



HASTINGS DATA LOGGERS

Australia's portable data logging specialists

DATA SHEET

Tinytag Plus Tipping Bucket Rain Gauge (0-51mm per interval)

TGP-9901

Issue 1

23rd September 2011
E&OE

The workhorse of the Gemini range the Tinytag Plus data loggers are housed in robust, waterproof (IP68) rated cases that are designed for use in harsh and outdoor applications

The TGP-9901 is a Tinytag plus count logger educated to record rainfall from a Tipping Bucket Rain Gauge

Popular Applications

- Monitoring of rainfall in environmental situations



Features

- Rainfall recorder
- 64,000 reading capacity
- Lightweight and portable
- 8 bit resolution
- Unique serial number
- Waterproof case
- Non volatile memory
- User-replaceable battery





Tinytag Plus Rain Gauge Logger (0-51mm per interval) TGP-9901

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Features

Total Reading Capacity	64,000 readings
Memory type	Non Volatile
Trigger Start	Magnetic Switch
Delayed Start	Relative / Absolute (up to 45 days)
Stop Options	When full After n Readings Never (overwrite oldest data)
Reading Types	Actual
Logging Interval	1 sec to 10 days
Offload	While stopped or when logging in minutes mode

Reading Specification

Rainfall

Reading Range	0-51 mm per interval
Sensor Type	Rain Collector II Tipping Bucket
Reading Resolution	0.2mm
Sensor Accuracy	±4%, ±1 rainfall count between 0.2mm and 50mm per hour

Physical Specification

IP Rating	IP68 waterproof (see notes)
Operational Range*	-40°C to +85°C (-40°F to +185°F)
Case Dimensions	
Height	78mm / 3.07"
Width	50mm / 1.97"
Depth	34mm / 1.34"
Weight	110g / 3.88oz

*The Operational Range indicates the physical limits to which the unit can be exposed, not the reading range over which it will record.

Sensor Dimensions

Height	240mm / 9.45"
Diameter	165mm / 6.50"
Collection area	2000mm ² / 7.87"
Cable length	12m / 40'

Calibration

The Rain Collector II is calibrated at the factory so the bucket tips for each 0.2mm of rain. To adjust the calibration slightly use a 5mm spanner to rotate the adjustment screws which are located underneath the bucket.

The embossed guide shows how far to rotate to effect a 1% and 2% change. Moving the screws in the positive direction causes the bucket to tip more times for a given amount of water.

To check the accuracy compare readings taken to a tube type rain gauge with an aperture of at least 102mm located directly next to the Rain Collector.

Required and Related Products

One of the following pieces of software:

SWCD-0040: Tinytag Explorer software or
SW-0500: Easyview Pro software
and a CAB-0007-USB: Tinytag Ultra/Plus/View USB Download Cable

Further related products:

CAB-0007: Tinytag Ultra/Plus/View Serial Download Cable
SER-9500: Tinytag Data Logger Service Kit
ACS-6000: Trigger Start Magnet

Notes

Battery Type SAFT LS14250 or LST14250;
Tekcell SBAA02P

The logger will operate with other ½AA 3.6V Lithium (Li-SOCI2) batteries but performance cannot be guaranteed.

Replacement Interval Annually

Before replacing the battery the data logger must be stopped.

When replacing the battery, wait at least one minute after removing the old battery before fitting the new one.

Data stored on the logger will be retained after a battery is replaced.

If used at low temperatures the data logger should be allowed to warm to room temperature before it is opened to avoid condensation forming inside the unit.

The IP68 rating is valid only when the unit's connector cap is fitted and the unit is orientated with it's hanging tab uppermost.

Trigger Start

The trigger start option allows a unit to be set up as required and then started at a later time with a magnet. The position of the trigger start switch is indicated by the ••• marking on the back of the logger. When the "Wait until trigger event" option is selected in the Tinytag Explorer software the green LED on the unit will flash once every eight seconds to indicate that it is waiting to start. When a magnet is held next to the ••• marking, the green LED will light to indicate the switch is closed. After the magnet has been removed, the green LED will flash every four seconds to indicate that the logger is recording.

Rain Collector Maintenance

For greatest accuracy clean several times a year: after dry periods and before expected rainy periods. Operation can be affected by the accumulation of dirt & dust. Spiders and insects can make their homes in the base and birds have been known to nest in the cone.

To clean thoroughly:

- Separate the cone from the base
- Use warm soapy water and a soft cloth to clean debris from the cone, cone screen and buckets.
- Use a pipe cleaner to clean the funnel hole in the cone and the drain screens in the base.
- When all parts are clean, rinse with clear water.
- Reattach the cone and replace the screen.

Approvals

This equipment complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause any harmful interference, and (2) the device must accept any interference received, including interference that may cause undesired operation.

Gemini Data Loggers (UK) Ltd. operates Quality and Environmental Management Systems which conform to ISO 9001 and ISO 14001. The scope of these systems covers the design, manufacture and servicing of data logging and associated equipment, including software.

