DuraTracker®

Flowmeter

With the new DuraTracker flowmeter, we've built upon the market-leading 2100 portable logger by adding expanded capabilities into a proven product solution.

Optimize flow monitoring, cost effectively.

The DuraTracker flowmeter is the most efficient and reliable flow monitoring solution on the market today for a wide range of open channel flow measurement 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 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 field upgradable remote cell phone communication option is also available.

For permanent applications without the battery compartment and an exposed desiccant.

Portable version comes with two compartments for off-the-shelf batteries and desiccant.

DURA TRACKER®

Applications:

- Collection system flow monitoring
- Surface water flow monitoring
- Industrial pretreatment flow monitoring
- WWTP flow monitoring

Standard Features:

- Rugged, submersible enclosure meets IP68 environmental specs
- Quick connect plug-and-play multiple sensors connectivity: Ultrasonic, AV, and laser
- pH and sampler interface
- 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

Avensys

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DuraTracker® Flowmeter Specifications

Size (H x W x D):	
DuraTracker:	12.25 x 6.25 x 12.75 in (31.12 x 15.88 x 32.39 cm)
DuraTracker w/o Battery Box:	13.375 x 8.625 x 4.5 in (33.97 x 21.91 x 11.43 cm)
Weight	
DuraTracker:	14.3 lbs. (6.49 kg) without batteries
DuraTracker w/o Battery Box:	5.3 lbs. (2.4 kg)
Materials:	ABS, Delrin, Stainless Steel
Enclosure:	IP68
Temperature Range:	Operating: -40 to 140 °F (-40 to 60 °C) Storage: -40 to 140 °F (-40 to 60 °C)
Power Source:	2 x Alkaline Lantern Batteries 8 x Alkaline D Cell Batteries 4 x Lithium Thionyl Chloride (Low Temperature Applications)
Battery Life:	310 Ex Ultrasonic Sensor: 18 months [a] 350 Ex AV Sensor: 8 months [a] 360 Ex LaserFlow Sensor: 9 months [a]
Power Required	
DuraTracker:	9–15 Vdc
External Power:	7–28 Vdc

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

Optional Interfaces

pH input	TIENet 301 pH Interface
Sampler enabling	TIENet 306 sampler interface

[a] Data shows 5 Parameter, 15 min data rate interval. Battery life determined by the number of devices and parameters logged.

[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

Data Handling and Communications

Data Storage:	Non-volatile flash; retains stored data during program updates. Capacity 395,000 bytes (up to 79,000 readings, equal to over 270 days of level and velocity readings at 15-minute intervals, plus total flow and input voltage readings at 24-hour intervals)
Data Types:	Level, velocity, flow rate 1, flow rate 2, total flow 1, total flow 2, 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:	0.03 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 (including 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

4 TIENet devices of any combination of 350 Ex, 310 Ex, 306 or 301

1 TIENet 360/360 Ex and up to 3 other TIENet devices (350 Ex, 310 Ex, 306 or 301)