

Dual Channel (CO₂) Transmitter (3-wired type) Operation Manual

CD-300(LG)-D3



CD-300(G)-D3



CD-300L(G)-D3

General

CD-300(LG)-D3 series are Transmitter type models of CO₂ Sensor, which are for 0-20mA , 4-20mA Current output module or 0-10V, 2-10V Voltage output module(Jumper select) These models give 3 wired input power (2 PWR lines, 1 Common GND line).

Features

- **Non-Dispersive Infrared(NDIR) technology**
- **Either of four (2 Set of Analog Voltage or 2 set Current) output can be chosen by Jumper.** (4~20mA/2~10V/0~20mA/0~10V)
- **Customer could select multiple functions**
 - . Factory calibration mode is available.
 - . 10 minutes manual recalibration or weekly Auto-Calibration is settable.
- **Simple maintenance** : D-300(G) sensor is detachable from main board, which gives easier manipulation on sensor module.
- **Size** : 123 x 69 x 40 (mm)

Specifications

General Performance

Operating Temperature range

-10°C ~ 60°C

Operating Humidity range

0 ~ 95% RH (Non-condensing)

Storage Temperature

-30°C ~70°C

CO₂ Measurement

Sensing Method

NDIR (Non-dispersive Infrared)

Measurement Range

0 to 2,000 / 3,000 / 5,000 / 10,000ppm

(with jumper position change)

Accuracy

±30ppm ±5%

Response Time(90%)

150 seconds

Sampling Interval

3 sec.

Operation mode selection

Factory calibration mode should be used (Automatic calibration mode is only Indoor Air Quality Monitoring).

Two manual recalibration methods are available with manual recalibration by change of J2 & J4 or by using TRB-100ST Jig (TRB-100ST Jig : On Sale)

Electrical Data

Input Power

24VDC ± 20%, 50/60Hz (3-Wired)

Output Signals

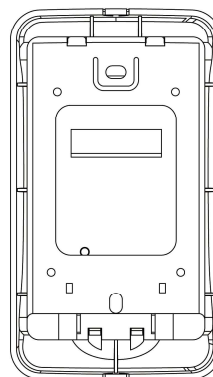
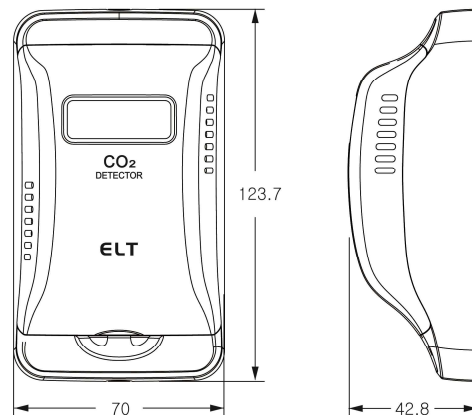
4 ~ 20mA or 2 ~ 10VDC

0 ~ 20mA or 0 ~ 10VDC

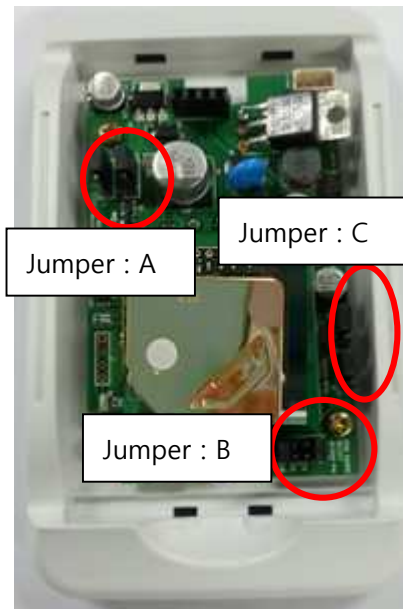
, (Jumper selectable

-voltage output or current output)

Dimensions (unit : mm)



Front Inside View



Rear View



Jumper Function Descriptions

■ **Jumper A (J7, J3) group : Voltage, Current output and range selection.**

V : Analog Voltage output

I : Current output

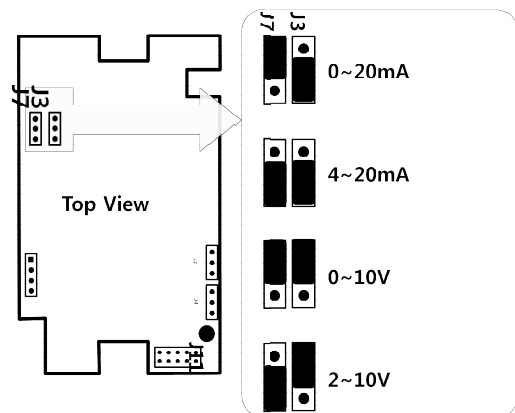
0~20mA : 0~20mA output @ Current.

