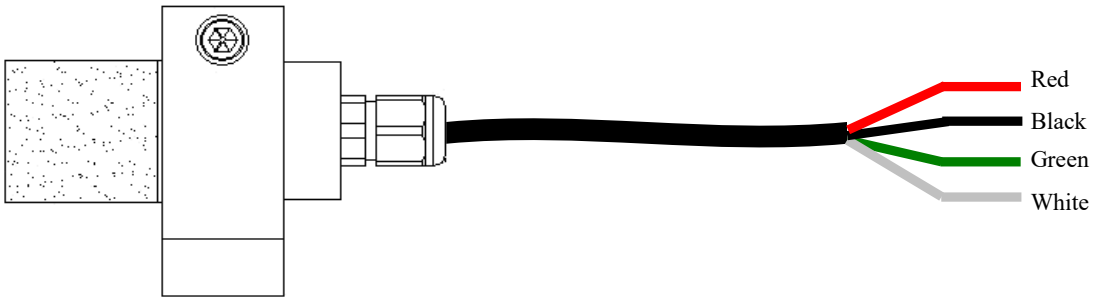
AVC-320 CO2 Transmitter for high humidity (RS485 output) Instruction Manual

Thanks for choosing our product! Please read carefully and follow this instruction before using!

Introductions

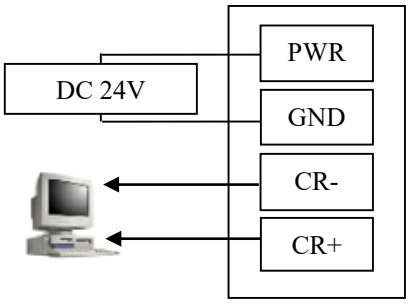
AVC-320 series CO2 transmitter is specially design for high humidity environment. In can be used for smart ventilation system control and environment monitoring to control energy consumption and improve indoor air quality. NDIR infrared waveguide technology and air sampling sensing element ensures the high accuracy. Mostly used in cellar, greenhouse, mushroom farm, storage room, brewery, plant factory, farms…etc., in order to monitor carbon dioxide level.

Wiring



1	PWR	DC 12 ~ 36V
2	GND	System GND
3	CR-	RS-485(－)
4	CR+	RS-485(＋)

Connection



【Figure 1】

Notice: Please remove power from the unit before wiring, in order to avoid any damage or hazard.

Modbus RTU Protocol

1. Default setting: Device ID=1; Baud rate = 9600; Word Length = 8; Parity = none; Stop Bits = 1
2. Checksum is the error detection codes for CRC-16/MODBUS.

Command 0x03: Read holding registers

Reading data type

Device ID	Function	Address (High Byte)	Address (Low Byte)	Data Length (High Byte)	Data Length (Low Byte)	Checksum (High Byte)	Checksum (Low Byte)
By setting	0x03	0x00	0x00	0x00	0x01	0xXX	0xXX

Responding data type

Device ID	Function	Data Byte	Data (High Byte)	Data (Low Byte)	Checksum (High Byte)	Checksum (Low Byte)
By setting	0x03	0x00	0x00	0x01	0xXX	0xXX

**** Remark：**

The unit of CO2 data obtained is ppm.

The CO2 data obtained is hexadecimal. To convert 0x02DC to decimal, we will get 732ppm.

Command 0x06：Write single register

To calibrate 732ppm to 662ppm, the correction value is (662-732) = -70. And convert it into 0xFFBA (hexadecimal).

Writing data type

Device ID	Function	Address (High Byte)	Address (Low Byte)	Data Length (High Byte)	Data Length (Low Byte)	Checksum (High Byte)	Checksum (Low Byte)
By setting	0x06	0x00	0x01	0xFF	0xBA	0xXX	0xXX

Responding data type

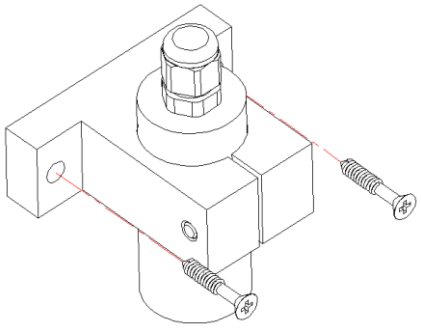
Device ID	Function	Address (High Byte)	Address (Low Byte)	Data Length (High Byte)	Data Length (Low Byte)	Checksum (High Byte)	Checksum (Low Byte)
By setting	0x06	0x00	0x01	0xFF	0xBA	0xXX	0xXX

Modifying data register

Address (High Byte)	Address (Low Byte)	Description	Range
0x00	0x01	CO2 manual calibration	-70 ~ 70 (±70ppm)
0x00	0x02	Device ID	1 ~ 247；Default：1

Installation

- Please check if the transmitter, accessory pack and instruction manual are included in the package.
- Please insert transmitter in the fixture, and fasten it with the hex bolt on the fixture.
- Please install the transmitter on flat surface and fix it well.
- To install the transmitter on wall, please use the screws in accessory pack. Fix the left and right side of the fixture with screws. (please refer to figure 2)
  a. For installation on concrete wall, please use screws and raw plug to fix the fixture.
  b. For installation on metal surface, only use screws to fix the fixture.
- Please refer Figure 1 for wiring.



【Figure 2】

Dimensions