Honeywell

AQS series

CO2 Transmitter

PRODUCT DATA

Specifications

CO2 Sensor:	NDIR
Measurement Range:	0~ 3000 ppm
Signal Output:	4~20mA , 2~10VDC Modbus RTU
Accuracy:	±40ppm ±3% of measured value at 25℃
Reaction time:	2 min for 99% step change。
Relay contact setting	800 ppm & 1000 ppm
Relay output	isolated N.O. & N.C., 2A,30V up to 0.5A, 125V dc/ac.
Power Supply:	24 VAC/VDC ±10%
Current Output Load:	500 Ohm Max
Working temperature:	
Room type	-10℃ ~ +70℃
Duct type	-10℃ ~ +70℃
	5% ~ 95% RH without condensation
Certification:	CE Report No.HA130214-SBCE
Housing Material:	Plastic (ABS) Flame retarded acc. to UL94-V1
Protection Standard:	
Room type	IP30
Duct type	IP65
Calibration:	Factory calibrated

Application

CO2 series Transmitters are designed for use with building automation, energy management, and computer / monitoring systems.

These sensors can be used for HVAC system, hospitals, greenhouse, food storage, and incubators.

Features

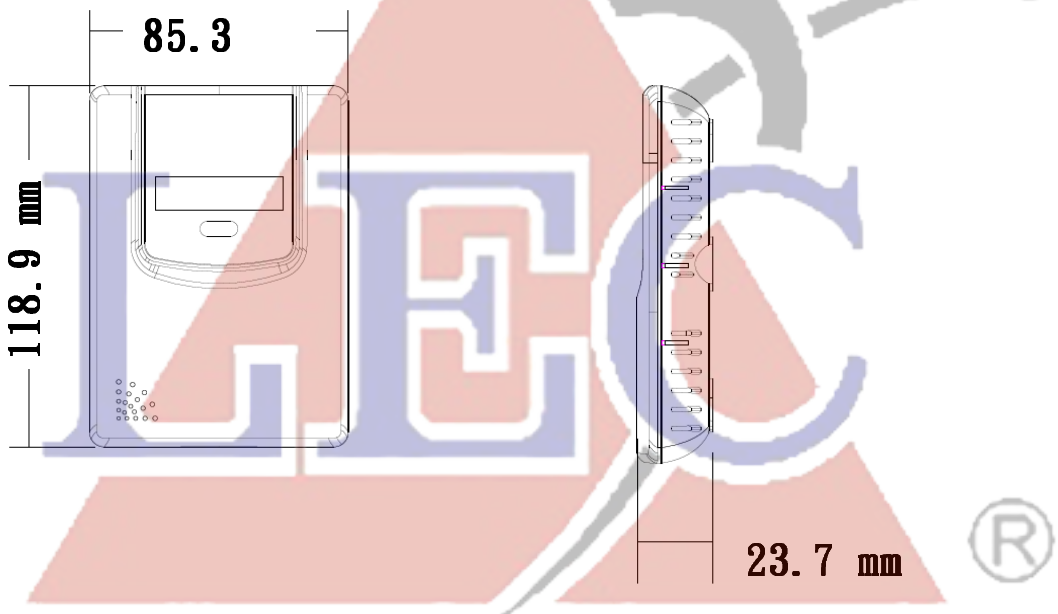
- 4~20 mA, / 2~10 VDC Mod-bus output
- Option for NDIR sensor
- LCD display option for both Space / Duct
- Various mounted types selectable
- CO2 range is selectable in one model
- High reliability & accuracy
- Wide sensing range
- Rapid response

