



**Automatic Weather Stations  
Quick Start Guide  
(AWS200, AWS300, AWS500)**

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# 1. Introduction

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## The AWS Weather Station Series

The AWS weather station uses the most advanced meteorological sensor technology in the industry, integrating the main meteorological parameters. These include air temperature, humidity, atmospheric pressure, wind direction, wind speed. The IMS (Industrial Meteorological Station) series adds to this range the measurements of particulate matter pm2.5, pm10 and noise.

Application areas: traffic, agriculture, meteorology, environmental protection, electricity and water conservancy and many other fields.

## 2. AWS Safety & Maintenance

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### 2.1 Safety, Designated use and Incorrect Use

Installation and commissioning must only be done by designated qualified professionals:

- Do not measure or touch live parts.
- Attention must be paid to the technical parameters of the device as well as the storage and operating conditions.
- The device must be operated within the specified technical parameters. The operating conditions and purpose of the equipment cannot violate the original intention of the design.
- Modifications or modifications to the device will not ensure their safety and uptime.
- If the device is not installed correctly, it may not work and/or it may become permanently damaged.
- If any equipment falls, there is a risk the fall may cause danger or injury.

### 2.2 Guarantee

Warranty period is 12 months, effective from the date of delivery. If the user uses the device for an unspecified purpose, the warranty will no longer be valid

### 2.3 Maintenance

In general, the equipment does not require maintenance. However, it is recommended to perform a functional test once a year. When performing a functional test, please note the following:

- Visually check whether the equipment has sludge
- Issue measurement request signal, check sensor

It is recommended that the humidity sensor be calibrated once a year. Since the customer cannot disassemble and reinstall the humidity sensor, the entire micro weather station must be sent to the manufacturer for testing.

## 2. AWS Safety & Maintenance

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### 2.4 Repair / Correct Maintenance

Do not open the device and do not repair the device by self under any circumstances. Be sure to contact the manufacturer for inspection and repair of the faulty equipment (if necessary). Regarding product warranty and repair, etc. Please contact:

ICT International Pty Ltd  
Phone Number: +61 2 6772 6770  
Email: sales@ictinternational.com.au  
Website: www.ictinternational.com

## 3. Instrument Visual Checks & Maintenance

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### 3.1 Selecting the Installation Location

In order to extend the service life of the equipment and to ensure the normal operation of the equipment, please pay attention to the following matters when selecting the installation position of the equipment.

- Sensors should be working in an open environment, where the location is easy to maintain.
- Please note that buildings, bridges, dams and trees may affect the wind speed and other measurement parameters. For example, wind gusts caused by passing vehicle could affect wind measurements.
- The frame or pole to which the sensor is attached should be firm and stable.
- Installation of the sensor should be of a height that is at least 1.5 meters from the ground
- The power supply should be stable and reliable to meet long-term operation requirements.

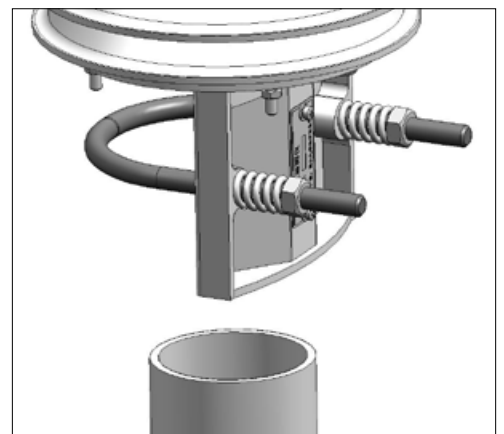
### 3.2 North Alignment

In order to correctly display the wind direction, the sensors must be aligned to the North; whether the installation is in the Northern or Southern hemisphere. There are multiple arrows on the sensor to indicate the direction, and N arrows indicate the north direction. Note: The magnetic north pole and the geographical north pole indicated by the compass are not exactly the same. Therefore, the deviation (error) of the position must be considered when arranging the sensors.

