

INDUSTRIAL PRODUCT DATASHEET

# SenseCAP S700-C 7-in-1 Compact Weather Station (Solar Radiation & Radar Rain)

The SenseCAP S700-C is an industrial-grade, 7-in-1 weather station with ultrasonic wind sensors, radar rain measurement, and thermostatic heating for reliable environmental monitoring.

| SKU       | UPDATED             | PRICE               |
|-----------|---------------------|---------------------|
| 101991141 | 2026-07-08 08:45:46 | \$799.00(Excl. VAT) |



# Overview



The SenseCAP S700-C 7-in-1 Compact Weather Station measures air temperature, relative humidity, barometric pressure, total solar radiation, sunshine duration, rain intensity (Radar Rainfall), wind speed, and wind direction with an industrial-level design featuring an IP66 rating and a wide operating temperature range of -40°C to +85°C. It includes a thermostatically-controlled heating system, RS485 (MODBUS-RTU) and SDI-12 output interfaces, ultrasonic wind sensors, radiation shields, and a 3-meter mounting cable, making it suitable for smart agriculture, smart city, power transmission, renewable energy, transportation and traffic applications.

# Key Features

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## Comprehensive 7-parameter Measurement

The S700-C is equipped with multiple sensors measuring crucial parameters for gathering a wealth of environmental data, including air temperature, relative humidity, barometric pressure, total solar radiation, sunshine duration, rain intensity (Radar Rainfall), wind speed and wind direction.

## Industrial-level Design

Wide operating temperature range from -40°C to +85°C and High Protection Rating of IP66

## Versatile Output Interface

The S700-C offers 2 common and reliable output interfaces, namely RS485 (supports MODBUS-RTU protocol) and SDI-12.

## Thermostatically-controlled Heating System

This heating system is thermostatically controlled, ensuring that the device can maintain its normal working state and accurate measurement capabilities at extremely cold temperatures.

## Powerful Components

- **Long Cable for Mounting:** A 3-meter cable is provided for pole mounting,
- **Accuracy-enhancing Shields:** Radiation shields are equipped which minimize the impact of external factors on the sensor's readings.
- **Advanced Wind Sensors:** It uses ultrasonic wind speed and direction sensors without movable components. This design with bird-proof structure not only reduces the risk of mechanical wear and tear but also improves the durability and accuracy of wind measurement.

## Reliable and High Standard Test Performance

# Product Gallery





Specification

| Specification          | Parameter                                                                                                                                                                                                 |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement parameters | Air temperature(°C)<br>Air humidity(%)<br>Barometric pressure(Pa)<br>Global solar radiation(W/m²)<br>Sunshine duration(h)<br>Rain intensity-Radar rainfall(mm/h)<br>Wind speed(m/s)<br>Wind direction (°) |
| Interface              | M12 connector                                                                                                                                                                                             |
| Communication Protocol | RS485(Modbus-RTU)/SDI-12/ASCII                                                                                                                                                                            |
| Power Supply           | 12V~24V<br>24V (Heating power supply)                                                                                                                                                                     |
| Power Consumption      | 0.6W (heating 21W)                                                                                                                                                                                        |
| Cable Length           | 3m                                                                                                                                                                                                        |
| Ambient Condition      |                                                                                                                                                                                                           |
| IP Rating              | IP66                                                                                                                                                                                                      |
| Operation Temperature  | -40°C ~ +85 °C                                                                                                                                                                                            |
| Humidity               | 0 ~ 100%RH (no condensation)                                                                                                                                                                              |
| Mechanical             |                                                                                                                                                                                                           |
| Dimension              | 140x140x350mm                                                                                                                                                                                             |
| Weight                 | 1607g                                                                                                                                                                                                     |

| Measurement parameter | Principle | Range           | Respond Time | Temperature |
|-----------------------|-----------|-----------------|--------------|-------------|
| Air temperature(°C)   | -         | -40 °C ~ +85 °C | -            |             |

