



MiniMet

Automatic Weather Station
Meteorology
Data Display
Remote Data Collection

environmental and botanical instrumentation



Automatic Weather

Agricultural & Crop Research

Commercial Growers

Animal Studies

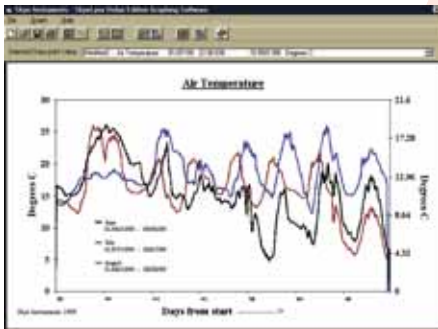
Plant Research

Horticulture

Agronomy



with



Yield & Harvest Prediction

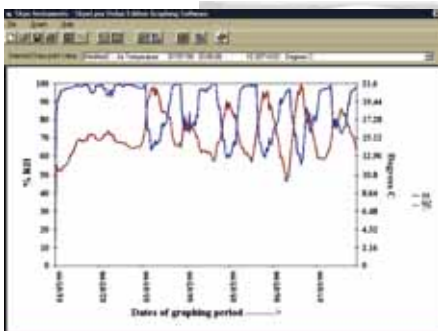
Irrigation Scheduling


Sunshine Hours

Degree Days

Megajoules per Day

Pest & Disease Forecasting




SkyeLynx

SkyeLynx Standard

Supplied free with all systems. An easy-to-use program for communicating with your MiniMet

SkyeLynx Auto

Automatically connects with your MiniMet and downloads the data at pre-set times. Data is automatically stored in a file on your PC

Up to 25 MiniMets can be accessed by the program, the settings for each are stored in individual instrument profiles

