

# Eltek TU1057 - GD22ALDM / GD34ALDM User instructions

## Product Summary

- The GD22ALDM and GD34ALDM are two transmitter products of the Eltek GenII telemetry system. There are no user controls on the transmitters.
- The GD22ALDM provides 2 inputs for connection to Type T or Type K thermocouple temperature probes.
- The GD34ALDM provides 4 inputs for connection to thermistor probes.
- The transmitters are rated IP40. This rating is an indoor location with no risk of water ingress or hazardous, combustible atmospheres.
- Both GD22ALDM and GD34ALDM are battery operated.
- The transmitters incorporate a bright RED flashing LED, on the front panel and an internal audible bleeper alarm for any input that enters an Alarm condition.

The Alarm condition is asserted when an input goes above or below a pre-configured threshold. The threshold values are held in the transmitter and set using Darca software. Thresholds can be set for the transmitter by launching Darca and configuring the transmitters in Transmitter Setup.

Transmitters are supplied with a pre-programmed electronic serial number. This is printed on the product base ident label, with a duplicate label within the transmitter case. The serial number is the only factory configured element of the transmitter. You must configure other transmitter settings as you install transmitters into the system.

Transmitter configuration includes setting the transmission interval, temperature sensor type (where relevant), and input (channel) enable. Configuration should only be set by qualified or trained personnel.

## Locating the Transmitter

Transmitters should be permanently located where possible in a clean and dry location away from metal objects and masonry so that radio communication range can be optimised. The tamper resistant wall mounting option type WBG can be used.

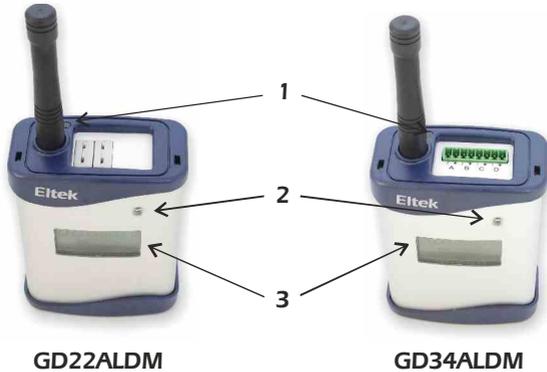
## Powering the Transmitter

The transmitter is powered by 4 x AA alkaline (non-rechargeable) batteries mounted in a carrier. They should provide greater than 1 year of operation. This is dependent on the transmitter interval that is being used. Batteries should be renewed only by qualified personnel and before the batteries are exhausted. This prevents the risk of battery electrolyte leakage and possible damage to the transmitter case that could lead to transmitter failure. If there are any signs of leakage in the battery carrier then the battery carrier must be replaced – do not attempt to clean or repair.

Use only high quality Alkaline batteries e.g. GP Super type LR6.

The battery condition can be viewed on the Transmitter LCD or interrogated remotely by using the buttons on the front panel of the logger or by using the Darca software.

# Display / indications for GD22ALDM or GD34ALDM



The front panel of the transmitter includes a multi-function LCD (3) and Alarm LED. (2)  
The LCD scrolls through the transmitter's enabled inputs and displays the input channel letter followed by the current value in °C and. For the GD22ALDM the input channel letters are A and B. For the GD34ALDM the inputs are A, B, C and D.

First, channel letter is displayed:



This is followed by the current value:



If the battery gauge frame flashes, imminent battery failure can be expected – indicating that battery replacement should not be delayed. Ideally, change the batteries when 1 segment of battery gauge displayed.

## Alarm Format

The alarm annunciator in the LCD panel will be displayed for the input in alarm condition:



An alarm, if configured, is detected at the point of transmission.  
The point of transmission is indicated by a brief flash of the red LED (1) located on the top panel.  
After an alarm is initiated, the audible and visible indication is delayed for 2 minutes and then activated as long as the alarm condition prevails. The delay is included to allow for transient and acceptable conditions e.g opening and closing fridge/freezer door.  
Probes can be used in glycol filled tubes to simulate fridge/freezer contents.  
The audible alarm takes the form of an intermittent high pitched bleep coincident with a very bright front panel red LED flash.  
The alarm will reset when the alarm condition is cleared and at the point of transmission.

