

Marwel AWS

Mobile Automatic Reliable Weather Equipment

Mobile, automatic, highly reliable weather measurement equipment Marwel is a portable device used in hand-held, mobile, back-up, and temporary automatic weather stations.

Marwel is a complex system consisting of an anemometer, temperature and relative humidity sensor, pressure sensor, and a MicroStep-MIS data logger AMS 111 II.

Marwel combines high-quality sensors for comprehensive weather measurement with the data logger into a unique system providing complex functionality in a single unit.

- Power consumption: 450 mW (37 mA @ 6 V)
- In sleep mode: 180 uW (30 uA @ 6 V)

Wind Direction

Range	0 to 360°
Accuracy	± 3° (@ 12 m/s)
Resolution	1°
Response time	0.25 seconds

Wind Speed

Range	0 to 60 m/s (116 knots)
Accuracy	± 2 % (@ 12 m/s)
Resolution	0.01 m/s (0.02 knots)
Response time	0.25 seconds
Threshold	0.01 m/s

Outputs

Digital outputs	4 x digital output, open collector 35 V / 1 A
Power outputs	4 x switching power supply up to 1.5 A
Battery charger	Integrated automatic battery charger. Maximal charging current 2 A. Battery monitoring with full charge state and cut off voltage.

Environmental

Protection class	IP65
Operating temperature	- 40 °C to + 70 °C
Storage temperature	- 40 °C to + 80 °C
Operating humidity	< 5 % to 100 % RH

Relative Humidity

Sensor	RHT75
Measurement range	0 to 100 % RH
Resolution	0.1 % RH
Accuracy (@ 25 °C)	± 1.8 % RH

Temperature

Sensor	PT100 1/5 DIN
Measurement range	- 40 °C to + 85 °C
Resolution	0.01 °C
Accuracy	± 0.1 °C



Features

- Corrosion Free
- Low Power Consumption
- Robust Construction
- Wind Speed & Direction, Relative Humidity and Temperature from a Single Unit
- Easy to Use

Typical applications

- Portable and Hand-held Weather Stations
- Backup Weather Stations
- Agriculture

Pressure Sensor

Digital Barometer	MSB181
Pressure range	600 to 1100 hPa
Accuracy	± 0.3 hPa (- 40 °C to + 60 °C)
Resolution	0.02 hPa
Long-term stability	± 0.2 hPa/year
Wake-up from sleep mode	< 1 s
Response time	< 100 ms
Minimum pressure limit	0 hPa
Maximum pressure limit	1500 hPa

Basic AMS 111 II data logger modules:

- PL-MBDA2 Mainboard – the board for interfacing sensors and/or communication devices

Optional extension modules:

- PL-MD128 Touch screen display (128 x 64 graphic display with 32-button touch screen)
- PL-SR21 2 x RS232, 1 x RS485