

Datasheet for (CO) Transmitter

COD-200M(L)



COD-200



COD-200L (with LCD Display)

General

COD-200M and COD-200ML are the CO Transmitter which detect CO gas of the air and send signal to controller for the protect people at parking lots, Industrial working places and Buildings. COD-200M is upgraded from COD-100M to give better accuracy and stability.

Features

- Semiconductor used to measure CO levels.
- Fast Response.
- Modbus RS485 + 3wired / 4 wired model or with/without LCD display model is selectable
- Output mode : 4-20mA / 2-10V
(Option: 0-20mA / 0-10V on purchase)
- Exclusive Compensation Algorithm is adapted.

※ Design or Specification of COD-200M(L) might be changed without prior notice.

COD-200M(L) Specifications

General Performance

Operating Temperature range

-10 ~ 50°C

Operating Humidity range

10 ~ 90% RH (Non-condensing)

Storage Temperature

-30°C ~60°C

Storage Humidity

10~95%RH (Non-condensing)

CO Measurement

Sensing Method

Semiconductor Type

Measurement Range

0 to 250 ppm(0 to 100/300 ppm is option)

Accuracy

At 20°C, 50%RH after 4days since power-on.

0~100ppm : ±10% FS

100~250/300 : ±15% FS

Response Time

< 1 minutes

Sampling Interval

Every 30 seconds.

Sensor Life Expectancy

Over 3 years

Electrical Data

Power Input & Tolerance

24VDC (3-Wired) or 24VAC/24VDC (4-Wired)

Output

17.5~30 V_{AC} / V_{DC} ,

Option (12VDC : need counsel before ordering)

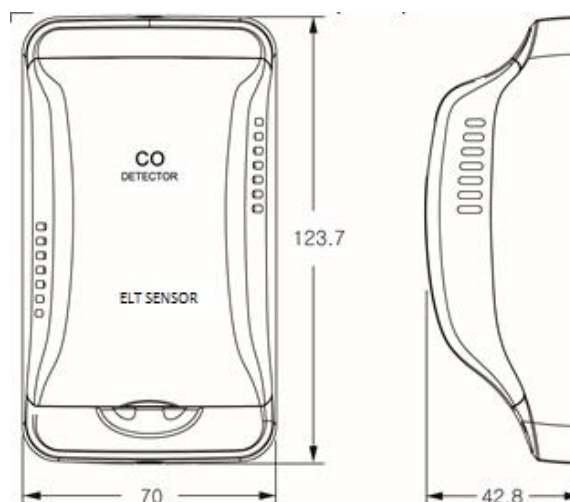
ModBus RS-485A (485A, 485B),

Current output 4 ~ 20mA is set as default.

Voltage output 2 ~ 10VDC could be selected with jumper.

(0-20mA and 0-10V can be selected instead by designating on ordering process.)

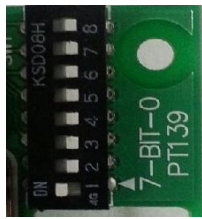
Dimensions (unit : mm)



- Dimension : 123.7mm x 70mm x 42.8mm (Length x Width x Thickness)

RS485 Mod-Bus Slave Address setting

- Mod-Bus slave address can be set by DIP Switch.



DIP Switch
(Slave Address)

- DIP Switch

ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5	6	7	8

Example) setting Slave Address 1

RS485 Mod-Bus Protocol

- 1) Modicon Mod-Bus RTU Mode: Follow Modicon Mod-Bus protocol (<http://www.modbus.org>)
- 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
Flow Control	None

