

Rosemount 3051T In-Line Pressure Transmitter



Rosemount 3051T In-Line Pressure Transmitters are the industry standard for gage and absolute pressure measurement. The in-line, compact design allows the transmitter to be connected directly to a process for quick, easy and cost effective installation. Capabilities include:

- Power advisory can proactively detect degraded electrical loop integrity issues (option code DA0)
- LOI with straightforward menus and built-in configuration buttons (option code M4)
- Safety Certification (option code QT)

Additional information:

Specifications: [page 44](#)
 Certifications: [page 56](#)
 Dimensional drawings: [page 67](#)

See “Specifications” on [page 44](#) and options for more details on each configuration. Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See [page 53](#) for more information on material selection.

Table 2. Rosemount 3051T In-Line Pressure Transmitter Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Model ⁽¹⁾	Transmitter type		
3051T	In-line pressure transmitter		
Pressure type			
G	Gage		★
A ⁽²⁾	Absolute		★
Pressure range			
	Gage (Rosemount 3051TG)⁽³⁾	Absolute (Rosemount 3051TA)	
1	-14.7 to 30 psi (-1,01 to 2,06 bar)	0 to 30 psia (0 to 2,06 bar)	★
2	-14.7 to 150 psi (-1,01 to 10,34 bar)	0 to 150 psia (0 to 10,34 bar)	★
3	-14.7 to 800 psi (-1,01 to 55,15 bar)	0 to 800 psia (0 to 55,15 bar)	★
4	-14.7 to 4000 psi (-1,01 to 275,79 bar)	0 to 4000 psia (0 to 275,79 bar)	★
5	-14.7 to 10000 psi (-1,01 to 689,47 bar)	0 to 10000 psia (0 to 689,47 bar)	★
6 ⁽⁴⁾	-14.7 to 20000 psi (-1,01 to 1378,95 bar)	0 to 20000 psia (0 to 1378,95 bar)	
Transmitter output			
A ⁽⁵⁾	4–20 mA with digital signal based on HART Protocol		★
F	FOUNDATION Fieldbus Protocol		★
W ⁽⁶⁾	PROFIBUS PA Protocol		★
X ⁽⁷⁾	Wireless (requires wireless options and engineered polymer housing)		★
M ⁽⁸⁾	Low-power 1–5 Vdc with digital signal based on HART Protocol		

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Process connection style		
2B	1/2–14 NPT female (range 1–5 only)	★
2C ⁽⁹⁾	G1/2 A DIN 16288 male (range 1–4 only)	★
2F ⁽¹⁰⁾	Coned and threaded, compatible with autoclave type F-250-C (range 5–6 only)	
61 ⁽¹¹⁾	Non-threaded Instrument flange (range 1–4 only)	
Isolating diaphragm ⁽¹²⁾		Process connection wetted parts material
2	316L SST	316L SST
3	Alloy C-276	Alloy C-276
7	Gold-plated 316 SST	316L SST
Sensor fill fluid		
1	Silicone	★
2 ⁽¹¹⁾	Inert	★
Housing material		Conduit entry size
A	Aluminum	1/2–14 NPT
B	Aluminum	M20 x 1.5
E	Aluminum, ultra low copper	1/2–14 NPT
F	Aluminum, ultra low copper	M20 x 1.5
J	SST	1/2–14 NPT
K	SST	M20 x 1.5
P ⁽¹³⁾	Engineered polymer	No conduit entries
D ⁽¹⁴⁾	Aluminum	G1/2
M ⁽¹⁴⁾	SST	G1/2

Wireless options (requires wireless output code X and engineered polymer housing code P)

Wireless transmit rate, operating frequency, and protocol		
WA3	User configurable transmit rate, 2.4GHz <i>Wireless</i> HART Protocol	★
Antenna and SmartPower		
WP5	Internal antenna, compatible with Green Power Module (I.S. Power Module sold separately)	★

Options (include with selected model number)

Extended product warranty		
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★