Model Selection

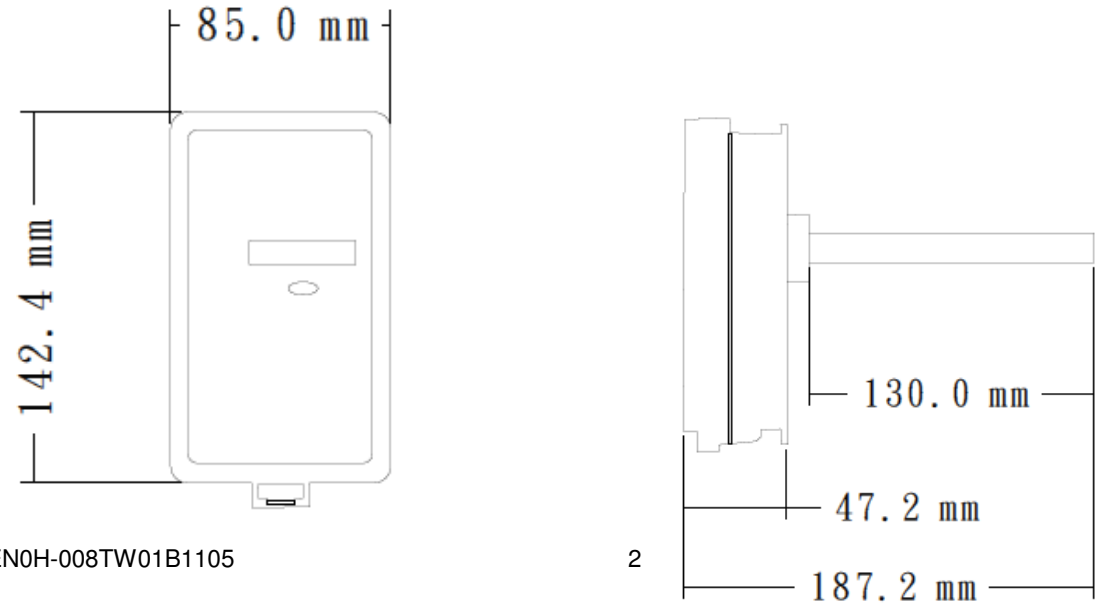
AQS31	Space CO2 Transmitter, 4~20mA / 2~10V + Mod-bus
AQS31-KAM	Duct CO2 Transmitter, 4~20mA / 2~10V + Mod-bus
AQS41	Space CO2 Transmitter, 4~20mA / 2~10V + Mod-bus, with LCD
AQS41-KAM	Duct CO2 Transmitter, 4~20mA / 2~10V + Mod-bus, with LCD

Appearance and Dimension (Dimension in mm)

