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Vaisala TacMet® Tactical Meteorological Observation System MAWS201M

Compact and Lightweight Basic System

The Vaisala TacMet® MAWS201M is a portable weather station that offers high performance in a very compact package. The MAWS201M measures, processes and reports data from wind speed and direction, air temperature, relative humidity (dewpoint), pressure and precipitation. The system is powered either by mains (AC) power or by an integrated solar panel. Back-up batteries are available, providing a minimum of 7 days of operation without recharging.

Full Aviation Support with Enhanced Systems

The MAWS201M is easily enhanced with the needed support for aviation. Enhancement 1 includes cloud height and coverage, visibility, present weather and lightning. Enhancement 2 has freezing rain, additional wind sites and additional digital displays. The MAWS201M includes also a PocketPC handheld display for viewing measured and calculated parameters and system alarms, as well as for setting station-specific parameters.

Maximum Portability and Ease of Use

Mechanical parts of the system are lightweight but robust, and all cables are fitted with quick-release color -coded connectors. The carrying cases are light, yet providing excellent cushioning during transport.

Versatile Reports Automatically

The MAWS201M is delivered with advanced software, which displays numerical and graphical data and codes automatically. It also issues METAR reports and based on user defined weather events, and SPECI reports. Remarks can easily be included with reports. The software also does the archiving and transmitting for further processing.

Features

- Cost-effective quickly deployable portable automatic weather station
- For defense operations using small landing strips, drop zones, test ranges, UAV systems and uncategorized airports
- The most compact lightweight system with full aviation support
- Reliability and precision gained through built-in diagnostics and high quality sensor technology
- Robust design for harshest environment
- Enhanced freezing rain detection
- Accurate 2nd wind measurement site to assist approach
- Ready configured digital displays to ditribute data to command center

Reliability and Highest Precision

The MAWS201M processes statistical calculations, performs data quality control, and formats data for output. Built-in quality control software validates sensor data against user-set limits and step changes between successive measurements. In case of unlikely malfunction, the MAWS201M automatically detects failures and the sensor can be replaced quickly on site.

Technical Data

General

Data Collection Platform	Vaisala Data Logger QML201
Temperature	
Operating *	-50 ... +60 °C (-58 ... 140 °F)
Storage	-50... +70 °C (-58 ... 158 °F)
Humidity	0 ... 100 %RH
IP rating	IP66
MTBF	>12,500 h (MIL-HNDB217F)
Mast	
	Tripod mast adjustable from 1.8 to 3.6 m (6 to 12 ft)
	Optional telescope mast 10 m (30 ft)
Maximum wind speed	35 m/s (70 kts)
Weight	
Basic System	In two carry cases, total 42 kgs
Enhanced System 1	In two carry cases, total 71 kgs
Enhanced System 2	in two carry cases, total 61 kgs
Set-up time	
Basic System	Less than 15 min.
Enhanced System 1	30 min.
Enhanced System 2	30 min.**
Powering	
AC (Mains) power	85 - 264 VAC, 47 - 63 Hz, max. 200 VA
Solar panel	11W
Internal battery	
Basic System (continuous operation w/o AC power)	7 Ah / 12 V
Enhanced System 1 (min. 24 h operation w/o AC power)	48Ah / 12V
Enhanced System 2 (min. 24 h operation w/o AC power)	24Ah / 12V
Battery regulator for Enhanced Systems	Charge/recharge control
	Temperature compensation
	Deep discharge protection
	Simultaneous inputs from solar and AC power allowed
Electromagnetic compatibility	IEC/EN 61326-1

Data Validation, Calculations and Reports

Data quality control	Upper / lower climatological limits
	Step change validation
	Sensor status indication
Statistical calculations	Averaging over user set periods
	Minimum / maximum values
	Standard deviation
	Cumulative values
Other calculations	Dew point
	QNH, QFE, QFF, PA, DA, pressure tendency, pressure trend
	Gust, Peak, Squall
	Modified discomfort index
Weather data reports	METAR
	SPECI

Sensor Options per System Type

	Basic	Enhanced 1	Enhanced 2
Wind speed (WMS302M)	√	√	√
Atmospheric pressure (BARO-1)	√	√	√
Temperature, relative humidity (HMP155)	√	√	√
Rain / precipitation (QMR101M)	√	√	√
Cloud height & coverage (CL31M)		√	√
Visibility & present weather (PWD22M)		√	√
Lightning (SA20M)		√	√
Freezing rain (LID330IP)			√
Additional wind sensor (WMT700)			√

Standard Communication Options ***

Wireless communication	UHF, VHF
Landline communication	RS232

* for further extended range, please contact Vaisala

** total set-up time depends on location and distance of additional wind sites and displays

*** for other communication options, please contact Vaisala

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