



Tinytag Data Loggers
Gathering Quality Data



**RADIO DATA
LOGGING SYSTEM
PRODUCT GUIDE**

Tinytag Radio System

Cost-effective monitoring using wireless communications



The Tinytag Radio Data Logging System is a monitoring solution which automatically gathers data from an application using wireless communications. Direct access to data is available from the convenience of the user's own desk. Information can be viewed on multiple PCs across a LAN, or remotely across the internet. Alarm warnings can be sent when the value being monitored goes out of specification. The System is easy to set up and use; site surveys are rarely necessary and specialist installation is not required.

- Easy to set up and use
- Ideal for larger sites and applications
- Labour saving (no manual downloading required)
- Fast access to data
- Alarm notifications allow immediate corrective action

Monitoring applications

Radio data loggers in the range record temperature, relative humidity, low voltage, current and count. The most widely used units record temperature, or temperature and relative humidity, in building monitoring and storage applications including warehouses, fridges and freezers. Loggers with probes that can record high temperatures for oven and process monitoring, and very low temperatures for cryogenic applications, are also available. Radio loggers which monitor voltage, current and count inputs are ideal for use with third party sensors to record properties such as pressure, flow rates and footfall.

How the Tinytag Radio Data Logging System works

The System consists of a receiver connected to a computer (across a LAN or via USB) running a Windows Service called the Radio Gateway which manages the System, and a number of radio data loggers which self-configure to form a robust mesh network. When the loggers are turned on, they find their place in the mesh network automatically and work together to transmit data back to the Radio Gateway.

If a logger cannot send data directly to the receiver, the mesh network will route it automatically via other units. If a logger is unable to communicate with the Radio

Gateway, due to a power cut or a temporary obstruction, it will store data locally until communications are restored, at which point it will then transmit its data. Loggers can be programmed with alarm settings, which if exceeded can generate e-mail warnings to alert users to take corrective action.

Multiple receivers can be connected to a System to enable isolated parts of the same site, or a number of remote sites, to be monitored simultaneously. Data from other stand-alone Tinytags, such as Energy and CO₂ loggers, can be combined with Radio System data for viewing if required.

Plus Radio loggers are also ideal for use in dynamic operations. For example, in distribution centres loggers can be fitted to monitor temperature in refrigerated delivery vehicles, storing data locally while the vehicle is out and then automatically offloading it once returned to the depot and within range of the mesh network.

Choosing the correct data logger

Two radio data logger models are available: Tinytag Plus Radio loggers are rugged, weatherproof units suitable for outdoor, industrial and warehousing applications, while Tinytag Ultra Radio loggers are designed for discreet indoor monitoring in areas such as offices, museums and galleries. Both types of logger can be mixed and matched within an application.

Tinytag Explorer Radio Software

Tinytag Explorer is the versatile and easy to use Windows program used to set up the loggers and view the data. During set up logging intervals, alarm settings, logger names and channel names can all be specified by the user. Loggers can be grouped together for a specific application or location, making it easy to manage a System containing a large number of devices.

The software shows the status of each unit, alarm warnings and low battery indicators. It clearly presents data in graphs and tables which can easily be copied and pasted, or exported, into standard software packages to create reports and presentations.

Key Features and Benefits

Ease of use: simply install the software, run a brief set up and then connect the receiver and switch on the loggers; the system will then self-configure to allow data to be viewed and the loggers managed.

Flexibility: if loggers are moved or added as requirements change, the mesh network automatically adjusts itself. There is no limit to the number of loggers the Radio System can support.

Robust communications: loggers have a line of sight range of up to 200 metres and communicate with each other to find an optimal data path to the Radio Gateway, routing around obstructions and obstacles automatically.