- 3) Hold Register Specifications

- Mapping Base Address : 0x0050.
- Hold Register. Max. Read Size : 4

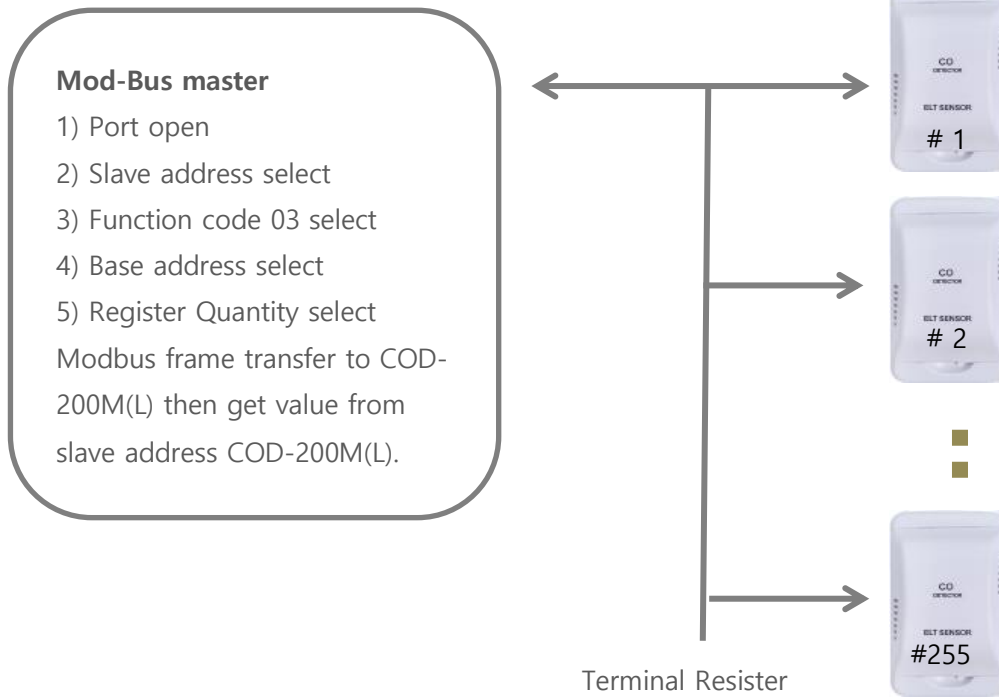
Register Address	Value	Data Type	Unit	Description
0x0050	CO	2 Byte WORD	PPM	Co Ex) 80 -> 80 PPM
0x0051	Reserved			
0x0052	Reserved			
0x0053	Reserved			

- 4) Supported Function Code

- Currently supported only code 03 and exception responses.
- Error code 0x83 or other (CODE + 0x80)

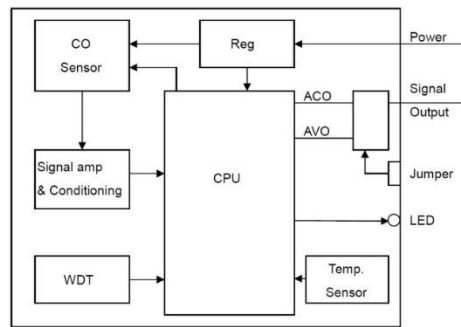
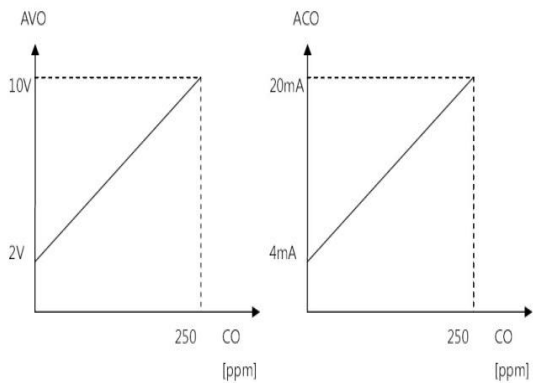
Exception code	Description
01	Exception of Function code
02	Exception of Starting Address
03	Exception of Quantity of Registers

