



# Texas Electronics, Inc.

The Gold Standard in Weather Instrumentation Since 1957

## Rain Gauge Tipping Bucket

## TR-525S Rainfall Sensor



### Description

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

The TR-525S is a freestanding receptacle for measuring precipitation. It contains an open top, called the collector, which allows rainfall to enter. The 4" deep 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 (tipping bucket). 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 where 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

- Siphoning technique allows extended accuracy range
- Interfaces to virtually all data acquisition systems
- Knife-edge collector optimizes rainfall catch
- Exceptional splash-out protection reduces wind errors
- Easy installation and maintenance
- All aluminum exterior
- Integral Bubble Level

### Specifications

|                            |                                |
|----------------------------|--------------------------------|
| Resolution:                | 0.01" English                  |
|                            | 0.2 mm (optional)              |
| Accuracy:                  | 1.0% up to 12"/hr (305 mm/hr)  |
| Siphon starting threshold: | <0.01" (<0.254 mm)             |
| Collector diameter:        | 8.00" (203 mm) with knife-edge |
| Funnel depth:              | >7" (163 mm)                   |
| Splash out protection:     | 4" (50 mm)                     |
| Operating Temp:            | 32 to 125° F (0 to 50° C)      |
| Storage Temp:              | -40 to 160° F (-40 to 70° C)   |
| Humidity Limits:           | 0 to 100%                      |
| Weight:                    | 6 lbs. (2.7 kg)                |
|                            | 8 lbs. (3.6 kg) shipping       |
| Height:                    | 15" (381 mm)                   |
| Cable:                     | 25', 22 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:                     | Hardened SS Jewel & Pivot      |
| Bucket:                    | Black ABS 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 Mounting Base). Pole mounting is not recommended for this sensor.

Maintenance consists of routine cleaning of debris from the filter screen, and occasional calibration verification with our FC-525 Field Calibration Kit.

### Ordering Information

| Model # | Description  |
|---------|--|
| TR-525S | Rain Gauge, 8.00" collector, English, Siphon (please specify for metric calibration) |

#### Optional Parts / Accessories

|        |                               |
|--------|-------------------------------|
| HOBO   | Event Datalogger and Software |
| MB-525 | Pole Mounting Base            |
| FC-525 | Field Calibration Kit         |
| BB-525 | Bird Repellent                |
| HT-525 | Heater, 120 VAC               |
| Cable  | Additional Cable              |

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