Rosemount 3051 Transmitters — Model Code and Alternatives

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Reading a Rosemount 3051 model string — the measurement families 3051C (coplanar DP/GP/AP), 3051T (in-line gauge/absolute) and 3051L (level), range codes, output codes, flange and connection segments, the option codes that actually appear on requisitions (B4 bracket, M5 display, hazardous-area strings, SIL) — with worked decodes from live part numbers, the 2088 and 3051S placed around the family, and the alternatives landscape toward Yokogawa EJA/EJX, ABB 266 and Siemens SITRANS P when lead time or preference forces a cross.

The short version

3051 is a family of three measurement architectures: 3051C — the coplanar platform for differential (CD), gauge (CG) and absolute (CA) pressure, built to take manifolds and remote seals; 3051T — the in-line barrel for gauge (TG) and absolute (TA) with a single process connection; 3051L — the flanged liquid-level variant. Above them sits 3051S (the scalable high-performance platform); below, the 2088 compact (the 2088G class) for simpler duties.
The model string is positional and long, but only a few segments decide the product: family+measurement (3051TG), range code (1–5 on the T, each a span window), output code (A = 4–20 mA with HART — the default of the installed world), then connection/flange/fill segments, then option codes. Everything after the base string is options, and the options are where surveys, brackets and displays live.
Worked decode from our shelf: 3051TG4A2B21AB4M5 — in-line gauge (TG), range 4 (0–3,000 psi window), output A (4–20 mA/HART), then connection and construction segments, closing with B4 (stainless mounting bracket) and M5 (LCD display). The same grammar reads the 3051L level unit and the 3051S2CD advanced DP.
Range code + turndown is the sizing logic: each range code is a sensor window that software ranges down (100:1 class on the 3051): a range 2 unit ranged to the duty beats a range 4 unit strangled to the same span on accuracy. Pick the smallest range code whose upper limit clears the overpressure case — the same arithmetic as every transmitter in our instrument specification guide.
Alternatives exist and work: Yokogawa EJA/EJX, ABB 266, Siemens SITRANS P320/P420, Endress+Hauser Cerabar cover the same duties with their own strings; crossing is attribute work (measurement type, span, output/protocol, process connection, wetted materials, approvals, SIL), not name-matching. For compact industrial duties the Danfoss MBS class is the economical answer.

1. The family map

Model | Architecture | Measures | Where it wins |

3051CD / CG / CA | Coplanar flange platform | Differential / gauge / absolute | DP flow and level with manifolds and remote seals; the process-plant standard |

3051TG / TA | In-line barrel | Gauge / absolute | Direct pipe/vessel pressure; compact, high static ratings |

3051L | Flanged level | Hydrostatic level | Tank level with direct flange mounting (our stock example reads 62.8 inH2O span) |

3051S | Scalable platform | All of the above, higher performance | Tight-accuracy, diagnostics-heavy and SIL-driven loops |

2088 | Compact in-line | Gauge / absolute | Utility duties where 3051 performance is not needed |

Adjacent | 644 temperature puck, 8732EM magmeter transmitter | — | The same string-grammar habits apply across the catalogue |

2. The string, segment by segment

Segment | Codes seen in the wild | Meaning |

Family + measurement | 3051CD, 3051CG, 3051TG, 3051TA, 3051L, 3051S… | Architecture and pressure reference |

Range code | T family: 1 (to ~30 psi), 2 (to ~150), 3 (to ~800), 4 (to ~3,000), 5 (to ~10,000); C family ranges 0–5 by model with DP spans from inches of water upward | The sensor window that software turndown ranges within |

Output | A = 4–20 mA HART; fieldbus and wireless codes by generation | Protocol — and the segment to check when a "spare" will not talk to the system |

Connection / construction | Flange type, process connection, isolator material, fill fluid, housing codes | Wetted materials and fit — 316L default, exotics by code |

Options tail | B4 (SST bracket), M5 (LCD display), hazardous-area strings (ATEX/IECEx/FM intrinsically safe or flameproof), QS/SIL codes, calibration certs | The tail is where approvals and hardware extras live; options order matters to the configurator, not to the reader |

Reading rule for requisitions: decode left to right until the architecture, range, output and connection are fixed — those four decide replaceability; then confirm the option tail covers the installation's approvals (a Zone 1 loop needs the IS or flameproof code on the plate, logic per the ATEX/IECEx guide and barrier arithmetic per the IS barrier guide). The exact catalogue meaning of a rare code belongs to the current Rosemount ordering table — strings have grown codes across generations, which is why we verify decodes against the edition in force before quoting a replacement.

3. Sizing by range code and turndown

Accuracy on a smart transmitter is quoted as a percentage of span with penalties at high turndown. The method: list normal

operating point, maximum operating case and the overpressure event; choose the smallest range code whose sensor limit clears the overpressure case; range (software) the unit so the normal point sits in the upper half of the configured span. A 3051TG2 ranged 0–10 bar on a 6 bar duty outperforms a TG4 ranged the same way, costs the same class of money, and survives the same transients — the "one big range fits all services" habit costs measurement quality on every low-pressure loop it touches. Static pressure matters separately on DP duties (a CD measuring 250 inH2O across an orifice at 40 bar static needs the static rating, not just the span). Calibration of the result is the calibrator guide's territory — as-found/as-left, with the trim points inside the configured span.

