

Vaisala Fixed Site Observation System AWS520



Features

- Cost-effective stand-alone weather observation and reporting system for real-time aviation applications
- Aviation support for defense operations at uncategorized airports, helipads, small unmanned landing strips and test / training ranges
- Significant aviation weather parameters are measured by one compact unit installed on a pole mast
- Accurate measurements with built-in data validation
- Large variety of different sensors and telemetry options
- Suitable for harshest arctic and coastal locations
- Ease of use with advanced display products
- Core measurement unit in FMQ-22 for US Air Force OS21 fixed based system program

Aviation Meteorological Support

The Vaisala Fixed Site Observation System AWS520 offers high performance in a compact package. It measures the meteorological parameters needed in aviation including wind speed and direction (Gust and Squall), atmospheric pressure (QFF, QFE, QNH, pressure tendency), air temperature and humidity (dew point), precipitation accumulation, cloud height and coverage, visibility, precipitation type and lightning.

The AWS520 reports the prevailing weather conditions to pilots and other users by number of different media. Spoken weather reports are available through a VHF radio transceiver or a public switch telephone line. The data reports can be also sent via satellite telemetry, LAN, hardware modem to a standard laptop PC provided with software

to display numerical and graphical data and code automatically METAR and SPECI aviation weather reports. A weather-resistant pocket PC with graphical display software is available as an easy-to-use local display and maintenance terminal.

Field-Proven Quality Measurements

The AWS520 is equipped with built in algorithms to ensure the quality of each measurement and a testing system to continuously check the correct operation of the hardware. For each parameter, tests are carried out on the minimum, maximum and step limits. Vaisala sensors are designed according to the relevant ICAO, FAA and WMO guidelines.

Compact and Easy to Install

AWS520 is integrated upon a steady 10 meter pole mast. One person can quickly and safely tilt the mast to install and maintain the sensors and other equipment. The base of the mast is set on a single concrete pad, making the installation easy and economical.

Life-cycle Support

Vaisala offers an extensive set of services to maintain and support the system over its life cycle. A service contract can be tailored to your specific needs.

Technical Data

General

Data Collection Platform	Vaisala Data Logger QML201C
Temperature	
Operating *)	-40 ...+50 °C (-40 ...122 °F) without radio
	-30 °C ...+45 °C (-22 ...113 °F) with ICOM radio
Storage	-50 ...+70 °C (-58 ... 158 °F)
Humidity	5 ...100% RH
EMC	In compliance with EN 61326-1
	Electrical equipment for measurement, control and laboratory use
	- EMC requirements - for use in industrial locations
IP rating	IP-66
Materials	Stainless steel AISI316 Painted aluminium Plastic
Mast**)	Tilttable 10 m (30 ft) pole mast
Enclosure	600 (H) x 400 (W) x 200 (D) mm
Weight	Enclosure approx 20 kg Mast with sensors approx 150 ...200 kg
Maximum wind speed	With two sets of guy wires 75 m/s (130 kt)
Powering **)	EUR: 230V 50Hz, US: 115V 60Hz
Internal battery	12 Ah/12V
Battery regulator	Charge/recharge control Temperature compensation Deep discharge protection

Starting up time is 3 hours when the temperature is -50C and system does not contain radio (cold start).

Data Validation, Calculations and Reports **)

Data quality control	Upper/lower climatological limits Step change validation Sensor status indication
Statistical calculations	Averaging periods Minimum/maximum values Cumulative values
Other calculations	Dew point QNH, QFE, QFF; pressure tendency Gust, Squall Day/night visibility
Weather data reports (w / AviMet or AOS sw)	METAR and SPECI reports are ICAO compliant with AviMet software and AFMAN 15-111 compliant with AOS software

Communication and Display Options **)

Wireless communication	Voice radio
Landline communication	RS232, RS485 bus, Fixed line modem Laptop/Pocket PDA
Data displays	The spoken weather reports via VHF radio or public switch telephone line: (output power 36W typ. pep, 9W typ. for CW. Note: national regulations)

*) For further extended range, please contact Vaisala

**) For other calculation, reporting, mast, solar powering, sensor and communication options, please contact Vaisala

***) Further technical information available on individual product-specific datasheets

Standard Sensor Options **)

COMMERCIAL-OFF-THE-SHELF (COTS) SENSOR*** OPTIONS FOR AWS520:	
Vaisala WINDCAP® Ultrasonic Wind Sensor	
Wind speed & direction	WMT700
Vaisala HUMICAP® Humidity and Temperature Probe	
Air temperature, relative humidity & dew point	HMP155
Vaisala BAROCAP® Digital Barometer	
Atmospheric pressure	PTB330
Vaisala Precipitation Sensor	
Rain/precipitation	RG13
Vaisala Visibility and Present Weather Sensor	
Visibility & present weather	PWD22
Vaisala Ceilometer	
Cloud height & coverage/vertical visibility	CL31
Vaisala Thunderstorm Sensor	
Lightning	SA20

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