Tinytag Plus Radio Four Input Voltage Data Logger

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

ur input low voltage data logger that is ideal for recording

Popular Applications

For custom sensor monitoring, including:

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

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Reading Logger Inputs

The TGRF-4743 is a battery powered, four input voltage radio data logger that can record voltages up to 2.5V DC.

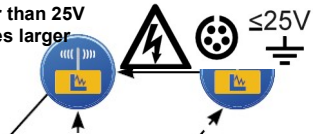
Reading Range	0 to 2.5V DC (x4)
Logger Accuracy	±0.2% of reading ±0.01V
Logger Resolution	Better than 100µV
Max Logger Input	2.6V
Input Impedance	1MΩ

It is supplied as part of a Tinytag Radio Connect system that requires a Radio Connect version of the Tinytag Explorer software.

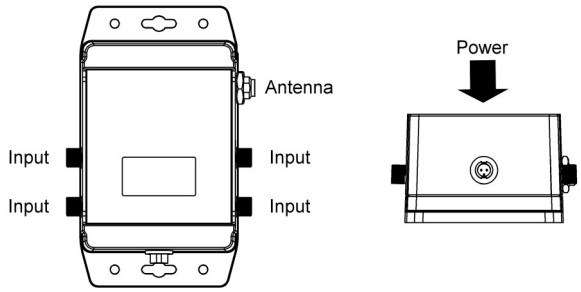
Warnings

After the installation 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 creates.

- **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 used with a CAB-3239 Tinytag Voltage 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 2 minutes to once every 10 days. At the end of every logging interval, the logger will transmit the number of counts it has recorded during that period.

CAB-3239	5-Pin Plug	Function
Red	A	Not Connected
Green	B	Not Connected
White	C	Sense Line
Black	D	Common/0V
Yellow	E	Signal Input

The data recorded by the logger is stored in the radio gateway and this is then viewed by a Windows service (called the radio gateway) on a computer running the system across a LAN or the Internet through Tinytag Explorer Connect software.

If the logger cannot communicate with the 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 limits are exceeded. The line goes from 0V to +3.3V whilst 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.

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.

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Physical Specification

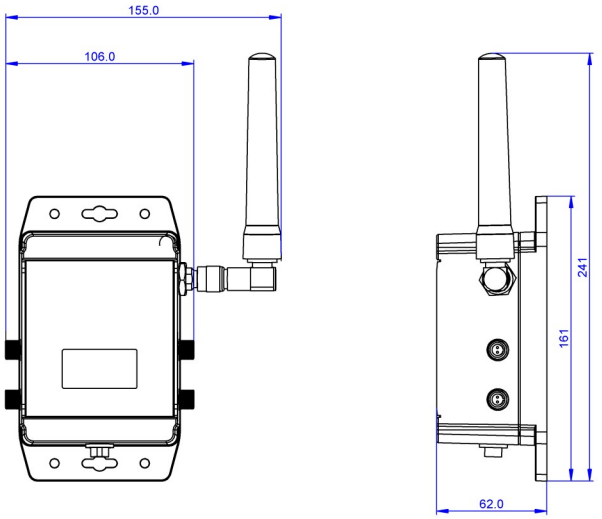
Logging Interval	1 minutes to 10 days
Off-line storage Capacity*	2 weeks typical, at a 10 minute logging interval
Operational Range*	-20°C to +55°C
Case Dimensions (excluding antenna)	
Length	241mm / 9.49"
Width	155mm / 6.10"
Depth	62mm / 2.44"
Weight (inc. antenna)	678g / 23.93oz

Data logging can be set to record in intervals of once every 2 minutes or greater (by default the logging interval is set to once every 10 minutes).

Wireless communications are good and data is transmitted immediately and stored by the gateway service.

*The Operational Range indicates the physical limits to which the unit can be exposed.

When communications with the gateway service are interrupted, by a power failure to the computer running the gateway service or an obstacle causing a



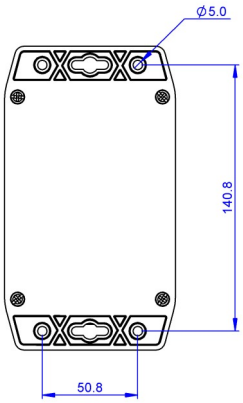
can be used to send SMS messages using th

Mounting/Positioning Instructions

Radio Specification

The logger can be wall mounted or placed on its back on a flat surface such as a shelf.

The logger's back-plate has mounting holes, as shown.



Radio Frequency	**EU**	869.88M
	AUS	917.8MH
Radio Power	**EU**	<5mW (-
	AUS	<3mW (-
Radio Range		200m, ty
Radio License		SRD lice

The logger uses FSK modulation, with +/-32 k

These frequencies will easily penetrate most be reduced to between 30% and 80% (howev increased, maybe up to double the nominal ra and roofs etc.).

Although the radio waves cannot penetrate a iron sheds etc.) the signal will often still get th windows and air vents etc.

The logger can also be positioned on a non-conductive flat surface, such as a desk or a shelf, with its antenna positioned vertically, with no loss of performance.

These frequencies are very slightly absorbed problem, but the signal will not get through a fruit or bottled water, for example.

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

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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**.