

CMC718S

Data Collector

User Manual



2025-12-25

CMC718S Data Collector

CMC718S is an integrated data collector capable of simultaneously collecting multiple in the air environment data, including PM2.5, PM10, PM1, carbon dioxide (CO₂), formaldehyde (CH₂O), temperature and humidity. It uses high-quality sensor modules, which have the characteristics of high resolution, high precision and excellent stability. With dual-band WIFI configuration, users can leverage the advantages of both 2.4GHz and 5.8GHz frequency bands to achieve the balance between network speed, stability and coverage. It offers an RS485 external interface with built-in Modbus protocol, which can be expanded to other environmental sensors for multi-point monitoring.

1.1 Product features

CMC718S A multi gas is a device used to collector air data and pollutant concentration. By integrating multiple sensors, it can instantly and accurately detect various harmful substances in the air, such as PM2.5、PM10、PM1、Carbon dioxide (CO₂), formaldehyde (CH₂O), temperature, humidity, etc. provide comprehensive information about air data for people. Widely used in factory, offices, and other places to collector indoor air data and pollutant concentrations. It can help people understand the current air status of the environment.

CMC718S The data collector has the following main functions:

- ◆ **Same screen display:** Display the data and time of each sensor on the same interface;
- ◆ **One click switching:** multiple functions, one click switching;
- ◆ **Historical Curve:** Analysis of historical data curves to showcase recent pollution changes;
- ◆ **Instant alarm:** timely sound and visual alarm for temperature exceeding the standard;
- ◆ **Record playback:** Comes with a 14 hour history recording function;
- ◆ **Night mode:** automatically reduces screen brightness when no one is using it;
- ◆ **Language switching:** One click switching between Chinese and English.

1.2 Product specifications

performance parameters

- Screen size: 3.5-inch color LCD
- Storage capacity: 128Mbit
- Screen resolution: 480 × 320 pixels
- Power supply voltage: 5V/2A
- Whole machine power consumption: ≤ 5W

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- Communication interface: USB, WIFI, RS485
- Sensor functions: PM2.5, PM10, PM1, particulate matter, CO2, CH20, temperature, humidity
- WiFi: 802.11a/b/g/n 1x1, 2.4GHz or 5GHz

physical parameters

- Size: 129 * 82 * 40mm
- Weight: 248g
- Material: Engineering plastics

environmental parameters

- Working temperature: 0 °C~50 °C
- Storage temperature: -20 °C~60 °C
- Storage humidity: 20 °C~95 °C (no condensation)
- Usage scenario: This product is suitable for indoor use scenarios such as offices, equipment rooms, factories, etc. It is required to be used in an environment with mains power and network coverage, without rain or dust.

Sensor performance

Name	Principle	Relative error	Resolution	range
PM1	laser	±10% @100~500 ug/m ³	1 ug/m ³	0 - 999 ug/m ³
PM2.5		±10 ug/m ³ @0~100 ug/m ³ (PM2.5 standard value)	1 ug/m ³	0 - 999 ug/m ³
PM10			1 ug/m ³	0 - 999 ug/m ³
HCHO	electrochemistry	≤±0.03mg/m ³	0.001 mg/m ³	0 - 2 mg/m ³
CO2	NDIR	≤±40ppm, ± 3%	1 ppm	0 - 9999 ppm
temperature	thermocouple	≤±0.2°C	0.1°C	-20 - 99°C
humidity	capacitive	≤±3% RH	0.1%	0 - 99% RH

Sensor standards

Name	PM2.5	PM10	HCHO	CO2
Exceeding the pollution limit	>75ug/m ³	>150ug/m ³	>0.1mg/m ³	>1500ppm

Judgment criteria are based on national standards GB-T 18883-2002 Environmental Air Quality Standards

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(GB3095-2012)。

1.3 Product Features

- large screen LCD Display (display area size is 74 * 48 mm) ;
- Wired output: high-speed, stable, and convenient USB 2.0 ;
- Wireless output: fast transmission rate and wide coverage dual band WIFI ;
- Stable and reliable communication, power supply DC5V or DC12-24V ;
- Complete anti reverse, overvoltage, overcurrent, and anti-interference protection capabilities;
- Careful circuit hardware and software design, low failure rate;
- Short stability time; Original high-precision sensor ensures the accuracy of sensor data;
- Multi directional aerodynamic breathable through holes ensure sufficient and uniform air flow;
- The measurable environmental parameters cover a wide range and can meet various detection needs;
- Measurement parameters can be customized according to customer requirements, with flexible and convenient parameter combinations;

1.4 Product Applications

The Collector is suitable for embedded matching and system integration of air environment monitoring equipment; Such as air environment monitoring devices, factory cleanroom environment monitoring systems, fresh air control systems, air quality detectors, air purification efficiency detectors, home environment detection, vehicle mounted air environment detection devices, etc., can also be extended to general online monitor devices.

