

Chemical Carbon Oxide(3-Wired Type) Transmitter COD-300(LG)



COD-300(G)-HC



**COD-300(LG)-HC
(with LCD display)**

General

COD-300(LG) is a 3wired Electro-Chemical type transmitter which can detect high concentration CO gas upto 0~250 ppm with high precision and the longest life-cycle.

Features

- 15years knowhow based multiplied compensation algorithms keep accuracy and longterm stabilization throughout full operating Temperature and Concentration range.
- The longest-5 years lifecycle-Chemical type Sensor is integraed on CD-300-HC Transmitter. (8 years lifecycle model is available as option)
- Either of four (2 Set of Analog Voltageor 2 set Current) output can be chosen by Jumper. (4~20mA/2~10V/0~20mA/0~10V)
- All units verification in factory before delivery.
- Easier mgmt with auto-Zero calibration mode
- Size : 124 x 70 x 43 (mm), 115 grams

※ Design or Specification of COD-300(LG) Series could be changed without notice.

COD-300(LG)

Application

Boiler room, parking lot or stores in basement, kitchen, fire detection in mansions and offices, restaurants and stores.

General Performance

Operating Temperature range

0°C ~ 50°C

Operating Humidity range

10 ~ 90% RH (Non-condensing)

('G' option: operatable upto 10~95% RH with Non-Condensing and protect from rustness)

Storage Temperature

0°C ~20°C (Higher temp. shorten sensor life.)

Measurement

Sensing Method

Eletro-Chemical type to sense CO gas

Measurement Range

0~250ppm

Accuracy

±3% of F.S,

Response Time

T90 : < 30sec, T60 : < 9sec

Sampling Interval

1 seconds

life Cycle

5 years.

Electrical Data

Input Power

24VDC± 20%, (3-Wired)

Power Consumption.

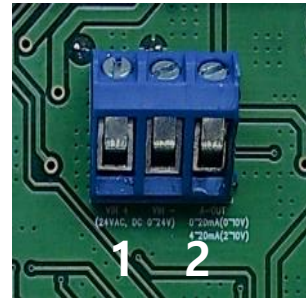
0.7Watt

Wiring Method

1. VIN+: 24VDC+

2. VIN-: Common-GND

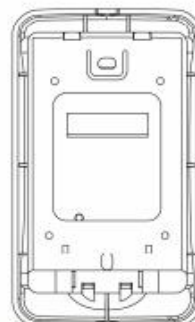
3. A-OUT: Output Signal (Voltage or Current)



Wire connector.

※Warning : Please careful not to wire power cable into signal output position of terminal block, which leads to damage sensors .

Dimensions (unit : mm)



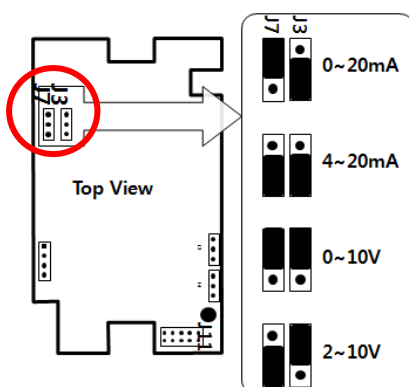
Output Signals



4 ~ 20mA is default (2 ~ 10VDC or 0 ~ 20mA or 0 ~ 10VDC is selectable with jumper setting change)

■ Jumper A (J7, J3) : Set Voltage/Current Set

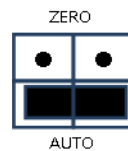
● [J7,J3] Output Mode



Ex) 0 ~ 20mA setting.

Operation Mode selection

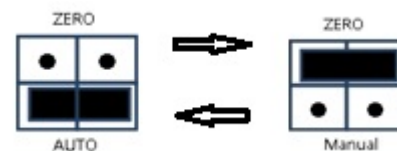
'Auto-Zero-calibration mode' is



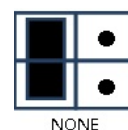
or so,

recommended where is CO₂-gas-free area unless CO₂ gas is leaked such as boiler room or kitchen of mensions, offices, multiple-use-Facility building like subway station

Manual-ZERO-calibration also can be done when sensor get less accurate and need to calibrate beofre next 30 days automatic calibration period. Please make sure to return jumper-setting to original (i.-mode or ii.-mode) status, sors should be located to CO-gas-free-zone and return to original status as it was.

