

## TIPPING BUCKET RAINGAUGE

# Model TB300V

## Special points of interest:

- 300mm catch
- Accuracy not affected by rainfall intensity
- Bucket size: 0.2, 0.5 or 1mm
- Long term stable calibration
- Leaf filter resists blocking
- Optional internal Data Logger, with no external power requirement
- In-built discharge outlets at base for water collection and analysis
- Dual output signal for data collection and transmission
- World class meteorological instrument
- Easy to service with low maintenance requirement

## INTRODUCTION

The Hydrological Services Tipping Bucket Raingauge is recognised as the world standard for measuring rainfall and precipitation in remote and unattended locations.

The integrated syphon mechanism delivers high levels of accuracy across a broad range of rainfall intensities. Each unit consists of a collector funnel with leaf filter, an integrated syphon control mechanism, an outer enclosure with quick release fasteners, and base which houses the tipping bucket mechanism.

The unit includes dual output reed switches with varistor protection as well as dual rainfall discharge outlets for water collection and/or analysis.



**TB300V**



**Pole Mount  
Bracket Model  
TB334**



**Field Calibrator  
Model FCD-300**



**MLI-FL  
Data Logger**

## Inside this issue:

Special point of interest	<b>1</b>
Introduction	<b>1</b>
Photos	<b>1</b>
Operation	<b>2</b>
Specifications	<b>2</b>

**Designed & Manufactured  
By  
Hydrological Services Pty Ltd**

### Address:

48-50 Scrivener Street  
Liverpool, NSW, 2170, Australia  
Ph. 61 2 9601 2022 Fax. 61 2 9602 6971  
Web: [www.hydrologicalservices.com](http://www.hydrologicalservices.com)  
Email: [sales@hydrologicalservices.com](mailto:sales@hydrologicalservices.com)



## Distributed By:



## Operation

The bucket tips when precipitation of 0.2, 0.5 or 1.0 mm has been collected. A pulse from each tip is sensed by the reed switch and logged to a data logger. The dual reed switch can also transmit the pulse to a telemetry system.

The Tipping Bucket Raingauge can be used in conjunction with Hydrological Services data logger model ML1-FL. The logger is rugged and compact, it records the date and time of occurrence of tips from the raingauge up to 100,000 events with 1 Second Resolution can be stored in the ML1-FL's memory. The data is stored in a flash EPROM.



TB3 Base with optional  
ML1-FL

The ML1-FL fits inside the model TB300V Raingauge. Its compact design makes it ideal for incorporation into any piece of equipment where intelligent data acquisition and logging are required.

## Accessories

<u>Description</u>	<u>Part No.</u>
Data Logger	ML1-FL
RS232 to USB Converter	DL307
Field Calibration Device	FCD
TB3 Heater Kit	TB323
TB3 Pole Mounting Bracket	TB334

## Specifications

Receiver: 300 mm  $\pm$  0.8 diameter x 100 mm deep metal spun aluminium catch assembly, Powder coated.

Bucket capacity: 0.5 mm of rainfall.

Sensitivity: one tip.

Maximum intensity: 700 mm / hr.

Calibration accuracy:

TB3 bucket capacity	Intensity	Accuracy
0.2, 0.5 & 1.0 mm	0-250 mm/hr	$\pm$ 2 %
	250-500 mm/hr	$\pm$ 3%

Long term stable calibration.

Humidity: 0 to 100 %

Temperature: - 20 to +70°C

Contact system: dual reed switches potted in soft silicon rubber with varistor protection.

- Max Capacity: 24 Volts (0.5 amp max.)
- Resistance: Initial contact resistance 0.1 OHMS
- M.T.B.F:  $10^8$  to  $10^9$  Operations

Syphon: 0.4 mm (12 ml) capacity of rainfall - made from brass with a non hydroscopic outer case.

Bucket: Bucket assembly balanced to  $\pm$ 0.05 gms.

Base: Cast aluminium.

Level: bulls eye level adhered to aluminium base.

Mounting holes: three 10 mm diameter mounting holes with 234 PCD cast in feet attached to outside diameter of base.

Drain fittings: to attach 12 mm inside diameter tubing, to catch rainfall after passing through buckets.

Pivots: ground sapphire pivots with hard stainless steel shaft.

Insect covers: stainless steel mesh on all openings to prevent insects and ants entering gauge.

Outer enclosure: keyed to enable the release of the outer enclosure without the need for the removal of the three securing screws.

Height / Weight: 415mm / 3.4 kg

Packed  
Dimensions: 5 kg 0.04m<sup>3</sup>