



allweatherinc

Compact Weather Stations Model 9620 Series

Overview

The Model 9620 Series Compact Weather Stations are low-cost, light-weight weather stations for the acquisition of a variety of meteorological measurements. Uses range from environmental data logging to road traffic management and more. The portable design of the 9620 Series makes them ideal for a variety of unique applications while providing the same level of accuracy and dependability that you get with AWI's modular sensor systems.

The 9620 Series of Compact Weather Stations may be used on a standalone basis connected to your own data logging system, or may be connected to either All Weather Inc. Model 1191-I Data Collection Platform or Model 2715 Universal Power and Communication Module. Both All Weather Inc. units provide a power, communication, and data aggregation capability to allow the 9620 Series of Compact Weather Stations to be used an automated weather observation system.

Accuracy by Design

The 9620 weather stations measure air temperature by way of a highly accurate NTC resistor. Humidity is measured using a capacitive humidity sensor. These sensors are located in a ventilated housing with radiation protection to keep the effects of external influences (such as solar radiation) as low as possible. This allows for highly accurate measurements.



- **Precipitation**
- **Wind Direction**
- **Wind Speed**
- **Air Temperature**
- **Relative Humidity**
- **Air Pressure**
- **Compass**
- **Solar Radiation**

These two measurements allow additional variables such as dew point, absolute humidity, and mixing ratio to be calculated.

Absolute pressure is measured using a built-in sensor (MEMS). The relative air pressure referenced to sea level is calculated using the barometric formula with the aid of the local altitude, which is user-configurable.

The 9620 weather stations use radar technology to measure precipitation. The precipitation sensor works with a 24 GHz Doppler radar, which measures the drop speed and calculates precipitation quantity and type by correlating drop size and speed.

The gathered values of air temperature, humidity, and air pressure

allow the 9620 weather stations to calculate air density.

The Ultrasonic Wind Sensor built into all 9620 weather stations, uses 4 ultrasound sensors that take cyclical measurement in all directions. The resulting wind speed and direction are calculated from the measured run-time sound differential.

The integrated electronic compass can be used to check the north/south adjustment of the sensor housing for wind direction measurement. The compass is also used to calculate the compass corrected wind direction.

The precipitation and wind sensors are heated for operation at cold temperatures.

SENSORS

SPECIFICATIONS

Parameter	Specification
Temperature	
Principle	NTC
Measuring Range	-50°C to +60°C
Accuracy	±0.2°C (-20° C to +50°C) Otherwise ±0.5°C (> -30°C)
Relative Humidity	
Principle	Capacitive
Measuring Range	0 - 100% RH
Accuracy	±2% RH
Air Pressure	
Principle	MEMS Capacitive
Measuring Range	300 - 1200 hPa
Accuracy	±1.5 hPa
Wind Speed	
Principle	Ultrasonic
Measuring Range	0 – 60 m/s
Accuracy	±0.3 m/s or ±3%
Wind Direction	
Principle	Ultrasonic
Measuring Range	0 – 359.9°
Accuracy	±3°

Parameter	Specification
Precipitation Intensity	
Resolution	0.01 mm
Measuring Range	Drop Size 0.3 – 0.5 mm
Reproducibility	Typ. >90%
Precipitation Type	Rain/Snow
General Specifications	
Heating	40 VA at 24 VDC
Protection Type Housing	IP66
Interface	RS-485, 2 wire, half-duplex
Operating Power Consumption	24 NDC ±10% <4 VA (without heating)
Operating Humidity	0 - 100% RH
Operating Temp. Range	-50°C to +60°C

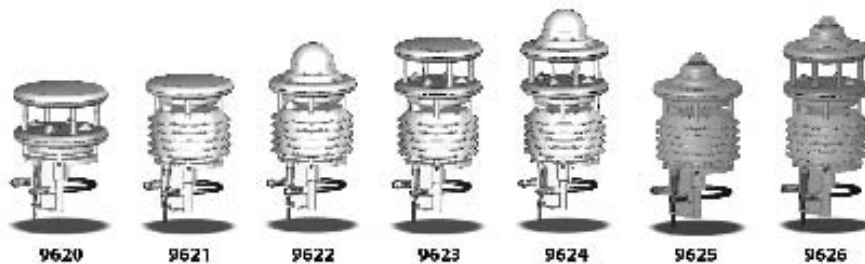
DIMENSIONS & WEIGHTS*

Dimensions	150 mm D x 345 mm H
Weight	2.2 kg

*Dimensions & weights vary by model.

ORDERING INFORMATION

Sensors	Model Numbers						
	9620	9621	9622	9623	9624	9625	9626
Temp/Humidity		X	X	X	X	X	X
Pressure		X	X	X	X	X	X
Precipitation			X		X		
Wind Speed/Direction	X			X	X		X
Compass	X			X	X		X
Radiation						X	X



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