# Eltek TU1111 – User Instructions for GD48: RH, Temperature and Particulates transmitter

## Product Summary

The GD48 is a self contained mains powered, indoor transmitter with battery backup. The GD48 is compatible with all previous and existing GenII transmitters and loggers.

## Key Features

The transmitter incorporates a combined RH and ambient temperature sensor and a particulates sensor.

## GD48 common Specification

| | |
|---|---|
| Transmission Frequency: | 434·225MHz (other frequencies available) |
| Compliant to: | EN300-220 |
| Operating temperature: | -10 to +55ºC |
| Operating humidity: | 0-100 %RH non condensing |
| DC input voltage and connector type: | 12VDC ±1V (reverse polarity protected) |
| Number of parameters presented: | 5 |
| Dimensions (excl. antenna & RH/Temp probe): | (H138 x W80 x D43) mm |
| Environmental rating: | IP20 |
| Weight (ex. MP12U power supply/charger): | 340g |

## Measuring Range and channel allocation

| | | | | |
|---|---|---|---|---|
| A | Temperature (RHT20E probe) | -30·0 – 65·0 °C | Resolution: Typical accuracy: | 0·1°C ±0·1°C for 20 to 50°C ±0·3°C for -20 to 70°C |
| B | RH (RHT20E probe) | 0·0 – 100·0 % RH | Resolution: Typical accuracy: | 0·1% ±1·5% RH (0 to 80% RH) ±2% RH (80 to 100% RH) |
| C | Particulate PM1 | 0·3 – 1·0 $\mu m$ particle count (0 to 1000 $\mu g/m^3$) | | |
| D | Particulate PM2·5 | 1·0 – 2·5 $\mu m$ particle count (0 to 1000 $\mu g/m^3$) | | |
| E | Particulate PM10 | 2·5 – 10 $\mu m$ particle count (0 to 1000 $\mu g/m^3$) | | |

## Power Requirements

In normal operation the unit is powered from a 12V centre negative power supply unit. An internal rechargeable lithium cell battery will provide in excess of 12 hours battery backup. A battery capacity indicator on the LCD display indicates remaining power. If the battery capacity indicator is not present or is flashing the transmitter will not be transmitting.
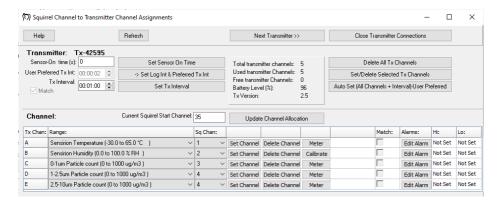
## Configuration Using Darca Software

The procedure assumes the Squirrel logger is configured and that the logging interval has been set. To gain access to the transmitter configuration socket

- Remove the 2 × M3 screws that retain the bottom plastic cover
- Withdraw the battery, but do not disconnect
- Note the orientation of the battery to ease reassembly
- Inside the enclosure, find the 3·5mm Jack configuration socket
- Connect an LCTX3 lead to the transmitter socket and to your computer

Open your Darca software, select **GenII Set up/Transmitter Set up** and follow instructions. For more detail refer to the user manual for your software. Once the software can communicate with the transmitter you will be shown a channel assignment window similar to that shown below.

Before assigning channels set the transmit interval. Do this either by manually entering the Tx interval (format is hh:mm:ss) or use the **Set Log & Preferred Tx In**t button option. The latter option will automatically optimise the transmission interval to the data logging interval.

From the window above you may select and enable channels as per your requirements. If the channel is to be logged then select an appropriate **Range** from the drop-down list, select a **Sq**uirrel **Chan**nel then press **Set Channel**.

Whilst connected to a transmitter you may use the **Meter** button to monitor live readings from the transmitter.

To add further transmitters of any type to the logger click **Next Transmitter** and repeat this process with the next transmitter.

When set up is complete click on **Close Transmitter Connections** and follow the on-screen instructions to send this configuration file to the logger.

Remove the jack from the configuration socket and reassemble the transmitter battery and base.

## Using the concealed test switch

Access to the test switch is via a small hole in the back panel of the transmitter. Using a small non-conductive device this switch can put the transmitter into a low power, standby, state or enable test transmissions for a short period.

| Function | Activate switch | LED sequence |
|---|---|---|
| Tx disable | 5 seconds | 5 fast flashes |
| Tx enable | 5 seconds | 1 continuous 5 second flash |
| Test transmissions, approx.. 5 sec interval for 2 minutes | 2 seconds | No indication |

In normal operation the transmitter will take a reading from the sensors and transmit that data. The display will cycle through current sensor values at a constant rate, but the sensor sampling rate depends upon the transmit interval. An LED on top of the transmitter will briefly flash when the transmitter radio is active.