

Vaisala Automatic Weather Station AWS310

/ AN INNOVATIVE SOLUTION FOR ALL WEATHER
MEASUREMENTS



VAISALA

A Simple, All-In-One Solution



Vaisala is the one-stop shop for automatic weather stations. When you choose the Vaisala AWS310, you get a complete communication and data monitoring solution, including sensor, electronics, mast, and power supply – everything you need to start taking accurate and reliable weather measurements. The stations are able to satisfy the general and specific needs of several applications, such as synoptic, aviation, and agricultural meteorology, hydrology, and climatology. The ability to use the same standard hardware and software for many different requirements lowers the cost of training, spare parts, and logistics support. When the total life-cycle cost of operating an entire network is fully considered, Vaisala systems are the most economical solution.

Validated Data From Reliable Sensors

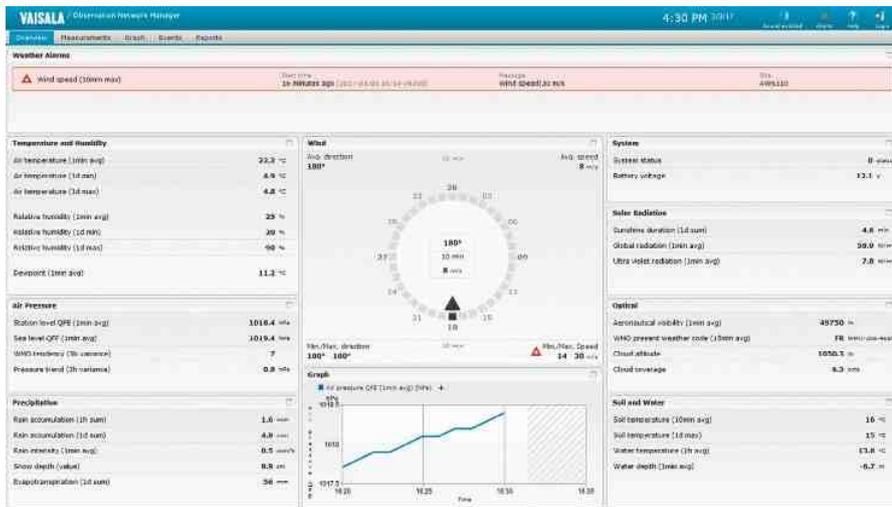
Vaisala weather stations and instruments are fully compliant with World Meteorological Organization guidelines. The design quality of Vaisala weather stations has been proven not only through extensive tests in the development phase, but also in the field with over 20,000 installations worldwide. To ensure continuous accuracy of measurements and calculations, the AWS310 includes built-in data quality controls that test measured sensor data against minimum and maximum climatological limits and step changes between successive measurements. In addition, the weather station's Vaisala QML logger continuously monitors the status of the sensors to ensure measurement reliability, notifying the user if any sensor status becomes invalid. All the sensors operate independently from each other, meaning that an individual sensor failure does not affect the performance of the other sensors.

Data Collection And AWS Networking – Making It Easier Still

For AWS310 networks, the Vaisala Observation Network Manager NM10 software provides a powerful browser-based interface for 24/7 monitoring, access, and control of all your observation sites, no matter where they are. Continuous and reliable observations improve the performance of your weather services and weather-critical operations, while shorter site visits and correct maintenance actions save time and money.

Key benefits:

- Common 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



With Vaisala Observation Network Manager NM10 you can monitor, access and control all your AWS310 observation sites 24/7 anywhere.

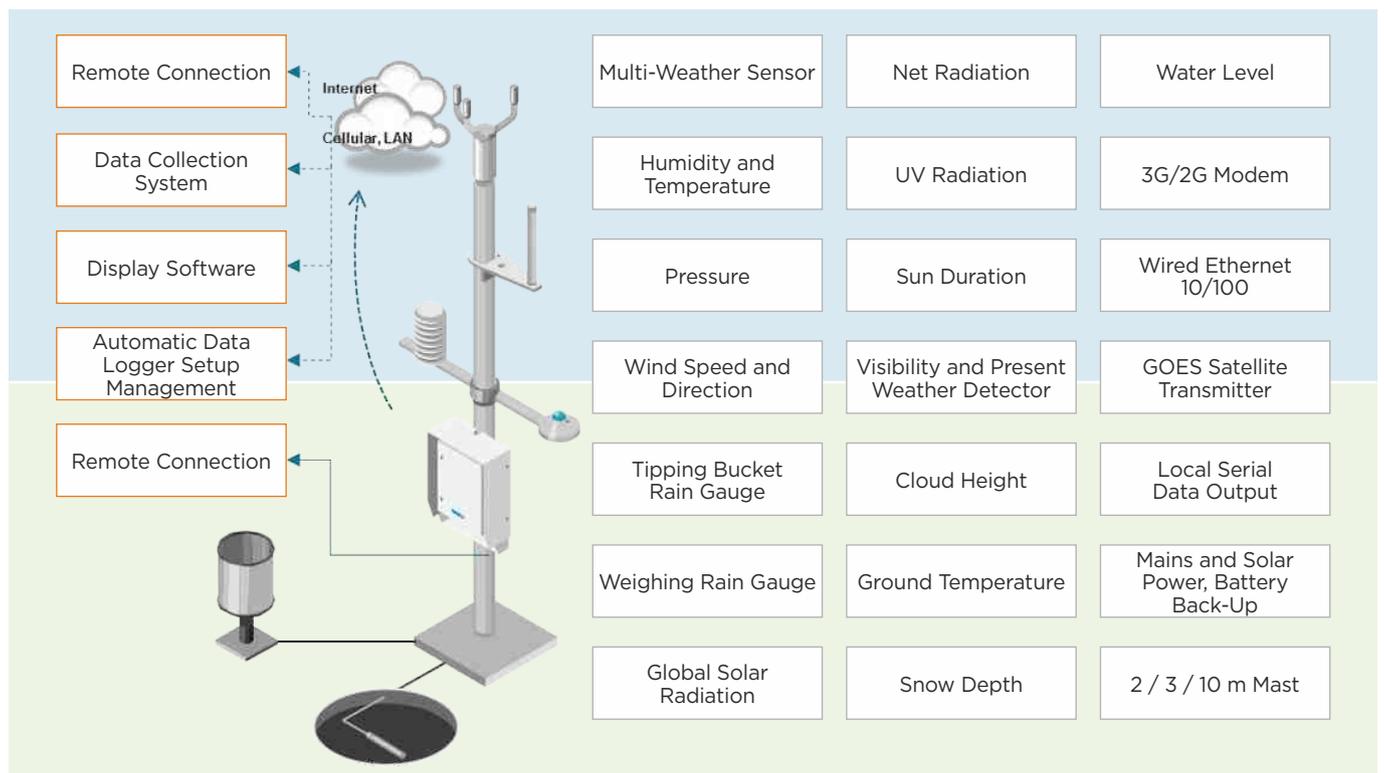
user interface. The AWS310 can also automatically download a new configuration file from a network server, making maintenance even easier.

