Isco Product Data

Signature™ Flow Meter

The Signature flow meter is designed for open channel flow monitoring applications. It supports flow measurement technologies including bubbler and ultrasonic.

The meter can calculate flow using standard open channel level-to-flow conversions, as well as user-defined equations or level to flow data points, depending on the application need.

The Signature flow meter has unique features to verify data integrity. It logs key events such as changes in calibration and power outages to validate data accuracy. Data can be easily reviewed to detect any type of data alteration.

With multiple smart interface options and multi-parameter logging (such as pH), the Signature flow meter provides a common platform for control action, reporting, and communication.

General Features

- Multiple parameter data logging
- Program and Summary Reports
- Data Integrity Verification
- Triggering, sampler enabling
- Compatibility with Flowlink software

I/O Features

- Multiple simultaneous flow technologies
- pH and temperature input
- SDI-12 input
- RS-485 Modbus input
- RS-485 Modbus output
- Analog outputs

Applications

- Industrial Pretreatment Compliance
- Permit Enforcement
- Wastewater Treatment Plants
- Outfall

Communication/Interface Features

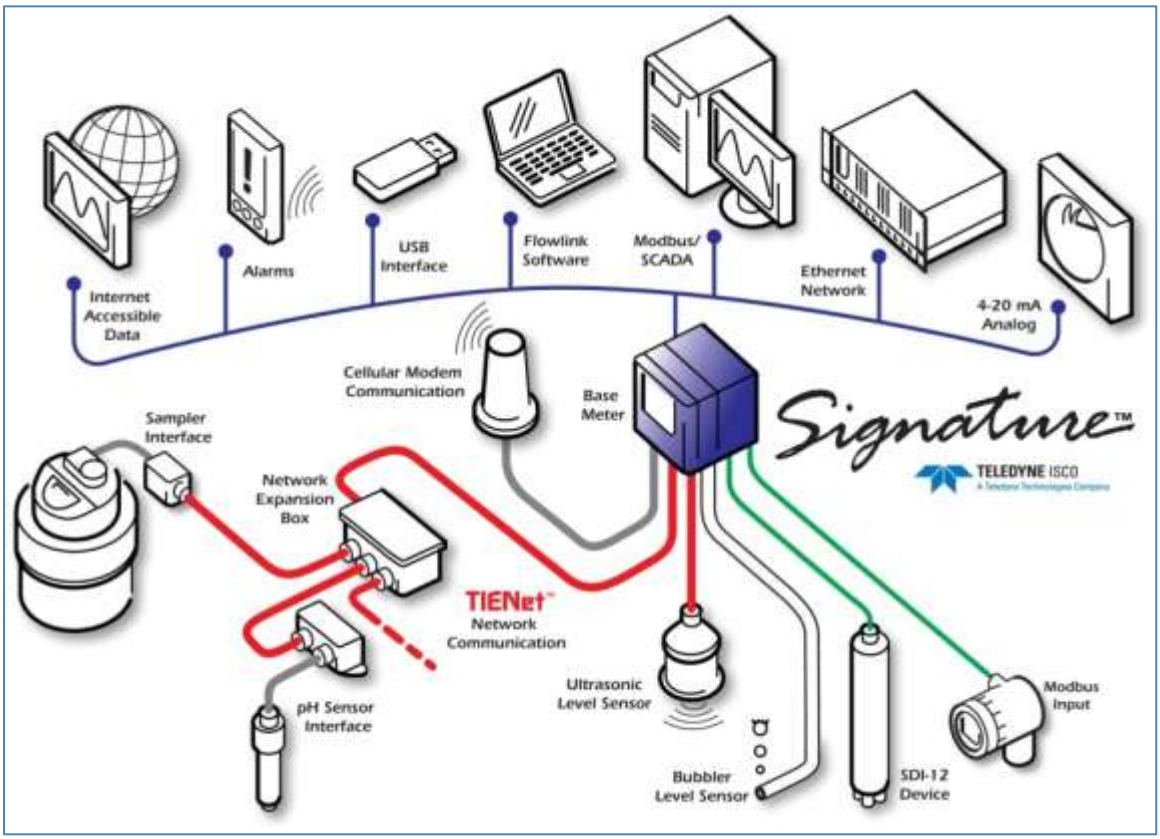
- Ethernet modem
- Cellular modem options
- USB interface

