

Mini-met WEATHER STATION

A rugged, battery operated weather station for permanent installation or portable application. The system consists of a strong, lightweight frame fitted with high performance sensors, and at the heart of the Mini-met is a SQ800 series data logger fitted inside a weatherproof enclosure.

Accurate Sensor Measurements

Rainfall

Collected rain is measured by the well-proven tipping bucket method and the aerodynamic rainfall gauge has been designed by the Institute of Hydrology to minimise errors by presenting a reduced area to the wind.

Wind speed

The robust 3-cup anemometer, designed for permanent installations, is based on a sensor developed for the UK Ministry of Defence and calibrated to National Standards.

Solar radiation

The silicon diffused photocell is a compact sensor for solar energy measurements calibrated against precision reference thermocouple pyranometers in natural light conditions. The integral levelling device allows correct positioning of the sensor.

Soil temperature

This stainless steel probe uses a thermistor to achieve high accuracy.

Wind direction

Designed to withstand hurricane force winds, the windvane is specially balanced to turn in very light winds, and with bearings protected from moisture make it suitable for permanent exposure.

Relative humidity and air temperature

Equipped with an accurate thermistor sensor, and the latest Vaisala HUMICAP™ sensor, this probe provides high accuracy, excellent long-term stability and negligible hysteresis.

Atmospheric pressure

An absolute pressure sensor utilising the outstanding elasticity characteristics of single-crystal silicon, achieving excellent repeatability and long term temperature stability.

*Talk to Grant for
all your data
logging solutions*

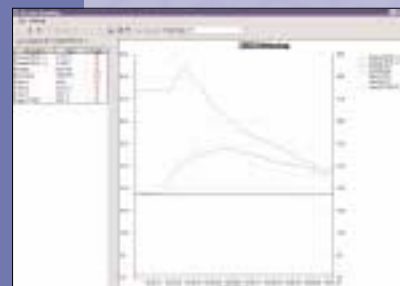


Key Features

- Weatherproof enclosure to withstand the rigours of severe climatic conditions.
- Built-in Squirrel 800 Series data logger.
- Battery backup allows recorded data to be retained for up to two years even if power is completely lost to the data logger.
- High performance sensors.

Applications include:

- Environment
- Industry
- Research
- Education
- Agriculture
- Construction...



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DATA LOGGING

System Specification

DATA LOGGER

Squirrel SQ800 Series

Non-volatile memory: 64,000 readings
Logging intervals: 1 second to 24 hours
Ambient temperature: -30 to +65°C
Humidity: to 95%RH (non-condensing)
Internal power: manganese alkaline batteries

SENSORS

Combination air temperature / humidity probe

Part No. VH-G-Z1 (RAD)
Humidity range: 0 to 100%RH, accuracy: $\pm 2\%$ RH (0 to 90%RH)
Negligible hysteresis and excellent long-term stability even in very high humidity applications
Air temperature range: -30 to +70°C, accuracy: better than 0.4°C (5 to 45°C)

Soil, or deep soil, temperature probe

Part No. HS-U or CS-U
Temperature range: -30 to +70°C
Accuracy: better than 0.4°C (5 to 45°C)
Description: pointed end, 321 stainless steel
Dimensions: 4.8mm dia/125mm length

Leaf temperature probe

Part No. FF-U
Temperature range: -30 to +70°C
System accuracy: (5 to 45°C) better than 0.4°C
Description: catheter probe, sensor at end of flexible nylon tubing, tip covered with epoxy coating
Dimensions: tip 2mm dia, tube 1.4mm dia, 100mm length

Wind direction

Part No. W200P
Range: 360° mechanical angle full circle continuous rotation
Threshold: 0.5m/s, maximum wind speed: 60m/s
Accuracy: $\pm 4^\circ$, temperature range: -30 to +70°C

Wind speed

Part No. A100L2
Range: 0.15 - 62ms
Temperature range: -50 to +70°C
Relative humidity: 0 to 100% (condensing)
Accuracy: $\pm 1\%$ of reading (10m/s to 55m/s), ± 0.1 m/s (0.1m/s to 10m/s)

Rainfall

Part No. ARG100
Resolution: 0.2mm rain per tip
Funnel dia 254, height 340mm
Temperature range: -30 to +65°C

Solar radiation

Part No. SES
Waveband: 300 to 1100nm
Range: 0 to 5000W/sqm
Overall dia: 76mm
Temperature range: -35 to +75°C

Atmospheric pressure

Part No. PTB100A
Pressure range: 800 to 1060hPa (mbar)
Temperature range: -40 to +50°C
Accuracy at +20°C: ± 0.30 hPa (mbar)

Enclosure for Squirrel data logger

Class IP65 (protection against ingress of dust and liquid)
Material: structural resin
Dimensions: Width 327mm, Depth 152mm, Length 343mm
Temperature range: -40 to +120°C

Stand

Material: aluminium
Overall pole height: 2m, tripod dia: 800mm

External power supply

Part No. RB12-6
Sealed lead-acid rechargeable battery (12V, 6.5Ah).
Battery life: 60 days with input scan every 30 secs.
and averaged at 15 minute intervals. 2 batteries supplied.

Solar power supply

Part No. SSP
Silicon, solid-state charge regulation unit
Peak output: 5W, normal voltage: 12V
Panel size: width 270, length 250mm

Overall system

Temperature range: -25 to +55°C (non-icing)
Weight (complete unit): approx. 13kg

The Total Solution

Years of experience in solving data logging problems means Grant can help you save time by putting together the right package, starting with the sensor right through to the data analysis.

Software

Darca

Data acquisition and remote control application for effortless setup, display and download straight into your favourite spreadsheet or analysis program.



A mini-met on the Tien Shan Glacier at 6,000m

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