Vaisala Automatic Weather Station AWS310

/ AN INNOVATIVE WEATHER SOLUTION FOR ALL NEEDS

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Accurate, real-time weather data you can rely on

The Vaisala Automatic Weather Station AWS310 – an innovative solution you can count on for reliable, accurate environmental measurements. As a stand-alone weather data collection system, Vaisala AWS310 requires only a minimal amount of maintenance. With optional Vaisala Observation Network Manager NM10 software AWS310 users are able to remotely monitor and control the observation stations. AWS310 can also be customized to operate as part of your existing data collection system or AWS network.

From synoptic meteorology and climatological research, to hydrology and urban meteorology – the Vaisala AWS310 is the ideal solution for professional applications.

Preconfigured or customized – it's up to you

When you choose the Vaisala Automatic Weather Station AWS310, you get the complete solution. Enclosure, mast, sensors, sensor installation kits, powering equipment, and telemetry devices – everything you need to start taking accurate and reliable weather measurements. The AWS310 comes with from a range of preconfigured options including sensor set, telemetry components, and power setup. If you have special requirements, the AWS310 is customizable upon request, as is the reporting format – enabling integration into any data collection system.

Validated data from reliable sensors

The AWS310 includes built-in algorithms that test each measurement to ensure quality. The minimum and maximum readings of every parameter are thoroughly tested, as are the step limits. The resulting logged meteorological data is saved on the external compact flash card, but can also be transmitted to a remote workstation as a real-time feed.

Data collection and AWS networking

The stored log files can be exported to external applications. Several client PCs can be used to gather weather data from the master PC. The latest data files can be transferred to up to two different servers using FTP protocol.

For AWS neworks, the Vaisala Observation Network Manager NM10 software provides a browser-based interface to view observation data and monitor network status. NM10 enables centralized remote monitoring and control of observation stations, and provides a wide range of options for storing, exporting and visualizing data.

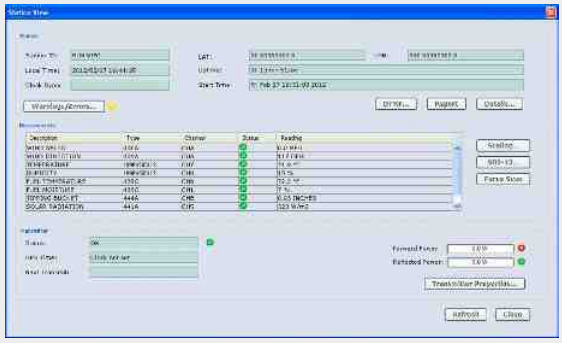
Making it easier

You don't have to be on site to update or adjust sensor settings – the AWS310 can be reached remotely, with self-diagnostic reports available from the data logger and from the sensors. Vaisala AWS Client software supporting setup, diagnostics and data retrieval is included in each delivery of AWS310 for communicating with the weather station.

StationView GUI allows the user to view basic station information, sensor status and readings, set site specific parameters, and perform many of the AWS Client functions in a graphical user interface. The AWS310 can also automatically download a new configuration file from a network server, making maintenance even easier.

Key benefits:

- Best options preconfigured, also fully customizable for special needs
- WMO-compliant sensors for validated data
- Remote configuration management
- Easy remote monitoring of network status via optional NM10 software
- Long calibration intervals
- Fast delivery for preconfigured systems



Vaisala AWS Client StationView window displays basic station information, sensor status and readings and GOES satellite transmitter information. Through StationView, GOES users can easily change the NESDIS assignments, run diagnostics, transmit a test message and calculate antenna alignment.

