Gemini
DATA LOGGERS

Tinytag

Tinytag Ultra 2 Temperature/Relative Humidity Logger (-25 to +85°C/0 to 95% RH)

TGU-4500

Issue 9
21st April 2011
E&OE

Tinytag Ultra 2 data loggers are ideally suited to monitor interior applications where there is little or no moisture.

Tinytag Ultra 2 data loggers have a high reading accuracy and resolution, large memories, a fast offload speed and a low battery monitor.

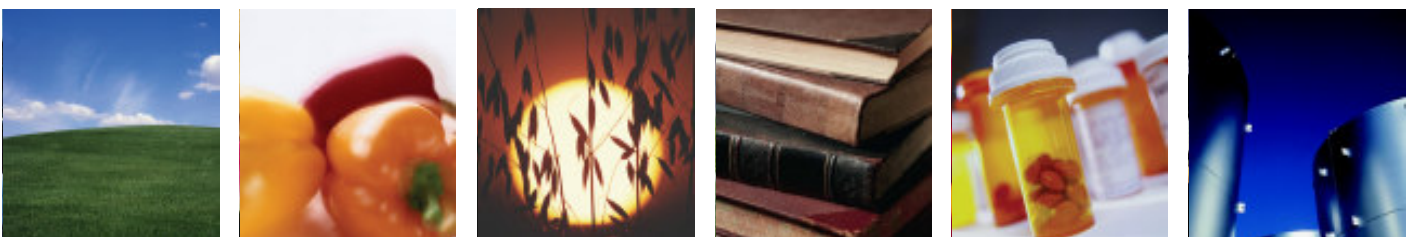The TGU-4500 is a self contained temperature and humidity recorder.

Popular Applications

- Office and housing monitoring
- Pharmaceutical manufacture
- Dry food storage
- Museum display and repository
- Incubators

Features

- Temperature and relative humidity recorder
- 32,000 reading capacity
- High accuracy
- High reading resolution
- Fast data offload
- Splash-proof case
- Low battery monitor
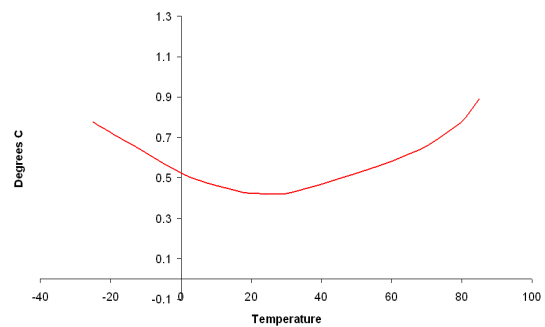- User-replaceable battery

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Features

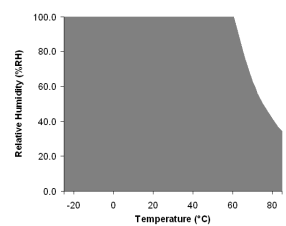|	
Total Reading Capacity	32,000 readings
Memory type	Non Volatile
Trigger Start	Magnetic Switch (from SN 602211)
Delayed Start	Relative / Absolute (up to 45 days)
Stop Options	When full
	After n Readings
	Never (overwrite oldest data)
Reading Types	Actual, Min, Max
Logging Interval	1 sec to 10 days
Offload	While stopped or when logging in minutes mode
Alarms	2 fully programmable; latchable

Reading Specification

Temperature

Reading Range	-25°C to +85°C (-13°F to +185°F)
Sensor Type	10K NTC Thermistor (Internally mounted)
Response Time	20 mins to 90% FSD in moving air
Reading Resolution	0.01°C or better
Accuracy	

Relative Humidity

Reading Range	0% to 95% RH
Sensor Type	Capacitive
Accuracy	±3.0% RH at 25°C / 77°F
Reading Resolution	Better than 0.3% RH
Sensor Location	Externally mounted
Response Time	10 seconds to 90%

RH Sensor Working Range

The working range for the RH sensor is shown in terms of relative humidity / temperature limits.

Physical Specification

IP Rating	IP53 splash proof (see notes)
Operational Range*	-40°C to +85°C (-40°F to +185°F)
Case Dimensions	
Height	72mm / 2.83"
Width	60mm / 2.36"
Depth	33mm / 1.30"
Weight	55g / 1.94oz

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

Notes

Battery Type	SAFT LS14250 or LST14250; Tekcell SBAA02P

The logger will operate with other ½AA 3.6V Lithium (Li-SOCl2) 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 IP53 rating is valid only when the unit's connector cap is fitted and the unit is orientated with it's hanging tab uppermost.

If moisture forms on the unit's RH sensor readings will become unpredictable. Once the sensor has dried out, and provided no residue is left behind, the unit should return to normal reading within 30 minutes.

Any dust or residue that is allowed to build up on the RH sensor will affect the unit's reading accuracy.

The sensor may be cleaned with de-ionised water or pure isopropanol, but not with abrasive detergents, as scratches or residue will affect the accuracy.

The RH sensor will resist small amounts of the following chemicals: formaldehyde, ammonia, carbon monoxide, sulphur dioxide, ethylene oxide, hydrogen chloride, hydrogen fluoride, hydrogen peroxide, nitrogen dioxide, methyl chloride, chlorine, freon, methanol, ethanol, isopropanol and ozone.
It also offers resistance to ultraviolet rays.

Salt solutions may cause permanent damage as crystals forming within the porous layers affect moisture levels there.

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.

data sheet

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Calibration

This unit is configured to meet Gemini's quoted accuracy specification during its manufacture.

We recommend that the relative humidity channel should be checked once every six months, and the temperature channel annually, against a calibrated reference meter.

A UKAS traceable certificate of calibration can be supplied for an additional charge either at the point of purchase, or if the unit is returned for a Service Calibration.

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.

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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

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