lower housing	
SK	Gylon gasket for lower housing	
SN	*Grafoil*™ gasket for lower housing	
Code	**Other Options**	
ST(11)	Materials per NACE MR0175	

Continue with transmitter options on page 40

(1) Not available with output codes B and X.

(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) Available approvals are FM Intrinsically Safe, Non-Incendive (option code I5) and CSA Intrinsically Safe (option code I6).

(6) Material specified is cast as follows: CF-3M is the cast version of 316L SST. For housing, material is aluminum with polyurethane paint.

(7) 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.

(8) Available with output code A only. Available approvals are FM Intrinsically Safe, Non-Incendive (option code I5), ATEX Intrinsically Safe (option code I1), or IECEx Intrinsically Safe (option code I7). Contact an Emerson Process Management representative for additional information.

(9) Not recommended for use with spiral wound metallic gaskets (see 1199 product data sheet, document 00813-0100-4016 for additional options).

(10) Standard gasket for lower housing consists of non-asbestos fiber.

(11) Materials of Construction comply with metallurgical requirements highlighted within NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

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Extended Flanged Seal

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

Continue with transmitter options below

Transmitter Options continued from page 38

(— = Not Applicable • = Applicable)

Code	Options
***PlantWeb* Control Functionality**	
A01[1]	FOUNDATION fieldbus Advanced Control Function Block Suite
***PlantWeb* Diagnostic Functionality**	
D01[1]	FOUNDATION fieldbus Diagnostics Suite
DA1[2]	HART Diagnostics Suite
***PlantWeb* Enhanced Measurement Functionality**	
H01[1][3]	Fully Compensated Mass Flow Block
Code	**Wireless Options - Select code from each wireless category (example: WA2WK1)**
Wireless Transmit Rate	
WA	User Configurable Transmit Rate
Operating Frequency and Protocol	
2	900 MHz FHSS, HART
Antenna	
WK	Integral, Omnidirectional Antenna
SmartPower™	
1	Long-life battery pack

Code	Options
Special Configuration (Software)	
C1[4]	Custom software configuration *Note: A Configuration Data Sheet must be completed, see page 46.*
C3	Gage pressure calibration on Rosemount 3051S_LA only
C4[4][5]	NAMUR alarm and saturation levels, high alarm
C5[4][5]	NAMUR alarm and saturation levels, low alarm
C6[4][6]	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 46.*
C7[4][6]	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 46.*
C8[4][5]	Low alarm (standard Rosemount alarm and saturation levels)

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		LD	LG	LA
Special Configuration (hardware)				
D1[5]	Hardware adjustments (zero, span, alarm, security) *Note: Not available with fieldbus protocol or Housing Style codes 00, 01, 2E, 2F, 2G, 2M, 5A, or 7J.*	•	•	•
D2	1/2-14 NPT process connections process adapters	•	—	—
D4	External ground screw assembly	•	•	•
D5	Delete transmitter drain/vent valves (install plugs)	•	—	—
D8	Ceramic drain/vent valves	•	—	—
D9	RC 1/2 process connections (process adapters)	•	—	—
Product Certifications[7]				
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[8][9]	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.*			
Alternate Materials of Construction				
L1	Inert sensor fill fluid (differential and gage only) *Note: Silicone fill fluid is standard.*			
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			
Digital Display[10]				
M5	*PlantWeb* LCD Display			
M7[6][11]	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[6][11]	Remote mount LCD display and interface, 50 ft. (15 m) cable; *PlantWeb* housing, SST bracket, requires 4-20 mA / HART output			
M9[6][11]	Remote mount LCD display and interface, 100 ft. (31 m) cable; *PlantWeb* housing, SST bracket, requires 4-20 mA / HART output			
Special Procedures				
P1	Hydrostatic testing with certificate			
P2	Cleaning for special services			
P3	Cleaning for less than 1PPM chlorine/fluorine			
Special Certifications				
Q4	Calibration certificate			
QP	Calibration certificate and tamper evident seal			
Q8[5]	Material traceability certification per EN 10204 3.1.B			
QS[5][12]	Certificate of FMEDA Data			
Terminal blocks				
T1[13]	Transient terminal block			
T2[14]	Terminal block with WAGO® spring clamp terminals			

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T3[14]	Transient terminal block with WAGO spring clamp terminals
Conduit Electrical Connector	
GE[15]	M12, 4-pin, Male Connector (*eurofast*®)
GM[15]	A size Mini, 4-pin, Male Connector (*minifast*®)

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

(1) Requires PlantWeb housing and output code F.

