



Technology Solutions

TEK-BAR 3800XP

Multivariable Transmitter / Flow Computer



PRESSURE



Introduction

Tek-Trol's Tek-Bar 3800XP Multivariable Transmitter / Custody Transfer Flow Computer is designed to provide the highest flexibility. It features a complete suite of measurement calculations and control functions that enable customers to take control of their flow metering requirements. The Tek-Bar 3800XP Multivariable Transmitter is configured for both gas and liquid applications and designed for harsh environments seen in major oil and gas field applications. The device meets both Class 1, Div 1 and Div 2 hazardous safety requirements and meets CSA/ATEX/IECEX. The Tek-Bar 3800XP Multivariable Transmitter (MVT) is designed to provide reliable and accurate Differential Pressure, Static Pressure, and in-Line Temperature Measurements plus flow calculations compatible with the API MPMS 21.1 electronic flow metering standard.

Components

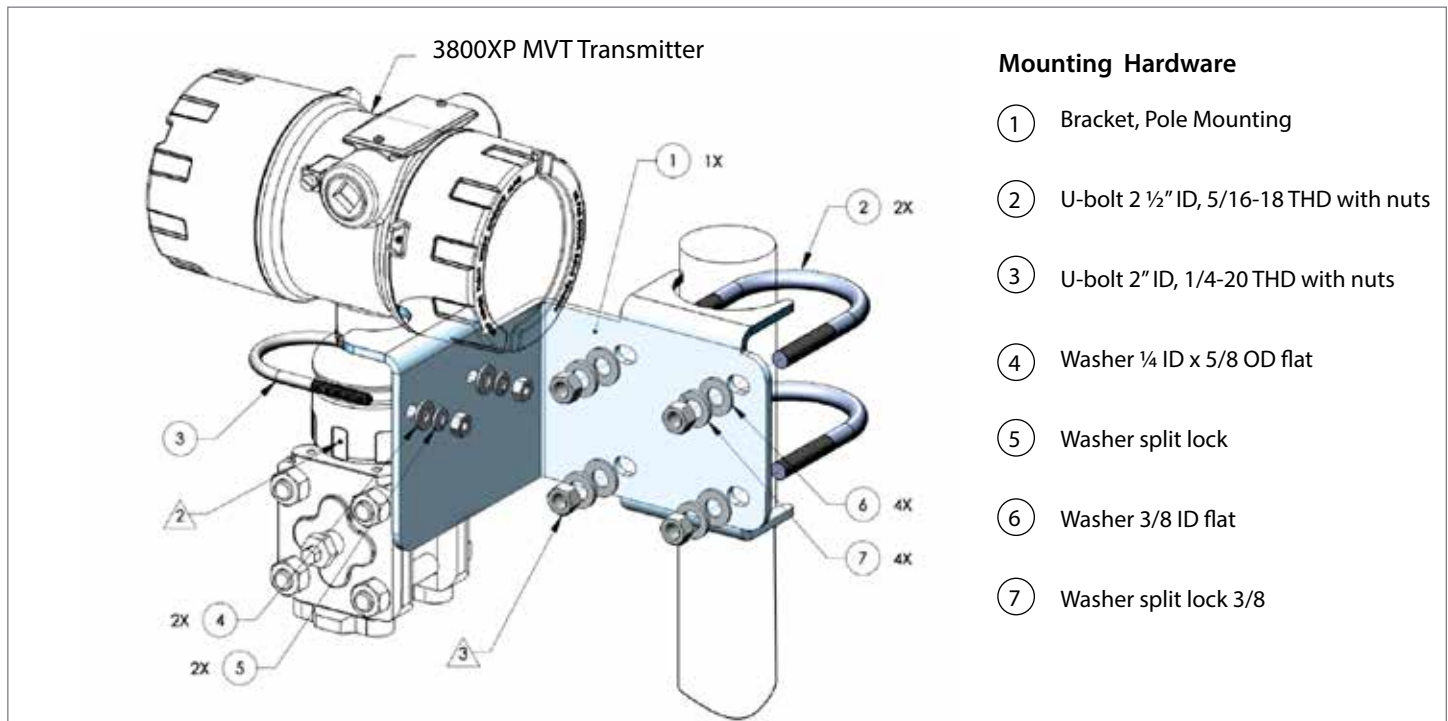


Fig 1: Components of Tek-Bar 3800XP Multivariable Transmitter (MVT)