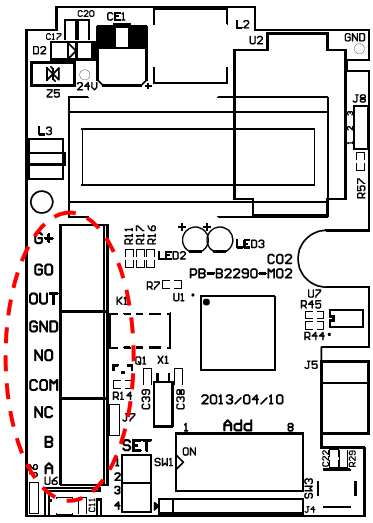
Space mount Transmitter



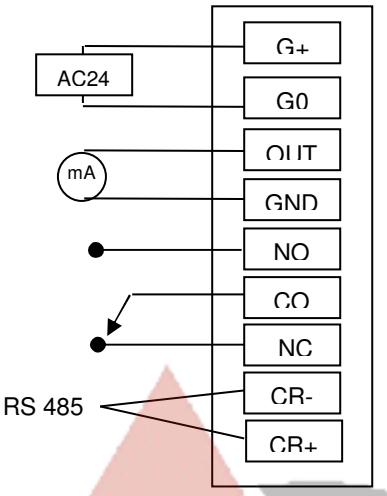
Duct mount Transmitter



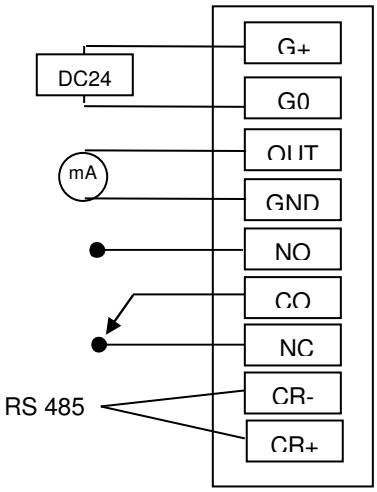
Wiring



Connecting to AC24V

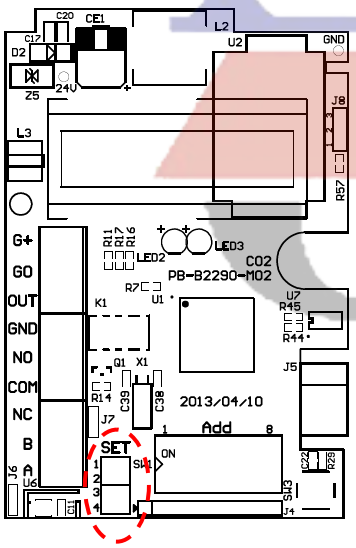


Connecting to DC24V



1.	G+	AC/DC 10~36V
2.	G0	System GND
3.	OUT	4~2mA / 2~10V
4.	GND	Signal GND
5.	NO	Normally opened
6.	COM	Com
7.	NC	Normally closed
8.	CR-	RS485 B(-)
9.	CR+	RS485 A(+)

CO2 Range Selection



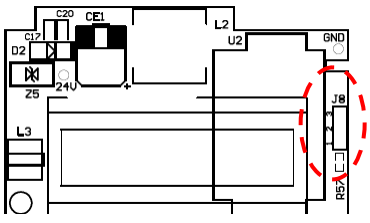
Jumper setting

1. Relay contact setting:
   set 0: pre-set at 800 ppm with hysteresis of 100 ppm.
   set 1: pre-set at 1,000 ppm with hysteresis of 100 ppm.

Relay Output	JP2	JP1
Relay contact setting 800 ppm	1	
Relay contact setting 1000 ppm	0	
Arbitrary density setting mode	X	1

2. JP3 are used to select 2000 ppm / 3000 ppm range

CO2 Range	JP3
setting 2000 ppm	1
setting 3000 ppm	0

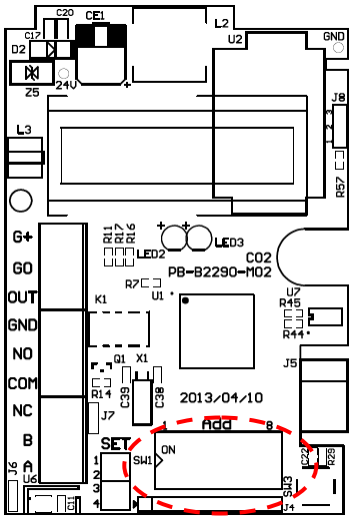


3. JP8 are used to select 4~20mA / 2~10v linear outputs mode.

Output Configurations	JP8
4~20 mA	
2~10 V	

Device **ID** Selection

Device ID：Setup device ID with dip switch; ON :1, OFF :0



Device ID (**ON：1,OFF：0**)			
1	000 00001	6	0000 0110
2	0000 0010	7	0100 0111
3	0000 0011	8	0000 1000
4	0000 0100	9	0000 1001
5	0000 0101	10	0000 1010

Protocol

Baud Rate = 9600、Word Length = 8、Parity = none、Stop Bits = 1。

Data Reading Type

	Device ID	Function	Address	Data Length	Error Check
CO2 ppm	01	04	0001	0001	XXXX

Responding Data Type

	Device ID	Function	Data byte	CO2 ppm	Error Check
CO2 ppm	01	04	02	02DC	XXXX

**** Remark 1：**

XXXX is the CRC16 checksum (**Check Sum**)。

**** Remark 2：**

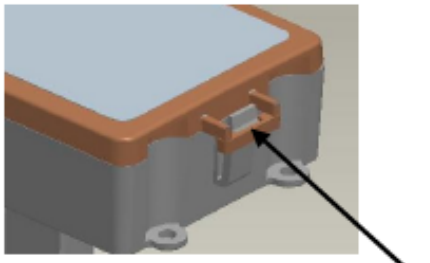
CO2 resulting data in hex.

The resulting data is 0x02DC into decimal, ie 732 ppm.

To open the wall mounted housing

Figure 1. . Closed housing seen from above. The housing is opened by pressing a screw driver into the lock opening slot. .

