

MEA Automatic Weather Station WXT510

MEA's Automatic Weather Station WXT510 is a low cost, compact AWS, based on the Vaisala multi-parameter sensor cluster.

The AWS WXT510 makes use of the Vaisala WXT510 weather instrument cluster, which, in the one package, measures:-

- air temperature
- relative humidity
- wind speed and direction
- barometric pressure
- rainfall.

The outer body of the sensor forms a radiation screen which shields the temperature and humidity sensor from the heating effect of solar radiation and the cooling effect of the wind.

The small size of the AWS WXT510 makes it ideal for use in confined areas or where a larger unit may be prone to damage or vandalism.

The sensors are all electronic and there are no moving parts to wear or be damaged. The wind speed and direction sensors use an ultrasonic transducer giving the unit very low start speeds and performance usually only found in much higher price units. The "Raincap" sensor responds to rain drops hitting the sensor plate, allowing it to measure accumulated rainfall, rainfall intensity and rain duration.

The WXT510 sensor cluster feeds into the AWS data logger which reads the sensors and stores the results. The station is powered with a solar panel kit.

Information from the station is collected and managed using MEA's Magpie software. A portable computer can be connected directly to the station's data logger or MEA can fit the station with a landline or cellular phone modem to support access to the data from remote sites.

Note that the AWS WXT510 is not suitable for use where the full rigour of FAO56 Evapotranspiration calculation is not required. While the specifications of the individual sensors are up to that required by the FAO model, the sensor design means that the mounting heights of some sensors will result in a reduction in the accuracy of the calculation.

The WXT510 sensor can be fitted to any other MEA custom weather station.



Specifications

Sensor	Range /	Accuracy
Air temperature	-52 to + 60 degrees C	+/- 3 degrees C
Relative humidity	0-90% 90-100%	+/- 3% +/- 5%
Wind speed	0-60 metres/second	+/- 0.3 m/s or +/- 2%
Wind direction	0-360 degrees	+/- 2 degrees
Rainfall	0-200 mm/h	5%
Barometric pressure	60 -1100 hPa	+/- 1 hPa