FL16 Flow Logger

Water Flow and Temperature Recorder for Partially Filled Pipes, Flumes, and Weirs

Description

Global Water's FL16 Flow Logger will revolutionize the way you collect flow data. The FL16 consists of a sensor and a datalogger that will record over 81,000 depth, temperature, flow, and velocity readings. The FL16 operates on two standard 9 volt batteries, which it monitors so you are never caught off guard with dead batteries.

Specially Engineered Sensor

The FL16's specially engineered, non-fouling level sensor works in depths as low as ½" and allows for deployment in manholes and other difficult to access areas without the need to enter the confined space. The sensor is fully encapsulated with marine-grade epoxy so that moisture can never leak in or work its way down the vent tube to cause drift or level sensor failure (as can be the case with other pressure sensors).

Powerful Flow Logger Software

The FL16 includes user-friendly Windows™-based Flow Logger software that is tailored specifically for calculating flows in partially filled sewer and drainage pipes using the Manning's Equation. Pull-down menus for selecting and entering the necessary pipe or primary device information make programming quick and easy. A unique calibration feature allows users to view calculated water velocity, compare this to actual measured data, and adjust the flow parameters to calibrate the flow conditions of a specific application. Flow equations for over 40 standard flumes and weirs are provided, and users can define their own custom lookup tables to convert water level to flow for virtually any application. Once configured, all setup and flow parameters are stored in the FL16's memory and are uploaded to the software automatically upon connection. This information can also be saved to a file for later use, allowing the FL16 to be deployed in multiple locations without the need to re-enter the flow parameters each time it is moved. The FL16 also includes Windows™ CE-based PDA software for easy field data collection.

Specifications

Datalogger

Memory	Non-volatile flash memory
Power	Two 9VDC alkaline batteries
Battery Life	Up to 1 year (depending on recording intervals)
Resolution	12 bit
Moisture Protection	Silicon coating (prevents damage to electronics from condensation)
Temperature	-40° to +185°F (-40° to +85°C)
Humidity	0-95% non-condensing
Storage Capacity	81,759 time/date stamped datapoints (including battery voltage)
Recording Rate	High Speed (10 samples per second), Fixed Interval (programmable from 1 sec. to >1 year), Logarithmic, Exception
Data Overwrite	Select memory wrap or unwrap (unwrap will stop logging once memory is full)
Clock	Synchronizes to user's computer; accuracy of 0.0025% or 1 minute in 1 month; format is m/d/yr and hr/min/sec
Enclosure	Stainless steel UV protected PVC Vented for barometric pressure compensation
Communication Port	FL16S: RS-232 4-pin circular connector FL16U: USB Type B Selectable Baud Rates: 9600, 19200, 28800, 38400, 57600, 115200
Dimensions	1-7/8" dia. x 11-1/2" long, fits in 2" well (4.8 cm dia. x 29 cm long)
Weight	2.4 lbs (1 kg) (includes logger, 25' cable, and sensor)

Features

- Compact, self-powered and easy to use
- Over 81,000 flow, velocity, level, and temperature readings
- Free user-friendly Windows™ and Windows™ CE-based PDA software included
- USB or serial communications
- No confined space entry required for sensor deployment
- User-programmable start and stop alarms, engineering units, and field calibration setup

Flow Sensor

Sensor Element	Silicone Diaphragm, Wet/Wet Transducer
Pressure Range	0 to 3' of water
Temperature Range	32 to 122°F (0 to 50°C)
Linearity and Hysteresis	±0.1% full scale
Pressure Accuracy	±0.1% full scale at constant temperature, ±0.2% over 32°F to 70°F range
Overpressure	2 x full scale range
Burst Pressure	10 x full scale range
Resolution	Infinite (analog)
Output Currents	Level: 4-20mA ±1mA full scale Temperature: 0-10mA ±1mA full scale
Supply Voltage	10 to 36VDC
Current Draw	Combined level and temperature output currents
Warm Up Time	3 seconds recommended
Operating Temperature	0° (not frozen) to +185°F
Compensation	Dynamic temperature compensation 32 to 70°F, automatic barometric pressure compensation
Material	316 stainless steel outer sleeve, PVC diffuser and strain relief
Dimensions	9" long x 1" dia. (22.9 cm long x 2.5 cm dia.)
Weight	~9 oz (250 g)

Temperature Sensor

Temperature Range	32° to 100°F (0 to 50° C)
Accuracy	±1.0% of reading

Ordering & Options

Flow Loggers

Order No.	Comm. Port	Sensor Range	Cable Length
FL16U	USB	0 to 3'	25'
FL16S	Serial	0 to 3'	25'

Options

Order No.	Description
WLEXC	Extra Sensor Cable (up to 500')

Accessories

Order No.	Description
PDAWL16	PDA Package
FLMNT	Protective Mounting Sleeve

Regional Distributor

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