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

(3) Requires Rosemount Engineering Assistant to configure.

(4) Not available with output code F or Housing code 01.

(5) Not available with output code X.

(6) Not available with output codes B and X.

(7) Valid when SuperModule Platform and housing have equivalent approvals.

(8) Requires PlantWeb Housing and Hardware Adjustments option code D1.

(9) Limited availability depending on transmitter type and range. Contact a sales representative for additional information.

(10) Not available with Housing Code 01 or 7J.

(11) Not available with output code F, Housing code 01, or option code DA1.

(12) Not available with Housing Code 01.

(13) Not available with Housing code 00, 01, 5A, or 7J.

(14) Available with output code A and PlantWeb housing only.

(15) Not available with Housing code 00, 01, 5A, 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 outdoor rating (NEMA 4X and IP66).

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Rosemount 300S Series Housing "Kit"

Model			
300S	Housing "Kit" for Rosemount 3051S Scalable Pressure Transmitter		
Code	**Housing Style**	**Material[1]**	**Conduit Entry**
1A	*PlantWeb* housing	Aluminum	1/2–14 NPT
1B	*PlantWeb* housing	Aluminum	M20 x 1.5 (CM20)
1C	*PlantWeb* housing	Aluminum	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	G1/2
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
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	G1/2
3J	Remote mount display and interface housing	316L SST	1/2–14 NPT
7J[2]	Quick Connect (A size Mini, 4-pin male termination)	316L SST	
Code	**Output**		
A	4-20 mA with digital signal based on HART protocol		
B[3]	4-20 mA Safety Certified with digital signal based on HART protocol		
F[4]	FOUNDATION fieldbus protocol		
Code	**Options**		
***PlantWeb* Control Functionality**			
A01[5]	FOUNDATION fieldbus Advanced Control Function Block Suite		
***PlantWeb* Diagnostic Functionality**			
D01[5]	FOUNDATION fieldbus Diagnostics Suite		
DA1[6]	HART Diagnostics Suite		
***PlantWeb* Enhanced Measurement Functionality**			
H01[5][7]	Fully Compensated Mass Flow Block		
Special Configuration (Hardware)			
D1[8]	Hardware adjustments (zero, span, alarm, security) *Note: Not available with Housing Style codes 2E, 2F, 2G, 2M, 3A, 3B, 3C, 3J, or 7J.*		
D4	External ground screw assembly		
Product Certifications			
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		
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		

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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.*
Digital Display(9)	
M5	*PlantWeb* LCD Display
M7(10)	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(10)	Remote mount LCD display and interface, 50 ft. (15 m) cable; SST bracket, requires 4-20 mA / HART output
M9(10)	Remote mount LCD display and interface, 100 ft. (31 m) cable; SST bracket, requires 4-20 mA / HART output
Terminal Blocks	
T1(11)	Transient terminal block
T2(12)	Terminal block with WAGO® spring clamp terminals
T3(12)	Transient terminal block with WAGO spring clamp terminals
Conduit Electrical Connector	
GE(13)	M12, 4-pin, Male Connector (*eurofast*®)
GM(13)	A size Mini, 4-pin, Male Connector (*minifast*®)

Typical Model Number: 300S 1A A E5

(1) Material specified is cast as follows: CF-3M is the cast version of 316L SST. For housing, material is aluminum with polyurethane paint.

(2) Available with output code A only. Not available with approvals. Contact an Emerson Process Management representative for additional information.

(3) Requires PlantWeb housing 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 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 outdoor rating (NEMA 4X and IP66).