AWS310 includes:

- Tiltable pole mast
- Electronics enclosure
- Mains or solar powering
- Local and remote communications
- Sensors
- Mounting accessories
- Optional data display software
- Express spare parts

Measurements (pre-configured)

- Wind speed and direction
- Air temperature
- Relative humidity, dewpoint
- Precipitation
- Global solar radiation
- Visibility and present weather
- Cloud height and sky condition
- Ground temperature and moisture
- Snow depth

Excellent long-term stability

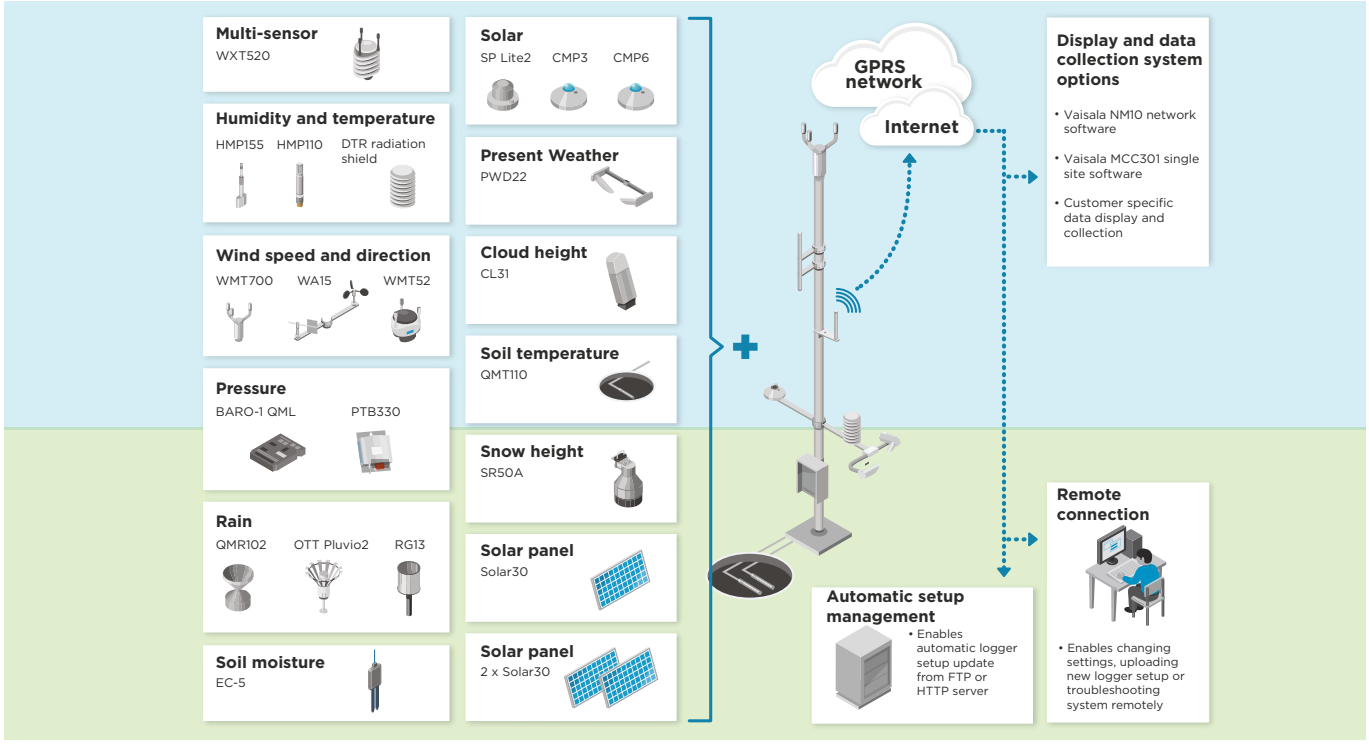
Calibration is vital to ensure the accuracy and reliability of weather station data. AWS310 sensors have excellent long-term stability with a low risk of drifting or sudden changes in calibration. This results in longer calibration intervals, saving maintenance costs and reducing downtime.

On-site calibration

On-site calibration equipment PTB330TS checks and adjusts humidity, temperature and pressure readings. For wind and visibility measurements there are separate field check kits. In addition, high-quality laboratory calibration services are available in Vaisala Service Centers.

Vaisala weather station training

Reliable data is not achieved without skilled technical staff to operate and maintain weather stations. Training courses provide an excellent overall understanding of the AWS310 system, and also cover how to install, operate, troubleshoot, and conduct any necessary field repairs.



