SENSECAP

SenseCAP ORCH S4

Features

- Air temperature/ humidity/ barometric pressure/ light all in one
- Universal protocols: MODBUS RS-485 or SDI-12
- High reliability and stability
- Wide range power supply: 3.6V ~ 16V
- Ultra-low power consumption
- Easy to use, integrate and install
- IP66 enclosure, suitable for outdoor applications
- Working in extreme compicate environment

Applications

- Smart Agriculture
- Smart Cities
- Smart Industry
- Environmental Monitoring
- Other Sensor Applications

Introduction

The SenseCAP ORCH S4 is designed for the professional environmental monitoring application. It measures and provides reliable data for the customers, even in extreme environmental conditions. The SenseCAP ORCH S4 provides four of the most important environmental parameters, which are air temperature, relative humidity, barometric pressure, and light intensity through a flexible combination.

It supports two standard protocols: MODBUS (MODBUS-RTU / MODBUS-ASCII) and SDI-12, with low power consumption and wide range power voltage from 3.6V to 16V. Built-in data pre-processing, therefore customers can quickly complete system development and integration.

The Solar Radiation Shield can effectively reduce the impact of solar radiation. which improve the accuracy of detection. The enclosure can protect the device from rain and sunlight exposure, etc.

Specifications

Air Temperature

Range	-40 ℃ to +85 ℃
Accuracy	±0.2 ℃
Resolution	0.1 ℃
Drift	< 0.03 ℃ /year

Air Humidity

Range	0 to 100 %RH
Accuracy	±1.5 %RH
Resolution	1 %RH
Drift	< 0.25 %RH/year

Light Intensity

Range	0 to 188000 Lux
Accuracy	± 5%
Resolution	0.045 Lux

Barometric Pressure

Parameters	Condition	Value
Range	-	300~1100 hPa
Resolution	-	1 Pa
Relative Accuracy	700 to 900 hPa 25 to 40 ℃	±0.12 hPa
Absolute Accuracy	300 to 1100 hPa -20 to 0 ℃	±1.7 hPa
Absolute Accuracy	300 to 1100 hPa 0 to 65 ℃	±1.0 hPa
Temperature Coefficient Offset	900 hPa 25 to 40 ℃	1.5 Pa/K
Drift	-	±1.0 hPa/year

SenseCAP ORCH S4

MODBUS RS-485

Power Supply	3.6V ~ 16V
Current Consumption	Vin=16V: 3.6mA (typical) Vin=12V: 4.7mA (typical) Vin=5V: 11.0mA (typical) Vin=3.6V: 14.5mA (typical)
Warm-up Time	250ms (typical)
Scan Interval	1s
Poll Rate	1Hz
Response Time	≤ 4ms

SDI-12

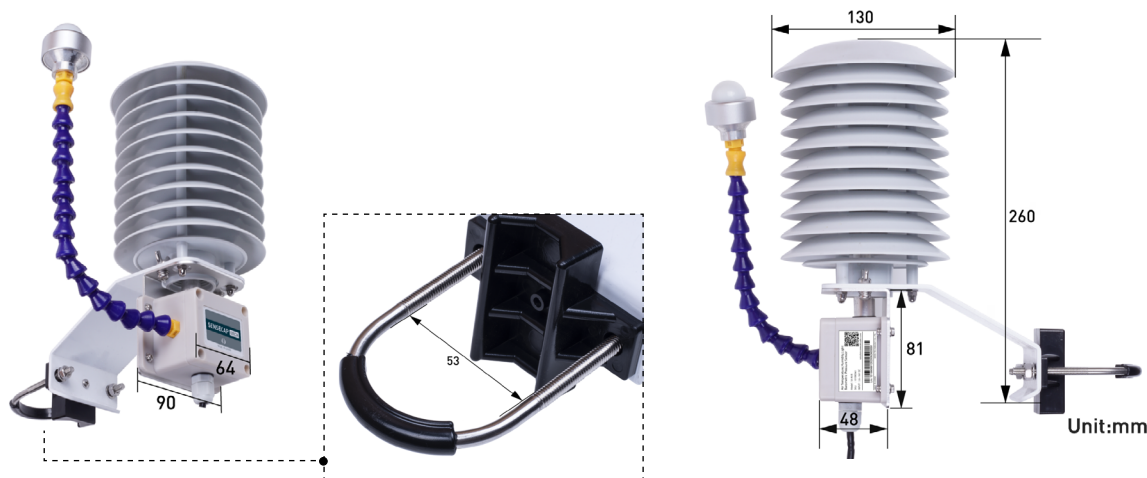|	
Power Supply	3.6V ~ 16V
Current Consumption (Sleep Mode)	Vin=16V: 40.0μA (typical) Vin=12V: 45.3μA (typical) Vin=5V: 77.6μA (typical) Vin=3.6V: 2.2mA (typical)
Current Consumption (Active Mode)	Vin=16V: 3.04mA (typical) Vin=12V: 3.98mA (typical) Vin=5V: 8.85mA (typical) Vin=3.6V: 11.80mA (typical)
Warm-up Time	15ms
Scan Interval	350ms (typical)

General Parameters

Product Model	SenseCAP ORCH S4
Microcontroller	Ultra-low-power MCU
Interface	RS-485
Protocol	MODBUS-RTU RS485/ MODBUS-ASCII RS485/ SDI-12 (v1.4)
IP Rating	IP66 (water-proof box) IPX5 (solar radiation shield)
Enclosure Material	Engineering plastics
Operating Temperature	-40 ℃ to +65 ℃
Operating Humidity	0 to 100 %RH (non-condensing)
Cable Length	2 meters
Device Weight	870g

Certification

Device Dimensions

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Seeed Studio](#):
[101990661](#) [101990662](#)