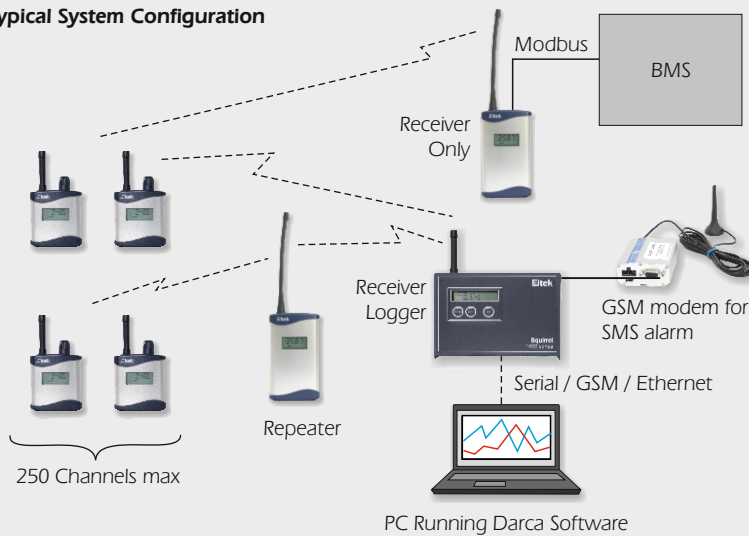


Eltek GenII monitoring systems provide data logging and alarm generation for a very wide range of applications. Systems are already installed in museums, historic houses, laboratories, critical storage areas and domestic premises - just about anywhere that accurate and reliable environmental and energy data is essential for monitoring, manufacturing, analysis or audit purposes.

Long range radio telemetry offers a cost-effective, flexible and practical alternative to hard-wired data logging systems without forfeiting system reliability or security. The use of telemetry does not restrict the type of sensors that can be connected, accuracy of measurements or metering capability. Licence exempt UHF frequencies are used and sensors can be located almost anywhere.

Typical System Configuration



Radio Telemetry Logging System Features

- UHF
- Wireless connection of sensors
- 12 bit resolution for high accuracy
- 250 channel system capability
- Easy system design and installation
- Flexible configurations for permanent and temporary installations
- Complete turnkey system solution
- Range easily extended by Repeaters
- Options for use in extreme ranges of temperature and physical environments
- Tamperproof indoor or outdoor wall mounting brackets

Transmitter Features

- Available with or without LCD display
- High performance transmitter compliant to EN 300-220
- Transmitters with up to 8 physical inputs
- Transmitters with Mbus/Modbus input to derive up to 12 channels
- Sensors can be integral, external or a combination of both
- Inputs available for Voltage, Current, Temperature, Pulse, Digital or Light
- Program from PC or Receiver Logger
- Battery operation allows flexible and rapid installation
- Powered by standard alkaline batteries
- Up to 5 year battery life (30 minute logging interval)
- Compact size and light weight
- Unobtrusive rugged aluminium customised case and wall bracket



Receiver / Logger Features

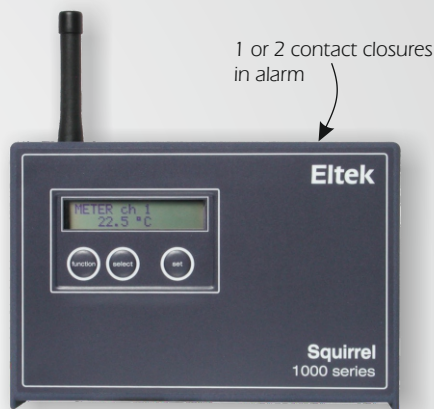
- Data Logger with integral receiver
- Alarm and GSM text output (RX250AL)
- 24 hour built-in standby battery
- 247K readings expandable to 2M readings
- Dual RS232 serial ports
- Connectivity options: GSM, ethernet, internet, GPRS
- Transmitter battery alarm
- Display and keypad for "on line" metering
- Darca setup, graphing and data export software
- Extensive communications options
- Version available with control relay output e.g. heating / cooling (refer Eltek)

GENII RX250AL RECEIVER / LOGGER

The RX250AL Receiver logger is the heart of a GenII logging system. It is not necessary to have a PC permanently connected and the built in battery means data logging is not interrupted if there is a temporary AC mains failure. Multiple RX250ALs can be used for wide area coverage. Alarms (including SMS alarms) come as standard. (To use SMS alarms, a GSM modem is required).

