

# SQUIRREL 450 / 850 SERIES

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. The models 451 and 851 have 4 or 8 universal inputs respectively, configurable for voltage, current and temperature for both thermocouple and thermistor sensors. A serial interface is available for special applications, including using the Vaisala weather sensors WMT50 and 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 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
- LAN Network adaptor for Ethernet connection
- Text message on alarm using external GSM modem

452 / 852



WMT / WXT



## 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
- 1 pulse count channel and 8 event/digital channels in addition to standard inputs for most sensors
- 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 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 guarantee

## 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 IFU (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)	
451MW	Serial input for Vaisala weather sensor* & 2 universal	
851MW	Serial input for Vaisala weather sensor* & 6 universal	

## 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 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
S Thermistor	-50 to 150	0.05(-5 to 75)
		0.1(-25 to 100)
		0.2(-40 to 125)
		0.4 (-50to150)
K: Thermocouple	-200 to 200	0.1
		0.2
		0.5
T: Thermocouple	-200 to 1200	0.2
		0.5
		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	5 A	
4 to 20mA*	0.05%	

\* displayed as 0-100%

**\*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.



**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.