

TIPPING BUCKET RAINGAUGE

Model TB4

Special points of interest:

- World standard 200mm catch
- Accuracy not affected by rainfall intensity
- Bucket sizes: 0.01 inch/ 0.2mm/ 0.5mm/ 1.0mm
- 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.



TB4 Raingauge



Pole Mount Bracket Model TB334



Field Calibrator Model FCD



Bird Guard Model TB333



MLI Data Logger

Inside this issue:

Special point of interest	1
Introduction	1
Photos	1
Operation	2
Specifications	2

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Operation

The bucket tips when precipitation of 0.01 inch, 0.2mm, 0.5mm or 1.0mm 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. 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's memory. The data is stored in a flash EPROM.



TB4 Base with optional ML1-FL



TB4 Base (1mm Bucket) with optional ML1-FL

The ML1 fits inside the model TB4 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/ML1-FL
RS232 to USB Converter	DL307
Field Calibration Device	TB320 / FCD
TB3 Bird Guard	TB333
TB3 Pole Mounting Bracket	TB334

Specifications

Receiver: 200 mm ± 0.3 diameter heavy duty cast aluminium, Powder coated.

Bucket capacity: Plastic: 0.2 mm, 0.5 mm, 0.01 inch of rainfall.
Metal: 1.0 mm of rainfall

Sensitivity: one tip.

Maximum intensity: 700 mm / hr.

Calibration accuracy:

TB4 bucket capacity	Measuring Range	Accuracy
0.1 mm, 0.2mm , 0.01", 0.5mm & 1.0 mm	0-250mm/hr	± 2 %
	250-500 mm/hr	± 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: 10⁸ to 10⁹ Operations

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

Bucket: two types of buckets, synthetic ceramic coated brass bucket balanced to ±0.05 gms for 1mm bucket only , and injection moulded non hydro-scopic plastic ABS UV stabilised balanced ±0.05 gms for 0.2mm, 0.5mm and 0.01".

Base: injection moulded non-hydroscopic ABS plastic UV stabilised.

Level: bulls eye level fitted to base.

Mounting holes: three 10 mm diameter mounting holes with 117 mm p.c.d. 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: two stainless spring steel rolling bearings, clamped at 90 degrees to bucket stainless spring steel axle.

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: 330mm / 2 kg

Packed Dimensions: 4 kg 0.03m³