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ACCESSORIES

Rosemount Engineering Assistant (EA) Software Packages

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

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

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

Engineering Assistant Software Packages

Code	Product Description
EA	Engineering Assistant Software program
Code	**Diskette Type**
2(1)	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
Typical Model Number:	**EA 2 E O N 1**

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

Accessories

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

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Rosemount 3051S HART Configuration Data Sheet

* = ***Defaults***

CONFIGURATION DATA SHEET

Customer _____ P.O. No. _____

Model No. _____ Line Item _____

OUTPUT INFORMATION: (Software Selectable)

Eng. Units = ☐ ***InH_2O***[2] * ☐ psi [3] ☐ Pa ☐ ftH_2O ☐ MPa
☐ inHg ☐ bar ☐ kPa ☐ g/cm^2
☐ mbar ☐ Torr ☐ mmH_2O ☐ inH_2O at 4 °C
☐ Atm ☐ kg/cm^2 ☐ mmHg ☐ mmH_2O at 4 °C

output = ☐ ***Linear*** * ☐ Square Root (For DP transmitters only)

Transmitter Sensor Temp. Units[1] = ☐ °***C*** * ☐ °F

Range Points: 4mA = |__|__|__|__|__|__|__| (0) * 20mA = |__|__|__|__|__|__|__| (URL) *

Damping[1] (0–60 sec.): |__|__|.|__|__| (0.4 sec.) *

TAGGING INFORMATION

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☐ Permanent (3 lines of 40 characters)

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|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Standard Software Tag: |__|__|__|__|__|__|__|__| (First 8 characters of wired or permanent tagging information—8 characters max)

TRANSMITTER INFORMATION [1]

Descriptor:|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|
(16 characters)

Message:|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|
(32 characters)

Date: ☐☐/☐☐/☐☐
Day Month Year

(1) Requires a C1 option code.

(2) H2O Range 0-3

(3) PSI Range 4-5, and all 3051T

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DIGITAL DISPLAY INFORMATION (One or more of the listed variables can be selected to be displayed on the LCD display.)

☐ ***Engineering Units*** *
☐ % of Range
☐ Scaled Variable(1)
☐ Sensor Temperature

SIGNAL SELECTION(2)

☐ ***4–20 mA with simultaneous digital signal based on HART protocol*** *
☐ Burst mode of HART digital process variable(1)

Burst mode output options:

☐ Primary variable
☐ Primary variable in percent of range and mA
☐ All dynamic variables in engineering units
☐ All dynamic variables in engineering units and the primary variable mA value

☐ Multidrop Communication(1)
Transmitter Address (1-15): |__|__| (default = 0)

SECURITY INFORMATION (2)

Write Protect: ☐ On ☐ ***Off*** * Local Zero and Span: ☐ ***Enabled*** * ☐ Disabled

ANALOG OUTPUT ALARM AND SATURATION SIGNAL LEVELS(1) (2)

All categories must be completed for custom configuration. Rosemount or NAMUR NE 43 values should be selected via option code.

☐ Custom (Requires Option C6 or C7)= Low Alarm: (≤ |__|.|__|__| mA)—values must be between 3.8 and 3.6

Low Saturation (|__|.|__|__| mA)—values must be between 3.9 and 3.7

* Low alarm must be 0.1 mA lower than the low saturation value

High Alarm (≥ |__|__|.|__|__| mA)—values must be between 20.2 and 23.0

High Saturation (|__|__|.|__|__| mA)—values must be between 20.1 and 21.5

* High alarm must be at least 0.1 mA higher than the high saturation value

For Reference Only:
Alarm Values: Values (mA) the transmitter outputs if it detects a gross malfunction condition.
Saturation Values: Values (mA) the transmitter outputs if applied pressure goes outside the 4–20 mA range values.

Standard * =	Low Alarm: (≤ 3.75 mA)	Low Saturation (3.9 mA)
	High Alarm (≥ 21.75 mA)	High Saturation (20.8 mA)
NAMUR NE 43 (Option C4 or C5) =	Low Alarm: (≤ 3.6 mA)	Low Saturation (3.8 mA)
	High Alarm (≥22.5 mA)	High Saturation (20.5 mA)

PROCESS VARIABLE OUTPUT ASSIGNMENTS (1)

Primary Variable *	☐ ***Measured Pressure*** *	☐ Scaled Variable(1)	
Secondary Variable:	☐ Measured Pressure	☐ Scaled Variable(1)	☐ ***Device Temperature*** *
Tertiary Variable:	☐ Measured Pressure	☐ ***Scaled Variable***(1) *	☐ Device temperature

(1) Not available with output code B.

