

SQUIRREL 450 / 850 SERIES

Eltek
SPECIALIST
DATA LOGGERS

The Squirrel 450/850 series is a cost effective portable data logger with a maximum of 4 or 8 universal inputs.

Easy to use customised data loggers

In common with its bigger brother, the Squirrel 1000 series data logger, it is equipped with impressive specifications, long battery life and a three year guarantee. Models 451 and 851 have 4 or 8 universal inputs respectively, configurable for voltage, current and temperature for both thermocouple and thermistor sensors. In addition a serial interface is available for special applications, including Vaisala weather sensors WMT50 & WXT510.

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, Ethernet, landline or radio modem
- Multi language set up menu
- Non volatile internal memory providing up to 250,000 readings of secure data, with options to expand to 2,000,000 readings
- 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
- LAN Network adaptor for Ethernet connection
- Optional Text message on alarm using external GSM modem

452 / 852



Vaisala weather Sensors



Common Features

- Highly accurate: $\pm(0.1\%$ of reading, $+0.2\%$ of range span)
- 12 bit resolution
- Standard internal memory for 250 000 readings
- Sensor power outputs
- 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" can be stored
- Alphanumeric display, 2 lines of 16 characters
- Compact size 180mm x 120mm, depth 85mm dependant on product specification.
- 3 year guranteee

Optional Features

- Wall bracket
- AC Power supply MP12U (110/250AC) to 12VDC
- Alarms and threshold can be set for all channels
- SRAM card slot
- Internal memory expandable to 2,080,000 readings
- Outdoor enclosure
- Battery standby systems

Accessories

- Moxa De-311 Serial to Ethernet Converter
- GSM Modem Kit
- Comprehensive range of sensors including RH and temp. probe, thermocouple / thermistor probes, current clamps, pH electrode etc.

Available Models

Model	Inputs	Features
451 / 851	4 / 8 universal	Each channel configurable for temperature, voltage or current input
451T / 851T	4 / 8 universal	0.1sec Interval (Fast Recording)
451pH	4 universal (inc. pH)	Supports up to 2 x external pH adaptor modules type pH-int (purchase separately).
451MC	4 universal	PCMCIA memory slot installed to accept SRAM card (purchase separately)
452	4 Pulse only	
453	1 Event + 8 Pulse (5Hz)	
456/856	4 / 8 universal	plus 1 x pulse and 1 x event input
451WXT/WMT	4 universal + 1 serial	Serial input for Vaisala WXT510 / WMT50 weather sensor*
851WXT/WMT	8 universal + 1 serial	Serial input for Vaisala WXT510 / WMT50 weather sensor*

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

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 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 Plus for control, download and export, plus 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

Standard ranges for DC voltage/current channels and temperature channels

Each channel can be individually set to any of the following ranges:

Temperature:

Input Type	Range °C	Resolution°C
U Thermistor	-50 to 150	0.1(-25 to 100) 0.2(-40 to 125) 0.4 (-50to150)
K: Thermocouple	-0 to 900	0.5
	-200 to 450	0.2
T: Thermocouple	-200 to 350	0.2

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	5 A
4 to 20mA (displayed as 0-100%)	0.05%

***Weather:** The Vaisala weather sensors are:
WMT50 - wind speed and wind velocity
WXT510 - as WMT50, with rainfall, barometric pressure, RH and temperature.

Eltek can supply the Vaisala sensors if required.

CE **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

Specialist Data Loggers
Eltek Ltd, 35 Barton Road, Haslingfield
Cambridge, CB23 1LL, England
Tel: +44 (0) 1223 872111
Fax: +44 (0) 1223 872521
email: sales@eltekdataloggers.co.uk
<http://www.eltekdataloggers.co.uk>