Common specifications

Number of channels	Up to 250
Number of transmitters	Up to 125
Ambient temperature	-10 to +55°C
Humidity	Up to 95% (non condensing)
Power supply	12V DC at 500mA powered using type MP12U, (input 100-250V AC)
Built-in batteries	6 x AA Ni Mh battery
Backup battery life	Typically 24 hours
Memory	247,000 readings expandable to 2,000,000
Clock accuracy	1 second/day at 20°C
Dimensions	D 60mm x W 180mm x H 120mm
Weight	1Kg inc. batteries
Case material	Scratch resistant Nextel coated ABS
PC/modem interface	RS232C up to 38.4K Baud
Receiver	Crystal controlled
Sensitivity	UHF: -117dBm
Antenna connector	SMA 50 ohm female
Antenna	Quarter wave standard, lightweight dipole optional
Communication options	USB, GSM, ethernet, internet and GPRS
Alarm	RX250AL: SMS + 1 contact closure, RX250ALD: SMS + 2 contact closures



GENII RP250GD REPEATER

The RP250GD receives and rebroadcasts signals from GenII transmitters, significantly extending the distance over which a system can operate. Multiple repeaters can be used in a system.

Features

- Contains high performance receiver and transmitter compliant to EN 300-220
- LCD indicates on-air transmitter identity, status and signal strength
- Extends range of transmitters many fold
- Multiple repeaters can be used, enabling difficult sites to be covered easily
- Mains powered with built-in rechargeable batteries to provide up to 48 hours standby in the event of a mains failure.
- Free standing or wall mountable
- Antenna socket permits use of external antenna to improve performance in difficult conditions
- Software is used to configure the repeater, download transmitter activity data and specify transmitter authorisation.
- Survey option - for availability contact Eltek

Specification

Ambient temperature:	-10 to +55°C
Humidity:	Up to 95% (non condensing)
Power supply:	12V DC (Type MP12U, 100-250V AC input)
Backup batteries type:	Ni MH pack
Backup battery life:	Typically 24 to 48 hours dependant on activity
Dimensions:	D 41mm x W 80mm x H 125mm
Weight:	500g inc. batteries
Receiver/Transmitter:	Crystal controlled
Antenna connector:	SMA 50 ohm female



GENII TRANSMITTERS - COMMON SPECIFICATIONS

RF specification	EN300-220	Dimensions (footprint)	78 x 41mm
RF power	10mW	Battery endurance	up to 5 years (interval set to 5 minutes) (less for GL70 and GS40 series)
Environment specification:		Transmission interval range	1 sec to 4 hours
Compliant to EN300-220	-10 to +55°C	Indicator (red LED)	transmit active/on/off
Actual	-30 to +65°C	Control switch (concealed)	test mode / hibernate
Humidity	100% non condensing	Antenna socket	SMA
Environmental rating	IP40		

GENII TELEMETRY TRANSMITTERS

Sensors can be located almost anywhere, giving a system which is simple to install and use.

Etek's telemetry transmitters are designed to complement each other, sharing a common case style, RF specification, battery system and choice of antennas. GD models have a display. For specification details see the table later in this document.

Built-in sensors



Built-in temperature and humidity
GC10, GD10
Built-in thermistor temperature
GC06, GD06

RHT10E Probe

The Eltek RHT10E is a compact and robust, precision humidity and temperature probe with replaceable mesh filter and cap. Designed for use with: GD13E, GD14E, GD72E, GD43E



Temperature:	Relative Humidity:
Range: -40 to +85°C	Range: 0 to 100%
Resolution: 0.1°C	Resolution: 0.1%
Accuracy: ±0.4°C (+5 to +40°C)	Accuracy: ±2% (10 to 90%Rh)
±1.0°C (-20 to +80°C)	±4% (0 to 100%Rh)

Temperature



Thermocouple T / K**
GD20 / GS20* series
1 or 4 inputs



Thermistor
GD30 / GS30* series
1, 2, 4 or 8 inputs
GC04 / GD04
single input short range



Platinum resistance sensors
GD52 / GS52*
2 inputs

*GS versions are without display. GD versions can be ordered with built in audible and visual alarm.
**Other ranges are available on request.

