

SH-300-NDC Rev D

● CO₂ Module: Model SH-300-NDC(Dual wavelength)



■ Application

- ✧ CO₂ Control for Indoor Air Quality
- ✧ CO₂ Measuring for Ventilation Control
- ✧ CO₂ Control for Building, Hospital, School
- ✧ CO₂ Control for Air cleaner, Air conditioner.
- ✧ Mushroom Control, Boiler Control

■ Technical Specifications

Measuring Type	Dual Light Wavelength Non-Dispersive Infrared (NDIR)
Measuring Range	0 ~ 3000ppm / 5000ppm / 10000ppm
Accuracy	±2% FS, ±3 % measured value @0 ~ 50°C
Signal Update	Every 2.0 Seconds
Warm-Up Time @25°C	< 90sec
Operating Condition	-10 ~ 50°C, 0 ~ 99.5% RH (Non-Condensing)
Output	Analog : 0~3VDC (0~3000, 5000, 10000ppm) [CN2] UART : 9600 bps [CN1] / TTL Level 3.3V
Power Input	DC7V ~ 12V Input Fixed (Order Made): 5 VDC Regulated (±4%)
Current Consumption	Normal 35mA, Peak 80mA
Interface	4PIN Header[CN2], 6PIN Header[CN1] Molex 5267 included. With 2.54mm spacing. Refer to Dimensions
Size	(W)65 mm x (H)45 mm x (D)17.6 mm (±0.5 mm), Weight : 19 g

♣ This product can be changed for quality improvement without any notification.

■ Features

1. Dual light Wavelength **NDIR (Non-dispersive Infrared)** Method, which detects CO₂ in the air.
2. Analog and Digital output by request of control system
 - A. Analog Output: 0~3V (0~3000 / 5000 / 10000ppm)
 - B. Digital Output: UART (3.6V Level RS-232) Output

※ Enable to make changes in specifications and protocol on customer's demands.

■ Output option

1. Digital Output: UART (3.3 V Level TTL, RS-232)

A. SH-300DC Format (ASCII Data)

- Baud rate : 9600bps
- Signal update term : every 2 seconds

1	2	3	4	5	6
CO ₂ Value				CR	LF

Output example) When CO₂ concentration is 1000ppm,

1000[CR][LF]

Hex value (ASCII) : 0x31, 0x30, 0x30, 0x30, 0x0D, 0x0A

2. Analog Output (CO₂ only)

- CO₂: 0 ~ 3V (0 ~ 3000 / 5000 / 10000 ppm Option)

**** Output Current: Max 30mA**

A. Analog Output table

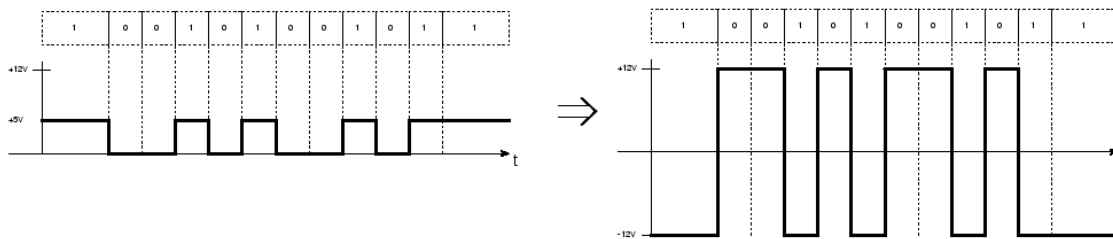
	3000ppm	5000ppm	10000ppm
0V	0ppm	0ppm	0ppm
1V	1000ppm	1666.7ppm	3333.3ppm
2V	2000ppm	3333.3ppm	6666.7ppm
3V	3000ppm	5000ppm	10000ppm

■ PC communication

1. UART interface

A. Use RS-232 interface converter

Communicate with PC using TTL signal is unsuitable,
Thus, communication by change voltage level



2. Communication Program

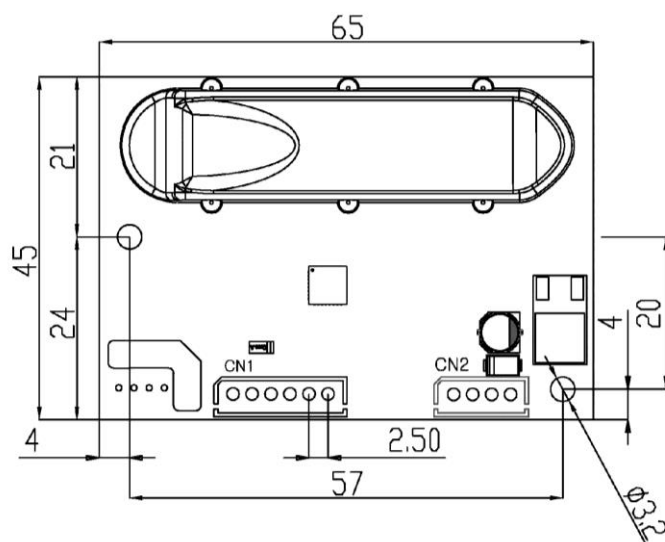
A. Use Hyper terminal or other Communication Program

■ Cautions

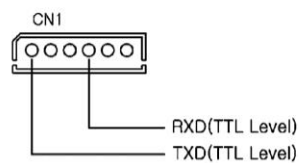
1. Products are weak against the impact and it may cause the change of the characteristic. .
2. When make alterations on product, Please do it after technical consult with SOHA TECH
3. Please avoid installation at environment that not match with working temperature and humidity
4. When install at external environment, please installed inside exterior case.
5. Please contact us if the CO2 sensor has to be installed at a place where dew condensation is worrisome. (Coating is optional)

■ Dimension

- Size : 65(W) * 45(H) * 17.6(D)
- Waveguide material : ABS



Molex: 5267-6P(Pith 2.54mm)



Molex: 5267-4P(Pith 2.54mm)

