

## Tinytag Plus Radio Single Input Voltage Data Logger



a logging products designed for outdoor and industrial use.  
that forms a robust data network that allows a user to see  
across a LAN or the Internet.

w voltage data logger that is ideal for recording the

### Popular Applications

For custom sensor monitoring, including:

- Pressure
- Flow rate
- Light
- Power (with a current clamp)

## Tinytag Plus Radio Single Input Voltage Data Logger

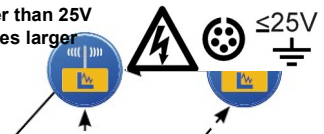
### Reading Specifics

**Reading Range** is a battery powered, voltage input radio data logger that can read 0V to 25V DC.  
**Logger Accuracy**  $\pm 0.2\%$  of reading  $\pm 0.02V$   
**Logger Resolution** Better than 1mV  
**Maximum Input** as part of a Tinytag Connect system that requires a Connect version of the Tinytag Explorer software.  
**Input Impedance**  $> 1M\Omega$

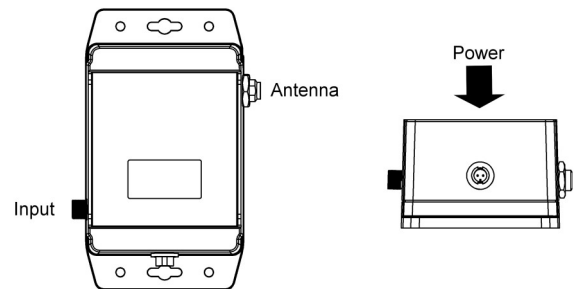


### Warnings

- the configuration of the software and the configuration of the receiver, the logger is turned on and will establish itself as part of the mesh network the system migrates.
- This logger should only be connected to the inputs specified above, otherwise damage to the logger may occur.**
  - Do not connect to voltages greater than 25V relative to earth or isolated supplies larger than 25V.



### Connections



The logger can be fitted with a 25V input lead (supplied) or an ACS-9703 5-Pin Plug.

The logger is then set to record at a user-defined logging interval, anything from once every 10 seconds to once every 10 days. At the end of every logging interval, the logger will transmit the number of counts it has recorded during the interval.

### Table 1: 5-Pin Plug Function

The data recorded by the logger is stored on the computer running the system. A Windows service (called the radio network) receives this data and transmits it across a LAN or the Internet through the Tinytag Explorer Connect software. The logger cannot communicate with the radio network for any reason, it will record locally until communications are restored.

The Sense line is a signal line that changes state when a reading is taken. The logger can be programmed with alarms. Warning e-mails can be sent when the line is triggered. A reading is being taken (the line goes back to 0V when the reading cycle is complete). Data recorded by the system can be viewed as a graph or as a table of readings. There are also summary views containing information about the recording run and a daily min/max view.

The Sense line does not need to be connected for the data logger to record data from multiple devices recording at the same time can be combined into a single graph using Tinytag Explorer Connect.

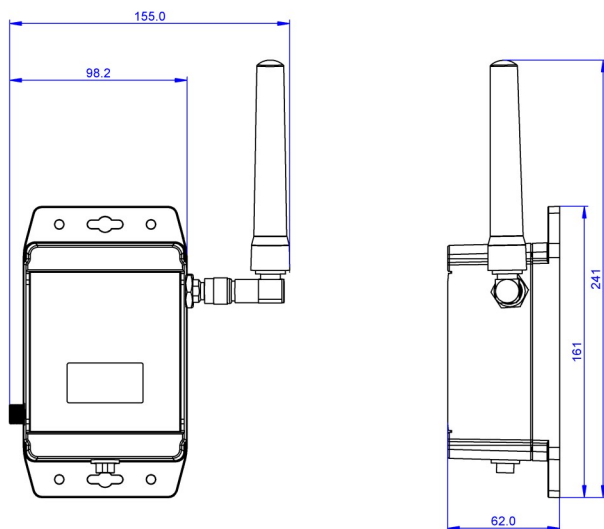
Data can be exported from the software as a graph image, for use in report writing, or as a data table, for further analysis in third-party spreadsheet programs.

