

Hach FL900 Series Cellular Wireless Flow Logger

FLOW

NEW!

When combined with the Flo-Dar®, Flo-Tote® 3, or Submerged Area Velocity Sensor, the Hach FL900 Series Wireless Flow Logger takes flow monitoring to a whole new level. With features that reduce site time and increase crew safety, the wireless flow monitoring system allows you to easily manage your flow data 24/7, as well as your budget.*

WW

Features and Benefits

The FL900 Wireless Flow Logger provides users with a reliable, budget saving open channel wireless flow monitoring solution for open portable flow monitoring applications. Flow data is accessible 24/7 with Hach fsDATA web-based software. When combined with the Flo-Dar, Flo-Tote 3, or Sub AV Sensor, the system will drastically reduce site time and increase safety for monitoring crews.

Increase Monitoring Crew Safety

With the time saving features designed into the FL900 Wireless Flow Loggers, crews spend less time in the manhole and less time on site to decrease monitoring costs while increasing the safety of flow monitoring crews.

Plug and Play Sensor Ports

The FL900 Series Flow Logger is available with 1, 2 or 4 sensor ports. The sensor ports are "plug and play"; the logger auto-detects the type of sensor connected to allow customers maximum flexibility for their Hach flow sensor inventories.

Flow Monitoring Data at Your Fingertips with fsDATA™ Web-Based Software

Hach fsDATA web-based flow meter software is the ideal time-saving and economical solution for the management

of your Hach wireless flow meters and data 24/7. With fsDATA routine site visits to collect flow data are eliminated keeping flow monitoring crews safe. (See Lit. No. 2707 for additional information on fsDATA.)

Easy Installation/Versatile Mounting Options

The logger can be quickly attached to a wall, pole or manhole ladder in minutes. Users can choose to hang logger from standard carabiner or optional 4-bolt wall mount for pole, horizontal or vertical wall mount or ladder rung mount.

LED Gives Quick Confirmation of Logger Status

Get peace of mind the logger is ready to capture the next flow event, before you leave the site. The rugged FL900 Wireless Flow Logger includes a status LED panel. The indicator light on the top of the logger shows the status of the instrument and modem (if equipped with wireless option). The user can manually send a call to the server to make sure the network connection is good by simply swiping the magnet over the call initiation target.

**Requires AV9000 Analyzer module.*

IW

C

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



Be Right™

Specifications*

FL900 SERIES FLOW LOGGER PORTABLE DC POWERED ELECTRONICS (Includes Models FL901, FL902 & FL904)

Dimensions (W x D x H)

25.4 x 22 x 40 cm (10.0 x 8.7 x 16.0 in.)

Enclosure

PC/ABS structural foam

Environmental Rating

NEMA 6P (IP68)

Weight (Using Model FL900)

4.5 kg (10 lb)—no batteries; 6.3 kg (14 lb)—2 batteries;
8.2 kg (18 lb)—4 batteries

Operating Temperature

-18 to 60°C (0 to 140°F) at 95% RH

Storage Temperature

-40 to 60°C (-40 to 140°F)

Power Requirements

8 to 18 Vdc from batteries or external power source,
2.5W max.

Battery Life at 15 minute logging intervals (at room temperature)

185 days with 4 lantern batteries and a Flo-Dar sensor
306 days with 4 lantern batteries and a Flo-Tote sensor
296 days with 4 lantern batteries and a Sub AV sensor
with AV9000 Analyzer

The optional long life alkaline battery pack can be used to extend battery life, if the Flow Logger is ordered with the external power option connector.

LED Status Indicator

- Green Flashes every 3 seconds during normal operation. Flashes every 15 seconds during sleep mode.
- Red Flashes when an attached sensor does not agree with the logger program, when an expected sensor is not found or the sensor is not working properly.

LED Modem Indicator

- Stays green during a call to the server. Goes blank after the call is successfully completed and terminated.
- Flashes red if the call to the server failed.

Sensor Ports

1, 2 or 4 ports

Connectors

Stainless steel connectors

Datalog Channels

16 maximum

Alarms

Maximum of 16 channel alarms including high/high, high, low, low/low and system alarms including low battery, low RTC battery, low slate memory, slate memory full.

Alarm Actions

Trigger sampler, change logging interval, change call interval, send an e-mail, or send text message (SMS).

Logging Intervals

1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 or 60 minutes
Primary and secondary intervals for dynamic logging.

Data Storage

Event Log: 1,000 events maximum in non-volatile flash memory
Sample History: 2,000 sample events maximum in non-volatile flash memory
Datalog: 325,000 data points; 1128 days for 3 channels at 15-minute log intervals

Local Communication

USB

RS232 (Baud rates: 9600, 19200, 38400, 57600, 115200)

Remote Communication (optional)

Wireless modem; CDMA or GPRS technology with a mobile provider, CDMA2000 1xRTT or GPRS.

