

Eltek extends the choice of \*Grant SQ1000 Series Squirrel data loggers to provide more channels, more ranges, larger memories and extra options. If there is not already a model which fits a particular application, then Eltek can almost certainly make one.

SPECIALIST  
DATA LOGGERS

Easy to use customised data loggers

## Key Features

- Modular construction
- Battery or mains operated and easily portable
- Configuration and Metering by:
  - Panel controls and display
  - Locally connected PC (using Darca Software)
  - Remotely connected PC (using Darca Software) via GSM, landline or radio modem
- Multi language set up menu
- Measure up to 124 analogue or digital channels, such as temperature, humidity, pressure, voltage, resistance, current or any other suitable sensor output
- Non volatile internal memory providing up to 2 million readings of secure data
- PC Card slot option provides extra memory
- Readings can be scaled into appropriate units (e.g. m/sec, p.p.m.)
- Low power consumption for long term unattended use or portable operation
- Clearly labelled connector panel for quick on-site installation
- Customised firmware for specialised requirements
- LAN Network adaptor for Ethernet connection



## Common Features

Highly accurate:  $\pm(0.1\%$  of reading,  $+0.2\%$  of range span)

12 bit resolution

Internal memory can store 64 000 readings

Sensor power outputs

1 pulse count channel and 8 event/digital channels in addition to other inputs

External triggers can start and stop the logger

Environmental:  $-30$  to  $+65^{\circ}\text{C}$ ,  $0$  to  $95^{\circ}$  RH non-condensing

External power supply:  $9$  to  $14\text{V DC}$  (internal battery:  $9\text{V}$ )

Communications via RS232C with auto-baud detect

Rapid memory download at 38400 baud

Up to 99 logging "runs" may be stored

Alphanumeric display, 2 lines of 16 characters

Compact size  $180\text{mm} \times 120\text{mm}$ , depth  $60$  to  $260\text{mm}$  dependant on product specification.

3 year guarantee

## Optional Features

Fast sampling interval of  $0.1$  second for 8 channels

Expandable to 124 channels

Alarms and threshold can be set for all channels

Internal memory expandable to 2,080,000 readings

Logger configurations tailored to specific needs

Networking loggers - for large systems

\* Eltek works in close association with Grant Instruments (Cambridge) Ltd.

## System Specification

### Logging Modes

Interval / average / event / externally triggered

### Log / Scan Interval

1 sec to 24 hours  
Optional: 0.1 sec minimum

### Analogue Inputs

Accuracy:  $\pm(0.1\%$  of reading, +0.2% of range span)  
Common mode range: 15V  
Input Impedance: 1M

### Analogue Input Types & Ranges

see tables below

### Sensor Excitation

5V/supply voltage - internally selectable

### Digital Inputs

0 / 5V or volt free contacts  
8 inputs per logger channel

### Pulse counters

Each counter up to 2KHz signal or 100Hz volt free contact. A total of 650K counts software selectable

### Data memory

Internal memory: 64,000 readings  
Option: 2 million readings or PC slot with SRAM card (2 million readings)  
Memory modes: stop when full or overwrite current run

### Scaling Data

Readings scaled as engineering units

### Configuration

Panel controls and display and/or Darca Lite or Darca Plus (PC Software)

### Display

2 line, 32-character display for local status monitoring, configuration and stored readings

### Communications

RS232 half duplex - 2400 to 38.4K Baud  
Modem compatible protocol

### Darca Software

Darca Lite for control, download and export  
Darca Plus with graphing and analysis tools  
Darca Secure for encrypted data and protected audit trail

### Power supply

Internal: 6 x AA Alkaline batteries  
External: 9 to 14 VDC (1.4 watts)  
Mains adapter: 12 VDC 6 watts  
Battery Life: sampling 8 channels every 5 minutes provides typically 6 months operation

### Case

Scratch resistant Nextel coated ABS  
width 180mm, height 120mm, depth - see table below

### Operating Environment

Temperature range:-30 to 65°C  
Humidity: 95% non condensing.  
For harsh environments an optional IP67 enclosure is available

## Modules and Inputs

Eltek loggers are made up from a family of **modules** to provide the functionality required. A mix of 8 modules can be assembled in a variable depth case providing customised versions for specific applications.

Designation	Input Type	Module	Inputs	Module	Inputs
U	thermistor	M01	4 U + 4 V/C	M09	24 D
K	K thermocouple	M02	8 U	M10	8 AC voltage
T	T thermocouple	M03	4 K/T + 4 V/C	M11	4 V/C + 4 pulse count
V	voltage	M04	8 Pt100	M12	8 pH
C	current	M05	8 K/T	M13	4pH + 2 conductivity
P	Pt100	M06	2P + 4 P/V/C + 2V/C	M25	16 K/T
D	Event/digital (8 lines)	M07	8 V/C		
		M08	8 pulse count		

Refer to website for a comprehensive list of modules and sensors options available.

## Models and Channels

Below is listed a sample of frequently ordered **models**:

Model	Channel Configuration	Modules	Case depth mm	Model	Channel Configuration	Modules	Case depth mm
1023A	12K/T+4V/C	M05+M03	85	1036KT	8K/T+8P+8V/C	M05+M04a+M07	110
1023B	4K/t+12V/C	M03+M07	85	1043	16V/C+16K/T	M25+M07x2	110
1024	16P	M04+M04	85	1047	32V/C	M07x4	135
1026KTA	8K/T+2P+4P/V/C+2V/C	M05+M06	85	1063	24V/C+24K/T	M05+M25+M07x3	160
1033	16K/T+8V/C	M25+M07	85	1067	48V/C	M07x6	185
1035	24K/T	M05+M25	85	1085	64K/T	M25x4	135

## Standard ranges for temperature channels and DC voltage/current channels

Each channel can be individually set to any of the ranges listed for the Squirrel model. Other ranges and input types (e.g. thermocouples N,J,B,E,R,S) available to special order.

### Temperature

Pt100 input channels can be used with 2,3 or 4 wire sensors

Input Type	Range °C	Resolution°C
Y,S,U Thermistor	-50 to 150	0.05(-5 to 75) 0.1(-25 to 100) 0.2(-40 to 125) 0.4 (-50to150)
P: Pt100	-200 to 100 -200 to 400 -200 to 600	0.1 0.2 0.5
K: Thermocouple	-200 to 200 -200 to 450 -200 to 1200	0.1 0.2 0.5
T: Thermocouple	-200 to 350 -200 to 200	0.2 0.1

### Voltage/Current

Each voltage/current channel can be set to any of the 18 voltage ranges or the 2 current ranges.

50 V Resolution	0.5mV Resolution	5mV Resolution
0 to 50mV	0 to 500mV	0 to 5V
-25 to 25mV	-250 to 250mV	-2.5 to 2.5V
0 to 100mV	0 to 1V	0 to 10V
-50 to 50mV	-500 to 500mV	-5 to 5V
0 to 200mV	0 to 2V	0 to 20V
-100 to 100mV	-1 to 1V	-10 to 10V

Range	Resolution
0 to 20mA	10 A
4 to 20mA*	0.05%
* displayed as 0-100%	

**Guarantee:** Equipment manufactured by Eltek 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.

**Eltek**