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.

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.

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
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:

<table>
<thead>
<tr>
<th>Applied Standard or Test Procedure</th>
<th>Environmental tests: Operating</th>
<th>Environmental tests: Storage</th>
<th>Environmental tests: Transport</th>
<th>EMC tests</th>
<th>Safety tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 60068-2-2</td>
<td>Dry heat</td>
<td>Cold</td>
<td>Vibration</td>
<td>Electrostatic discharge</td>
<td>Electrical safety</td>
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<tr>
<td>IEC 60068-2-1</td>
<td>Cold</td>
<td>Damp heat</td>
<td>IEC 60068-2-78</td>
<td>Fast transient burst</td>
<td>Enclosure protection &amp; IP-class</td>
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<tr>
<td></td>
<td>Damp heat</td>
<td>Vibration</td>
<td>IEC 60068-2-34</td>
<td>RF field immunity (80MHz...18GHz)</td>
<td>Acid-proof steel (AISI316), painted white</td>
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<td></td>
<td></td>
<td>IEC 60068-4-3</td>
<td>Transient surge</td>
<td>Enclosure size</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>IEC 60068-4-5</td>
<td>Conducted RF immunity</td>
<td>600 (H) x 500 (W) x 200 (D) mm</td>
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<td></td>
<td></td>
<td></td>
<td>IEC 60068-4-6</td>
<td>Immunity to Voltage Dips and Short</td>
<td>Mast* Tiltage 2/3/10 m pole mast</td>
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<td></td>
<td>IEC 60010-4-11</td>
<td>Interrupts</td>
<td>Weight Enclosure approx. 30 kg</td>
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<td></td>
<td>RF field emission</td>
<td>10 m mast with sensors 150 ... 200 kg</td>
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<tr>
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<td></td>
<td>Emission to DC/I/O ports</td>
<td>Maximum DPK110 mast with one set of guy wires 60 m/s</td>
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<td></td>
<td></td>
<td></td>
<td>wind speed DPK210W mast with two sets of guy wires 75 m/s</td>
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<td></td>
<td></td>
<td>Powering 90 ... 264 VAC, 45...65 Hz</td>
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<td></td>
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<td>12 ... 24 VDC recommended (30 VDC max.)</td>
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<td></td>
<td>Solar panel</td>
<td>30W / 2 x 30W</td>
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<td></td>
<td>Internal battery</td>
<td>Up to 52 Ah / 12 V</td>
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<td></td>
<td></td>
<td></td>
<td>Battery regulator</td>
<td>Charge/recharge control</td>
</tr>
</tbody>
</table>

**Data Validation, Calculations and Reports**

- Data quality control: Upper / lower climatological limits
- Step change validation
- 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 Pluvio² (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: EC5
- 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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