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Plantweb control functionality⁽¹⁵⁾		
A01	FOUNDATION Fieldbus control function block suite	★
Plantweb diagnostic functionality		
DA0 ⁽²⁴⁾	Power Advisory HART diagnostic	★
D01 ⁽¹⁵⁾	FOUNDATION Fieldbus diagnostics suite	★
Integral assembly⁽¹⁶⁾		
S5	Assemble to Rosemount 306 Integral Manifold	★
Diaphragm seal assemblies⁽¹⁶⁾		
S1	Assemble to one Rosemount 1199 seal	★
Mounting bracket⁽¹⁷⁾		
B4	Bracket for 2-in. pipe or panel mounting, all SST	★
Product certifications		
E8	ATEX Flameproof and Dust Certification	★
I1 ⁽¹⁸⁾	ATEX Intrinsic Safety and Dust	★
IA	ATEX Intrinsic Safety for FISCO; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
N1	ATEX Type n Certification and Dust	★
K8	ATEX Flame-proof, Intrinsic Safety, Type n, Dust (combination of E8, I1, and N1)	★
E4 ⁽¹⁹⁾	TIIS Flameproof	★
E5	FM Explosion-proof, Dust Ignition-proof	★
I5 ⁽²⁰⁾	FM Intrinsically Safe, Nonincendive	★
IE	FM FISCO Intrinsically Safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K5	FM Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
C6	CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2	★
I6 ⁽¹³⁾	CSA Intrinsic Safety	★
K6	CSA and ATEX Explosion-proof, Intrinsically Safe, and Division 2 (combination of C6, E8, and I1)	★
E7	IECEX Flameproof, Dust Ignition-proof	★
I7	IECEX Intrinsic Safety	★
N7	IECEX Type n Certification	★
K7	IECEX Flameproof, Dust Ignition-proof, Intrinsic Safety, and Type n (combination of I7, N7, and E7)	★
E2	INMETRO Flameproof	★
I2	INMETRO Intrinsic Safety	★
IB	INMETRO FISCO intrinsically safe; for FOUNDATION Fieldbus or PROFIBUS PA Protocols only	★
K2	INMETRO Flameproof, Intrinsic Safety	★
E3	China Flameproof	★

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I3	China Intrinsic Safety	★
N3	China Type n	★
EM	Technical Regulations Customs Union (EAC) Flameproof	★
IM	Technical Regulations Customs Union (EAC) Intrinsic Safety	★
KM	Technical Regulations Customs Union (EAC) Flameproof and Intrinsic Safety	★
KB	FM and CSA Explosion-proof, Dust Ignition-proof, Intrinsically Safe, and Division 2 (combination of K5 and C6)	★
KD	FM, CSA, and ATEX Explosion-proof, Intrinsically Safe (combination of K5, C6, I1, and E8)	★
Drinking water approval⁽²¹⁾		
DW	NSF drinking water approval	★
Shipboard approvals⁽¹¹⁾		
SBS	American Bureau of Shipping	★
SBV ⁽²²⁾	Bureau Veritas (BV)	★
SDN	Det Norske Veritas	★
SLL ⁽²²⁾	Lloyds Register (LR)	★
Custody transfer		
C5	Measurement Canada Accuracy Approval (Limited availability depending on transmitter type and range. Contact an Emerson representative.)	★
Calibration certification		
Q4	Calibration Certificate	★
QG ⁽²³⁾	Calibration Certificate and GOST Verification Certificate	★
QP	Calibration Certification and tamper evident seal	★
Material traceability certification		
Q8	Material Traceability Certification per EN 10204 3.1	★
Quality certification for safety⁽²⁴⁾		
QS	Prior-use certificate of FMEDA Data	★
QT	Safety certified to IEC 61508 with certificate of FMEDA	★
Configuration buttons		
D4 ⁽²⁴⁾	Analog zero and span	★
DZ ⁽²⁵⁾	Digital zero trim	★
Display and interface options		
M4 ⁽²⁶⁾	LCD display with LOI	★
M5	LCD display	★
Wireless SST sensor module⁽¹³⁾		
WSM	Wireless SST sensor module	★

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Conduit plug⁽¹¹⁾⁽²⁷⁾		
DO	316 SST conduit plug	★
Transient terminal block⁽¹¹⁾⁽²⁸⁾		
T1	Transient protection terminal block	★
Software configuration⁽²⁵⁾		
C1	Custom Software Configuration (For wired, see the Rosemount 3051 Configuration Data Sheet . For wireless, see the Rosemount 3051 Wireless Configuration Data Sheet .)	★
Low power output		
C2	0.8–3.2 Vdc output with digital signal based on HART Protocol (available with output code M only)	
Alarm levels⁽²⁴⁾		
C4	Analog output levels compliant with NAMUR recommendation NE 43, alarm high	★
CN	Analog output levels compliant with NAMUR recommendation NE 43, low alarm	★
CR	Custom alarm and saturation signal levels, high alarm (requires C1 and Rosemount 3051 Configuration Data Sheet)	★
CS	Custom alarm and saturation signal levels, low alarm (requires C1 and Rosemount 3051 Configuration Data Sheet)	★
CT	Rosemount standard low alarm	★
Pressure testing		
P1	Hydrostatic testing with certificate	
Cleaning process area⁽²⁹⁾		
P2	Cleaning for special service	
P3	Cleaning for <1 PPM chlorine/fluorine	
Ground screw⁽¹¹⁾⁽³⁰⁾		
V5	External ground screw assembly	★
Surface finish		
Q16	Surface finish certification for sanitary remote seals	★
Toolkit total system performance reports		
QZ	Remote seal system performance calculation report	★
Conduit electrical connector⁽¹¹⁾		
GE	M12, 4-pin, male connector (eurofast)	★
GM	A size mini, 4-pin, male connector (minifast)	★
NACE certificate⁽³¹⁾		
Q15	Certificate of Compliance to NACE MR0175/ISO15156 for wetted materials	★
Q25	Certificate of Compliance to NACE MR0103 for wetted materials	★