IP66/NEMA 4X panel offers protection against entry of dust or water during meter programming

Smart TIENet™ Devices

- TIENet input and output devices utilize a common, proprietary interface protocol
- Low system integration cost with multiple measurement technologies, I/O protocols, and communication options
- Configurable and upgradable without hardware or firmware changes in Signature flow meter
- Quick setup with an identifiable, unique address for each device
- Easy troubleshooting with built-in device diagnostics

Signature Flow Meter Connectivity and Interface Options



Data Integrity

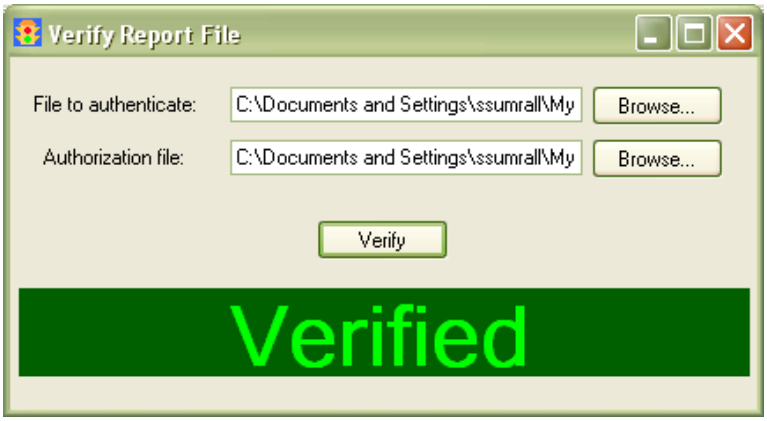
Data Integrity is ensured by logging event data types that cannot be altered, thereby producing confidence with verifiable data:

Diagnostic Report – Tracks the results from diagnostic runs to provide confidence in data quality and spot application issues

Program Report – Tracks changes to the Signature flow meter's configuration to ensure proper setup for specific applications

History Report – Tracks user and meter events (e.g. level adjustments, data push, and program changes)

Summary Report – Documents summaries of data measurements (e.g. Daily Min/ Max/ Avg) to meet regulatory and compliance requirements



Verify Report File – Detects any attempted data alterations

USB Connectivity

With a USB flash drive attached, you can quickly download Diagnostic, Program, History, and Summary reports, update firmware in the Signature flow meter and connected TIENet devices, and download data files for use with Flowlink software.

In addition, the USB port provides direct serial connection with a computer running Flowlink.

Remote Communication

Remote communication options allow meter configuration and data/report retrieval from remote locations. They also enable the transfer of data to a dedicated server running Flowlink Pro software.

Communication options include Ethernet and cellular phone (CDMA and GSM). Internal modems are factory-installed and configured, allowing remote programming and high-speed data transmission from the Signature flow meter.

Also available is automatic alarm messaging which can be sent to multiple designated contact lists as SMS text or e-mail messages. The alerts are based upon user-specified conditions.

Flowlink® Data Analysis

Isco Flowlink® Software is a powerful tool for analyzing flow and water quality data. It provides site setup and data retrieval/analysis, as well as advanced reporting and graphing. Flowlink also gives you the ability to generate site data graphing and reports.