|                               |               |                                                                                  |      |                                                                                                                                                                                                                 |
|-------------------------------|---------------|----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Relative humidity(%)          | -             | 0 ~ 100% RH                                                                      | -    | 0<br>1<br>0<br>5<br>%<br>R<br>H                                                                                                                                                                                 |
| Barometric pressure (Pa)      | -             | 300 ~ 1250 hPa                                                                   | -    | ±<br>0<br>0<br>0<br>a                                                                                                                                                                                           |
| Rain intensity (mm/h)         | Radar         | 0 ~ 300 mm/h                                                                     | -    | 0<br>1<br>0<br>%<br>m<br>m<br>/<br>h                                                                                                                                                                            |
| Wind speed (m/s)              | Ultrasonic    | 0~60 m/s standard range<br>0~75m/s extended range<br>Up to 80m/s withstand range | -    | 0<br>0<br>1<br>0<br>m<br>/s<br>(<br>≤<br>1<br>0<br>m<br>/<br>s<br>)<br>;<br>±<br>3<br>%<br>(<br>1<br>0<br>m<br>/<br>s<br>~<br>5<br>0<br>m<br>/<br>s<br>)<br>±<br>5<br>%<br>(<br>><br>5<br>0<br>m<br>/<br>s<br>) |
| Wind direction (°)            | Ultrasonic    | 0 ~ 360 °                                                                        | -    | 0<br>3<br>1<br>0<br>°                                                                                                                                                                                           |
| Global solar radiation (W/m²) | photoelectric | 0~2000 W/m²                                                                      | <=1S | ±<br>0/<br>0<br>0<br>m<br>²<br>h<br>0<br>0<br>0<br>%                                                                                                                                                            |

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# Hardware Overview



**Pyranometer**

**Radar Rainfall**

**Ultra-sound Wind Speed and Wind Direction**

• UV protection plastic Rigid design;  
• strong robustness in harsh environment

**Humidity, Temperature, Air pressure, PM2.5/10, and CO2**

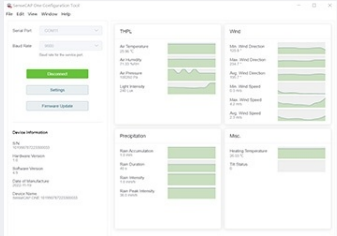
**Extendable to monitor more meteorological environmental elements**

**Industrial IP66 waterproof enclosure**

**Supporting multiple interface protocols**

**Pole mount with xflange plate**

**1 Set parameters using the SenseCAP One Configuration Tool.**



**2 Connect to Data Logger, Sensor Hub or other RS485/SDI-12 Devices.**



**3 Install the weather station.**



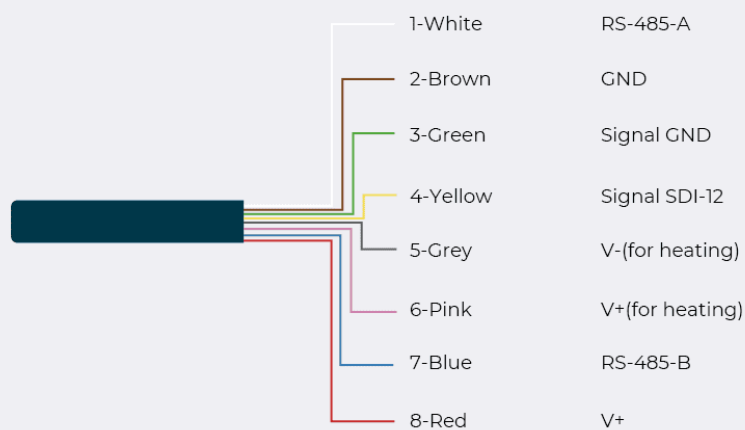


Diagram of M12 8 core Wire Cable



## Applications

- Smart Agriculture
- Smart City
- Power Transmission
- Renewable Energy
- Transportation and Traffic

## Part List

| component name                                 | quantity |
|------------------------------------------------|----------|
| SenseCAP S700-C 7-in-1 Compact Weather Station | x 1      |
| M12 8-pin communication cable                  | x 1      |
| USB Type-C cable                               | x 1      |
| Screw                                          | x 6      |
| Flat washer                                    | x 1      |

## 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-Solar-Radiation-Radar-Rain-p-6587.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](#)

### Seeed Technology Co.,Ltd.

9F, Building G3, International E City,  
Zhongshanyuan Road, Nanshan, Shenzhen, China

**Tel:** +86 0755-80695676

**Web:** [www.seeed.cc](http://www.seeed.cc)

**Shop:** [www.seeedstudio.com](http://www.seeedstudio.com)