MEA

Measured by Experience

Standard Automatic Weather Station

Designed by Experience

MEA has been building environmental monitoring systems since 1984. Our Automatic Weather Stations (AWS) have developed a reputation for quality and data integrity, and are used in research, agriculture, mining, wind prospecting and industrial environmental monitoring, in Australia and overseas.

Years of experience has resulted in a high quality system which can meet the demands of the Australian environment.

Instrumentation

Our Standard AWS (MEA103) is built around a sturdy two metre tripod mast. Instrumentation includes:

- Combined Air Temperature and Relative Humidity
- Combined Wind Speed and Direction
- Solar Radiation
- Soil Temperature
- Soil Moisture
- Barometric Pressure
- Leaf wetness
- Rain guage

'Stand-Alone' Operation

Our AWS's are self-powered by a solar charged battery system.

You Configure, We Build

Weather stations are built to customer specification, and sensors can be excluded or added as required (depending on the number of input channels on the Data Logger). In addition to the instrumentation listed above, options are available for the measurement of gas and odour, water quality, water flows, water depth, moisture profiling, turbidity, dust, and other parameters.

MEA can design and manufacture weather stations using any selection of sensors, on masts up to 100 metres tall.

All MEA systems are covered by a 12 month, return to factory warranty. Weather stations are assembled and tested at MEA before shipment. Documentation includes installation instructions and maintenance schedules.

Data Logging and Communications

Sensors are connected to a Data Logger mounted within a steel enclosure mounted on the mast. The logger can typically record at least 30 days of data. The enclosure also houses the battery and communications modules.

AWS data can be downloaded direct to a laptop, or by cable-link to a PC over a maximum of 500 metres. For remote and automated downloading a modem (cellular or landline) can be used. For systems which require frequent data retrieval or have a large number of users, a Packet Data Terminal (MEA2213) can be used to cost-effectively push data to an FTP server for retrieval via the Internet.

Magpie Software

MEA's Magpie software (MEA3103) manages the communications between computer and AWS (including remote access) and is used to display and analyse the weather data.

Magpie can display data as configurable tables, graphs and wind-roses. Magpie can calculate daily statistics such as evapotranspiration (using wind speed, humidity, temperature and solar radiation sensors), degree days, frost hours, chill factors, dew point, standard deviation of wind direction, vector mean wind speed and so on.

AWS data can be exported from Magpie software as tables or image files.

Automation and Websites

Magpie software can be automated to unload an AWS and push data to an FTP server in a form suitable for display on a website.

Following are links to examples of how MEA's AWS data can be presented on websites:

SA Murray Darling Basin Naural Resources Management
http://www.samdbnrm.sa.gov.au/Portals/7/AWMN/awsview.php

Lower Murray Water
http://www.lmw.vic.gov.au/LMWAWS.htm

TAFCO Weather Monitoring Service
http://weather.tafco.com.au/home/index.htm

Features and Benefits

- Long track record of reliability
- Comprehensive instrumentation options
- 'Modular' design allows for addition or deletion of instruments as required
- Solar powered
- Supplied software allows flexible display of data in different formats

Please see overleaf for more information.

41 Vine Street MAGILL SA 5072 **Telephone:** 08 8332 9044 **Fax:** 08 8332 9577 **E-mail:** mea@mea.com.au **Website:** www.mea.com.au

Specifications for Standard AWS (MEA103)		
Wind Speed & Direction		WMS301: Speed 0.5 to 60m/s, Direction 0 to 355°
Air Temperature & Relative Humidity		HMP155: Temp -80 to +60°C, Relative Humidity 0 to 100%
Soil Temperature		6507 - NTC Thermistor: -8.9 to 35°C (15k reference)
Solar Radiation		LP02: 0 to 2000Wm^2
Rain Gauge		RIM8020 - tipping bucket gauge: 0.2mm per tip, 0.2 to 380mm/Hr
Barometric Pressure		PTB110: 800 to 160hPa
Soil Moisture		Theta Probe: 0 to 60% volume
Leaf Wetness		MEA2040: 0 to 100% surface moisture with averaging capability
Data Logger		7001 Prologger - 16 analogue inputs, 4 counter channels, HSIO, SDI-12, 512k RAM, internal backup battery
Communications	Direct cable-link to PC	25-pin RS232 port on Logger, max. 500m hard link possible with surge protection
	Modem	Wireless (NextG or GSM) or landline
	Packet Data	MEA2213 Packet Data Terminal
Power Supply		5W Solar Panel charging 12V 7Ah SLA battery
Sensor Network Expansion		via MEA Radio or MEA2043 SDI-12 Sensor Field Station
Mounting		2m Tripod (pictured) or 10m telescopic mast

41 Vine Street MAGILL SA 5072 **Telephone:** 08 8332 9044 **Fax:** 08 8332 9577 **E-mail:** mea@mea.com.au **Website:** www.mea.com.au