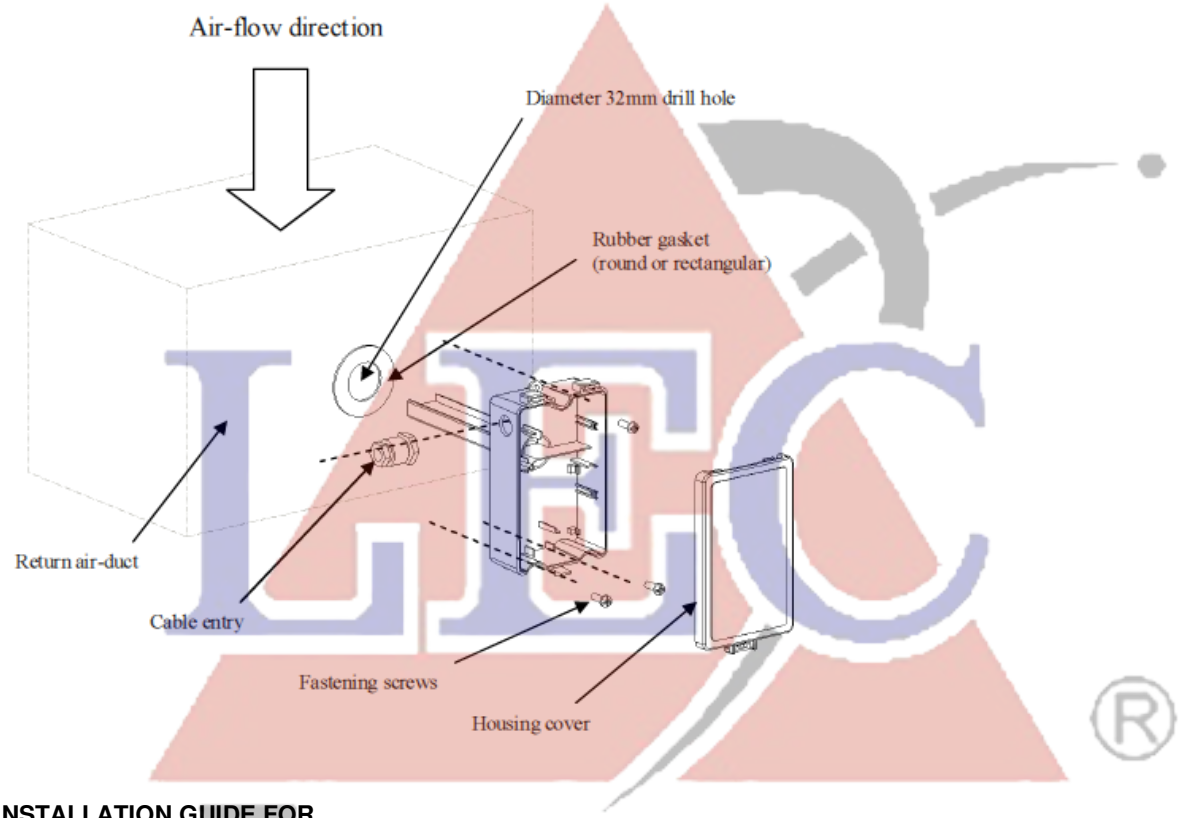
Figure 2. .By pressing a flat screw-driver into the opening slot, the two locking hook would be released.



To open the duct mounted housing

Figure 1. . Closed housing seen from above. The housing is opened by pressing on the locking hook. The locking hook is then released.

Press here to open



INSTALLATION GUIDE FOR
DUCT MOUNT SENSOR OR TRANSMITTER:

- Drilling a mounting hole with diameter 13mm on the duct near measuring point. Insert the probe pipe into duct.
- Unscrew & open the front cover of the product.
- Use enclosed screws to install the wiring box on the duct.
- Lead wire from DDC or PLC panel through opening by using a properly sized screw driver to connect each wire to the terminals of the transducer module according to field wiring diagram.
- Put front cover back and tighten front cover by screw.
- Use a properly sized screw driver to connect the lead wires to the terminals.

INSTALLATION GUIDE FOR
WALL MOUNT SENSOR OR TRANSMITTER:

- Remove the front cover and place the back panel to the desired location.
- Attaching the enclosed screws to the back panel.
- Place the front cover to the back panel.
- Keep the sensor or transmitter away direct sun light, heat source and cold source.
- The recommended location of wall mount sensor or transmitter is 1.5M above the ground.