Protocols

Modbus RTU; Modbus ASCII; Mobile-Terminated SMS; Mobile-Originated SMS; TCP/IP

Timebase Accuracy

±0.002%, synchronized every 24 hours with server software and modem

Supported Sensors

Flo-Tote 3, Flo-Dar, Flo-Dar with SVS, Submerged Area Velocity Sensor[†], Sigma 950[†], and Rain Gauge

Sampler Interface

Compatible with Sigma 900 Standard, Sigma 900 Max, Hach SD900 to support set-point sampling, flow-pacing, and logging sample history.

Desktop Software

Flo-Ware for Windows software is required for programming the logger, data management, and report generation software. It is compatible with desktop/laptop computers utilizing Windows operating system. Minimum resolution needed is 1024x768.

Internet Application Software

FsDATA web-based software for flow meter data management and report generation for wireless flow meters and data access 24/7.

Certifications

Logger: CE; optional AC power supply: UL/CSA/CE

Warranty

1 year

 The FL900 Series Loggers meet CE requirements.

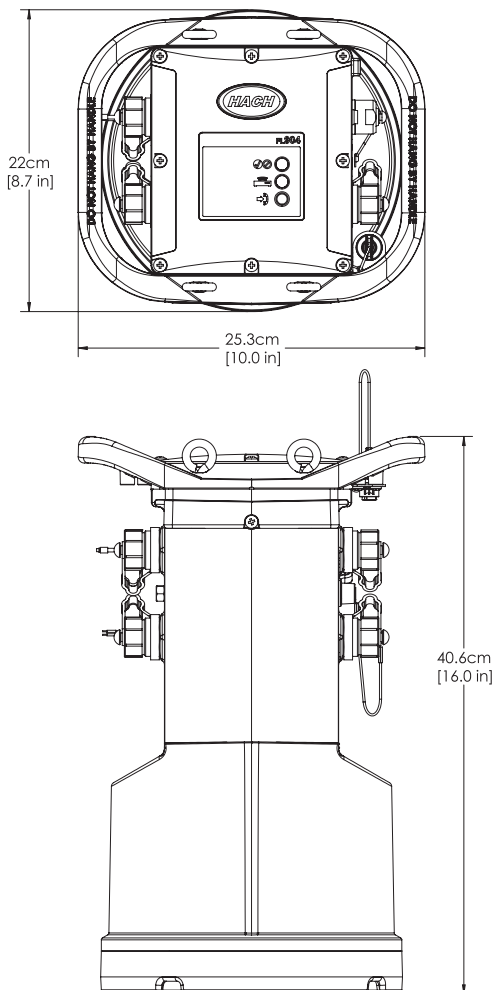
[†]Requires external module.

*Specifications subject to change without notice.

Engineering Specifications

- Exterior dimensions of the Flow Logger shall be 25.4 W x 22 D x 40 cm H (10.0 W x 8.7 D x 16.0 in. H)
- The Flow Logger enclosure material shall be PC/ABS structural foam with NEMA 6P (IP68) rating.
- The operating temperature for the Flow Logger shall be -18 to 60°C (0 to 140°F) at 95% relative humidity and storage temperature of -40 to 60°C (-40 to 140°F).
- Power requirements of the Flow Logger shall be 8 to 18 Vdc from batteries or external power source, 2.5W max.
- When used with a Flo-Dar sensor, the Flow Logger shall have a battery life of 185 days utilizing 4 6v alkaline batteries at a 15 minute logging interval (at room temp.). When used with a Flo-Tote sensor, the Flow Logger shall have a battery life of 306 days utilizing 4 6v alkaline batteries at a 15 minute logging interval (at room temperature). A long-life battery for longer deployments shall be available option. When used with a Submerged AV sensor and AV9000 Digital Analyzer module, the Flow Logger shall have a battery life of 360 days utilizing 4 6v alkaline batteries at a 15 minute logging interval (at room temperature).
- The Flow Logger shall have 1, 2 or 4 sensor ports with stainless steel connector, 1 communications port and 1 auxiliary port.
- The Flow Logger shall have primary logging intervals of 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 or 60 minutes.
- The Flow Logger shall have secondary logging intervals available to modify the logging rate based on a defined channel alarm condition or trigger.
- Optional remote communication shall be available on the FL900 Series Loggers via Wireless modem; CDMA2000 1xRTT or GPRS.
- The Flow Logger data storage event log shall be 1,000 events maximum in non-volatile flash memory.
- Timebase Accuracy of the Flow Logger shall be 0.002% synchronized every 24 hours with server software and modem.
- The Flow Logger shall support the Flo-Dar, Flo-Dar with SVS, Flo-Tote 3, Submerged Area Velocity Sensor, Sigma 950. and Rain Gauge.
- The Flow Logger shall be compatible with Sigma 900 Standard, Sigma 900 Max and Hach SD900 to support set point sampling, flow-pacing and sample history logging.
- The Flow Logger shall be able to connect to a lap top or desk top PC using either USB or RS232 serial connection.
- The Flow Logger shall have an LED indicator for operating /programming status visible on the topmost horizontal surface of the logger.
- The internet data management software shall indicate sites in alarm condition in either a map view or list view.
- When connected to an external power source, the FL900 series logger shall be capable of power switching, i.e. drawing power from the external source and conserving the alkaline batteries inside the logger base. At the time the external power source reaches a low alarm condition, it will then switch the power draw to the alkaline batteries mounted inside the base of the logger.
- The internet software for flow data management shall be Hach FS DATA.
- The logger will be a Hach FL901, FL902, or FL904 Flow Logger.