Benefits

- Custody Transfer Metering (CTM) compliant.
- Rugged and robust unit, can operate in many oil and gas applications, well testing etc.
- Easy field connectivity using proven Bluetooth™ technology.
- Pre-programmed functions to simplify automation and calibration.
- Enhanced safety in hazardous areas due to a special glass keypad interface.
- Designed to meet Class 1, Div 1 and Div 2 requirements.

Applications

- Oil and Gas (Custody and Allocation Applications).
- Boiler Industries.
- Power Plant.
- Chemical Industries.
- Petrochemical Industries.

Specifications

Alarm Log Storage	User configurable, defaulting to 200 alarm events
Audit Trails	User configurable, defaulting to 200 audit events
Certifications/Compliance	CSA/C-US Class I, Div 1, Groups B, C, D; ambient temperature range of -40°C to +85°C (-40°F to +185°F), temperature code T6 (-40°C to 75°C) T5 (-40°C to 85°C) EN 61326-1: 2013 (Industrial Criteria); FCC 47 CFR Part 15, Subpart B; ICES 003: 2016; Measurement Canada pending
Data Memory	2 MB Static Random-Access Memory (SRAM)
Description	3800 XP - MVT / Flow Computer for Gas and Liquids
Diagnostic	AGA 10 Speed of Sound (Comparison with GC SOS Prediction)
Differential Meters	(DP, Orifice) AGA 3/ANSI/API 2530-1992 Method 2; AGA 3/ANSI/API 2530-1985; ISO 5167 pt5; DP Cone meters; Averaging Pitot; GOST: Venturi Meters - Steam Flow IF97
Display	128 x 65 backlit LCD display; User programmable scroll list and menus
Enclosure Rating	NEMA 4X/IP67
Energy	AGA 5; GPA 2172; ISO 6976
Ethylene Density Calculation	API 2565 (Ch 11.3.2.1); Ethylene NBS 1045
Input Power	10VDC to 30VDC
Keypad	4 IR sensors through glass key input. (hazardous area isolation method).
Linear Meters	(Turbine) AGA 7; AGA 9; AGA 11
Live Density Input	Sarasota liquid density meter, Solartron, UGC, 4-20mA & density meters.
Operating Humidity	0-95% RH, (non-condensing)
Operating Temperature Range	-40° to +185°F (-40° to +85°C)
Processor	32 Bit
Program Memory	4 MB of flash memory
Propylene Density Calculation	API Ch 11.3.3.2
Super Compressibility	(Fpv) AGA 8 Gross-1992; AGA 8 Detail-1992; AGA 8 Short-1988; NX-19; NX-19 Analysis; GERG (ISSN 0178-9414 -2004/8 - European Gas Research Group)
Turbine Meter Linearization	10 Point Frequency/K-factor Table
Volume Correction Factors	Consistent with API 2540/ASTM D1250-80/IP 200; 5/6 A/B; 23/24 A/B; 53/54 A/B; 6/24/54 C; CH 11.1 2004; Note: natural gas liquids (NGL) and liquefied petroleum gases (LPG): OLD 23/24, OLD 53/54; (Note: Table E is new standard to replace the Older version 23/24)

