

## SQUIRREL SPECIAL 1000 SERIES

Eltek SQ1000 Series Squirrel data loggers provide a flexible combination of channels, ranges, memory sizes and extra options. If there is not already a model which fits a particular application, then Eltek can almost certainly make one.

### 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
- 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

### Common Features

- Highly accurate:  $\pm(0.1\%$  of reading,  $+0.2\%$  of range span)
- 12 bit resolution
- Internal memory can store 250 000 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

# Eltek

SPECIALIST  
DATA LOGGERS

Easy to use customised data loggers

1067MC

1063

1043

1021pHC

Examples of Squirrels from the Eltek range

### 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
- LAN Network adaptor for Ethernet connection - type MOXA D311
- USB adaptor
- GSM modem connection
- Text messaging
- pH input adapter

## 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: 250,000 readings  
Option: 2 million readings or PC slot with SRAM card (2 million readings)  
Memory modes: stop when full or continuous

### 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

### 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	4 pH + 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	12 K/T + 4 V/C	M05+M03	85	1036KT	8 K/T + + 8 P + 8 V/C	M05+M04a+M07	110
1023B	4 K/T/ + 12 V/C	M03+M07	85	1043	16 V/C + 16 K/T	M25+M07x2	110
1024	16 P	M04+M04	85	1047	32 V/C	M07x4	135
1026KTA	8 K/T + 2 P + 4 P/V/C + 2 V/C	M05+M06	85	1063	24 V/C + 24 K/T	M05+M25+M07x3	160
1033	16 K/T + 8 V/C	M25+M07	85	1067	48 V/C	M07x6	185
1035	24 K/T	M05+M25	85	1085	64 K/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 (-50 to 100)
P: Pt100	-200 to 100	0.1
		0.2
		0.5
K: thermocouple	-200 to 200	0.1
		0.2
		0.5
T: thermocouple	-200 to 200	0.1
		0.2
		0.5

### Voltage/Current

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

50µV 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 500 mV	-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	10µA	
4 to 20mA*	0.05%	
* displayed as 0-100%		

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**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.