Stations for:-

Emission Incidence Records

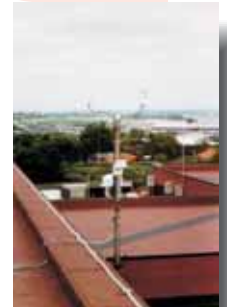
Manufacturing Industries

Dust & Odour Control

Urban Studies

Landfill Sites

Quarries



*Downloading
&
Graphical Software*

Water Balance

Total Rainfall

Windrose

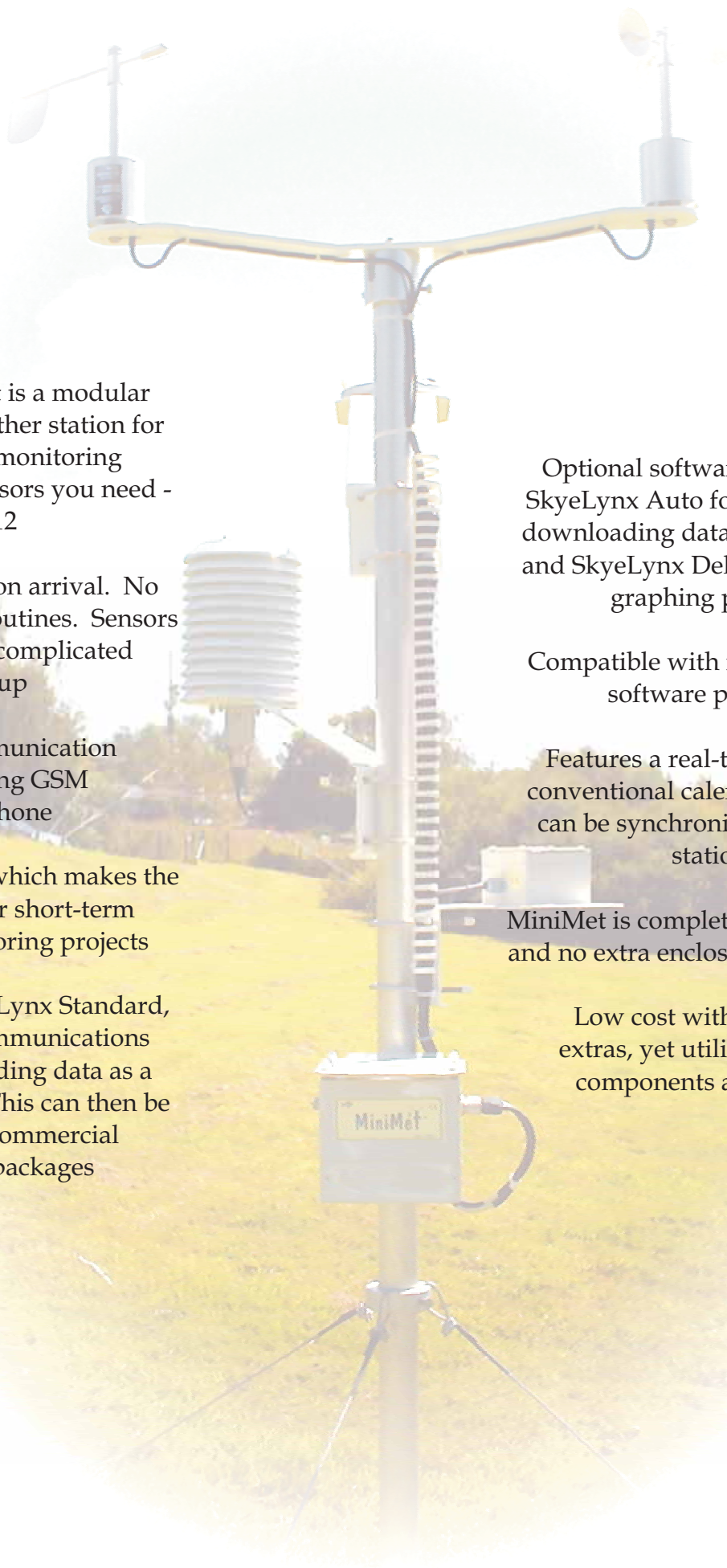
Site Overlays

Evapo-transpiration

Historical Weather Records



SkyeLynx Deluxe
A powerful program for manipulating the data from your MiniMet using just a few clicks of the mouse
A wide range of preset graph options
Summary tables for maximum, minimum, mean and total
Up to 25 MiniMet profiles for access and data analysis



The Skye MiniMet is a modular multi-channel weather station for environmental monitoring. Choose only the sensors you need - up to 12

Ready configured on arrival. No complicated setup routines. Sensors just plug in - no complicated wiring up

Choice of communication links including GSM cellular phone

Extremely portable which makes the MiniMet ideal for short-term research or monitoring projects

Supplied with SkyeLynx Standard, an easy-to-use communications package for offloading data as a simple ASCII file. This can then be imported into commercial spreadsheet packages

Optional softwares offered are SkyeLynx Auto for automatically downloading data at preset times, and SkyeLynx Deluxe, a powerful graphing program

Compatible with many 3rd party software programs

Features a real-time clock and conventional calendar. Readings can be synchronised with other stations

MiniMet is completely weatherproof and no extra enclosures are required

Low cost with no hidden extras, yet utilises precision components and sensors



DATA LOGGER

The heart of the MiniMet and mounted on a bracket. Other sensors plug into this enclosure

Plus Your Choice of Sensors



RELATIVE HUMIDITY & AIR TEMPERATURE

Sensing elements are located within the protecting screen, so that air humidity & temperature are measured without the effect of the sun. Dishes of the screen are designed so that reflected heat from the ground or other sources is not measured



ANEMOMETER

A highly sensitive and robust instrument, yet small and light weight. Low threshold speed and good repeatability



WIND VANE

Low threshold for sensitivity at low wind-speeds. Robust bearings for long life



PYRANOMETER SENSOR - (Total Solar Radiation)

PAR QUANTUM SENSOR, UVA, UVB, UVI SENSORS

Highly specified sensors with excellent long-term stability. Cosine- corrected so that reliable, repeatable measurements are obtained which can be compared with other sensors



BAROMETER (AIR PRESSURE SENSOR)

A high quality transducer, robust and reliable. Choice of two models



SOIL TEMPERATURE PROBE

Simple yet very precise method of measuring this parameter



SURFACE WETNESS SENSOR

Gold-plated for minimum corrosion



RAINGAUGE

Uses the well-documented tipping bucket type.



