

1000 Series Squirrel dataloggers

Eltek

SPECIALIST DATA LOGGERS

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° RH non-condensing
- External power supply: 9 to 14V DC (internal battery: 9V)
- 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 180mm x 120mm, depth 60 to 260mm 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
- LAN Network adaptor for Ethernet connection - type MOXA D311
- USB adapter
- GSM modem connection
- Text messaging
- pH input adapter



Examples of Squirrels from the Eltek range

1000 Series Squirrel dataloggers

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 Ω

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: 522,000, 1,040,000, 2,080,000 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 Plus with graphing and analysis tools
Darca Heritage for continuous monitoring and calculated channels

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 1200	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.

50 μ 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 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	10 μ A	
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.