Temperature and humidity



Temperature and humidity
GC13, GD13
input for Eltek RHT10E
GD14
As GD13 plus 2 x thermistor temperature inputs

Pyranometer



Solar radiation
GS41A
input for Skye / Kipp & Zonen pyranometer with calculated cumulative channel

Versions also available for net radiometer sensors

Event / Pulse



Event or state inputs - Volt free or digital
GC60 (2 inputs)

Pulse inputs - Volt free or digital
GC62 / GD67 / GD68
(2 / 7 / 8 inputs)

Serial input / modbus

Energy monitor
GD90 / GD900
use with energy monitor
e.g. ND Rail 350, Rayleigh, Smart Process, Carlo Gavazzi

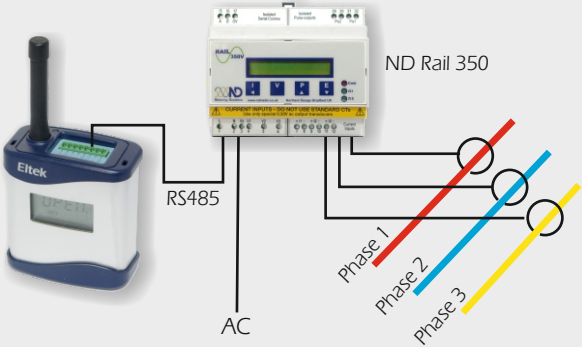
3 x voltage
3 x current
3 x PF (cosφ)

Voltage and Current



Inputs for voltage or current
GS42 / GS44 / GS44AVE
2 or 4 Voltage/current inputs with sensor supply

AVE = value averaged at point of transmission



GS44H bi-polar ranges for use with Hukseflux heat flux plate.

Combination Light transmitters



GL70

Built in ultraviolet and visible light with temperature and humidity

GD72E

External ultraviolet and visible light with temperature and humidity

GL70 and GD72E+LS70 range information

RH and temperature: as GC10

1 x visible light 0 - 4000 Lux (resolution 0.1 Lux)
0 - 200 kLux (0.01 KLux)
1 x UV light 0 - 5000 mW/m²
0 - 10000 uW/lumen

GD72E+LS50 range information

RH and temperature: as GC10

1 x visible light 0 - 4000 Lux (resolution 0.1 Lux)
0 - 200 kLux (0.01 KLux)

Voltage / current, RH & temperature

GD43

- Ideal for incubator monitoring
- 1 x Voltage / current input
- 1x RH / temperature probe input for Eltek RHT10E
- 1 x Thermistor temperature (-50 to 150°C)



All in one air quality monitor

- CO₂ (0 to 5000ppm)
- RH (0 to 100%)
- Temperature (-10 to 65°C)
- All sensors built-in
- Mains operation with built-in rechargeable batteries

TMET Weather transmitter

3 physical inputs:

- Serial input for Vaisala WXT520 weather or WMT50 weather sensor*
- Voltage input or input for Delta T, Skye Instruments or Kipp and Zonen pyranometer
- Thermistor temperature input



*Windspeed, wind direction, precipitation, barometric pressure, temperature and RH
For further information see brochure TD1083.

Differential pressure

GD84

- Built in differential pressure sensor
- Range: -250 to 250 pascal
- Quick connect tube system

GD81

- Barometric pressure:
800 - 1100 mBar



GD84

Resistance



Resistance
GS34 (4 inputs, 0-100K max range)

Resistance - lower range
GS34R100 (4 inputs, 0-100R)

Air Velocity



GS41AV

- 1 x rolling averaged value
- 1 x calculated minimum value
- 1 x calculated maximum value
- 1 x instantaneous value



Ideal for use with Sontay, EplusE and other air velocity sensors.

Flood



GC60F
2 x state inputs for flood sensing cables

Domestic Gas Meter



GC62EX
2 x pulse inputs for connection to domestic gas meter

M-Bus connectivity



GD93
Can be customised to interface with devices providing M-Bus output.
Refer to Eltek.

Thermistor with visual and audible alarms



GD32ALS / GD34ALS
• Inputs for 2 or 4 thermistor probes
• Visual and audible alarms

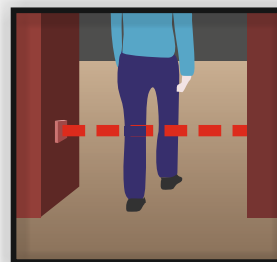
Energy monitoring with CTs



GD40A
4 Voltage/current inputs with averaging - exclusively for use with SXD self-powered current transducer