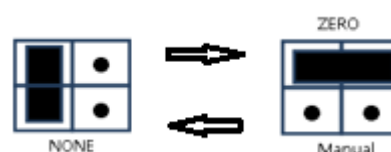


i. 'Factory Status mode' is for users who use



sensors where a certain level of CO gas always exists; accordingly, To calibrate, Sensor should be moved to CO-gas-free-zone for Manual-Zero-Calibration.

Manual-ZERO-calibration procedure should be done CO-gas-free-zone only; according First. Move sensor to CO-gas-free-zone, Second, Move jumper-cap location to plug upside two pins. Third. Wait one or two minutes,



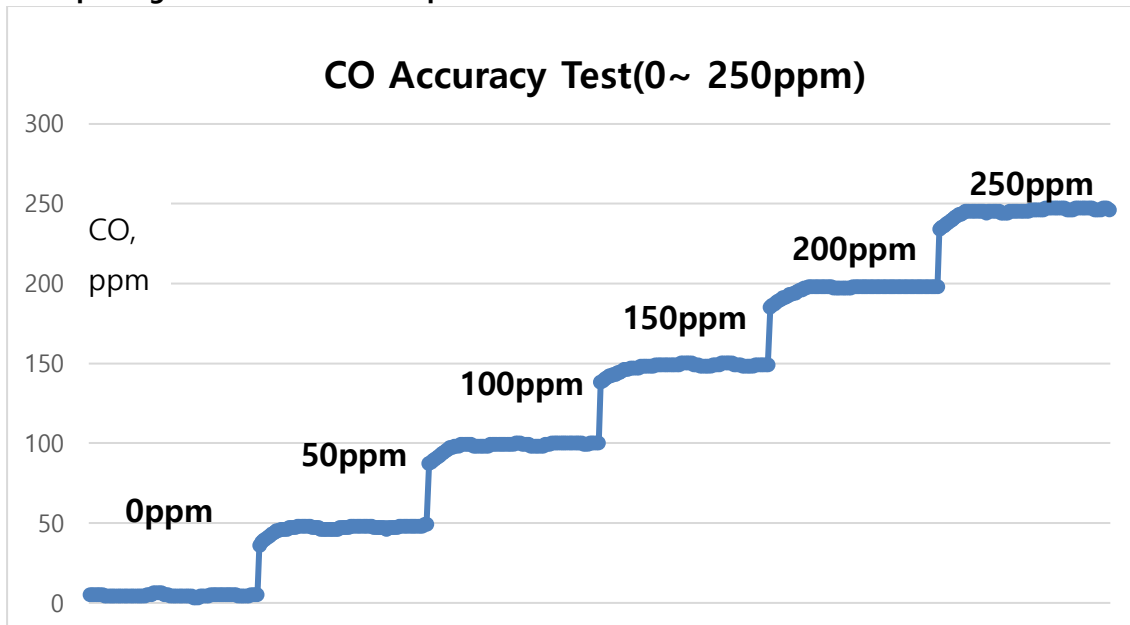
After 1 minutes since power turned on, Sensor start to do Manual-Zero-Calibration. Fourth. Return jumper to orginal location to plug left vertical two pins.