Technical Data

General

Data Collection Platform	Vaisala Data Logger QML201
Operating temperature	-40 ... +60 °C
Storage temperature	-60 ... +70 °C
Humidity	0 ... 100 %RH
Methods of Testing and Required Test Results, as follows:	
	APPLIED STANDARD OR TEST PROCEDURE
Environmental tests: Operating	
Dry heat	IEC 60068-2-2
Cold	IEC 60068-2-1
Damp heat	IEC 60068-2-78
Vibration	IEC 60068-2-6/34
Environmental tests: Storage	
Dry heat	IEC 60068-2-2
Cold	IEC 60068-2-1
Damp heat	IEC 60068-2-78
Environmental tests: Transport	
Vibration (random)	IEC 60068-2-6/34
Rough handling (free fall etc.)	IEC 600068-2-31
EMC tests	
Electrostatic discharge	EN 61000-4-2
Fast transient burst	EN 61000-4-4
RF field immunity (80MHz...18GHz)	EN 61000-4-3
Transient surge	EN 61000-4-5
Conducted RF immunity	EN 61000-4-6
Immunity to Voltage Dips and Short Interrupts	IEC 61000-4-11
RF field emission	EN 55022
Emission to DC/I/O ports	EN 55022
Safety tests	
Electrical safety	IEC 60950-1
Enclosure protection & IP-class	IP66
Enclosure materials	Acid-proof steel (AISI316), painted white
Enclosure size	600 (H) x 500 (W) x 200 (D) mm
Mast*)	Tiltable 2/3/10 m pole mast
Weight	Enclosure approx. 30 kg
	10 m mast with sensors 150 ... 200 kg
Maximum wind speed	DKP110 mast with one set of guy wires 60 m/s
	DKP210W mast with two sets of guy wires 75 m/s
Powering	90…264 VAC, 45...65 Hz
	12…24 VDC recommended (30 VDC max.)
Solar panel	30W / 2 x 30W
Internal battery	Up to 52 Ah / 12 V
Battery regulator	Charge/recharge control
	Temperature compensation
	Deep discharge protection
	Simultaneous inputs from solar and AC (mains) power allowed

Data Validation, Calculations and Reports*)

Data quality control	Upper / lower climatological limits
	Step change validation
	Sensor status indication
Statistical calculations	Averages over set periods
	Minimum / maximum values
	Standard deviation
	Cumulative values
Other calculations	Dew point
	Heat index
	Wind chill
	Wet bulb temperature
	QFE/QFF/QNH pressure
	Sunshine duration
	Evapotranspiration
Default reporting formats	Table format diagnostics message
	CSV (comma-separated values) log message
	Vaisala SMSAWS message

Preconfigured Sensor Options*)

Weather transmitter	WXT520
Wind speed & direction	WA15, WMT52, WMT703
Atmospheric pressure	BARO-1QML (Class A accuracy)
	PTB330 (Class A accuracy, with three transducers)
Air temperature, relative humidity & dew point	HMP110, HMP155
Rain / precipitation	QMR102, RG13, OTT Pluvio[2]
	(installation pedestal is always included with rain/precipitation gauges in AWS310)
Global solar radiation	SP Lite2, CMP3, CMP6
Visibility & present weather	PWD22
Cloud height & sky condition	CL31
Ground temperature	QMT110
Soil moisture	EC-5
Snow depth	SR50A

Preconfigured Communication and Data Collection Software Options*)

Wireless communication	GSM, GPRS
Landline communication	RS-232, RS-485 bus, LAN
Data collection software	Vaisala Observation Console MCC301,
	Vaisala Observation Network Manager NM10
Satellite communication	Vaisala High Data Rate GOES Transmitter (V2.0)
	Maintenance terminal software Vaisala AWS Client with StationView GUI

*) for other data validation, calculation, report, mast, powering, sensor, communication and data collection software options, please contact Vaisala

Accessories Provided

Two locks for enclosure
USB maintenance cable
2 pcs removable 2GB CF memory cards

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www.vaisala.com/requestinfo

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