

Sigma RAIN LOGGER™

Automatic Data Logging Rain Gauges

Features and Benefits

Diverse and Reliable Measuring

Built to National Weather Service standards, the gauge accurately measures rainfall in 0.01" increments. The tipping bucket mechanism tips with every 0.01" of rainfall, producing a momentary contact closure with each movement.

A stainless steel funnel screen prevents plugging from leaves and other wind-blown debris. The removable funnel permits viewing of a built-in bubble level, with an innovative spring-loaded base plate providing an easy, convenient means to level the gauge. A hole in each corner of the base plate permits a secure, anchored installation.

Principle of Operation

The 8" diameter funnel directs rainwater into a "tipping bucket", which is divided vertically into two halves. When 0.01" of rainfall fills one side of the bucket, the bucket tips, spilling the water through the bottom of the rain gauge. The other side of the bucket is then positioned under the funnel. The bucket alternates tips with each 0.01" of rainfall. With each tip, a magnet, mounted to the bucket, activates a sealed, magnetic reed (proximity) switch, producing a momentary contact closure. In a stand-alone state, the number of bucket tips, representing 0.01" of rainfall, is recorded in user selectable time intervals of 1, 2, 3, 5, or 10 minutes. Data storage capacity is 10,080 readings.



Key Features

- *Stainless steel funnel screen prevents plugging from leaves and other wind blown debris*
- *Removable funnel makes cleaning easy*
- *Built-in bubble level, with an innovative spring-loaded base plate provides an easy, convenient means to level the gauge*
- *Base plate permits secure anchored installation*
- *Compatible with Sigma Flo-Center and Insight Data Management and Analysis Software.*

Specifications*

Rain Gauge

Type

Tipping bucket with 8" diameter collector/funnel

Overall Dimensions

18"H x 12"W x 12"D (45.7 cm x 30.5 cm x 30.5 cm)

Weight

9.25 lbs. (4.2 kg)

Resolution

0.01" rainfall per bucket tip

Accuracy

0.5% at 0.5" per hour

Base Mounting Plate

Spring loaded, three-point adjustable

Materials of Construction

Epoxy coated aluminum and anodized aluminum (funnel screen is stainless steel). Three point adjustable base plate. Removable screen.

Rain Logger

Enclosure

Impact resistant plastic

Type

Solid-state memory, battery backed

Dimensions

1" x 2.75" x 4.125" (2.54 cm x 7 cm x 10.5 cm)

Weight

8.5 oz. (.24 kg)

Operating Temperature

32 to 135°F (0 to 57°C)

Storage Temperature

-20° to 150°F (-29° to 66°C)

Power Requirements

Replaceable 9 Vdc alkaline battery

Battery Life

6 months, typical

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Specifications continued

Data Capacity

10,080 readings (i.e. 7 days at 1 minute recording intervals, 70 days at 10 minute recording intervals)

Time Base Accuracy

±1 minute per month over operating temperature range

Battery Life Indicator

LED flashing once every 2.5 seconds indicates a good battery

Data Interface

LED optically coupled RS-232 interface

Rain Reader

Enclosure

Impact resistant plastic

Dimensions

1" x 2.75" x 4.125" (2.54 cm x 7 cm x 10.5 cm)

Weight

8.5 oz. (.24 kg)

Power Requirements

9 Vdc, nominal; supplied via 115 Vac/9 Vdc power adapter

Data Interface

LED optically coupled RS-232 interface

Data Transfer Rate

4800 baud

Computer Interface

RS-232 serial cable, IBM PC compatible

Data Collection Modes

- Record immediately – Data logging starts immediately after any command that clears memory.
- Record On First Bucket Tip – Data logging starts upon the first bucket tip. (Each bucket tip represents 0.01" rainfall).
- Data Transfer Gauge – Indicates data transfer time when transferring data from the RainLogger to PC.

Graphing Data

Produces rainfall x-y graph Two selectable graph formats:

- Intensity Plot
- Cumulative Plot
- "Zoom" feature lets you inspect any area of the graph more closely. "Data cursor" lets you see individual readings by moving a cursor to the desired point on the graph.

Rain Log Software

Hardware Requirements

IBM PC or IBM compatible

Serial Communications Port

Memory Modes

"Slate" or "Wrap" memory modes

- Slate Mode – Recording stops with full memory
- Wrap Mode – Upon full memory, recording continues; oldest data is dropped as new data is recorded.

*Specifications subject to change without notice.

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Keep it pure.

Make it simple.

Be right.

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In the United States and all countries except Europe, contact:

Hach Company
4539 Metropolitan Court
Frederick, MD 21704-9452, U.S.A
Telephone: (800) 368-2723
Fax: 301-874-8459
E-mail: hachflowsales@hach.com
www.hachflow.com

In Europe for all countries except France, Spain and Great Britain:

Flow-Tronic
RUE J.H. COOL 19a
B-4840 Welkenraedt Belgium
Telephone: ++32-87-899797 or 899799
Fax: ++32-87-899790
E-mail: site@flow-tronic.com
www.flow-tronic.com

For France:

HACH LANGE FRANCE S.A.S.
33, Rue du Ballon
93165 Noisy-le-Grand
Telephone: ++33 (0)1 48 15 68 70
Fax: ++33 (0)1 48 15 80 00
E-mail: info@hach-lange.fr
www.hach-lange.fr

For Spain:

HACH LANGE, S.L.U
C/ Larrauri, 1C, 2ª Pl.
48160 Derio, Bizkaia
Telephone: 902 131441 94 6573388
Fax: 94 6573397
E-mail: info@hach-lange.es
www.hach-lange.es

For Great Britain:

HACH LANGE LTD
Pacific Way
Salford
Manchester, M50 1DL
Telephone: 0161 872 1487
Fax: 0 161 848 7324
E-mail: sales@hach-lange.co.uk
www.hach-lange.co.uk

Ordering Information

Rainlogger System

Each site requires a Rain Gauge and one (or two) Rainloggers. Only one Rain Reader and software is required for use with (IBM compatible) PC.

2459 Rain Gauge with tipping bucket, bubble level, level adjust and base mounting plate.

2390 Rainlogger includes 9 Vdc battery.

2391 Rain Reader, 115 Vac includes 115 Vac power adapter and rain reader/logger cradle. Domestic.

4339 Rain Reader, 230 Vac includes 230 Vac power adapter and rain reader/logger cradle. International.

5254 Insight Software (free of charge)

Remote Rainlogger System

Each site requires Rain Gauge, Rainlogger, and Remote Rainlogger. One Rain Reader is required to download data from all sites.

2149 Rain Gauge with 25 ft. Cable - For use with 3638 remote rainlogger. Mounting Base Plate

3638 Remote Rainlogger requires 2149 rain gauge.

2221 Rain Gauge Extension with 100 ft. Cable. Extension cable for 2149 rain gauge.

2390 Rainlogger includes 9 Vdc battery.

2391 Rain Reader, 115 Vac includes 115 Vac power adapter and rain reader/logger cradle. Domestic.

4339 Rain Reader, 230 Vac includes 230 Vac power adapter and rain reader/logger cradle. International.

5254 Insight Software (free of charge)

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Rain Gauge with 100 ft. cable for use with FL900 Series Flow Loggers.

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