# Connecting temperature probes

## GD22ALDM

The transmitter provides 2 inputs that can be configured for T or K thermocouple temperature sensors.

The temperature probe must be terminated with appropriate T or K type mini plug:



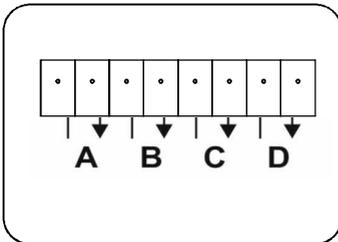
Failure to use the correct plug will result in reading errors. Ensure the thermocouple plug polarity is observed.

Note: The transmitter accuracy takes into account the ambient temperature (cold junction compensation) in which it is operating. Therefore if changing the location of the transmitter please be aware it may take up to one hour (e.g. if moving from a cold to hot place) for readings to be within the published specification.

## GD34ALDM

The transmitter provides 4 inputs pre-configured for thermistor only.

The temperature probe should be terminated with the 4 way mini rising cage connector block provided. Please observe wiring connections as detailed below, where the arrow pointing down is the ground or shield connection:



## Installing temperature probes

Do not twist, flex or coil tightly PTFE or PVC leads. PTFE lead is resistant to oils and most acid contamination.

Do not expose the metal probe tube to a naked flame or acid medium.

Whilst probes supplied by Eltek are submersible please ensure that when installing, liquids do not run down the lead and into the probe tube unnecessarily.

It is not recommended that probe leads be extended. The maximum probe lead length that can be supplied is 5m.

## Transmitter specifications

### Common Specification

Temperature range	-10°C to 55°C (compliant to ETSI 300-220-1) Operational over the range -30°C to 65°C
Humidity	0-95% RH non condensing
Frequency	UHF 434.225Mhz
Transmitter power	10mW ERP
Antenna connector / type	SMA socket with permanently attached compressed antenna.
Antenna gain	-3DB
Battery	4 x LR6 alkaline only (non-rechargeable)
Weight	330g inc batteries
Dimensions excluding antenna	(H107 x W77 x D40) mm
Dimension of antenna provided	75mm x 12.5mm diameter

Note: The transmitter transmits at a random point within the transmission interval.

Transmission interval is configurable between 1 second and 4 hours.

Typical interval is 1 to 5 minutes.

Transmitter on air time is typically 150ms to 200ms depending on the number of active channels

### GD22ALDM

Number of inputs: 2 (thermo mini socket)

Thermocouple type	T	K
Range	-200 to 200°C	-200 to 200°C
Resolution	0.1°C/0.2°C	
Accuracy	±0.3°C	

### GD34ALDM

Number of inputs: 4 (mini rising cage phoenix series MC1.5)

Range	Resolution	Accuracy
-50 to +150°C	0.05°C (-5 to +75°C)	±0.1°C (-5 to +75°C)
	0.1°C (-25 to +100°C)	±0.2°C (-25 to +100°C)
	0.2°C (-40 to +125°C)	±0.4°C (-40 to +125°C)

Accuracy of thermistor sensor to be used (type 2K3A1A) is +/-0.1 °C for the range 0 to +70 °C.

### Disposal

Do not dispose of to domestic waste.

Batteries should be disposed of in a responsible manner. Batteries must not be disposed of to landfill.

Other case parts, metals and components can be re-purposed or recycled.

The transmitter must be returned to an accredited electrical waste recycling service.

### Concealed switch (Engineering use only)

Function of rear case access service switch – (use e.g. paper clip or small screw driver)	Activate (press) switch for	Top panel red LED cadence	LCD
To disable the transmitter	5 seconds	5 x fast flashes	After 5 seconds displays OFF
To enable the transmitter	5 seconds	1 x 5 sec flash	After 5 seconds the display scrolls through the active channel input values
To put transmitter in test mode (5 sec average TX for 2 minutes)	1 second	No indication	No change