### 3.3 Sensor Mounting and Pole Fixture

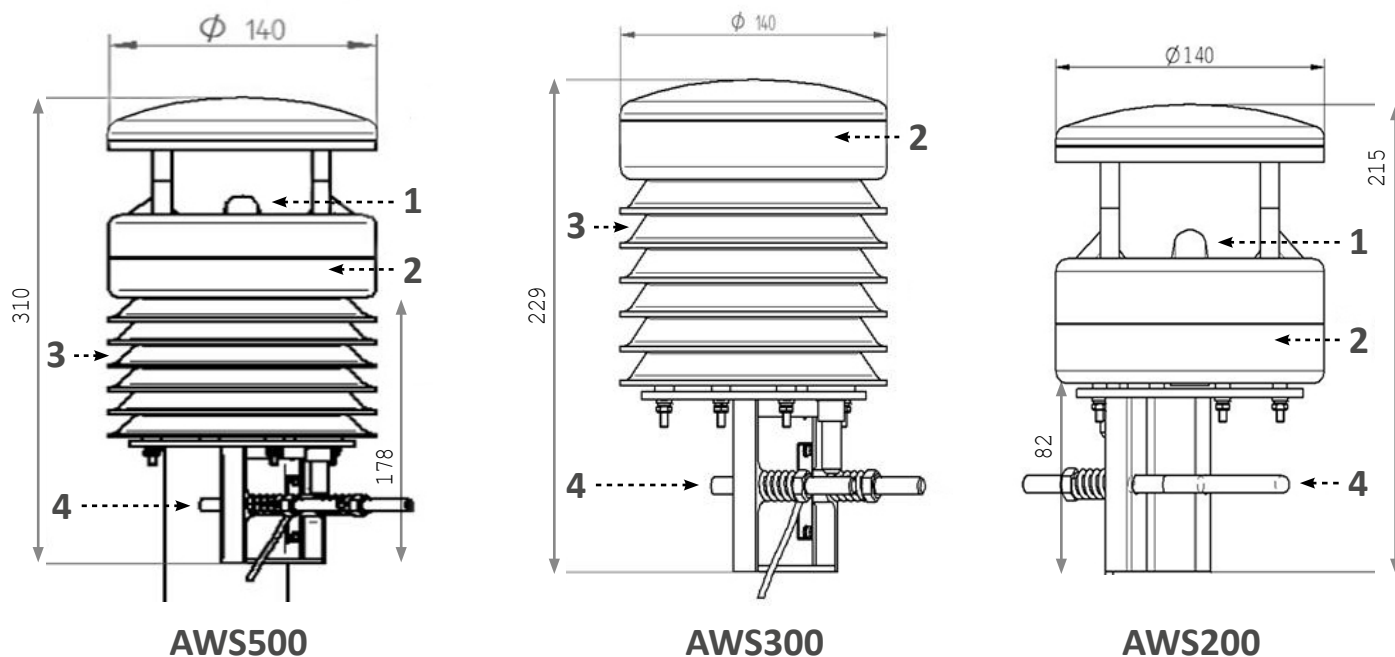
The sensor bracket is designed to be mounted on a mast with an outside diameter of between 48-75mm. The following tools are required for installation:

- Open end wrench or plum wrench - ½" imperial spanner
- Compass, used to adjust the N to point to the north, for wind direction measurement accuracy.



## 5. AWS Components, Parameters, Power

### 5.1 Automatic Weather Station Components



Model	Description
<b>AWS500</b>	Wind Direction & Speed (1), Atmospheric Pressure (2), Air Temperature & Relative humidity (3), Pole Fixture (4)
<b>AWS300</b>	Atmospheric Pressure (2), Air Temperature & Relative humidity (3), Pole Fixture (4)
<b>AWS200</b>	Wind Direction & Wind speed (1), Pole Fixture (4)

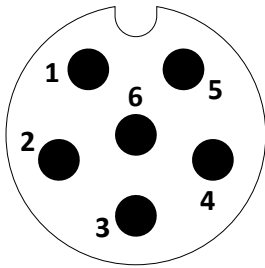
### 5.2 AWS Technical Parameters

<b>Dimensions</b>	<b>Diameter:</b> 178mm; <b>Height:</b> AWS200=215mm, AWS300=229mm, AWS500=310mm; <b>Weight:</b> about 1.5 kg;
<b>Wind Direction</b>	<b>Principle:</b> ultrasonic; <b>Measuring range:</b> 0 to 360°; <b>Accuracy:</b> ± 3°; <b>Sampling frequency:</b> up to 10Hz;
<b>Wind Speed</b>	<b>Sensor Size:</b> 100; <b>Principle:</b> Ultrasonic; <b>Measuring range:</b> 0 to 60 m/s; <b>Accuracy:</b> ±0.3m/s or ±3%; <b>Sampling frequency:</b> up to 10Hz;
<b>Atmospheric Pressure</b>	<b>Measuring range:</b> 10 to 1300 hPa; <b>Accuracy:</b> ±1 hPa;
<b>Air Temperature</b>	<b>Measuring range:</b> -40 to 60°C (extension: -50 to 80°C); <b>Accuracy:</b> ±0.3°C; <b>Long-term stability:</b> ±1°C/Year;
<b>Relative Humidity</b>	<b>Measuring range:</b> 0 to 100%RH*; <b>Accuracy:</b> ±2%RH*; <b>Long-term stability:</b> ±1%RH*/Year; *RH=Relative Humidity;
<b>Operating Range</b>	<b>Temperature:</b> -30 to 60°C; <b>Humidity:</b> 0 – 100%

<b>Interface SDI-12</b>	<b>Baud Rate:</b> 1200;
<b>Power Supply Voltage</b>	9 to 30VDC;
<b>Average Current</b>	(AWS500) is less than 10mA, maximum 20mA (12VDC)
<b>Operating Humidity Range</b>	0~100%RH
<b>Operating Temperature</b>	-40 to 60 ° C (standard), extended to: -50 to 80 ° C
<b>Protection</b>	IP66

## 5.4 Electrical Interface

There is a 6-pin electrical connector underneath the unit that allows for the breakout of power supply, SDI-12 and RS485 and various interfaces via the supplied cable. (The cable marking is in accordance with DIN 47100). The 6-pin diagram shows the cable end of the pin assignment:



- |              |                                       |
|--------------|---------------------------------------|
| 1 (Red) -    | Supply voltage positive               |
| 2 (Black) -  | Supply voltage negative / Data Ground |
| 3 (Yellow) - | RS485_A                               |
| 4 (Blue) -   | RS485_B                               |
| 5 (Green) -  | SDI-12                                |
| 6 Unassigned |                                       |



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