

INDUSTRIAL PRODUCT DATASHEET

SenseCAP S700-A 7-in-1 Compact Weather Station-Radar Rain

SenseCAP S700-A 7-in-1 Compact Weather Station-Radar Rain combines seven weather measurements in an IP66 industrial sensor for backyard, agriculture, meteorology, urban, and traffic applications.

SKU

101991050

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PRICE

\$759.00(Excl. VAT)



Overview



The SenseCAP S700-A 7-in-1 Compact Weather Station-Radar Rain measures air temperature, relative humidity, barometric pressure, light intensity, precipitation intensity (radar), wind speed, and wind direction in one sensor. Its industrial-level IP66 design with -40°C to +85°C operating temperature, RS485 (MODBUS-RTU)/SDI-12 output, and thermostatically-controlled heating make it suitable for smart agriculture, meteorology, urban weather, transportation and traffic, and backyard/garden applications.

Key Features

What is the difference between S700, S700-B and S700-A?

- **7 parameters measurement:** Measures air temperature, relative humidity, barometric pressure, light intensity, precipitation intensity(radar), wind speed, and wind direction in 1 single sensor
- **Industrial-level design:** -40°C to +85°C operating temperature, IP66 rated: waterproof, and dustproof, suitable for outdoor scenarios
- **Output interface:** RS485 (MODBUS-RTU) / SDI-12
- **Thermostatically-controlled heating system:** Independent heating power supply for use in extremely cold environments
- **Powerful Components Included:** A 3m cable for the pole mount; radiation shields are equipped to ensure accurate ambient measurement; ultrasonic wind speed & direction sensors without moving parts
- **High-performance Guarantee**
- **Radar rainfall monitoring:** Utilizes electromagnetic wave scattering analysis to measure precipitation intensity. It has a larger measuring range and higher accuracy, making it suitable for large-scale precipitation monitoring.

We are well aware that the sensors may work under harsh outdoor conditions. To ensure that the performance and durability of the sensors are consistent with their specifications throughout the complete lifecycle, SenseCAP ONE Serials Sensor went through 6 reliability tests before releasing and met the requirements to perform perfectly in extreme conditions.

- **Wind tunnel for wind calibration**
- **High-Low Temperature Test** - determine performance under adverse temperature conditions.
- **Structural Test** - whether the collected values of multiple devices are consistent
- **x-y-z vibration test**
- **Waterproof and air tightness test**
- **R&D and Production Test** - to test the pass rate of multiple devices under factory conditions

Product Gallery



Specification

General Parameters	
Parameters Measured	air temperature, relative humidity, barometric pressure, wind speed, wind direction, rainfall intensity(radar) and light intensity

Protocol	RS485 (MODBUS-RTU) / SDI-12
Power Supply	12V~24V 24V(Heating power supply)
Cable Length	3m
Operating Temperature & Humidity	-40 °C ~ + 85 °C, 0 ~ 100%RH
IP Rating	IP66
Device Weight	2kg

Air Temperature	
Range	- 40 °C ~ + 85 °C
Accuracy	± 0.1°C
Resolution	0.01 °C

Air Humidity	
Range	0 ~ 100% RH
Accuracy	± 1.5% RH
Resolution	0.01% RH

Barometric Pressure	
Range	300 ~ 1250 hPa
Accuracy	± 50 Pa
Resolution	10 Pa

Wind Speed (Ultrasonic)	
Range	0~60 m/s standard range 0~75m/s extended range Up to 80m/s withstand range
Accuracy	±0.3m/s(≤10m/s); ±3% (10m/s ~ 50m/s) ±5% (>50m/s)
Resolution	0.1 m/s

Wind Direction (Ultrasonic)	
Range	0 ~ 360 °
Accuracy	± 3.0°
Resolution	0.1°

Rainfall Intensity (Radar)	
Range	0 ~ 300 mm/h
Accuracy	± 10%(Generally high precision)
Resolution	0.01 mm/h

Light Intensity	
Range	0 ~ 200,000 Lux
Accuracy	± 5% of reading
Resolution	5 Lux

Hardware Overview



Applications

- **Backyard and Garden:** Measure air temperature and humidity, Rainfall Intensity, UV index, etc. in the backyard and garden to protect your family.
- **Smart Agriculture:** Enable farmers to obtain climate data and information in time, take scientific management measures into production, and improve agricultural production capacity and level.
- **Meteorology:** Support applications in the professional meteorological field, for example, timely reflect the changes of various abnormal meteorological conditions in the field of traffic and transportation to provide real-time scientific basis data for traffic management departments.
- **Urban Weather:** Provide real-time data for urban squares, parks, scenic spots, golf courses, and other urban areas.
- **Transportation and Traffic:** Supplies real-time local weather measurements for roads, transport facilities, and traffic management systems operating under changing outdoor conditions.

Compliance & Logistics



HSCODE	9031809090
USHSCODE	9031808085
UPC	
EUHSCODE	9013101000
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
 - (2) this device must accept any interference received, including interference that may cause undesired operation.
- 15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- <https://www.seeedstudio.com/SenseCAP-S700-7-in-1-Compact-Weather-Station-Radar-Rain-p-6463.html>
- [SenseCAP ONE/SenseCAP ONE V2 Compact Weather Station User Guide](#)
- [SenseCAP Weather Sensor Catalogue](#)
- [SenseCAP Weather Station Power Consumption Table](#)
- [SenseCAP Sensor Hub Catalog \(Data Logger & Sensor Probes\)](#)
- [SenseCAP Document Center](#)
- [Resource](#)

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