4. Alternatives and crossing, honestly

Duty held by | Peer-class alternatives | Cross notes |

3051C coplanar DP | Yokogawa EJA110/EJX110, ABB 266DS, Siemens P320/P420 DP, E+H Deltabar | Manifold pattern (coplanar vs traditional biplanar) changes the installed fit — specify the manifold with the cross |

3051T in-line gauge | Yokogawa EJA530/EJX530, ABB 266GS/HS, SITRANS P320 gauge, Cerabar | Process connection thread and wetted materials line up directly |

3051L level | Flanged-seal variants of the same peers | Flange rating/face and fill fluid govern; tank-side data per the specification guide |

2088 compact | Danfoss MBS 3000/33, WIKA S-20 class | Compact class trades turndown and diagnostics for price — right answer on utility duties |

A defensible cross states: measurement type and span, static rating, output/protocol and HART revision, process connection and wetted materials, fill fluid, housing/entries, approvals (Ex, SIL, marine class where shipboard — see type approval), and the manifold or seal hardware that moves with it. Lead-time pressure is the usual reason for crossing; the five-minute decode above is what keeps the cross from becoming a site visit.

5. Buying, spares and the installed base

For new loops: specify by the six attributes (reference, range, output, connections, materials, approvals) and let the string follow — any maker's configurator produces the code from those. For replacements: photograph the nameplate; the full string plus the range stamped on it reconstructs the order, and successors map generation to generation (installed 3051C strings re-order onto the current tables with the options translated — we do that translation with the quote). Spares logic for a plant or vessel: transmitters by duty class rather than one per tag (one TG2-class and one TG4-class unit cover most gauge duties between them when software-ranged at installation), plus the manifolds, brackets and the display modules that travel between units. HART configurators and documenting calibrators make the ranged-spare strategy workable — the spare is ranged and tagged in minutes at fitting.

How buying works at cballast. We quote Rosemount 3051/2088 and the Yokogawa, ABB, Siemens and Danfoss alternatives by decoded string or attribute set, with manifolds and brackets completed and certificates (calibration, Ex, class) attached as asked. Accounts are vetted at onboarding; first order prepaid; established accounts on credit terms with repeat discounts; public bodies and utilities invoiced against purchase order from the first order. RFQs to sales@cballast.com.

Frequently asked questions

How do I read a Rosemount 3051 model number?Left to right: family and measurement (3051TG = in-line gauge; CD = coplanar differential; L = level), range code (the sensor window), output code (A = 4–20 mA with HART), then connection, materials and fill segments, then the option tail (B4 bracket, M5 display, hazardous-area and SIL codes). Architecture, range, output and connection decide replaceability; options carry approvals and hardware.
What does B4 and M5 mean on a 3051?Common option codes: B4 is the stainless mounting bracket for 2-in. pipe or panel; M5 is the LCD display. They appear at the string's tail, as on our stock unit 3051TG4A2B21AB4M5.
What are the 3051T range codes?Windows the sensor is built to, software-ranged downward: approximately range 1 to 30 psi, 2 to 150 psi, 3 to 800 psi, 4 to 3,000 psi, 5 to 10,000 psi. Select the smallest code that clears the overpressure case, then range the span to the duty — accuracy follows the configured span.
What is the difference between the 3051 and the 2088?Class: the 3051 is the full smart platform (high turndown, diagnostics, DP/level architectures, SIL options); the 2088 is the compact in-line gauge/absolute unit for utility duties at a lower price with narrower turndown. Both speak 4–20 mA/HART; the duty decides which is the right money.
Is there an equivalent to the Rosemount 3051?Duty for duty, yes: Yokogawa EJA/EJX, ABB 266, Siemens SITRANS P320/P420 and Endress+Hauser Cerabar/Deltabar cover the same measurements; compact duties cross to the Danfoss MBS class. A real cross matches measurement type, span, protocol, connection, wetted materials, fill, approvals and the manifold — we confirm all of it with datasheets before quoting.
Who supplies Rosemount 3051 transmitters and crosses by model string?cballast.com quotes 3051 strings decoded and confirmed against the current ordering tables, with manifolds and certificates, and attribute-matched alternatives where lead time or preference requires. Send the nameplate string to sales@cballast.com.

References and related guides

Sources referenced: Rosemount 3051/3051S/2088 product data sheets and ordering tables (ranges, outputs, options); HART protocol revisions; IEC 61508/61511 SIL context; peer documentation for Yokogawa EJA/EJX, ABB 266 and Siemens SITRANS P; IEC 60770 transmitter performance methods.

Specifying instruments — pressure, temperature, level, flow

Danfoss MBS pressure transmitters

Pressure switch vs transmitter selection

Process calibrators — Beamex, Fluke, Druck

Intrinsically safe barriers — Zener vs galvanic isolators

Questions on a string, a range code or a cross: write to sales@cballast.com. We answer whether or not you buy from us.

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