

# SQUIRREL SPECIAL 1000 SERIES

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



Examples of Squirrels from the Eltek range

## 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

# SQUIRREL SPECIAL 1000 SERIES

SPECIALIST  
DATA LOGGERS

## 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: 1MW

### 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)

### 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
1023A	12K/T+4V/C	M05+M03	85
1023B	4K/t+12V/C	M03+M07	85
1024	16P	M04+M04	85
1026KTA	8K/T+2P+4P/V/C+2V/C	M05+M06	85
1033	16K/T+8V/C	M25+M07	85
1035	24K/T	M05+M25	85

Model	Channel Configuration	Modules	Case depth mm
1036KT	8K/T+8P+8V/C	M05+M04a+M07	110
1043	16V/C+16K/T	M25+M07x2	110
1047	32V/C	M07x4	135
1063	24V/C+24K/T	M05+M25+M07x3	160
1067	48V/C	M07x6	185
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.

50mV 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	10mA
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.



The basic 1000 series logger is manufactured under licence from Grant Instruments (Cambridge) Ltd.

TD1010GB 24/09/02 Due to our policy of continuous improvement specifications may change without prior notice. Eltek believes that all information declared is correct at the time of issue, no liability is accepted for errors and omissions.



UK / Europe Office  
Tel: +44 (0)8700 434040  
Fax: +44 (0)8700 434045  
[info@omniinstruments.co.uk](mailto:info@omniinstruments.co.uk)  
[www.omniinstruments.co.uk](http://www.omniinstruments.co.uk)

Australia / Asia Pacific Office  
Tel +61 (0)282 442 363  
Fax +61 (0)294 751 278  
[info@omniinstruments.com.au](mailto:info@omniinstruments.com.au)  
[www.omniinstruments.com.au](http://www.omniinstruments.com.au)

USA / Canada Office  
Tel +1-866-849-3441  
Fax +1-866-628-8055  
[info@omniinstruments.net](mailto:info@omniinstruments.net)  
[www.omniinstruments.net](http://www.omniinstruments.net)