Specifications

Signature Flow Meter	
Size (HxWxD)	8.88 x 12.22 x 8.22 in. (with mounting bracket)
Materials of construction	PPO Polyphenylene Oxide
Enclosure (self-certified)	NEMA 4X/IP66
Power Required	100 to 240 VAC 50/60 Hz 12V DC, Lead Acid Battery 12V DC (current consumption varies depending upon configuration)
Cable Entry	Standard: ¾" NPT conduit Optional: ¾" NPT cord grips
Flow Measurement Technologies	Ultrasonic (TIENet 310) Bubbler (TIENet 330)
Inputs	Two SDI-12 Two MODBUS ASCII/RTU pH Measurement (TIENet 301)
Setup	Front Panel Keypad Flowlink Software - with serial USB, remote cellular, or Ethernet
Flow Conversions	Weir, Flume, British Flume, Metering Insert, Manning Formula, Equation, Level to Flow Data Points
Data Storage	Non-volatile flash; retains stored data during program updates. Capacity: 512 KB Interval: 15 or 30 seconds; 1, 2, 5, 15, or 30 minutes; or 1, 2, 4, 12, or 24 hours Capacity: 180 days with 5 parameters logged at 1 minute intervals, reports once per day
Data Retrieval	USB drive Flowlink Software - with serial USB, remote cellular, or Ethernet
Outputs	MODBUS ASCII/RTU Analog (TIENet 308) SMS Alarm
Sampler Interface	TIENet 306
Communication Options	CDMA or GSM cellular, Ethernet
Temperature Range: Operating and Storage	-20 to 60°C (-4 to 140°F)

TIENet™ 301 pH/Temperature Device	
Weight (w/o probe)	w/ 10m cable: 3.5 lb w/ 23m cable: 7.5 lb
Ambient Operating Temperature	-20 to 50°C (-4 to 122°F)
pH Measurement Range	0 - 14 pH units
Temperature Compensation	Performed by the 301 device
pH Accuracy	±0.1 pH units (new probe, freshly calibrated w/in range)
Probe Dimensions	1.12"∅ X 6" long, 3/4 NPT; Cable 25ft
Probe Body Material	316SST
pH Electrode Junction	Double porous
Temperature Measurement Range	0 to 80 °C (32 to 176 °F)

TIENet™ Model 306 Sampler Interface	
Function	Flow pacing, enabling based on triggered event. Time and bottle information sent to Signature Flow Meter
Powered By	Signature Flow Meter
Operating Temperature	-20 to 50°C (-4 to 122°F)
Storage Temperature	-40 to 60°C (-40 to 140°F)
Pulse Width	50 ms
Pulse Output	5 volts
Sampler Connection	Standard: 6 pin connector for Isco 6712, Avalanche, Glacier, GLS, and 3700 samplers For other options, contact factory

TIENet™ Model 308 Analog Output	
Output	4-20 mA
Isolation	Monolithic
Maximum Load	500 ohm
Outputs per card	Two

TIENet™ Model 310 Ultrasonic Level Sensor	
Level Measurement Range:	0.3 to 3.3m (1 to 11 ft)
Measurement Accuracy at 72°F (22°C)	±0.006m (0.02 ft) at 1 ft level change or less ±0.009m (0.03 ft) at greater than 1 ft level change
Temperature Coefficient (w/ in compensated range)	±0.0002 x Distance (m) x Temperature Deviation from 22 °C. ±0.00011 x Distance (ft) x Temperature Deviation from 72 °F.
Beam Angle	10°
Frequency	50 kHz
Size	9.1 cm ∅ X 10.2 cm tall (3.63" x 4")
Cable Length	10 or 23m (32.8 or 75.5 ft)
Weight	1.8 kg (4 lbs)
Body Material	PVDF
Temperature Range (Operating & Storage)	-30° to 60°C (-22° to 140°F)
Certifications	Group 2, Category 1G (zone 0), T4 Class I, Div 1, Groups C & D, T4 (pending)

TIENet™ 330 Bubbler Module	
Level Measurement Range:	0.003 to 3.05m (0.01 to 10 ft)
Level Measurement Accuracy	±0.002m @ 22°C (0.007 ft @ 72°F)
Operating and storage temperature	-18° to 60°C (0 to 140°F)
Temperature Compensation Range	0° to 60°C (32° to 140°F)
Temperature Coefficient (w/ in compensated range)	±0.0003 x Level (m) x Temperature Deviation from 22 °C. ±0.00017 x Level (ft) x Temperature Deviation from 72 °F.

ISCO®
Water is life. Protect it.

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