



Simple and Economical with Digital Output

Overview

The RainVUE™10 is ideal for many hydrological or meteorological applications such as weather stations and flood warning systems. The RainVUE™10 is an SDI-12 tipping bucket rain gage in the RainVUE™ family of products. Advanced algorithms and digital processing within the sensor compensate for errors caused by high-intensity rain and provide accurate precipitation and intensity

measurements. Constructed of an aerodynamic plastic funnel, the RainVUE™10 is cost effective and minimizes the amount of liquid precipitation that is lost due to the effects of wind. This rain gage offers the user flexibility with the option to select from a series of set cable lengths or a user-defined cable length.

Benefits and Features

- › Durable ASA plastic construction providing UV stability and exceptional strength for all environments
- › Digital processing to correct for high-intensity precipitation errors up to 500 mm/h (20 in./h)
- › Precipitation intensity measurements up to 1000 mm/h
- › Meets WMO recommendations for funnel area
- › Tilt, internal temperature, and voltage measurement for remote diagnostics on the sensor
- › Built-in bubble level for easy leveling
- › Adjustable mounting feet to simplify leveling
- › Unique aerodynamic shape increases accuracy by minimizing effects of wind
- › Built-in data recording and battery backup to prevent data loss from power or communication disruptions

Technical Description

The RainVUE™10 funnels rainfall through a stainless-steel gauze filter that traps and removes debris. The rainfall flows through a nozzle into one of the two halves of the tipping bucket. The internal tipping bucket assembly rotates around precision rolling pivot bearings and tips when the first bucket fills to a fixed calibrated level. Then the balance arm moves the second bucket under the funnel. A magnet attached to the balance arm actuates a reed switch as the bucket tips.

The aerodynamic design of the RainVUE™10 prevents wind from carrying the rainfall away from the collecting vessel. With traditional cylindrical rain gages, wind can reduce the rainfall catch by up to 20%. The deep funnel catch also minimizes splashing out and loss due to high winds and heavy rainfall. The RainVUE™10 also includes a microprocessor that corrects for rainfall intensity and outputs an SDI-12 signal.

Specifications

Sensor Type	Tipping bucket with magnetic reed switch
Material	ASA LI-911 plastic
Output	SDI-12 version 1.4
Sensor Configuration	SDI-12 or USB
Operating Temperature Range	1 to 70°C
Power Requirements	6 to 18 Vdc
Active Current Consumption	1 mA
Quiescent Current Consumption	0.08 mA
Internal Battery	240 mAh lithium battery (provides up to 15 days of continual operation after power loss)
Response Time	<ul style="list-style-type: none"> › 0 s (for M0! command) › 1 s (for M1! command)
Orifice Diameter	20.0 cm (7.87 in.)
Height	43.5 to 46.5 cm (17.1 to 18.3 in.) with feet adjustment
Weight	2 kg (4.5 lb)
-IN Option	
Measurement Range	0 to 1000 mm/h (0 to 40 in./h)

Precipitation Amount Resolution	0.254 mm (0.01 in.)
Precipitation Amount Measurement Uncertainty	±1% at 0 to 500 mm/h intensity (0 to 19.7 in./h intensity)
Precipitation Intensity Range	0.01 to 1000 mm/h (0.0004 to 39.4 in./h)
Precipitation Intensity Measurement Uncertainty	±1%
WMO Compliant	No

-MM Option

Measurement Range	0 to 500 mm/h (0 to 19.7 in./h)
Precipitation Amount Resolution	0.1 mm (0.004 in.)
Precipitation Amount Measurement Uncertainty	<ul style="list-style-type: none"> › ±3% at 0 to 300 mm/h intensity (0 to 11.8 in./h intensity) › ±5% at 300 to 500 mm/h intensity (11.8 to 19.7 in./h intensity)
Precipitation Intensity Range	0.01 to 500 mm/h (0.0004 to 19.7 in./h)
Precipitation Intensity Measurement Uncertainty	<ul style="list-style-type: none"> › ±3.5% at 0 to 300 mm/h (0 to 11.8 in./h) › ±5% at 300 to 500 mm/h (11.8 to 19.7 in./h)
WMO Compliant	Yes

For comprehensive details, visit: www.campbellsci.eu/rainvue10 



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