(2) Requires a C1 option code.

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SCALED VARIABLE INFORMATION(1) (2)	
Scaled Units = |__|__|__|__|__| (5 characters max—spaces consume 0-9, A-Z, /, %, -, and * character positions)	
Transfer Function=	
☐ ***Linear ****	☐ Square Root
Linear Scaled Variable (with Linear option only)	**Square Root Scaled Variable** (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)
Linear Offset |__|__|__|__|__|__|__| (Eng. Units)	**Low Flow Cut** ☐ On ☐ ***Off **** |__|__|__|__|__|__|__| (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(1)	
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) ☐ On ☐ ***Off ****	Temperature Process Alert (HART signal only) ☐ On ☐ ***Off ****
☐ Low alert |__|__|__|__|__|__|__| (Eng. Unit)	☐ Low alert |__|__|__|__|__| (Temp. Unit -40°F, -40 °C)
(LRL ≤ Low Alert ≤ High Alert ≤ URL)	(-40 °C ≤ Low Alert ≤ * High Alert ≤ 85°C) *must have a 5°C difference
☐ High Alert |__|__|__|__|__|__|__| (Eng. Unit)	☐ High Alert |__|__|__|__|__| (Temp. Unit 185°F, 85 °C)

(1) Requires a C1 option code.

(2) Not available with output code B.

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Rosemount 3051S Wireless Configuration Data Sheet

* = ***Defaults***

Sales Order No. _____ Unit No. _____ Line No. _____

For Factory Use Only

Configuration Information

Customer: _____ P.O. No.:_____

Model No.: _____ Line Item: _____

OUTPUT INFORMATION: (Software Selectable)

Eng. Units =
☐ ***InH_2O***[2] * ☐ psi [3] ☐ Pa ☐ ftH_2O ☐ MPa
☐ inHg ☐ bar ☐ kPa ☐ g/cm^2
☐ mbar ☐ Torr ☐ mmH_2O ☐ inH_2O at 4 °C
☐ Atm ☐ kg/cm^2 ☐ mmHg ☐ mmH_2O at 4 °C

Upper Calibration point: |__|__|__|__|__|__|__| (URL) *

Lower Calibration point: |__|__|__|__|__|__|__| (0) *

Pressure digital % range output

Upper Range point: (100%) |__|__|__|__|__|__|__| (URL) *

Lower Range point: (0%) |__|__|__|__|__|__|__| (0) *

% of Range Transfer Function

☐ **Linear** * ☐ Square Root

Device temperature units

☐ **Deg. C** * ☐ Deg. F

Self Organizing Network Parameters

Rosemount Smart Wireless Self Organizing devices employ configurable network parameters that allow users to manage network security. The best security practice is to order Smart Wireless Self Organizing devices with Generated Network Parameters and enter Customer Network Parameters during the onsite commissioning process upon receipt. This allows customers to best control network access and security.

	Transmit Rate	
	Transmit Rate should be between 15 seconds and 60 minutes. Default is 5 minutes.	
☐	Factory-Generated Network Parameters ★	
☐	Customer Network Parameters	
	Network ID	|__|__|__|__|__| (00000-50,000)
	Join Key[1]	|__|__|__|__|__|__|__|__| -|__|__|__|__|__|__|__|__| - |__|__|__|__|__|__|__|__| - |__|__|__|__|__|__|__|__|

(1) Exactly 32 hexidecimal digits, 0-9 and A-F

Transmitter Information

Descriptor		(16 Characters Maximum)
Message		(32 Characters Maximum)
Date:		(MM/DD/YYYY)

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Alert Configuration

HI_HI_LIM

Alert Name: _____(32 Char.)
Variable Assign: ☐ Pressure ☐ Device Temp
Direction: ☐ Rising ☐ Falling
Unit of Measure: ☐ PSI ☐ Bar ☐ PSIG ☐ BarG
Set Point: _____
Dead Band: _____
Alert Mode: ☐ Enable ☐ Disable