Ex) when measured with 4~20mA Set,
If current measurement is 8mA,
 $(8\text{mA} - 4.0\text{mA}) \times (250\text{ppm}/16\text{mA}) = 62.5\text{ppm}.$

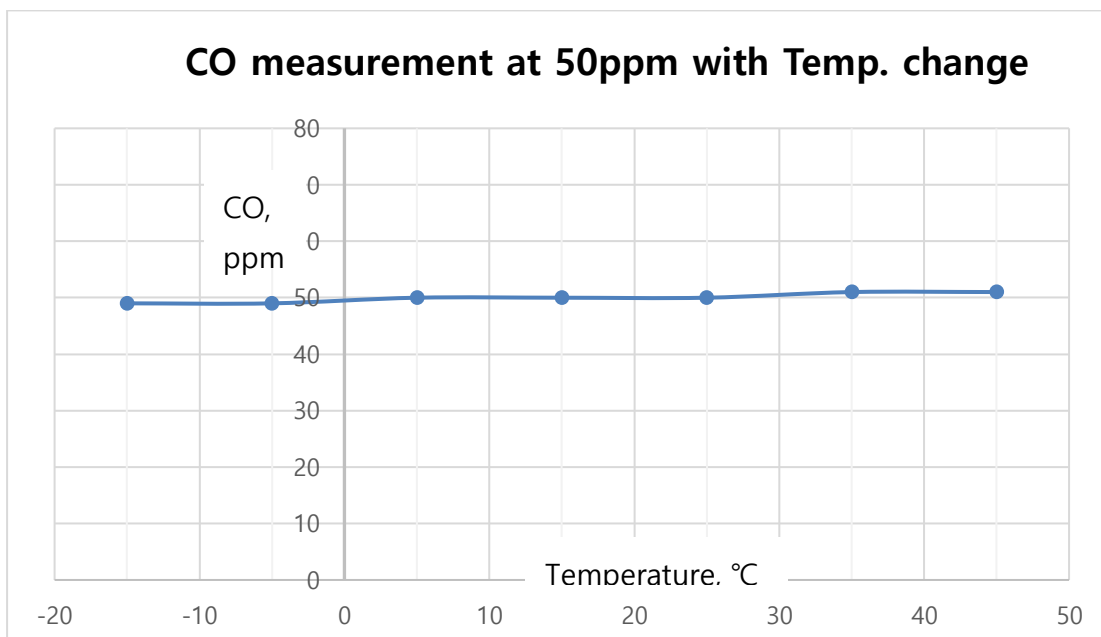
Ex) when measured with 0~10V set,
If measured voltage is 2V,
 $(2\text{V}-0\text{V}) \times (250\text{ppm}/10\text{V}) = 50.0\text{ppm}$

■ Analog output calculation

* Output signal calculation examples



CO gas concentration : 0, 50, 100, 150, 200, 250ppm



※ CO ppm deviation from 50ppm is narrowed by Temperature difference compensation.

Cautions on Installation

- I. Chemical sensors should be kept 0~20°C and better to installed within 6 months from purchase not to shorten their lifecycle.
- II. Installation near to nose height of 1.2~1.8m is desirable because CO gas is lighter than air.
- III. Sensors are designed to keep lifecycle when installed normal living condition unless effected physically, mechanically or chemically. Sensor-detection part or PCB part should be kept from dirties, water or oil spraying which cause damage. and keep Sensors away from the solvent or high concentration organic gas existence or continuous vibration, or impulse from.
- IV. Power should be selected within tolerance and wired into right position, Sensor get damaged when 24V power is inserted into output.
- V. Chemical sensor modules replacement should be done careful not to pluck way sensor modules; Please grip the upside and downside of PCB, arrow-direction of picture, between 4-pins and 10pins connectors on unplugging sensor-module from main-board little by little, left and right in turn. Vice versa on plugging the sensor-module into main-board.
- VI. Please install or keep sensors away from the places where electro-static or induced electro-magnetic field exists.
- VII. Please make sure to use air-based standard gas on Test Sensor performance.
- VIII. The sensors components should be departed or replaced, or manipulated unless request or agree by vendor, Please don't touch electrolyte leaked from sensor when it is damaged or broken. Wash out skins with running water when wet by leaked electrolyte.
- IX. Do Manual-Zero-Calibration if sensor still gives 10ppm or higher values even when located CO2-gas-free-zone.