TENSIOMETER

Accurate method of determining the moisture content of the soil

COMMUNICATING WITH YOUR MINIMET

..... with a laptop PC

Visit the MiniMet and connect the data-lead, which is supplied with the system, between the RS232 socket on the MiniMet and your laptop. The SkyeLynx Standard software, which is also supplied with the system, is then run and you are able to download data and change the setup if you wish.



..... with a permanent cable link

This option is popular in sites where there is a mains power supply available and the distance between the MiniMet and the desktop PC is no more than 1km. It is often preferable to bury the cable, as small mammals find cables very tasty to eat!



..... with a line-modem link

Ideal if there is a mains power supply and telephone point available at the MiniMet site, and users wanting to contact the weather station live many miles away. A useful option for multi-user access.



..... with a GSM modem link

This option can give you 24 hour access to your meteorological data from anywhere in the world. With the addition of the SkyeLynx Auto software, the whole routine can be completely automated.

The Skye GSM link uses Vodafone, T-Mobile or Orange digital mobile 'phone networks in the UK to permit the control and offloading data from MiniMet weather stations. Overseas systems simply require a GSM network with a data service.

A major advantage of this type of installation is that the MiniMet station can be entirely remote from the user, and there can be more than one user contacting the station. For example the MiniMet could be in Wales, but it could be telephoned from 2 miles away, 200 miles away or 2,000 miles away (provided there is a cellular phone signal at the MiniMet site).

Operation is very simple. A standard hardware modem is required in your PC and this is used by the

Skye Software to call up your MiniMet. A single click of the mouse will initiate the call to your weather station and once the call is connected, you can use all the functions of your weather station as though you were sitting next to it - offload data, clear memory, alter setup parameters etc.

Unfortunately, a mobile phone requires rather more power than to run the MiniMet itself. But in most applications enough power is available from a small solar panel for self-contained auto-recharge



The GSM Link has electronics built in to protect the system from low power and power loss situations. If a solar panel is not appropriate and mains power is not available, then operation times are maximised by use of a 'switch on' device for the modem within the Skye GSM link electronics.

This facility switches on the modem for a user selected period.



MINIMET SPECIFICATIONS

The System

Sensor Choice

Relative Humidity, Air temperature, Solar Radiation (Pyranometer), Windspeed, Wind direction, Rainfall, Air Pressure, Soil Temperature, Tensiometers, Surface Wetness, PAR Quantum, UVA, UVB, UVI

Up to a maximum of 12 channels. Sensors can be added at a later date

Operating range

-20 to +70°C. Storage -35 to +70°C.

Datalogger Housing

Grey ABS sealed to IP 65

Dimensions 120 x 120 x 105mm.

Connections

Binder subminiature type 8 and 5 pin. Sealed to IP 65 when mated with a plug or blanking cover (cover for RS232 port supplied as standard)

Power

Standard units have 6 x 'C' cell batteries giving a typical 4-6 month battery life. Solar power/mains power options are available to extend battery life, depending on the system chosen

Resolution

15 bits A/D Converter

Communications

RS232C will connect to any computer type with RS232 and communications software via a direct cable link or modem. Units are supplied with a cable suitable for connection to the communications port of any IBM PC or compatible computer). All units are supplied with the "SkyeLynx Standard" communications program

Memory

Storage in battery backed RAM capacity for up to 27,000 recordings (depending on number of channels being measured) plus time of data being recorded as standard. Channels can be on or off as required. 1Mbit RAM

Sample & Logging Times

Each channel can be individually configured from a choice of 10 seconds up to 12 hour intervals including averaging

Modes

The MiniMet is supplied "ready-to-go". It is set in a standard 'default' operating mode, but the user may at any time reconfigure the channels and the measuring/recording intervals.