HI_LIM

Alert Name: _____(32 Char.)
Variable Assign: ☐ Pressure ☐ Device Temp
Direction: ☐ Rising ☐ Falling
Unit of Measure: ☐ PSI ☐ Bar ☐ PSIG ☐ BarG
Set Point: _____
Dead Band: _____
Alert Mode: ☐ Enable ☐ Disable

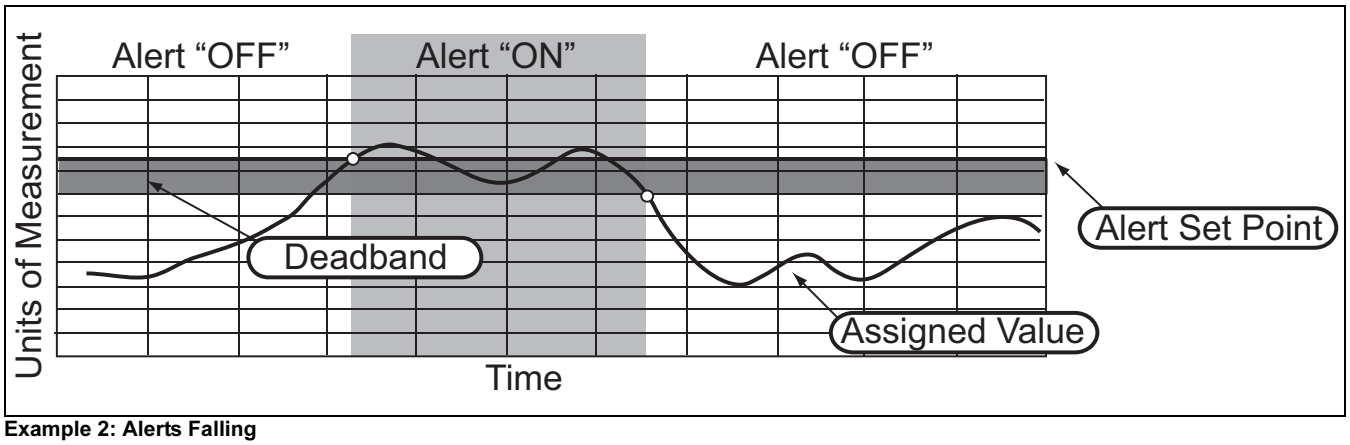
LO_LO_LIM

Alert Name: _____(32 Char.)
Variable Assign: ☐ Pressure ☐ Device Temp
Direction: ☐ Rising ☐ Falling
Unit of Measure: ☐ PSI ☐ Bar ☐ PSIG ☐ BarG
Set Point: _____
Dead Band: _____
Alert Mode: ☐ Enable ☐ Disable