0~10V output @ Voltage

4~20mA : 4~20mA output @ Current.

2~10V output @ Voltage.

● **[J7,J3] Output Mode**



Example setting :



⇒ Current output and 0~ 20mA output

■ **Jumper B(J11) group : CO2 Measurement range selection.**

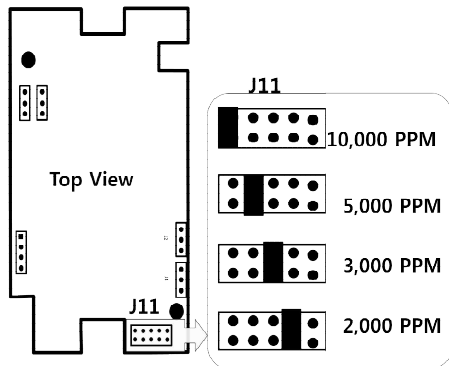
10K ppm : 0 ~ 10,000ppm CO2

5K ppm : 0 ~ 5,000ppm CO2

3K ppm : 0 ~ 3,000ppm CO2

2K ppm : 0 ~ 2,000ppm CO2

● [J11] PPM Measurement Range (Low range)



Start Calibration with Jumper set 'ON' position and wait and finish when time is over 2 minutes with Jumper set to 'OFF' position.

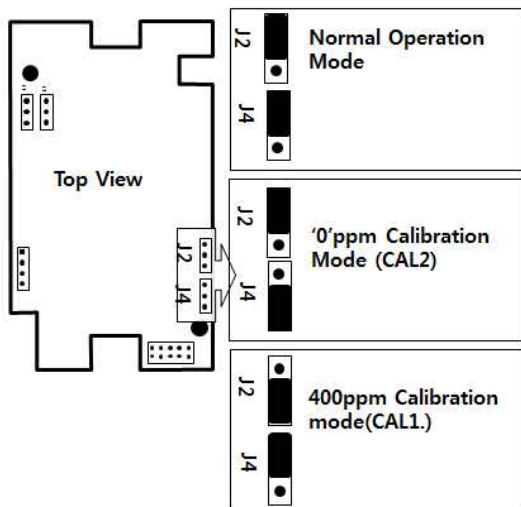
Wiring Method

VIN+: 24VDC+,

VIN-: 24VAC N or 24VDC-(GND),

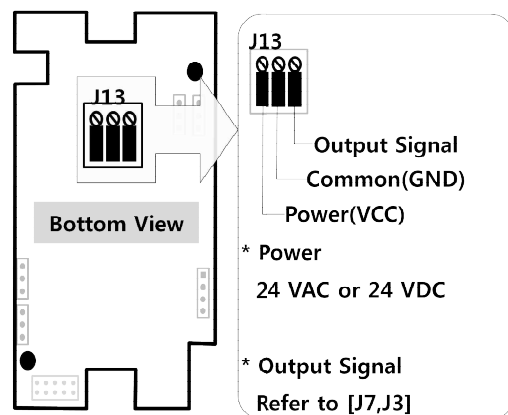
A-OUT: Output signal (Voltage or Current).

● [J2,J4] Operation Mode Selection with CAL1 or CAL2 for CD-300G-D3



Wire connector.

● [J13] Wiring Connector



CAL1 : Users can do 10 minutes Calibration (correction) manual function when sensor showed much fault ppm.

(Pose Jumper-cap to 'ON' position and wait over 11 minutes. After the setting of ambient air-flowing status to be 400ppm finished, move back the Jumper-cap to 'OFF' position again.)

CAL2 : Users can do '0' ppm Calibration is also available with standard N2 gas.

(Let the skilled engineer prepare the N2 gas chamber and insert N2 gas and wait until the gas get balanced in gas chamber.

Output signal calculation examples

Ex) 3,000ppm range 0~10V mode.

Read voltage 3.234V

$$3,000\text{ppm} / 10\text{V} * 3.234 = 970 \text{ ppm.}$$

Ex) 3,000ppm range 2~10V mode.

Read voltage 3.234V

$$(3.234\text{V} - 2\text{V}) * (3000\text{ppm} / 8) = 462 \text{ ppm.}$$

ELT SENSOR Corp.

Chunui Technopark 101-909) 36, Bucheon-ro 198beon-gil, Wonmi-gu, Bucheon-si, Gyeonggi-do, 420-857, Korea
Phone. +82-32-719-8055, <http://www.elti.co.kr>

Subject to change without notice. Printed in KOREA
2014 ELT Sensor Corp. All rights reserved.

2015 June