30 Minute Records

Date & Time. Location I/D

Mean Air Temperature

Mean Relative Humidity

Mean Solar Radiation

Mean Wind Speed

Mean Wind Direction

Rainfall in last hour

24 Hour summaries

Date/Time, Location I/D

Average/maximum, minimum

Air temperature

Relative Humidity

Wind Speed

Wind Direction

Pressure

Solar Radiation

Total rainfall

Clock

All units have a real time clock to synchronise the timing of readings between several MiniMets.

POWER SUPPLY OPTIONS

BATTERY POWER (Standard Option)

Skye MiniMet loggers are fitted with Duracell alkaline batteries as standard. These will have a lifetime of 4-6 months depending on operating temperature, frequency of logging and data download. These batteries are an operational power source only, all data and logger configuration is stored by a lithium battery backed RAM chip, unaffected by the state of the operational power supply.

SOLAR POWER (Optional)

The ACC/5 Solar Hog solar power supply is designed for use with a MiniMet logger. It consists of a small solar panel, trickle rechargeable batteries, waterproof enclosure and pole mount and fixings. (The pole mount can be bolted to a wall or vertical surface if preferred.) The Solar Hog powers the logger through the RS232 socket and so has its own RS232 socket for downloading data without interruption of the power supply. This option is ideal for remote installations visited occasionally for download with a laptop PC.

If the GSM system is purchased then a larger solar power option replaces the ACC/5 Solar Hog

MAINS POWER (Optional)

a) Maximum 50m distance between mains supply and logger

The ACC/9 Mains Hog consists of a voltage transformer which runs off mains power (please specify 110V or 220V) and provides a 12V supply to the logger. The Mains Hog itself is installed indoors (for safety reasons) and only the 12V power cable runs outdoors to the logger. This cable has 2 purposes, to take the 12V power to the logger, and also to act as a data transfer cable. The 12V cable plugs into the logger's RS232 socket (the logger's internal alkaline batteries remain installed to provide backup in case of power failure). The indoor Mains Hog also has a RS232 socket which connects to the PC, (using the standard data cable supplied with the logger) for data transfer. This means that the logger can be easily accessed from the PC at any time.

B) Maximum 1km distance between mains supply and logger

The ACC/9B Mains Hog with Signal Boosters is similar to the standard Mains Hog but also has provisions for overcoming low data signals and voltage drop over long cable lengths. In this case the Mains Hog has rechargeable batteries fitted to provide back up in case of power failure, and the logger's internal alkaline batteries are removed. The Mains Hog is again installed indoors next to a PC plus a second unit is located out at the logger installation (which plugs into the logger's RS232 socket) to provide a boost to the return data signals. The dual purpose power / data cable runs between the two as before.

YOUR CHOICE OF MINIMETS

SDL 5200
SDL 5250
SDL 5300
SDL 5350
SDL 5400
SDL 5450

4 sensors
5 sensors
6 sensors
7 sensors
8 sensors
9 sensors

Please contact Skye if you require a MiniMet for 10 sensors or more

YOUR CHOICE OF SENSORS FOR THE MINIMET

RELATIVE HUMIDITY (SKH 2060/I, SKH 2065/I, SKH 2070/I)

Housing

Mounted in a machined PTFE head located at the top of a painted aluminium tube. Protected from dust particles, etc. by 32 micron stainless steel gauze. (Optional cover for protection against smaller particles e.g. Salt spray or dust)

Sensor type

Capacitive silica substrate, chrome alloy electrodes

Measurement range

0-100% (at -20 to +70°C)

Resolution / accuracy

Resolution: 0.1% Accuracy: ±2% maximum typical ±1% or better

AIR TEMPERATURE

Precision 10k thermistor (Fenwal) sealed to IP67. Low thermal mass.