Dimensional Drawings

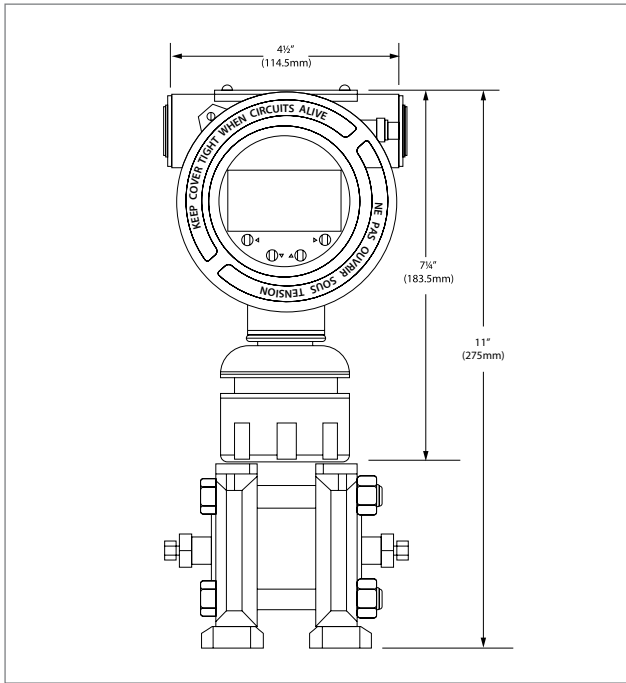


Fig 2: 3800XP Front View

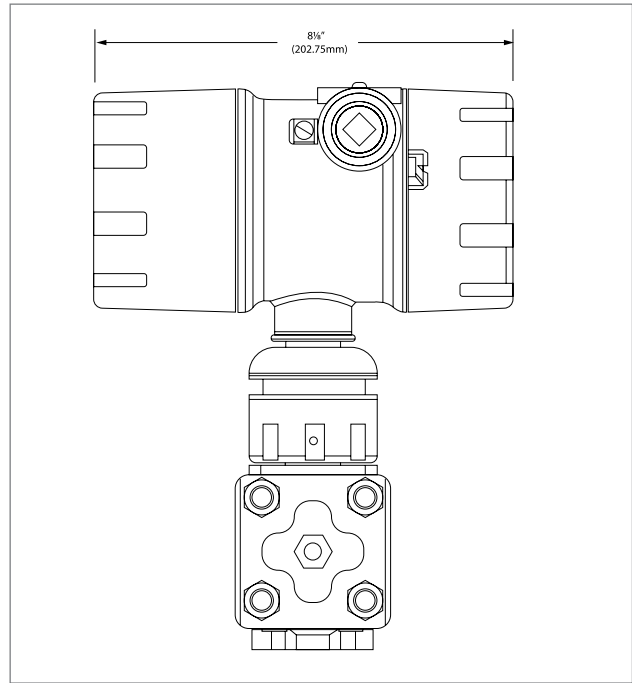


Fig 3: 3800XP Side View

3800XP Models

3800XP Basic CID1	
3800XP-B-15CS-1	3800XP, Basic, 1500PSIA CS HW, CSA, CID1
3800XP-B-45CS-1	3800XP, Basic, 4500PSIG CS HW, CSA, CID1
3800XP Advanced CID1	
3800XP-A-15CS-1	3800XP, Adv, 1500PSIA CS HW, CSA, CID1
3800XP-A-45CS-1	3800XP, Adv, 4500PSIG CS HW, CSA, CID1
3800XP Basic CID2	
3800XP-B-15CS-4	3800XP, Basic, 1500PSIA CS HW, CSA, CID2
3800XP-B-15SS-4	3800XP, Basic, 1500PSIA SS HW, CSA, CID2
3800XP-B-45CS-4	3800XP, Basic, 4500PSIG CS HW, CSA, CID2
3800XP-B-45SS-4	3800XP, Basic, 4500PSIG SS HW, CSA, CID2
3800XP Advanced CID2	
3800XP-A-15CS-4	3800XP, Adv, 1500PSIA CS HW, CSA, CID2
3800XP-A-15SS-4	3800XP, Adv, 1500PSIA SS HW, CSA, CID2
3800XP-A-45CS-4	3800XP, Adv, 4500PSIG CS HW, CSA, CID2
3800XP-A-45SS-4	3800XP, Adv, 4500PSIG CS HW, CSA, CID2

Customer Service & Support



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