

Vaisala HydroMet Automatic Weather Station MAWS201



Features/Benefits

- Portable weather station
- For a variety of applications – meteorological research, environmental impact studies, emergency response, waste management
- Compact, robust and lightweight
- Low power consumption
- Field-proven reliability and accuracy
- Wide selection of sensors and options
- Extensive calculation and data logging capacity

Easy to Set Up and Configure

The MAWS201 are easy to set up. Every sensor is supplied with a cable and connectors for easy installation. All components fit together easily and no special tools are required. The Vaisala Set-up Software Lizard is provided to simplify the work of configuring the sensor measurements, calculations, data logging schedules and data transmissions. Set-up templates walk you through the initial set-up routines, and a large number of set-up options are available if you want to customize the settings further.

Accurate Sensors

The basic sensor suite measures wind speed/direction, atmospheric pressure, air temperature, relative humidity and precipitation. Optional sensors can be added to measure e.g. soil/water temperature, global and net solar radiation, soil moisture, and water level. The performance of the sensors has been proven in the field in a wide range of environments.

Reliable in all Weather

The MAWS201 operates reliably in all weather: its corrosion-resistant anodized aluminium construction is rugged and weatherproof. The cables are made of high-quality polyurethane with moulded watertight connectors that fulfil the requirements of the IP68 standard.

All the inputs are surge protected. The quality control software checks the sensor data against the user-set climatological limits, as well as the step changes between successive measurements. Each statistical calculation has its own validation routine: all can be configured by the user.

Statistical Calculations

The statistical calculations include minimum, maximum, average, standard deviation and cumulative values. All are calculated over user-defined intervals. All extreme values can be time stamped. In addition, a library of calculations is available including unit conversions, dewpoint, frost point, QNH, QFF, QFE, evapotranspiration, sunshine duration, forest fire index, wind chill, heat stress etc.

Versatile Data Outputs

The user can freely configure the data output formats – several ready-made templates are provided to make this easy. The alarm module notifies the user when a measured or calculated value exceeds the threshold values that the user has set. The alarm module can be configured e.g. to send an alarm message, to change timing interval(s), to log data and/or to set an excitation voltage for controlling an external device.

Technical Data

Environmental

Temperature	
Operating	-40 ... +60 °C
Storage	-50 ... +70 °C
Humidity	0 ... 100 %RH
Emissions	CISPR 22 class B (EN55022)
Immunity	
ESD immunity IEC 61000-4-2	
RF field immunity IEC 61000-4-3	
EFT immunity IEC 61000-4-4	
Surge (lightning pulse) IEC 61000-4-5	
Conducted RF immunity IEC 61000-4-6	

Sensors

Wind	QMW101/102
Pressure	BARO-1QML
Temperature, relative humidity	HMP155
Solar radiation	QMS101, QMS102, QMN101
Precipitation	QMR101/102
Soil/water temperature	QMT103, QMT110, QMT107
Soil moisture	ML2x
Physical	
Weight example:	Portable system with 3 m tripod 15 kg (pressure, temperature/humidity and wind sensors)
Basic enclosure	
Material	Anodized aluminum
Ingress protection	NEMA 4X, IP66
Dimensions	Diameter 120 mm, height 420 mm
Weight	3 kg

Options and Accessories

Communication modules	DSU232, DSI486
Mains power supply	QMP213
Solar/mains power supply	QMP201C
Carrying cases for MAWS201	QMM110, QMM120
UHF radio modem set	SATEL3ASET-M2

General

VAISALA DATA LOGGER QML201	
Processor	32-bit Motorola
A/D conversion	24 bit
Data logging memory	
Internal	3.3 MB internal flash memory
Optional	>2GB on compact flash memory card
Sensor inputs	
Analog	10 analog inputs (20 single-ended inputs)
Frequency	2 counter/frequency inputs
Internal channel for BARO-1QML pressure transducer	
Serial communication	
Standard	RS-232 and RS-485
Optional	
Two (2) optional plug-in slots for communication modules for increasing the number of serial I/O channels up to 8 pcs	
External powering	
Voltage	8 ... 14 VDC recommended (30 V max.)
Power consumption	< 10 mA/12V (typically with 5 basic sensors)
Powering	
Mains power	QMP213 85 ... 264 VAC
Mains power	QMP201C 85 ... 264 VAC
with 11W solar panel and 7 Ah back-up battery	

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