

Radar Rain Sensor

DIGITAL RAIN FALL MEASUREMENT GAUGE

AS7100 Radar Rain sensor uses advanced **24GHz Doppler technology** for precise rainfall, snow, and hail detection. It offers faster response, higher sensitivity, and requires almost no maintenance due to its non-moving parts design. With **low power consumption** (<3W) and a compact build (Ø140 * 96mm), it is ideal for weather stations, smart city systems, and flood forecasting. Operates reliably in extreme temperatures (-30°C to +70°C) and humidity (0-100%).

Specifications

Technology	Doppler Radar
Range	0-100mm/hour(rainfall) , (0-500MM/hrs max optional)
Particle Size	0.5-5.0mm
Measure Type	Rain, Snow, Hail
Accuracy	5%(@ wind speed < 5m/s)
Resolution	0.1mm
Sample Rate	1 time per second
Communication	Rs485, R232 Modbus
Power Supply	12 - 24V DC
Power Consumption	<3W
Operating Temperature	-30° C - +70C
Operating Humidity	0-100%
Size	Ø 140 x 96mm
Material	Aluminum Alloy+ABS
Weight	0.65kg

AS7100 adopts advanced small flat radar module, it uses 24GHz Doppler technique to measure falling velocity of rain droplet, identify types and intensity of precipitation (rain,snow & hail) according to the particle size and falling velocity of droplet. **AS7100** radar precipitation detector is more sensitive and response faster than the traditional mechanical type when detecting rainfall start and end time of rain, and no need to worry about objects such as leaves covered in the surface of the detector effect of rainfall detection, without heating device to prevent freezing. **AS7100** detector has no moving parts, almost free of maintenance, and it's small and of extremely low power consumption

Working

AS7100 adopts advanced small 24GHz Doppler radar, the speed rate of drops is registered with a 24GHz radar system. By comparison between the speed rate and the size of drops, the quantity of rain or its intensity will be registered. The rain/precipitation type (rain/snow/hail) is determined thanks to the speed rate of the rain. Resolution up to 0.1mm, without maintenance.

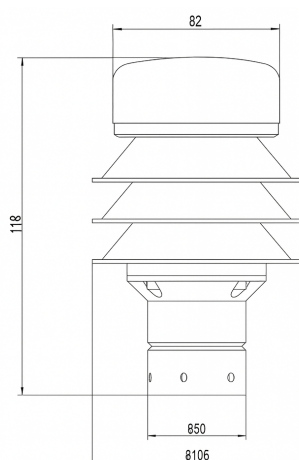
Neither do you need to worry about obstruction such as leaves covered in the surface of the detector to interfere with rainfall detection, nor do you need to have heating device to prevent freezing.

AS7100 is calibrated and compared with tipping bucket rain gauge in natural circumstances for a long-term to make sure it is of high accuracy and consistency.

Application

Weather observation
Emergency services
Agriculture and horticulture
Environmental monitoring
Flood early warning system
Irrigation Control

Dimension



Specification

Precipitation intensity: 0-500 mm/hr (Max)

Rain accumulation: 0~999999999.99 mm

Principle: 24G radar

Resolution: 0.01mm Accuracy: $\pm 10\%$

Distinguishable: rain, snow, hail

Optional with extra cost

Temperature: $-40 \sim +80^{\circ}\text{C}$ Principle: NTC

Resolution: 0.1°C Accuracy: $\pm 0.5^{\circ}\text{C}$

Optional with extra cost

Humidity: 0-100% Principle: Capacitive

Resolution: 0.1% Accuracy: $\pm 2\%$

Optional with extra cost

Pressure: 150-1100hPa Principle: MEMS

Resolution: 0.1hPa Accuracy: $\pm 1 \text{ hPa}$

Serial Output: RS232 or RS485

Formats: unsolicited ASCII, NMEA0183,
MODBUS-RTU, SDI-12

Baud: 1200~115200

Power consumption: 7-30 VDC < 110 mA typical

Operating Temp: $-40 \sim +70^{\circ}\text{C}$ Hum.: 0~100%

