DuraTracker® Ex
Flowmeter

The DuraTracker Ex flowmeter is designed for hazardous (Ex) areas classified as Class I, Div 1. Zone 0, ATEX Category 1G. It provides ideal flow measurement and remote communication solutions for wastewater collection systems.

Cost-effectively optimize flow monitoring.

The DuraTracker Ex flowmeter is the most efficient and reliable flow measurement solution on the market today for a wide range of open channel flow applications. It supports flow measurement technologies including non-contact laser area velocity, submerged Doppler area velocity, and ultrasonic. The flowmeter calculates flow using standard open channel level-to-flow and area velocity conversions, user defined equations, level-to-area data points, or level-to-flow data points.

The DuraTracker Ex package cost-effectively integrates cellular communications and multiple flow technologies within a single module. The standard Bluetooth capabilities make the programming, sensor calibration, and data retrieval job easy through wireless devices. A remote cell phone communication option is also available.

Back side shown with two compartments for off-the-shelf batteries and desiccant.

DURA Ex TRACKER®

Applications:

- Collection system flow measurement
- Industrial pretreatment flow measurement
- Waste Water Treatment Plant flow measurement

Standard Features:

- Class I, Div 1, Zone 0, ATEX category 1G approval.
- Rugged, submersible enclosure meets IP68 environmental specs
- Quick connect plug-and-play multiple sensors connectivity: Ultrasonic, AV, and laser
- Bluetooth communication interface with wireless devices
- USB interface
- MODBUS output
- Replaceable high-capacity internal desiccant cartridge and Gortex filter protect sensor air reference port from water entry and internal moisture
- Variable data-rate storage
- Compatible with off-the-shelf batteries

DuraTracker® Ex Flowmeter Specifications

Size (H x W x D):	12.25 x 6.25 x 12.75 in (31.12 x 15.88 x 32.39 cm)
Weight:	16.1 lbs. (7.3 kg) without batteries
Materials:	ABS, Delrin, Stainless Steel
Enclosure:	IP68
Temperature Range:	Operating: -4 to 140 °F (-20 to 60 °C) Storage: -40 to 140 °F (-40 to 60 °C)
Power Source (each bank):	8 x Alkaline D Cell Batteries 1 x 944 Ex Lithium Ion Rechargable Battery
Battery Life (1 battery bank):	310 Ex Ultrasonic Sensor: 12.5 months [a] 350 Ex AV Sensor: 5 months [a] 360 Ex LaserFlow Sensor: 6 months [a]
Power Required:	9.5–13.2 Vdc
Certifications without Modem:	Class I, Division 1, Groups C-D, T4 Class I, Zone 0, AEx ia [ia] IIB T4 Ga II 1 [1] G Ex ia [ia] IIB T4 Ga -20°C ≤ Tamb ≤ +60°C Ex ia [ia] IIB T4 Ga -20°C ≤ Tamb ≤ +60°C
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Built-in Conversions

Flow Rate Conversions:	Up to 2 independent level-to-area conversions and/or level-to-flow rate conversions
Level-to-Area Conversions:	Channel Shapes: round, U-shaped, rectangular, rapezoidal, elliptical, with silt correction; Data Points: up to 50 level-area points
Level-to-Flow Conversions:	Most common weirs and flumes; Manning Formula; Data Points (up to 50 level-flow points); 2-term polynomial equation
Total Flow Calculations:	Up to 2 independent, net, positive or negative, based on either flow rate conversion

Data Handling and Communications

Data Storage:	Non-volatile flash; retains stored data during program updates. Capacity 8 MB (1.3 million readings or 2700 days with 5 parameters logged at 15-minute intervals, reports once per day).
Data Types:	Level, velocity, flow rate 1, flow rate 2, flow rate 3, flow rate 4, total flow 1, total flow 2, total flow 3, total flow 4, input voltage, temperature
Storage Mode:	Rollover; 5 bytes per reading Storage Interval: 15 or 30 seconds; 1, 2, 5, 15, or 30 minutes; or 1, 2, 4, 12, or 24 hours. Storage rate variable based on level, velocity, flow rate, total flow, or input voltage
Communication Interface:	USB, Remote Cellular, Bluetooth, MODBUS ASCII/RTU
Optional Cellular Communication:	LTE

TIENet® Measurement Technologies

TIENet 310 Ex Ultrasonic Level Sensor

Level Measurement Range:	0.3 to 3.3 m (1 to 11 ft)
Level Accuracy:	±0.006 m (0.02 ft) at ≤1 ft level change ±0.012 m (0.04 ft) at >1 ft level change

TIENet 350 Ex Area Velocity Sensor

Velocity Measurement Range:	-1.5 to 6.1 m/s (-5 to 20 ft/s)
Velocity Measurement:	Bi-directional
Velocity Accuracy:	±0.03 m/s (±0.1 ft/s) from -5 to 5 ft/s [d] ±2% of reading from 5 to 20 ft/s [c]
Level Measurement Range:	0.01 to 3.05 m (0.033 to 10 ft)
Level Accuracy:	±0.10% Full Scale [c]

TIENet 360 LaserFlow Ex Area Velocity Sensor

Flow Accuracy:	±4% of reading. (Typical, under normal flow conditions)
Velocity Measurement Range:	-15 ft/s to 15 ft/s (-4.6 m/s to 4.6 m/s)
Velocity Measurement:	Bi-directional [b]
Velocity Accuracy:	±0.5% of reading ±0.03 m/s (0.1 ft/s) [d]
Level Measurement Range:	0 to 3.05 m (0 to 10 ft)
Level Accuracy:	±0.006 m (0.02 ft) at ≤1 ft level change ±0.012 m (0.04 ft) at >1 ft level change

Multi-sensor Connectivity

2 TIENet devices of any combination of 350 Ex, 310 Ex

1 TIENet 360 Ex and other 310 Ex or 350 Ex

1 TIENet 360 Ex with surcharge sensor option

[a] Data shows 5 Parameter, 15 min. data rate interval. Battery life determined by the number of devices and parameters logged. If a second bank of batteries is used, the battery life will double.

[b] Turbidity > 20 NTU; distance from liquid surface to bottom of sensor < 48 inches

[c] Maximum non-linearity, hysteresis, and temperature error from actual liquid level

[d] Uniform velocity profile

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