

## Rain Gauge Tipping Bucket

### TR-525-U-S Series Rainfall Sensor



#### Description

The TR-525-U-S is a remote rain gauge that measures liquid precipitation. It utilizes a unique siphoning mechanism that allows an extended range of accuracy. This system allows control of the "flow rate" of accumulated precipitation. This metering geometry assures higher levels in both accuracy and repeatability during periods of extremely heavy rainfall.

The TR-525-U-S is a freestanding receptacle with an open top, called the collector, which allows rainfall to enter. The collector is specially designed to prevent splash-out and overflow, two possible causes for loss of accuracy during extremely heavy rainfall events.

Collected water is siphoned into a mechanical device, the tipping bucket style rain gauge. The tipping bucket then incrementally measures the rainfall accumulation and causes a momentary closure of a switch. As water is collected, the tipping bucket fills to the point that it tips over. This action empties the bucket in preparation for additional measurement. Water discharged by the tipping bucket passes out of the rain gauge with no need for emptying.

#### Features & Benefits

- Unique siphoning technique allows for wide accuracy
- Interfaces with virtually all data acquisition systems
- Knife-edge collector optimizes rainfall catch
- Exceptional splash-out protection improves accuracy in high winds
- Easy installation and maintenance
- All aluminum exterior
- Integrated bubble level

#### Specifications

Resolution:	0.01" English, 0.2 mm (optional)
Accuracy:	0-10 in. (254 mm) per hour; +\ -2% 10-20 in. (508 mm) per hour; +\ -3%
Range:	27" (700 mm) per hour
Siphon starting threshold:	<0.01" (<0.254 mm)
Collector diameter:	8.00" (203 mm) with knife-edge
Funnel depth:	>6.5" (165 mm)
Splash out protection:	>4" (50 mm)
Operating Temp with heater:	32° to 158° F (0° to 50° C)
Storage Temp:	-40 to 185° F (-40 to 70° C)
Humidity Limits:	0 to 100%
Weight:	1.8 lbs
Height:	11.5" (292 mm)
Cable:	10', 24 gauge 2 conductor
Switch:	Momentary potted reed switch
Switch rating:	30 VDC @ 2 A, 115 VAC @ 1 A
Switch Closure Time:	135 ms
Bounce Settling Time:	0.75 ms
Pivot:	Ground bronze pivots with hardened stainless steel shaft
Bucket:	Black PP injection molded
Level:	Integral Bubble Level
Warranty:	3 years

#### Installation & Maintenance

Installation consists of attaching the three sensor support legs to a firm platform (such as our MB-525 Pole Mounting Base). Pole mounting on the mast of a weather station is available by securing to the included side bracket.

Maintenance consists of routine cleaning of debris from the filter screen, and occasional calibration verification with our FC500 Field Calibration Kit.

#### Ordering Information

Model #: TR-525-U-S  
Description: Rain Gauge, 8.00" collector, English, Siphon  
(Please specify for calibration for Metric Calibration)

#### Optional Parts / Accessories

HOBO Pendant Datalogger  
MB-525 Pole Mounting Base  
FC-500 Field Calibration Kit  
BB-525 Bird Repellent  
HT-525 Heater, 120 VAC