

Rosemount 3051T In-Line Pressure Transmitter



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**)
- Local Operator Interface with straightforward menus and built-in configuration buttons (Option Code **M4**)
- Safety Certification (Option Code **QT**)

See “Specifications” on page 45 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 54 for more information on Material Selection.

Additional information:

Specifications: [page 45](#)

Certifications: [page 56](#)

Dimensional Drawings: [page 66](#)

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

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.

The Expanded offering is subject to additional delivery lead time.

| Model | Transmitter type | | |
|--------------------------|---|-----------------------------------|---|
| 3051T ⁽¹⁾ | In-Line Pressure Transmitter | | |
| Pressure type | | | |
| G | Gage | | ★ |
| A ⁽²⁾ | Absolute | | ★ |
| Pressure range | | | |
| | Gage (3051TG) ⁽³⁾ | Absolute (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) | ★ |
| Transmitter output | | | |
| A ⁽⁴⁾ | 4–20 mA with Digital Signal Based on HART Protocol | | ★ |
| F | FOUNDATION fieldbus Protocol | | ★ |
| W ⁽⁵⁾ | PROFIBUS PA Protocol | | ★ |
| X ⁽⁶⁾ | Wireless (requires wireless options and engineered polymer housing) | | ★ |
| M ⁽⁷⁾ | Low-Power 1-5 Vdc with Digital Signal Based on HART Protocol | | |
| Process connection style | | | |
| 2B | 1/2–14 NPT Female | | ★ |
| 2C ⁽⁸⁾ | G 1/2 A DIN 16288 Male (Range 1–4 only) | | ★ |
| 2F ⁽⁹⁾ | Coned and Threaded, Compatible with Autoclave Type F-250-C (Range 5 only) | | |
| 61 ⁽⁹⁾ | Non-threaded Instrument flange (Range 1-4 only) | | |

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

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.

The Expanded offering is subject to additional delivery lead time.

| Isolating diaphragm | | Process connection wetted parts material | |
|---------------------|--------------------|--|---|
| 2 ⁽¹⁰⁾ | 316L SST | 316L SST | ★ |
| 3 ⁽¹⁰⁾ | Alloy C-276 | Alloy C-276 | ★ |
| Sensor fill fluid | | | |
| 1 | Silicone | | ★ |
| 2 ⁽⁹⁾ | Inert | | ★ |
| Housing material | | Conduit entry size | |
| A | Aluminum | ½–14 NPT | ★ |
| B | Aluminum | M20 × 1.5 | ★ |
| J | SST | ½–14 NPT | ★ |
| K | SST | M20 × 1.5 | ★ |
| P ⁽¹¹⁾ | Engineered polymer | No conduit entries | ★ |
| D ⁽¹²⁾ | Aluminum | G½ | |
| M ⁽¹²⁾ | SST | G½ | |

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 WirelessHART | ★ |
| Antenna and SmartPower | | |
| WP5 | Internal Antenna, Compatible with Green Power Module (I.S. Power Module Sold Separately) | ★ |

HART Revision configuration (requires HART Protocol Output Code A)

| | | |
|--------------------|--------------------------------|---|
| HR5 ⁽⁴⁾ | Configured for HART Revision 5 | ★ |
| HR7 ⁽⁴⁾ | Configured for HART Revision 7 | ★ |

Options (include with selected model number)

| Extended product warranty | | |
|-----------------------------------|---|---|
| WR3 | 3-year limited warranty | ★ |
| WR5 | 5-year limited warranty | ★ |
| PlantWeb control functionality | | |
| A01 ⁽¹³⁾ | FOUNDATION fieldbus Control Function Block Suite | ★ |
| PlantWeb diagnostic functionality | | |
| DA0 ⁽²²⁾ | Power Advisory HART Diagnostic | ★ |
| D01 ⁽¹³⁾ | FOUNDATION fieldbus Diagnostics Suite | ★ |
| Integral assembly | | |
| S5 ⁽¹⁴⁾ | Assemble to Rosemount 306 Integral Manifold | ★ |
| Diaphragm seal assemblies | | |
| S1 ⁽¹⁴⁾ | Assemble to one Rosemount 1199 seal | ★ |
| Mounting bracket ⁽¹⁵⁾ | | |
| B4 | Bracket for 2-in. Pipe or Panel Mounting, All SST | ★ |
| Product certifications | | |
| E8 | ATEX Flameproof and Dust Certification | ★ |
| I1 ⁽¹⁶⁾ | ATEX Intrinsic Safety and Dust | ★ |

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

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.