## Tinytag Plus Radio Single Input Voltage Data Logger

### Physical Specification

|  |  |
|--|--|
| <b>Logging Interval</b>                    | 1 minute to 10 days                              |
| <b>Off-line storage Capacity*</b>          | 2 weeks typical, at a 10 minute logging interval |
| <b>Operational Range*</b>                  | -20°C to +55°C                                   |
| <b>Case Dimensions (excluding antenna)</b> |  |
| <b>Length/Height</b>                       | 155mm / 6.1"                                     |
| <b>Width</b>                               | 98.2mm / 3.9"                                    |
| <b>Depth</b>                               | 62mm / 2.44"                                     |
| <b>Weight (inc. antenna)</b>               | 54g / 1.94oz                                     |

\*The Operational Range indicates the physical limits to which the unit can be used. Communications with the gateway service are interrupted, by a power failure to the computer running the gateway service or an obstacle causing a



mounting bracket can be seen when attaching the unit to a wall using the supplied screws.

### Radio Specification

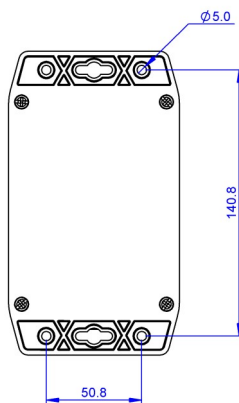
|   |   |
|---|---|
| The logger can be used indoors or placed on its back on a flat surface, such as a wall. |   |
| <b>Radio Frequency</b>  | EU 869.88MHz<br>AUS 917.8MHz  |
| <b>Radio Power</b>  | EU <5mW (-)<br>The logger's back-plate has mounting holes for screws. |
| <b>Radio Range</b>  | AUS <3mW (-)<br>200m, typ.  |
| <b>Radio License</b>  | SRD license   |

The logger uses FSK modulation, with +/-32 dBm.

These frequencies will easily penetrate most buildings, but may be reduced to between 30% and 80% (however, this may be increased, maybe up to double the nominal range, by using external antennas and roofs etc.).

Although the radio waves cannot penetrate a building with a solid metal roof (e.g. iron sheds etc.) the signal will often still get through windows and air vents etc. The logger can also be positioned on a non-metallic surface, such as a wooden wall, where the signal will not be so good. However, the logger can be used in a mesh network, where the signal can be relayed from one logger to another, for example.

The advantage of the mesh network is that long ranges will often be able to relay data though the network.



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### Power Information

#### Battery Power

**Battery Type** 2 x Duracell Industrial ID1400  
C (LR14) 1.5V (supplied)

The logger will operate with other C cell batteries but performance cannot be guaranteed.

**Battery Life** Typically 12 months

When the logger's batteries start to run flat, a low battery warning will be displayed in the Tinytag Explorer Connect software and the LED on the front of the logger will flash red. The low battery warnings will start to flash when the logger has approximately two weeks of battery power remaining.

Before replacing batteries the logger must be turned off.

Alkaline batteries should always be replaced in pairs.

Data stored in the radio system will be retained after batteries are replaced.

**A lithium battery powered version of the logger is also available, that provides a wider working temperature range and a longer battery life. Please contact your supplier for further details.**

#### Mains Power

The logger can also be powered from the mains using a plug-in power supply.

If the power supply is interrupted, the logger's batteries will power the logger and continue recording until the supply is restored.

**Note: This logger should only be used with an ACS-0044 Tinytag Plus Radio power supply.**

### Calibration

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

We recommend that the calibration of this unit should be checked annually against a calibrated reference meter.

A 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.

### Warranty

This product carries a manufacturing defects warranty of 12 months from the date of purchase. Units returned under warranty will be repaired or replaced at the manufacturer's discretion. This warranty does not cover mishandling, modification or battery replacement and is subject to our standard Terms and Conditions of Sale, a copy of which can be found at [www.tinytag.info](http://www.tinytag.info).