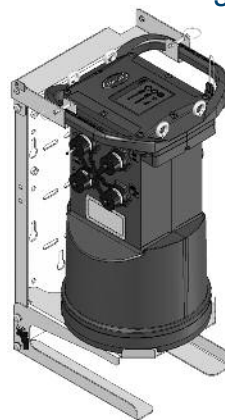
Dimensions



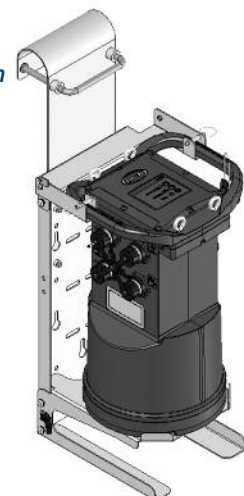
Installation/Mounting Options



*Flow Logger
Suspension Cable with
Carabiner (Standard)*



*Flow Logger Wall Mount
Prod. No. 8542700
(Optional)*



*Flow Logger Ladder Rung Mount
Prod. No. 854450
(Optional)*

Ordering Information

FL90X Electronics (Flow Logger)	Model FL90	Sensor Connector(s)	Country Code	Modem	Rain Gauge
1 Sensor Connector		1	97		
2 Sensor Connectors		2			
4 Sensor Connectors		4			
None				X	
AT&T (Activated)				A	
GPRS no SIM				G	
Sprint (Inactive)				R	
Sprint (Activated)				S	
No Rain Gauge Connector					X
With Rain Gauge Connector					R

External Modules

- 8531300** AV9000 Area Velocity Analyzer module (required to attach a Sigma Sub AV sensor)
- 8549800** IM9001 Interface module (required to attach a Sigma 950 flow meter)

Cables

- 8528700** Cable, External power, 2 wire, 9 ft.
- 8528200** Cable, Communication, RS232
- 8528300** Cable, Communication, USB
- 8528400** Cable, Aux, 7pin MIL 5015 (Connect to Sigma Sampler), 9 ft.
- 8528401** Cable, Aux, 7pin MIL 5015 (Connect to Sigma Sampler), 25 ft

Antennas

- 5228400** Antenna, Half Wave (824-894, 1850-1990 MHz)
—US for Verizon, Sprint, AT&T, T-Mobile
- 6241804** Antenna, Mini-Wing, (824-960, 1710-2170 MHz)
—US for Verizon, Sprint, AT&T, T-Mobile
- 8537600** Antenna, Traffic Rated In Road/Burial (824-960MHz, 1850-1990MHz)
—US for Verizon, Sprint, AT&T, T-Mobile
- 5255400** Antenna, Traffic Rated Manhole Lid (824-896, 1850-1990 MHz)
—US for Verizon, Sprint, AT&T, T-Mobile

Software

- Model T200-200** Flo-Ware Desktop Software
- FS-HOSTING** Monthly data hosting service for FS-DATA
- FS-DATAFR** Monthly wireless service

Mounting Hardware

- 8543800** Wall mount bracket (304 Stainless)
- 8545600** Wall mount bracket with ladder hanger (304 Stainless)
- 8542700** Wall mount bracket with AC Power Supply shelf (304 Stainless)
- 8544500** Wall mount bracket with AC Power Supply Shelf with ladder hanger (304 Stainless)

Replacement Parts

- 8755500** Desiccant refill beads, Bulk 1.5 lb
- 11013M** Battery, 6V lantern
- 8542900** Battery, long-life alkaline
- 8543000** Battery pack top cap adaptor and cable
(for long-life alkaline battery pack 800017701)
- 8542800** Rain Gauge with 100 ft. cable

Lit. No. 2711 Rev 2

H11 Printed in U.S.A.

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In the interest of improving and updating its equipment, Hach Company reserves the right to alter specifications to equipment at any time.

At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

For current price information, technical support, and ordering assistance, contact the Hach office or distributor serving your area.

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