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Cold temperature		
BR5	-50 °F (-58 °C) cold temperature	★
BR6	-76 °F (-60 °C) cold temperature	★
HART Revision configuration (requires HART output code A) ⁽⁵⁾		
HR5	Configured for HART Revision 5	★
HR7	Configured for HART Revision 7	★
Typical model number: 3051T G 5 F 2A 2 1 A B4		

- Select configuration buttons (option code D4 or DZ) or LOI (option code M4) if local configuration buttons are required.
- Wireless output (code X) only available in absolute measurement type (code A) in range 1–5 with 1/2–14 NPT process connection (code 2B), and polymer housing (code P). Wireless output and range 6 is only available with coned and threaded process connection (code 2F) and polymer housing.
- Rosemount 3051TG lower range limit varies with atmospheric pressure.
- Not available with PROFIBUS PA or low power 1–5 Vdc transmitter output (option code W or M), inert sensor fill fluid (option code 2), NSW drinking water approval (option code DW), or assemble to manifolds (option code S5).
- Option HR5 configures the HART output to HART Revision 5. Option HR7 configures the HART output to HART Revision 7. The device can be field configured to HART Revision 5 or 7 if desired. HART Revision 5 is the default HART output.
- For local addressing and configuration, M4 LOI is required.
- Requires wireless options and engineered polymer housing. Available approvals are FM Intrinsically Safe, (option code I5), CSA Intrinsically Safe (option code I6), ATEX Intrinsic Safety (option code I1), IECEx Intrinsic Safety (option code I7), and EAC Intrinsic Safety (option code IM).
- Only available with C6, E2, E5, I5, K5, KB, and E8 product certifications. Not available with GE, GM, SBS, DA0, M4, D4, DZ, QT, HR5, HR7, CR, CS, and CT.
- Wireless output (code X) only available in G¹/₂ A DIN 16288 male process connection (code 2C) with range 1–4, 316 SST isolating diaphragm (code 2), silicone fill fluid (code 1) and housing (code P).
- Not available with wireless output for range 5.
- Not available with wireless (output code X).
- Materials of construction comply with recommendations per 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.
- Only available with wireless (output code X).
- Not available with Product certifications options E8, K8, E5, K5, C6, K6, E7, K7, E2, K2, E3, KB, and KD.
- Only valid with FOUNDATION Fieldbus output code F.
- “Assemble-to” items are specified separately and require a completed model number.
- Panel mounting bolts are not supplied.
- Dust approval not applicable to output code X. See “Certificate: AG-0226; AG-0454; AG-0477” on page 62 for wireless approvals.
- Only available with output codes A - 4–20mA HART, F - FOUNDATION Fieldbus, and W - PROFIBUS PA. Also only available with G¹/₂ housing thread types.
- Nonincendive certification not provided with wireless output (code X).
- Not available with Alloy C-276 isolator (option code 3), assemble-to manifolds (option code S5), assemble-to seals (option code S1), surface finish certification (option code Q16), and remote seal system report (option code QZ).
- Only available with product certifications E7, E8, I1, I7, IA, K7, K8, KD, N1, and N7.
- Contact an Emerson representative for availability.
- Only available with HART 4–20 mA output (code A).
- Only available with HART 4–20 mA output (code A) and wireless output (code X).
- Not available with FOUNDATION Fieldbus (code F) and wireless output (code X) or low power (code M).
- Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard CS conduit plug.
- The T1 option is not needed with FISCO Product Certifications; transient protection is included in the FISCO product certification codes IA, IB, and IE.
- Not valid with alternate process connection S5.
- The V5 option is not needed with T1 option; external ground screw assembly is included with the T1 option.
- NACE compliant wetted materials are identified by Footnote 11.