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.

Corrosion free

Low power consumption

Robust construction

Easy to use

Marwel is a complex system consisting of an ultrasonic anemometer (no moving parts), 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	±2°
Resolution	0.5°
Response time	0.25 seconds

Wind speed

Range	0 to 60 m/s (116 knots)
Accuracy	±0.5 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 Anodized Aluminium (Marine Type)	IP 65
Operating temperature: Windsonic **Windsonic M**	−35 °C to +70 °C (without heating) −40 °C to +70 °C (with heating)
Storage temperature	−40 °C to +80 °C
Operating humidity	< 5 % to 100 %RH

Relative humidity

Sensor	RHT175
Measurement range	0 to 100 %RH
Resolution	depends on data logger
Accuracy (@ 25 °C)	±1 %RH

Temperature

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

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 RS-232, 1 x RS-485
• GPS module, Flux-gate Compass < ±2 °