

MAVERICK IN-TANK TRANSMITTER

QUEST-TEC SOLUTIONS MAGNETOSTRICTIVE TRANSMITTERS FOR MAGNE-TRAC GAGES

The QTS Maverick In-Tank transmitter is configured with a flexible cable constructed of 316L stainless steel that can be ordered in lengths from 120 inches to 866 inches with a 4-20mA. Once installed and calibrated there is no requirement for scheduled maintenance or recalibration.

Features

- Modular design
- High accuracy and repeatability
- Two channel output available
- Multi-drop HART communication
- Explosion-proof and / or intrinsically safe (model dependent)
- No maintenance required
- $\pm 2.7^{\circ}\text{F}$ ($\pm 1.5^{\circ}\text{C}$) accuracy on temperature output

Applications

- Process level measurement
- Bulk storage
- Interface measurement
- Temperature measurement

Markets

- Pharmaceutical
- Biotech
- Semiconductor
- Specialty Chemical
- Process Chemical
- LPG
- Bulk Storage



[Above] Maverick In-Tank Transmitter



[Above] Maverick In-Tank Transmitter layout

| LEVEL OUTPUT | |
|------------------------------------|--|
| Measured Variable | Product Level/Interface Level |
| Output | 4-20mA, 2 loops with HART |
| Full Range | Flexible Sensors: 3050 mm (120 in.) to 12192 mm (480 in.)*** Rigid Sensors: 508 mm (20 in.) to 7620 mm (300 in.) |
| Non-linearity | Flexible Sensor Element: 0.35% F.S. (Independent BSL) or 0.794 mm (1/32 in.)* Rigid Sensors Element: 0.20% F.S. (Independent BSL) or 0.794 mm (1/32 in.)* |
| Repeatability | Flexible Sensor Element: 0.01% F.S. or 0.381 mm (0.015in.)* Rigid Sensors Element: 0.005% F.S. or 0.127 mm (0.005 in.)* |
| Sensor Operating Temperature | -40°C (-40°F) to 125°C (257°F)** |

*Whichever is greater **Length dependent. Contact Quest-Tec for higher temperatures ***Contact Quest-Tec for longer lengths & higher pressures

MTLT-5000 MAGNETOSTRICTIVE TRANSMITTER

| GAGE LOOP | | | |
|--|---|--|--|
| Input Voltage Range | 10.5 to 36.1 Vdc, 28 Vdc maximum for I.S. ATEX approval | | |
| Reverse Polarity Protection | Series diode | | |
| Lighting/Transient Protection | Stage 1: line-to-ground surge suppressors; 2500 Amps peak (8/20 µsec.) Stage 2: line-to-ground and line-to-ground transient suppressors; 1500 Watts peak (10/1000 µsec.) | | |
| CALIBRATION | | | |
| Zero Adjust Range | Anywhere within the active length | | |
| Span Adjust Range | Full Scale ≥ 152 mm (6 in.) from zero | | |
| TEMPERATURE OUTPUT | | | |
| Type | 4-20 mA from 1,000Ω platinum RTD at 0°C | | |
| Repeatability | ±0.18 °F (0.1°C) | | |
| Accuracy | ±2.7 °F (1.5 °C) | | |
| Drift | ±0.9 °F (0.5°C) per year | | |
| Zero Adjust | -40 to 255 °F (-40 to 124 °C) | | |
| Span Adjust | 45°F (7.2°C) minimum, full scale (maximum) = 300°F (149 °C) | | |
| ENVIRONMENTAL | | | |
| Humidity | 0 to 100% R.H., non-condensing | | |
| Electronics Operating Temperature | -34°C (-30°F) to 71°C (160°F) | | |
| Vessel Pressure | Rigid pipe rated at 69 bar (1000 psi), dependent n float pressure rating (19 bar /275 psi) max-flexible outer pipe* | | |
| Materials (wetted parts) | 316L stainless steel ** | | |
| FIELD INSTALLATION | | | |
| Mounting | NPT fitting (3/4 in. rigid, 1 in. flex) or flange mounting | | |
| Wiring | 2- wire connection, shielded cable or twisted pair to screw terminals through a 1/2 in. NPT conduit opening NEMA Type 4X: 15ft (457 cm) pigtail integral cable or Daniel Woodhead (Part No. 70807SS) 6 - pin Male 1/4 in. -18MNPT key-way receptacle, 3/4 in. NPT conduit opening of Ex housing | | |
| DISPLAY (OPTIONAL) | HART COMMUNICATIONS | | |
| Measured Variables | Level 1, Level 2, temperature | | |
| Update Rate | 3 Seconds | | |
| Size | 12.7mm (0.5 in) | | |
| Number of Digits | 16 | | |
| Method of Communication Frequency Shift Keying (FSK) conforms with Bell 202 Modem Standard with respect to baud rate and digital "1" and "0" frequencies | | | |
| Data Byte Structure 1 Start bit, 8 Data bits, 1 Odd Parity bit, 1 Stop bit | | | |
| Digital Process Variable Rate Poll/Response Model 2.0 per second | | | |
| AGENCY APPROVALS | | | |
| Canadian Standards (CSA) | Intrinsically Safe: Class I, Groups A, B, C, D | Explosion-proof: Class I, Groups B, C, D | Intrinsically safe: EEx ia IIB + T4 |
| FM Global | Class II, Groups E, F, G | Class II, Groups E, F, G | EEx ia IIA + T4 |
| PTB/ATEX | Division 1, NEMA Type 4X Models: All | Division 1, NEMA Type 4X Models: Explosion-proof housing req. | (Consult Factory for PTB/ATEX model numbers) |

*Contact Quest-Tec Solutions for Higher Pressure **Contact Quest-Tec Solutions for other materials



The New Standard of Level

Glass-Trac Level-Trac
Steam-Trac Magne-Trac