1.5 Product Appearance and Dimensions

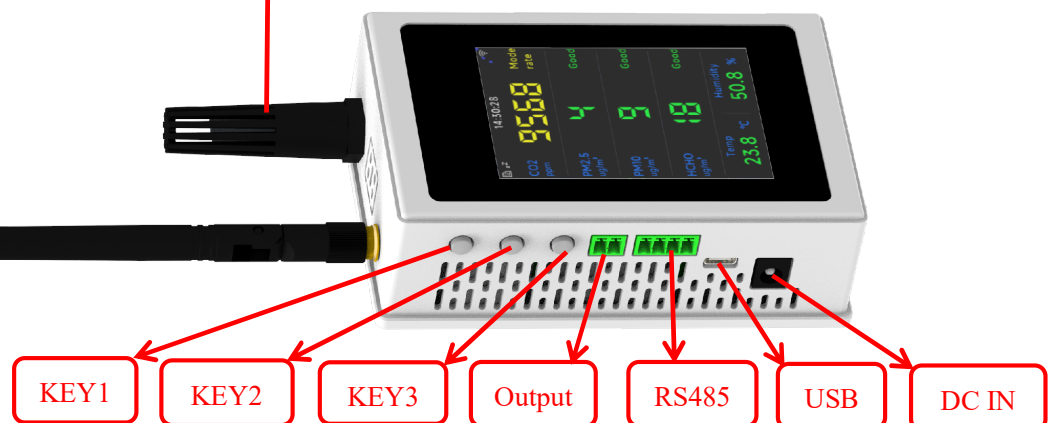
The external structure of CMC718S data collector is shown in the following figure:

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WiFi antenna

temperature and humidity Sensor



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Key function definition:

Key1:

Long press continuously: Clear stored data

Key2:

Single press: 1. Adjust the brightness of the screen display (6 brightness levels, with the brightest level changing to the darkest level with a single press)

2. After entering the parameter page, the single press function switches to the parameter page (at this time, single press Key3 returns to the homepage)

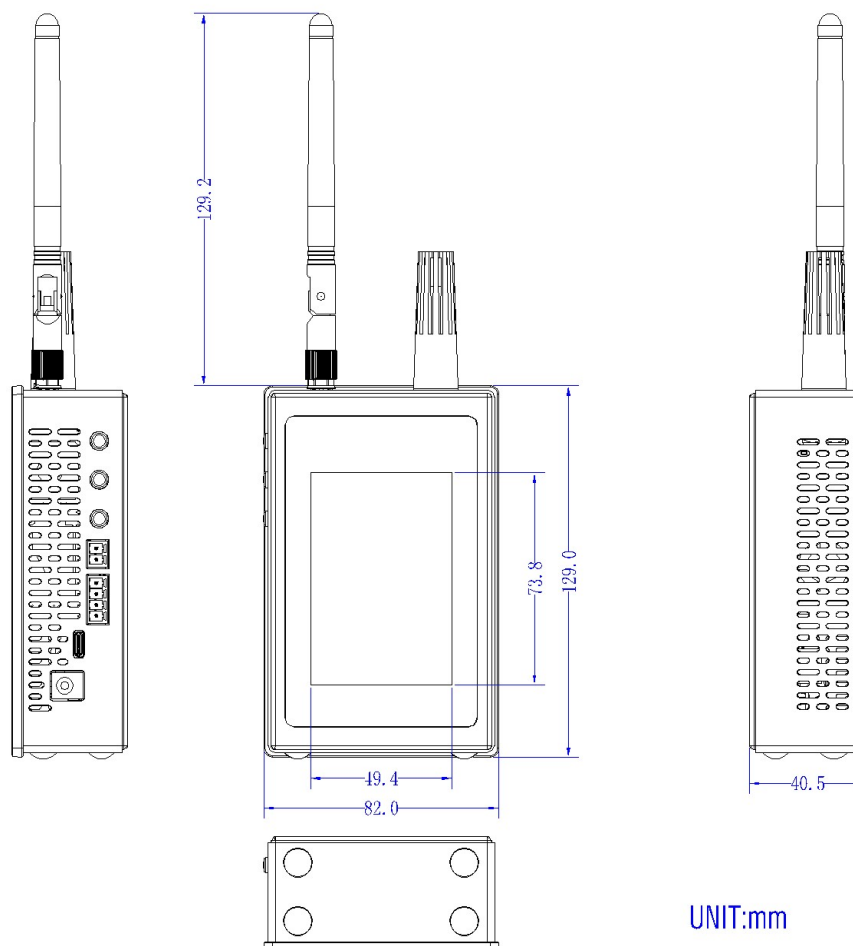
Long press continuously: Enter the parameter viewing page to view device parameters

Key3:

Single press: Display page switching

Long press continuously: Switch to display voice

Equipment dimension diagram:



UNIT:mm

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1.6 Precautions

1. Pay attention to waterproofing, moisture resistance, exposure to sunlight, and prevention of impact or falling.
2. Non haze weather such as dust and floating dust (sandstorms) can interfere with laser sensors, causing a decrease in PM values.
3. Humidifiers can spray water vapor of about 2.5 microns, and optical instruments cannot distinguish the components, resulting in an increase in PM values.
4. Formaldehyde has the characteristics of relative cross interference, among which methanol ethanol is the most serious, such as various wines, sauces, cosmetics, perfume, toilet water, etc.
5. Keep away from high-frequency electromagnetic radiation and prohibit use in accessories of ozone and negative ion generators.

1.7 After sales service

1. The product warranty period is one year. If it is not damaged by natural disasters or human factors, the supplier will provide free warranty during the warranty period;
2. Once the product is sold, it will not be returned unless it needs to be repaired or replaced due to quality issues;
3. When returning the reader writer for repair service, carefully pack the reader writer and its accessories into the original anti-static foam packaging box. If the original packaging box no longer exists, please choose a protective packaging box.

1.8 Standard Configuration

Name	Specification	Quantity	Unit
CMC718S Data collector	129*82*40mm	1	unit
Antenna (optional)	SMA male head	1	unit
Power adapter (with AC cable)	5V/2A	1	unit
CMC718S User Manual	A5	1	unit

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.

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,

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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, and if not installed and used in accordance with the instructions, 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.

*RF warning for Mobile device:

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiator & your body.