The Expanded offering is subject to additional delivery lead time.

| | | |
|--|--|---|
| 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 ⁽¹⁷⁾ | TIIS Flameproof | ★ |
| E5 | FM Explosion-proof, Dust Ignition-proof | ★ |
| I5 ⁽¹⁸⁾ | 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 ⁽¹¹⁾ | 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 | ★ |
| 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 | | |
| DW ⁽¹⁹⁾ | NSF drinking water approval | ★ |
| Shipboard approvals | | |
| SBS ⁽⁹⁾ | American Bureau of Shipping | ★ |
| SBV ⁽⁹⁾⁽²⁰⁾ | Bureau Veritas (BV) | ★ |
| SDN ⁽⁹⁾ | Det Norske Veritas | ★ |
| SLL ⁽⁹⁾⁽²⁰⁾ | Lloyds Register (LR) | ★ |
| Custody transfer | | |
| C5 | Measurement Canada Accuracy Approval (<i>Limited availability depending on transmitter type and range. Contact an Emerson Process Management representative</i>) | ★ |
| Calibration certification | | |
| Q4 | Calibration Certificate | ★ |
| QG ⁽²¹⁾ | 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 | | |
| QS ⁽²²⁾ | Prior-use certificate of FMEDA Data | ★ |
| QT ⁽²²⁾ | Safety certified to IEC 61508 with certificate of FMEDA | ★ |

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

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.

The Expanded offering is subject to additional delivery lead time.

| Configuration buttons | | |
|--|--|---|
| D4 ⁽²²⁾ | Analog Zero and Span | ★ |
| DZ ⁽²³⁾ | Digital Zero Trim | ★ |
| Display and interface options | | |
| M4 ⁽²⁴⁾ | LCD Display with Local Operator Interface | ★ |
| M5 | LCD Display | ★ |
| Wireless SST sensor module | | |
| WSM ⁽¹¹⁾ | Wireless SST Sensor Module | ★ |
| Conduit plug | | |
| DO ⁽⁹⁾⁽²⁵⁾ | 316 SST Conduit Plug | ★ |
| Transient terminal block | | |
| T1 ⁽⁹⁾⁽²⁶⁾ | Transient Protection Terminal Block | ★ |
| Software configuration | | |
| C1 ⁽²³⁾ | Custom Software Configuration (Completed CDS 00806-0100-4007 for wired and 00806-0100-4100 for wireless required with order) | ★ |
| 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 | | |
| C4 ⁽²²⁾ | Analog Output Levels Compliant with NAMUR Recommendation NE 43, Alarm High | ★ |
| CN ⁽²²⁾ | Analog Output Levels Compliant with NAMUR Recommendation NE 43, Low Alarm | ★ |
| CR ⁽²²⁾ | Custom alarm and saturation signal levels, high alarm (requires C1 and Configuration Data Sheet) | ★ |
| CS ⁽²²⁾ | Custom alarm and saturation signal levels, low alarm (requires C1 and Configuration Data Sheet) | ★ |
| CT ⁽²²⁾ | Rosemount standard low alarm | ★ |
| Pressure testing | | |
| P1 | Hydrostatic Testing with Certificate | |
| Cleaning process area ⁽²⁷⁾ | | |
| P2 | Cleaning for Special Service | |
| P3 | Cleaning for <1 PPM Chlorine/Fluorine | |
| Ground screw | | |
| V5 ⁽⁹⁾⁽²⁸⁾ | 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 | | |
| GE ⁽⁹⁾ | M12, 4-pin, Male Connector (eurofast) | ★ |
| GM ⁽⁹⁾ | A size Mini, 4-pin, Male Connector (minifast) | ★ |

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

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery.

The Expanded offering is subject to additional delivery lead time.

| NACE certificate | | |
|--|--|---|
| Q15 ⁽²⁹⁾ | Certificate of Compliance to NACE MR0175/ISO15156 for wetted materials | ★ |
| Q25 ⁽²⁹⁾ | Certificate of Compliance to NACE MR0103 for wetted materials | ★ |
| Typical model number: 3051T G 5 F 2A 2 1 A B4 | | |

- (1) Select Configuration Buttons (option code D4 or DZ) or Local Operator Interface (option code M4) if local configuration buttons are required.
- (2) 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).
- (3) 3051TG lower range limit varies with atmospheric pressure.
- (4) 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.
- (5) For local addressing and configuration, M4 (Local Operator Interface) is required.
- (6) 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).
- (7) 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, CT.
- (8) 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 (code P).
- (9) Not available with Wireless Output (output code X).
- (10) 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.
- (11) Only available with Wireless Output (output code X).
- (12) Not available with Product certifications options E8, K8, E5, K5, C6, K6, E7, K7, E2, K2, E3, KB, KD.
- (13) Only valid with FOUNDATION fieldbus Output Code F.
- (14) "Assemble-to" items are specified separately and require a completed model number.
- (15) Panel mounting bolts are not supplied.
- (16) Dust approval not applicable to output code X. See ["IEC 62591 \(WirelessHART Protocol\)" on page 62](#) for wireless approvals.
- (17) 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.
- (18) Nonincendive certification not provided with Wireless output option code (X).
- (19) 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).
- (20) Only available with product certifications E7, E8, I1, I7, IA, K7, K8, KD, N1, N7.
- (21) Contact an Emerson Process Management representative for availability.
- (22) Only available with HART 4-20 mA output (output code A).
- (23) Only available with HART 4-20 mA output (output code A) and Wireless output (output code X).
- (24) Not available with FOUNDATION fieldbus (output code F) and Wireless output (output code X) or Low Power (output code M).
- (25) Transmitter is shipped with 316 SST conduit plug (uninstalled) in place of standard carbon steel conduit plug.