People Counting



GC62
Inputs for up to 2 Velleman PEM7D photoelectric sensors

GENII TELEMETRY TRANSMITTERS

Models	Sensors	Range	Resolution	Accuracy
GC04/GD04	1 x external thermistor temperature	-40 to +70°C	0.1°C	±0.2°C (-15 to +40°C)
			0.2°C	±0.4°C (-29 to +65°C)
			0.3°C	±0.6°C (-36 to +70°C)
			0.4°C	±0.8°C (-40 to -36°C)
GC06/GD06	built-in thermistor temperature	As GC04		
GC10/GD10	built-in temperature (digital sensor)	-30 to 65°C	0.1°C	±0.4°C (+5 to +40°C)
				±1.0°C (-20 to +65°C)
GC13E/GD13E	built-in RH	0-100%	0.1%	±1.5°C (-30°C)
				±2% (10 to 90%RH)
GC14E/GD14E	external RH (RHT10E)	0-100%	0.1%	±4% (0 to 100%RH)
				±2% (10 to 90%RH)
GC13E/GD13E	external temperature (RHT10E)	-40 to +120°C	0.1°C	±4% (0 to 100%RH)
				±0.4°C (+5 to +40°C)
				±1.0°C (-20 to +80°C)
GC14E/GD14E	external RH (RHT10E)	As GS13E		
	external temperature (RHT10E)	As GS13E		
	2 x external thermistor temperature	As GC04		
GS21/GD21	1 x external T or K type thermocouple temperature	-200 to 200°C	0.1°C / 0.2°C	±0.3°C
GS24/GD24	4 x external T or K type thermocouple temperature / state			
GD21AL/24AL	As GD21/GD24 with audible and visual alarm.			
GD24HV	4 x external T or K type thermocouple temperature			
GD24H	4 x external K type thermocouple temperature	-200 to 1200°C	0.5°C	±2.0°C
GD24R	4 x external R type thermocouple temperature	-200 to 2000°C		
GS31/GD31	1 x external thermistor temperature	-50 to 150°C	0.05°C (-5 to +75°C)	±0.1°C (-5 to +75°C)
GS32/GD32	2 x external thermistor temperature		0.1°C (-25 to +100°C)	±0.2°C (-25 to +100°C)
GS34/GD34	4 x external thermistor temperature / state inputs		0.2°C (-40 to +125°C)	±0.4°C (-40 to +125°C)
GS38/GD38	8 x external thermistor temperature / state inputs			
GD32-AL/34AL	As GD32 and GD34 with audible and visual alert			
GS34R	4 x resistance	0-1K	0-10K	±4R
				±10R (1 to 10K)
				±1K (10 to 50K)
				±4K (50 to 100K)
GS34R100	4 x resistance	0-100R		
GD40A	4 x voltage inputs for self powered CTs	0-6VDC only		
GS41Acf	1 x external pyranometer (e.g. Skye SKS1110 or Kipp and Zonen CMP3)	0-1500 W/m2	3.75µV	
	1 x calculated average value	0-1500W/m2		
	1 x calculated cumulative (Integrated) value	0-65,000 Wh		
GS41AV	1 x external air velocity (EplusE EE66/576, Sontay and others) rolling average value	0-10V		
		(0-2m/s)		
	1 x calculated minimum			
	1 x calculated maximum			
GS42	2 x external voltage or current	0-100mV		
GS44	4 x external voltage or current	0-1V DC	0.25mV	±0.5mV
GS44AVE	As GS44 but with averaging function	0-10V DC	2.50mV	±5mV
		0-20mA DC	~5uA	20uA
		4-20mA DC	0.05%	0.1%