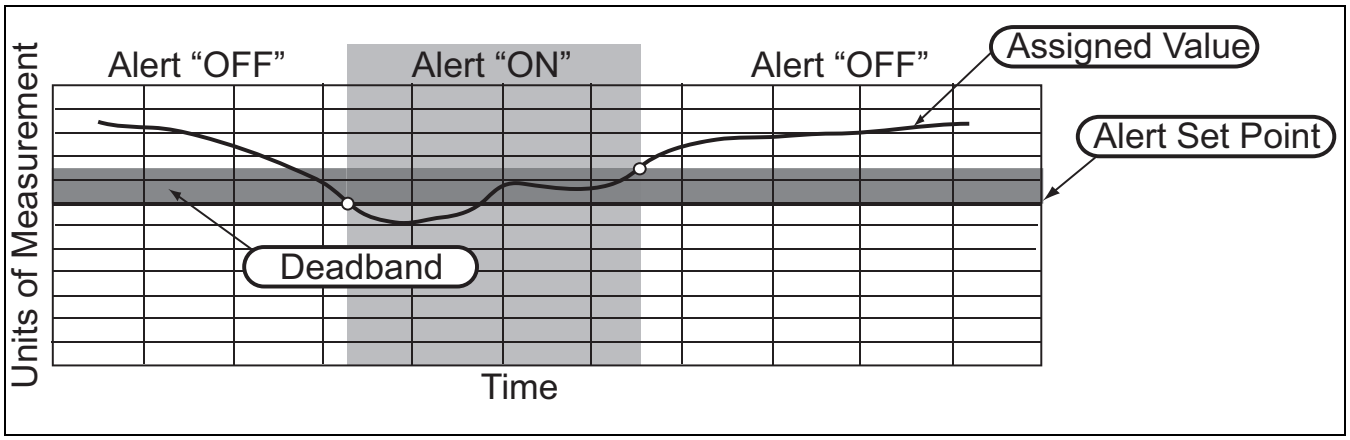
LO_LIM

Alert Name: _____(32 Char.)
Variable Assign: ☐ Pressure ☐ Device Temp
Direction: ☐ Rising ☐ Falling
Unit of Measure: ☐ PSI ☐ Bar ☐ PSIG ☐ BarG
Set Point: _____
Dead Band: _____
Alert Mode: ☐ Enable ☐ Disable

Example 1: Alerts Rising



Example 2: Alerts Falling



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Rosemount 3051S Series

Product Data Sheet
00813-0100-4801, Rev HA
November 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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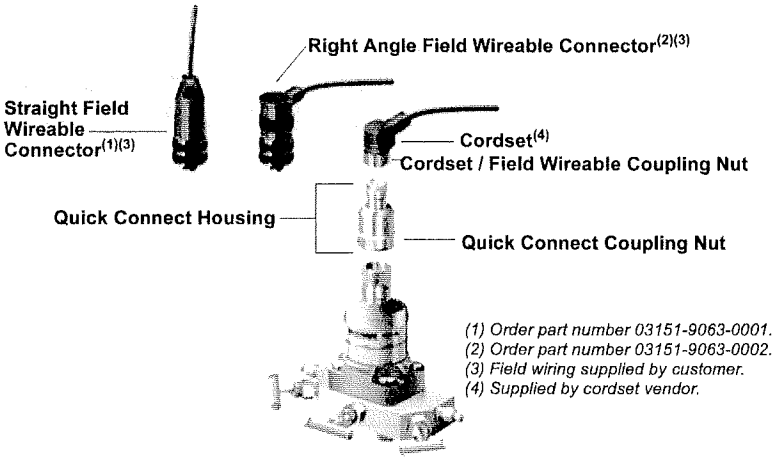
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Quick Connect Wiring

As standard, the 3051S Quick Connect arrives properly assembled to the SuperModule and is ready for installation. Cordsets and Field Wireable Connectors (in shaded area) are sold separately.

Figure 2-9. Rosemount 3051S Quick Connect Exploded View

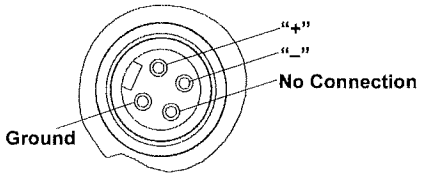


IMPORTANT
If Quick Connect is ordered as a 300S spare housing or is removed from the SuperModule, follow the instructions below for proper assembly prior to field wiring.

1. Place the Quick Connect onto the SuperModule. To ensure proper pin alignment, remove coupling nut prior to installing quick connect onto SuperModule.
2. Place coupling nut over quick connect and wrench tighten to a maximum of 300 in-lb. (34 N-m).
3. Tighten the set screw using a $^{3}/_{32}$-in hex wrench.
4. Install Cordset/ Field Wireable Connectors onto the Quick Connect. Do not over tighten.

Figure 2-10. Quick Connect Housing Pin-Out

For other wiring details, refer to pin-out drawing and the cordset manufacturer's installation instructions.



Conduit Electrical Connector Wiring (Option GE or GM)

For 3051S transmitters with conduit electrical connectors GE or GM, refer to the cordset manufacturer's installation instructions for wiring details. For FM Intrinsically Safe, non-incendive or FM FISCO Intrinsically Safe hazardous locations, install in accordance with Rosemount drawing 03151-1009 to maintain outdoor rating (NEMA 4X and IP66.) See Appendix B, page B-20.

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