Resolution: 0.01°C Accuracy: 0.2° at 25°C OR

Precision PT100 fully sealed to IP67

Resolution: 0.01°C Accuracy: 0.15°

Housing

Located alongside the humidity sensing element to measure temperature of the same air sample as RH% measurements

LIGHT SENSORS

PYRANOMETER (SKS 1110/I), QUANTUM (SKP 215/I), UVA (SKU 420/I), UVB (SKU 430/I), UVI (SKU 440/I)

Housing

Fully sealed to IP68. Cosine-corrected

Detector

Silicon, GaP or GaAsP

Accuracy

±5% maximum, typical ±3% or better

Calibration

Against transfer standard thermocouple traceable to NPL & UK Met. Office standards

ANEMOMETER (Windspeed) (A100R/I)

Housing

Anodised aluminium alloys, stainless steel and weather resistant plastics

Starting Speed (Threshold)

0.3m/s

Maximum Windspeed

Over 75m/s

Accuracy

±2% + 0.1m/s

WIND VANE (Wind Direction) (W200P/D1/I)

Housing

Anodised aluminium alloy and stainless steel

Accuracy

± 2% obtainable in steady winds over 5m/s

RAINGAUGE (ARG 100/I or 10000E/I)

Housing

Vacuum formed from UV resistant plastic or anodised aluminium

Type

Tipping bucket

Tip Sensitivity

0.2mm of rain as standard - 0.1mm and 0.5mm also available

AIR PRESSURE (SKPS 800/I)

Range

500mbar to 1050mbar

Resolution / error

Resolution better than 0.1mbar. Absolute error at 20°C and 1000mbar typically 0.5mbar (maximum 1.0mbar). Error over 0-50°C, typically 1.5 bar (maximum 3.6mbar)

SOIL TEMPERATURE PROBE (SKTS 200/I)

Housing

Sensor located at the end of a 3m length of screened cable and completely sealed against water ingress

Sensor

Precision 10K thermistor (Fenwall) sealed to IP68

Resolution / accuracy

Resolution 0.01°C. Accuracy Less than 0.2° error at 25°C

TENSIOMETER (SKT 600 - 650/I)

Measurement Range

0-850 hPa (0-850mbar)

Shaft Length

User defined

Sensor Type

Low pressure transducer, stabilised for temperature & linearity

Long-term Stability

0.1% typically

SURFACE WETNESS SENSOR (SKLW 1900/I)

ACCESSORIES

Radiation screen for RH/Temperature (SKRS 085S, SKRS 085D)

UV stable ASA white polymer plus "V" bolts for fixing to pole

Levelling Unit and pole mount for Light Sensor (SKM 221/226)

Levelling Unit: anodised aluminium with plastic fixings

Pole Mount: Stainless steel painted gloss white with "V"

bolts for fixing to pole

Dual arm pole mount for wind sensors (ACC/12)

Aluminium painted gloss white

Levelling base plate for Raingauge (RGB1)

Aluminium base plate with stainless steel and plastic fasteners

MAST

All of the sensors offered for use with the MiniMet are designed to mount on a 1½" (38mm) diameter mast, except for the raingauge which is mounted near the base of the MiniMet mast. To accommodate individual customers needs in the best way, several mast options are offered - please enquire.

Units designed and built in Wales

THOUSANDS OF
CUSTOMERS IN OVER ONE
HUNDRED COUNTRIES

Skye is a family run company and since 1983 has been exporting instruments to nearly every country in the world. We pride ourselves on customer care and our flexibility when it comes to providing the customer with what they need.



environmental and botanical
instrumentation