Even without the NM10 software, you don't have to be on site to adjust settings or fix problems – the Vaisala AWSClient software supports setup, diagnostics, and data retrieval and is included in each AWS310 delivery. The AWS310 StationView GUI allows the user to view basic station information, sensor status, and readings, set site-specific parameters, and perform many of the AWSClient functions using a graphical



Vaisala Weather Station Training

Reliable data cannot be achieved without skilled technical staff to operate and maintain your weather station. Training courses provide an excellent overall understanding of the AWS310 system, and also cover how to install, operate, and troubleshoot the system 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 60068-2-30

Environmental tests: Storage	
Dry heat	IEC 60068-2-2
Cold	IEC 60068-2-1
Damp heat	IEC 60068-2-30

Environmental tests: Transport	
Vibration (random)	ETSI EN 300 019-2-2v2.3.1
Rough handling (free fall etc.)	ETSI EN 300 019-2-2v2.3.1

EMC tests IEC 61326-1- Industrial Standard	
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
RF field emission	EN 55022
Emission to DC/I/O ports	EN 55022
Harmonic current emissions	IEC 61000-3-2
Magnetic field immunity	IEC 61000-4-8
Immunity to Voltage Dips and Short	IEC 61000-4-11

Safety tests	
Electrical safety	IEC 60950-1

Enclosure protection & IP-class	IP66 acc. IEC 60529. Sand & dust test acc. MIL-STD 810 G Method 506.5 Procedure 1
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Enclosure materials	Stainless steel AISI316L, painted white
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Enclosure radiation shield materials	Aluminum, painted white
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Enclosure size	600 (H) x 500 (W) x 200 (D) mm
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Mast ²⁾	Tilttable 2/3/10 m pole mast
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Weight	Enclosure approx. 30 kg
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10 m mast with sensors	75 ... 125 kg (composite mast)
	150 ... 200 kg (aluminum & steel mast)

Maximum wind speed	75 m/s with 10 m mast and two guy wire sets
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Powering	90 ... 264 VAC, 45 ... 65 Hz
	12 ... 24 VDC recommended (30 VDC max.)

Solar panel	30W / 2 x 30W
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Internal battery	Up to 52 Ah / 12 V with simultaneous AC (mains) and solar power supplies
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Battery regulator	Charge/recharge control
	Temperature compensation
	Deep discharge protection
	Simultaneous inputs from solar and AC (mains) power allowed

Data Validation, Calculations and Reports¹⁾

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
	All calculations and reporting in SI units by default ¹⁾

Preconfigured Sensor Options²⁾

Weather transmitter	WA15, WMT703 (dual sensors available)
Wind speed & direction	WXT531, WXT532, WXT535, WXT536
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, Pluvio2L (installation pedestal included)
Global solar radiation	SMP3, SMP6, SMP10, SMP21, SMP22, SP Lite2
Net radiation	QMN101
UV radiation	SUV5
Visibility & present weather	PWD22
Cloud height & sky condition	CL31
Ground temperature	QMT110
Snow depth	SR50A
Water level	Vegapuls 61, PAA-36 X W

Preconfigured Communication and Data Collection Software Options²⁾

Wireless communication	Five-band UMTS 3G modem (with quad-band GSM GPRS support)
Landline communication	RS-232, RS-485 bus, LAN
Data collection software	Vaisala Observation Network Manager NM10
Satellite communication	Vaisala High Data Rate GOES Transmitter (V2.0)
Maintenance terminal software	Vaisala AWS Client with StationView GUI

²⁾ for other data validation, calculation, report, mast, powering, sensor, communication data collection software options, and measurement unit conversions, please contact Vaisala

Accessories Provided

USB maintenance cable
Removable 2GB CF memory card



Please contact us at www.vaisala.com/requestinfo



Scan the code for more information

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