# USER GUIDE FOR CDW-10A
# WALL-MOUNTED BAROMETRIC PRESSURE SENSNOR

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| CDW-10A-01-MN-10 | SEP-2024 |

*This document is applied for the following products*

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|---|---|---|---|---|---|
| SKU | CDW | HW Ver. | 1.0 | FW Ver. | 1.0 |
| Item Code | CDW-10A | Pressure Sensor, 4-20mA RS485 0-5V 0-10V Output, ABS, 0-110kPa ,60-110kPa | | | |

# 1. Introductions

CDW-10A Wall-mounted Barometric Pressure Sensor with small size, reliable performance, high precision, long transmission distance, strong anti-jamming capability, which is widely used in meteorology, marine, environment, airports, ports, laboratory, agricultural and transportation and other fields.


# 2. Specification

| Item | Technical Specification |
|---|---|
| Range | 600-1100hPa(mbar) or 0-1100hPa(mbar) customizable |
| Resolution | 0.1hPa |
| Accuracy | ±0.5hPa |
| Temperature Drift | ≤0.02%FS/℃ |
| Response Time | <1s |
| Supply | 5VDC,12-24VDC |
| Output Signal | RS485,4-20mA,0-5V, 0-10V optional |
| Operating Temperature | -40℃-+75℃ |
| Ingress Protection | IP65 |
| Storage | 10-60℃@20%-90%RH |
| Dimensions | 117 *86*40 mm |
| Weight(unpacked) | 100g |

# 3.Working Process

Contains high-precision and high-stability amplifier integrated circuit for amplifying and processing the weak signal output of induction components, and has temperature compensation and other functions to improve measurement accuracy and stability.

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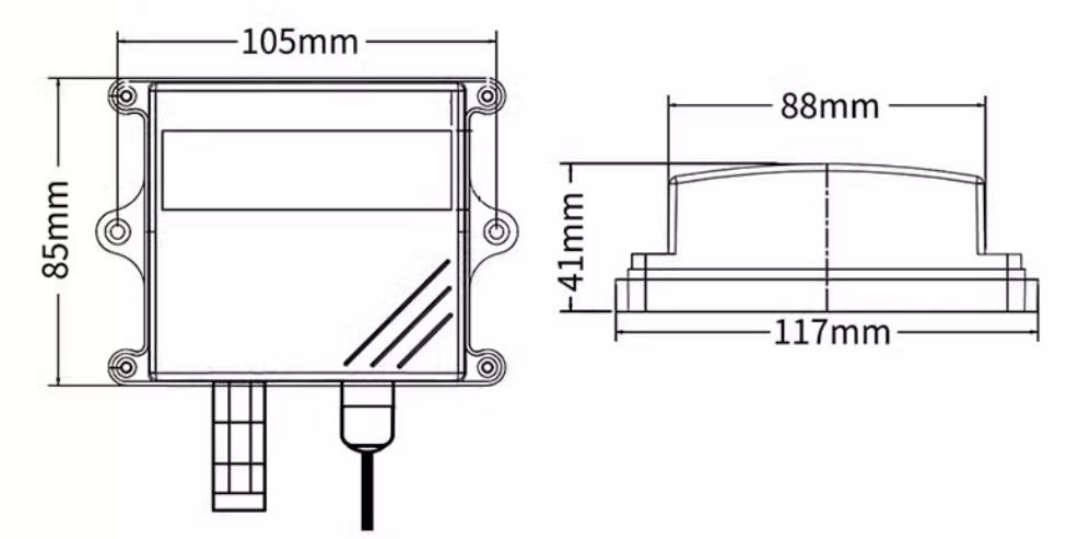
# 4. Electrical Connections

| Connector（cable） | Current/ Voltage | RS485/TTL |
|---|---|---|
| Red | V+ | V+ |
| Black | V- | V- |
| Yellow | Iout | RS485A/TXD |
| Green | | RS485B/RXD |

# 5. Dimensions




# 6. Installation


1.Install the product in stable environment area, avoid direct sunlight, away from windows air-conditioning, heating and other equipment. Otherwise it will cause atmospheric pressure measurement inaccuracies.

2. It is recommended to install in the cabinet open to the atmosphere,for example: instrument shelter

# 7. Communication Protocol（MODBUS）

**Transmission mode**: MODBUS-RTU,**Baud rate:** 9600bps,**Data bits:**8,**Stop bit:**1,**Check bit:**no

**Slave address**:the factory default is 01H (set according to the need,00H to FFH)

## 7.1 The 03H Function Code Example: Read Pressure Value

**Host Scan Order(slave address:0x01)**
**01 <u>03 00 00 00 01</u> 840A**

**Slave Response**
**01 <u>03 02</u> 27 48 A382**

**Pressure:(2748)H=(10056)D,10056/100=100.56(kPa)**

## 7.2 The 06H Function Code Example: Modify the slave address

**Host Scan Order (Changed the 01H to 02H):**
**01 <u>06 00 30</u> 00 02 0804**

**Slave Response:**
**01 <u>06 00 30</u> 00 02 0804**

**If you forget the original address, you should use the broadcast address(FEH) (ensure that no other devices on the bus at this time).**

**Note:**
**1. All underlined is fixed bit;**

**2. The last two bytes is CRC check command.**

**Note: This product has been tested and complies with European CE requirements for EMC directive.**

No display default


LED display


LCD display

### 7.3 OUTPUT CHARACTERISTICS

- **Current**

4-20mA is corresponding to pressure from 0 to full scale.

- **Voltage**

The zero point voltage to full scale voltage is corresponding to pressure from 0 to full scale.

- **RS485**

If the transmission distance is over 100m, please add one 120Ω terminal matching resistance on the front end and back end of bus interface respectively.See appendix for communication protocol.

# 8. Troubleshooting

If some error occurs, such as no output or unreliable. Please disconnect the sensor first, then check if the sensor installation and connection is correct with the instruction manual.

If still not successful, please contact our company.

# 9. Support contacts:

Complies with applicable CE directives.

Manual subject to change without notice. Version 1.0



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