

## Tinytag Ultra 2 Dual Channel Internal/External Temperature (-40 to +85°C/-40 to +125°C)

### TGU-4510

#### Issue 3

17th February 2006  
E&OE

The 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-4510 has an integral sensor and a connection for an external probe (not included) that makes the unit ideal for comparing ambient and process conditions.

#### Popular Applications

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



#### Features

- Dual channel temperature 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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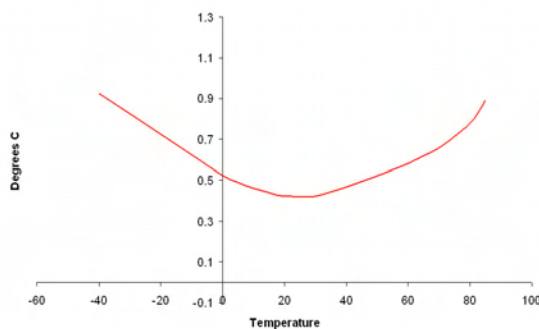
## Features

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

## Reading Specification

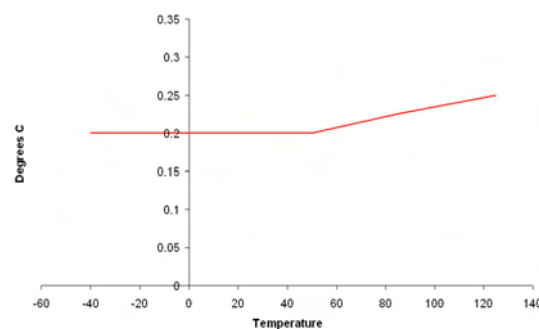
### Internal Temperature

<b>Reading Range</b>	-40°C to +85°C (-40°F to +185°F)
<b>Sensor Type</b>	10K NTC Thermistor (Internally mounted)
<b>Response Time</b>	20 mins to 90% FSD in moving air
<b>Reading Resolution</b>	0.01°C or better
<b>Accuracy</b>	



### External Temperature

<b>Reading Range</b>	-40°C to +125°C (-40°F to +257°F)
<b>Sensor Type</b>	10K NTC Thermistor (External probe)
<b>Reading Resolution</b>	0.02°C or better
<b>Temperature Stability</b>	±0.01°C/C change from 25°C
<b>Logger Accuracy*</b>	



\*The overall accuracy of the external channel will depend on the probe used with the unit.

## Physical Specification

<b>IP Rating</b>	IP54 splash proof (see notes)
<b>Operational Range*</b>	-40°C to +85°C (-40°F to +185°F)
<b>Case Dimensions</b>	
<b>Height</b>	72mm / 2.83"
<b>Width</b>	60mm / 2.36"
<b>Depth</b>	33mm / 1.30"
<b>Weight</b>	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

<b>Battery Type</b>	SAFT LS14250 or LST14250; Tekcell SBAA02P
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The logger will operate with other 1/2AA 3.6V Lithium (Li-SOCl<sub>2</sub>) batteries but performance cannot be guaranteed.

<b>Replacement Interval</b>	Annually
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Before replacing the battery the data logger must be stopped.

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 IP54 rating is valid only when the unit's connector cap and probe are fitted and the unit is orientated with it's hanging tab uppermost.

## Calibration

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

We recommend that the calibration of this unit should be checked 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.

This product is manufactured by Gemini Data Loggers (UK) Ltd to BS EN ISO9001:2000 (Certificate No. 6134) and is approved to EN61326:1998 with any standard leads or probes supplied.



data sheet

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### Required and Related Products

To use this data logger you will also require:

One of the following probes:

PB-5001-1M5/3M/5M: Standard Thermistor Probe or  
PB-5002-1M5/3M/5M: Fast Response Thermistor Probe or  
PB-5003-1M5: Surface Thermistor Probe

The following software:

SWCD-0040: Tinytag Explorer software (version 4.2 or above recommended).

and a

CAB-0007: Tinytag PC Serial Download Cable

#### Further related products:

CAB-USB: USB to Serial Converter  
SER-9520: Tinytag Ultra Service Kit

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