5) Example How to get value from COD-200M by Mod-Bus protocol

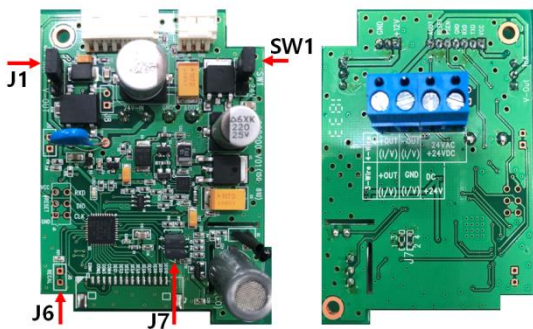


Analog Voltage & Current Output and Block Diagram

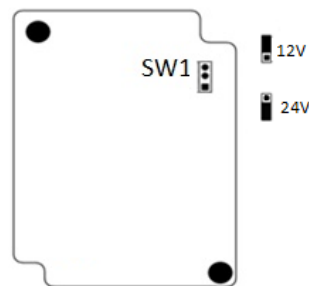
Analog Voltage(V) or Current(I) Output



Jumper location on PCB



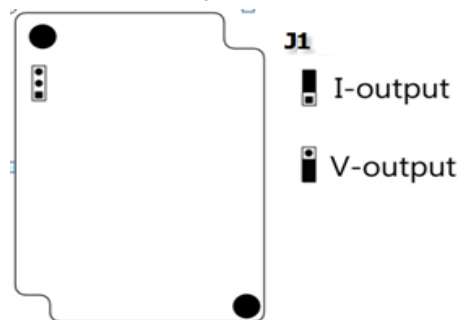
SW1 : Power input selection



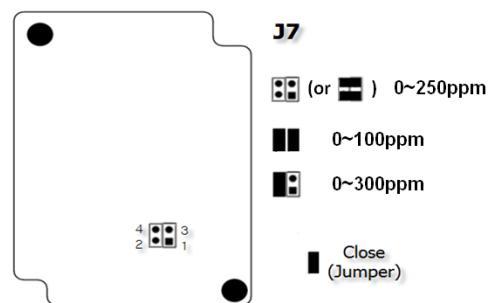
24V is default.

(need counsel on ordering to use 12V instead)

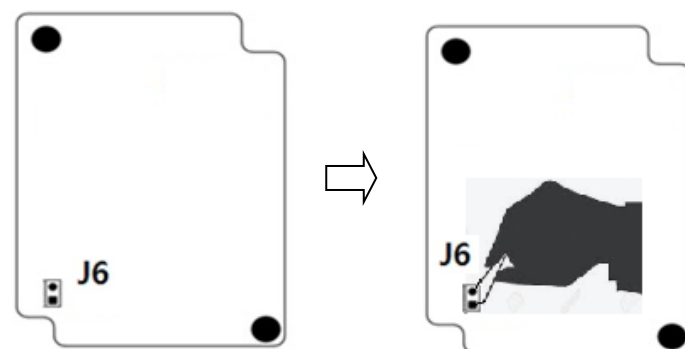
J1 : V/mA output selection



J7: CO range selection



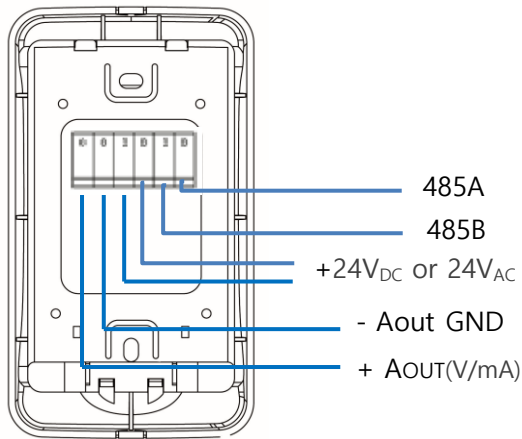
J6: Zero Calibration



※ Locate sensor powered at fresh air where CO gas is not exist (0ppm). Let J6's two holes short, using tweezers or so, to initiate Zero-calibration takes 2~2.5 minutes until LED blinking stop.

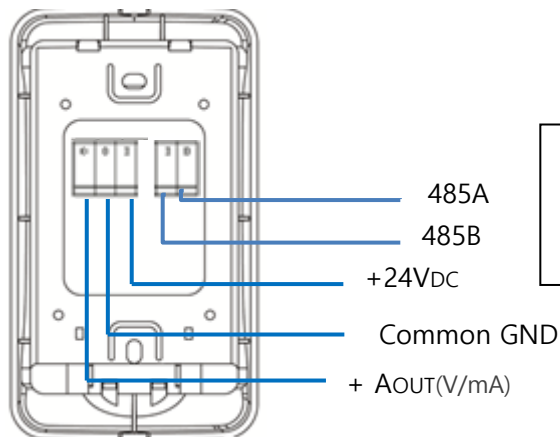
ModBus RS-485 Wiring Method

4-Wired(AOUT, GND, 24V(+/-)_AC/DC), 485A, 485B



※Please make it sure to use either 24VDC+ or 24AC(+/-) power wire only on right location because the insertion into wrong location such as AOUT/RS485 port brings the serious failure.

3-Wired(AOUT, Common_GND, +24VDC), 485A, 485B



※Please make it sure to use +24VDC power wire only on right location because the insertion into wrong location such as AOUT/RS485 port brings the serious failure.

Ordering Code with Option selection

Ordering Code	LCD	3 wired or 4 wired	Remark
COD-200M-4W	X	4 wired (AOUT+,AOUT_GND, 24VAC(+/-) or 24VDC)	4wired Default
COD-200ML-4W	O	4 wired (AOUT+,AOUT_GND, 24VAC(+/-) or 24VDC)	+ LCD(O),
COD-200M-3W	X	3wired (AOUT, Common_GND, +24VDC)	3wired Default
COD-200ML-3W	O	3wired (AOUT, Common_GND, +24VDC)	+ LCD(O)

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