

SDI-12 Tipping Bucket Rain Gauge with Siphon

5600-0725



Overview

Sutron's 5600-0725 SDI-12 Output Tipping Bucket Rain Gauge with Siphon is the recognized standard for measuring rainfall & precipitation in remote, unattended locations. Building upon Sutron's 5600-0625 rain gauge, the 5600-0725 adds compact electronics to provide tip counts, daily accumulations, yearly accumulations, compensated tip counts and more over the SDI-12 interface.

The key features of this unit are its 5-inch high catch to reduce splash loss, siphon mechanism to even out tip errors over a large precipitation rate and electronics to compensate for any residual errors.

The unit is composed of a collector funnel, a stainless steel filter screen, a siphon, tipping bucket mechanism and the tipping bucket-to-SDI-12 interface electronics. The bucket tips when precipitation of 0.1 mm, 0.2 mm, 0.5mm or 0.01 inch have collected in the bucket. The tip is counted by the SDI-12 interface which stores the raw tip count, compensated tip count, user-specified precipitation rate intervals and much more easily accessed by a data logger using SDI-12 commands. The data logger/DCP records data & transmits it via satellite, cellular or radio to a database for viewing anywhere around the world.

Features

- ▶ SDI-12 Output
- ▶ World Standard 205 mm, 8.08 inch catch
- ▶ Bucket Sizes 0.1 mm, 0.2 mm, 0.5 mm, or 0.01 inch
- ▶ Extended catch for high intensity accuracy
- ▶ Integrated siphon mechanism
- ▶ Bubble level in base
- ▶ Single reed switch output signal



Pole-Mounted Tipping Bucket Rainfall Station

SPECIFICATIONS

Specifications subject to change without notice

Orifice Diameter	8.08 inches 205 mm diameter (8.08")
Collection Area	330 cm ²
Sensitivity	One tip at 0.1 mm, 0.2mm, 0.5mm or 0.01 inch
Measuring Range	0-700 mm/hr, 0-27 inches/hr
Accuracy	±2% from 25-500 mm/hr
Siphon	~4 mL capacity stainless steel & non-hydroscopic polymer with inset screen
Bucket	Injection molded non-hydroscopic ABS, UV-stabilized, chrome plated & balanced
Bearings	Sapphire jeweled bearings with hard stainless steel shaft (pivots)
Level	Bulls eye bubble level
Contact System	Single reed switch, potted
Contact Capacity	24 VA (0.5 amp max)
Contact Time	0.1 seconds
Height	483 mm (19 inches)
Weight	3 kg (6.6 lbs)

ORDERING

5600-0725-1	Tipping Bucket Rain Gauge with Siphon & SDI-12 Output, 0.1 mm calibration
5600-0725-2	Tipping Bucket Rain Gauge with Siphon & SDI-12 Output, 0.2 mm calibration
5600-0725-5	Tipping Bucket Rain Gauge with Siphon & SDI-12 Output, 0.5 mm calibration
5600-0725-6	Tipping Bucket Rain Gauge with Siphon & SDI-12 Output, 0.01 inch calibration
9500-0209	8" Stainless Steel Filter screen
6211-1024-1	1.3" ID Pipe Mounting Kit

Software Functionality

- ▶ Simple SDI command to measure and configure the device
- ▶ Computes total accumulation, accumulation since last measurement, accumulation yesterday and annual accumulation
- ▶ Programmable daily and annual accumulation resets
- ▶ User configurable window for rain intensity calculations
- ▶ Configurable bucket size
- ▶ Supports a third order polynomial for heavy rainfall compensation

General Features

- ▶ High Reliability due to a digital interface
- ▶ Compact, rugged and water resistant construction for installation in harsh environments
- ▶ ~10 hours of runtime off internal backup power
- ▶ Ultra low power consumption

SDI-12 Tipping Bucket Interface

Reduce Rain Data Errors : This simple and compact SDI-12 Interface converts any* Tipping Bucket into a 'smart SDI-12 sensor' that computes daily & annual accumulation. The SDI-TB has an internal backup power source and can be programmed to compensate for heavy rainfall.

▶ 'Smart' Interface with Heavy Rainfall Compensation for Most Tipping Buckets

The SDI-TB can be programmed to compensate for rainfall lost due to heavy rainfall causing "outsplash" especially when using a tipping bucket without a siphon.

▶ Improved Reliability

The SDI-TB is compact and can be easily mounted inside most tipping buckets. This eliminates the need for long wires (from the tipping bucket to the SDI logger) susceptible to noise,

▶ Programmable Daily & Annual Resets

The SDI-TB has an internal RTC that can be used to automatically compute yearly and daily accumulations.

▶ Rechargeable Backup Power

The SDI-TB can run off its internal rechargeable backup power in case SDI power is lost. All crucial functions of the SDI-TB, like measuring rainfall and the internal RTC, can run for up to 10 hours without SDI-12 power.

▶ Low Power

The SDI-TB draws about 100µA and has been optimized to run on a shoe-string power budget.

▶ Compact Rugged, Water Resistant

The SDI-TB is compact and encapsulated in a water-resistant epoxy compound for installations in humid environments.

▶ See SDI-TB manual for details and list of SDI-12 commands



Tipping
Bucket
Interior
with SDI
Interface