

## General

Ver 1.0

CD-2000M is RS485-ModBus supporting transmitter to measure various gases let alone Temp. & Humid. which could operate in CA storage or other mission-critical applications.

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# Multi-Gas Monitor DATA SHEET CD-2000M



## Features

- **CO<sub>2</sub> sensor**  
NDIR(Non-dispersive Infrared)
- **O<sub>2</sub> sensor**  
Fluorescence-based Optical Oxygen Sensor
- **C<sub>2</sub>H<sub>4</sub> sensor**  
Electro Chemical Ethylene Sensor
- **RS-485 MODBUS output**  
Modicon Mod-Bus RTU MODE, which follow Modicon Mod-Bus procotol  
(<http://www.modbus.org>)  
– settable Address ID by switch
- **Size** : 180mm x 290mm x 135mm (2.1kg)

## CD-2000M Specification

### General Performance

#### Operating Temperature range

-20 ~ 50°C

#### Operating Humidity range

0 ~ 95% RH (Non-condensing) ( $\pm 5\%$ ,RH)

#### Storage Temperature

5°C ~ 20°C (Recommended for C2H4)

### Measurement

#### Sensing Method

CO<sub>2</sub>- NDIR (Non-dispersive Infrared)

O<sub>2</sub>- Fluorescence-based Optical Oxygen Sensor

C<sub>2</sub>H<sub>4</sub> – Electro Chemical Ethylene Sensor  
Temperature, Humidity

#### Measurement Range

CO<sub>2</sub> : 0 to 25%

O<sub>2</sub> : 0 to 25%

C<sub>2</sub>H<sub>4</sub> : 0 - 10ppm

Temp : -30°C-to-70°C

Humidity : 0 to 100%

#### Accuracy

CO<sub>2</sub> :  $\pm 3\%$  of Reading

O<sub>2</sub> : 0.1%

C<sub>2</sub>H<sub>4</sub> : 0.2ppm

Temp :  $\pm 1\%$

Humidity :  $\pm 2\%$  RH

#### Resolution

CO<sub>2</sub> : 1ppm

O<sub>2</sub> : 0.01%

C<sub>2</sub>H<sub>4</sub> : 0.1ppm

#### Response Time (90%)

< 60 sec

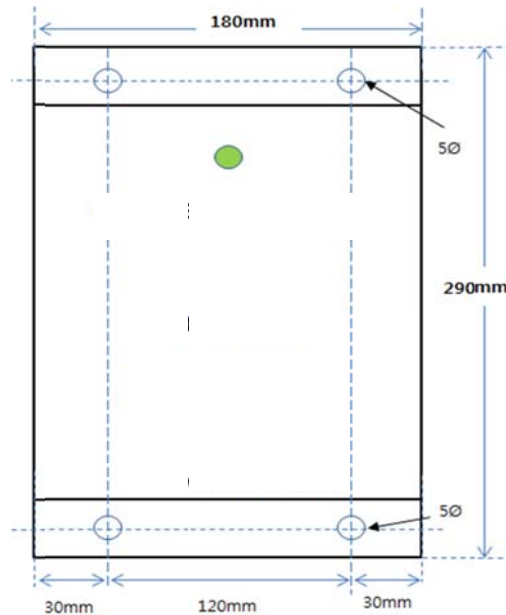
### Electrical Data

#### Input Power

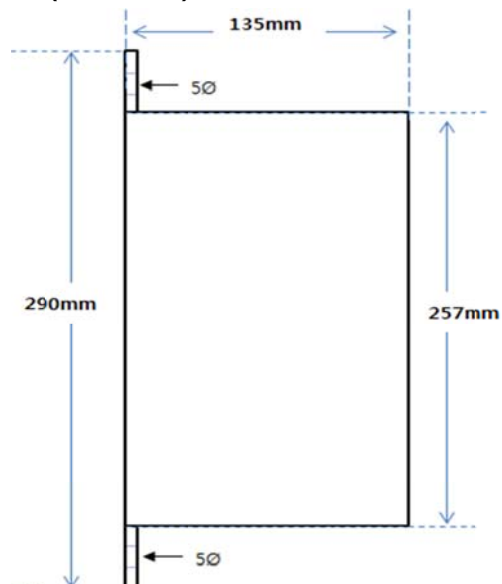
DC 24V/1A

### Dimensions (unit : mm)

#### (Front View)



#### (Side View)



### Installation

Wall-mount with 4 screws (under 5Ø)

## Wiring Method



Power (DC24V)    RS-485(A,B,GND)    RTD Sensor (Temp. sensor)

- ※      **Input Power (24V DC) : No polarity**
- ※      **RS-485 Modbus : A/B twisted pair**

## RS485 Mod-Bus Slave Address setting

### 1) Modicon Mod-Bus RTU Mode

### 2) Communication Specifications

- RS-485 (2-wire, half-duplex)

Parameter	Description
Baud rate	9600 BPS
Data Bit	8 Bits
Parity Bit	None
Stop Bit	1

### 3) Hold Register Specifications

- Mapping Base Address : 0x0050.
- Hold Register. Max. Read Size : 6
- Scan Rate : 3 Seconds

Register Address	Value	Data Type	Unit	Description
0x0050	Co2	2 Byte WORD	%	Co2 Ex) 1012 -> 1012/100 : 10.12 %
0x0051	O2	2 Byte WORD	%	O2 Ex) 2023 -> 2023/100 : 20.23 %
0x0052	C2H4	2 Byte WORD	PPM	C2H4 Ex) 211 -> 211/100 : 2.11 PPM
0x0053	Temperature	2 Byte Integer	°C	Temperature Ex) 255 -> 255 / 10 : 25.5 °C
0x0054	Humidity	2 Byte WORD	%	Humidity Ex) 750 -> 750 / 10 : 75.0 %
0x0055	Status	2 Byte WORD	WORD	Status 0x00 : NO ERROR    0x01 : H250 0x02 : O2            0x04 : C2H4 0x08 : Temp        0x10 : Humidity

### 4) Supported Function Code

- Currently supported only code 03 and exception responses.
- Error code 0x83 or other (CODE + 0x80)
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Exception code	Description
01	Exception of Function code
02	Exception of Starting Address
03	Exception of Quantity of Registers
04	