Models	Sensors	Range	Resolution	Accuracy
GS44H	4 x bipolar external input (for Hukseflux heat flux plate) Range must be specified when ordering	± 5mV ±10mV ±20mV ±50mV ±100mV		
GD43E	1 x external RH and temperature (RHT10E) 1 x voltage / current 1 x external thermistor temperature	as GS13E as GS42 as GS31		
GD47 / GW47	1 x built-in RH and temperature 1 x built-in CO2 1 x built-in 12VDC supply monitor	as GD10 0-5000ppm	3%	±50ppm
GS52/GD52	2 x 2 or 4 wire PT100 temperature	-100 to 200°C	0.1°C	±0.3°C
GS52H	2 x 2 or 4 wire PT100 temperature	0 to 300°C	0.1°C	±0.3°C
GC60	2 x state indications			
GC60F	2 x state indications for flood sensors only			
GC60Y	As GC60 with mark/space ration of event during TX interval			
GC62EX	2 x pulse inputs for connection to domestic gas meter			
GC62/GC62a	2 x pulse inputs (/a inverted input)			
GD67	7 x pulse inputs			
GD68/GD68a	8 x pulse inputs (/a inverted input)			
GL70	1 x built-in temperature and RH 1 x visible light 1 x UV light	As GC10 0-4,000 Lux 0-200 kLux 0-5000 mW/m ² 0-10,000 µW/Lumen	0.1Lux 0.01kLux	
GD72E	1 x external temperature and RH 1 x external visible light (LS50 or LS70) 1 x external ultraviolet (LS70 only)	As GD13E As GL70 As GL70		
GD81	1 x built-in barometric pressure	800-1100mBar		
GD84	1 x built-in differential air pressure	-250 to +250 Pascal	0.1 Pascal	±3 Pascal
GD90	1 x RS485 modbus input for energy meter	Up to 12 values		
GD900	As GD90A but can connect to up to 6 meters			
GD93A	1 x MBUS input for 3 x landis and gyr T230 heatmeter			
TMET	1 x u type thermistor input 1 x voltage input for use with external device e.g. solarimeter 1 x serial input for connection to Vaisala WXT520 or WMT50	As GD31 0-50mV	0.025%	0.1%

GENII RADIO DATA LOGGING SYSTEMS

Eltek Support

Eltek's Technical help line is there to assist from project conception to completion and beyond. A three year warranty is standard. Visit www.eltekdataloggers.co.uk for full details on our products together with the latest updates, downloads and applications.

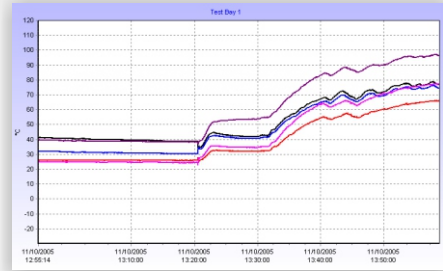
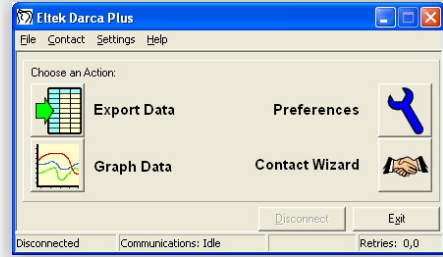
Technical Specifications

Common Features	GenII radio data logging system	Accessories	
UHF* Frequency	434.225MHz (Europe and countries where applicable)	External antenna WBG	Light weight dipole Wall bracket for added security and difficult surfaces
Compliant to Range	EN 300-220 200 - > 1000 metres dependent upon environment. Contact Eltek for more details.		

*Other UHF frequencies available including VHF and 900MHz - please contact Eltek.

Darca Plus

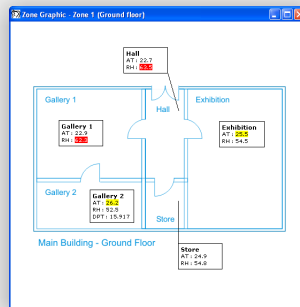
- System set-up
- Data analysis
- Connection to data logger via PC serial port
- Remote connection via modem - land line or GSM
- Export to popular spreadsheets
- Intuitive use and Wizard for first time users
- Real time metering
- Real time graphing
- Graph display options include: 3D, zooming, custom axes, statistics including threshold
- Insert text/comments at points of interest on graph
- "Shed" scheduling utility
- Settings can be password protected
- Transmitter low battery warning and voltage display
- Set up transmitters from Darca
- SMS messaging using GSM modem
- Export data to CSV



Darca Heritage

Darca Heritage has been designed specifically for conservation monitoring on a user-definable 'site', with sensors being referred to according to their physical location. It provides tools for updating site data automatically and analysing it either graphically or statistically.

- Physical 'Zoning' of site
- Automated data collection
- Data stored in central repository and viewed across a network
- Multi-user system with varying levels of user access control
- Report feature to print and store graphed data for a particular location and time period
- Set safe limits for statistical analysis
- User formulae creation for calculated parameters
- Export data to CSV
- Web viewer available



Scan architectural floorplans in and view data on 'Zone Graphic'



Chart window divided into tabs to separate locations

Due to our policy of continuous improvement specifications may change without prior notice. Etek believes that all information declared is correct at the time of issue, no liability is accepted for errors and omissions.

TD1079 21/11/17



Guarantee Equipment manufactured by Etek is guaranteed against faulty materials or workmanship for three years. For repairs carried out under guarantee, no charge is made for labour, materials or return carriage.



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