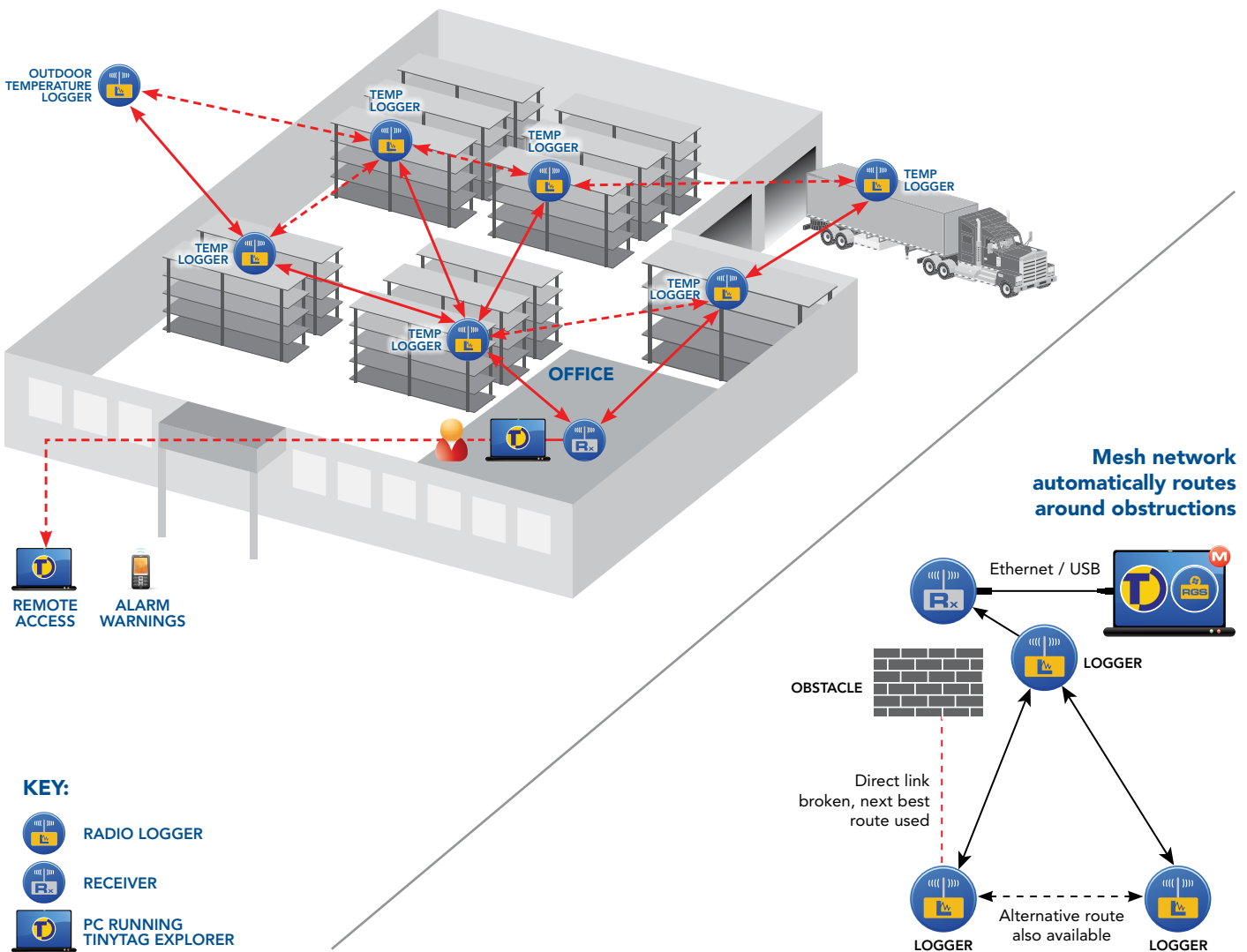
Excellent data integrity: in the event of a communications problem, loggers will store data locally and then transmit it once communications are restored. Loggers can typically store two weeks of recorded data with their default settings.

Alarm warnings: the loggers have user-programmable alarms. An active alarm is displayed on the logger itself and as a flashing icon in the software. Alarm warnings can also be sent by email, enabling corrective action to be initiated.

Optional power sources: the loggers are powered by user-replaceable alkaline batteries with a typical life of one year. Lithium battery versions of the Plus Radio loggers, that operate over a wider temperature range and which can have a longer life, are also available. All radio loggers can be mains powered.

Integration options: data can be read from the System in a CSV format for integration into third party packages. A read-only Modbus interface is also available.

*Please note: this product is only for sale in the EU and Australia





Tinytag Ultra Radio Indoor Logger Product Specification

Mechanical

IP20 case
24mm x 120mm x 80mm (typical, excluding antenna)

Power

User replaceable battery, 2 x AA Alkaline batteries (LR6)
Typically 1 year battery life
This logger can also be mains powered

Operational Range

-20°C to +55°C

Radio

SRD licence-free, 869.88MHz (EU version)
Range 100m, typical (line of sight)
Power <3mW

Download and Interface Software

Tinytag Explorer (RF version)



Tinytag Plus Radio Industrial/Outdoor Logger Product Specification

Mechanical

IP67 case
155mm x 240mm x 62mm (typical, including antenna)

Power

User replaceable battery, 2 x C Alkaline batteries (LR14)
Typical 1 year battery life
This logger can also be mains powered

Operational Range

-20 to +55°C

Radio

SRD licence-free, 869.88MHz (EU version)
Range 200m, typical (line of sight)
Power <3mW

Download and Interface Software

Tinytag Explorer (RF version)

About Gemini Data Loggers

Gemini Data Loggers was established in 1984 and designs and manufactures the Tinytag range at its headquarters in Chichester in the UK. Gemini first produced the Tinytalk temperature data logger in 1992 and quickly expanded its range of products, now trading globally with a network of over 40 distributors. All hardware, firmware and software design and production is done in-house, which enables tight control, quality and flexibility to respond to customer needs. A Quality and Environmental Management System is in operation which conforms to ISO 9001 and ISO 14001. While the extensive range of off-the-shelf data loggers and probes suit most requirements, Gemini's engineering team can develop custom solutions adapted to the requirements of your application.

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