IAQ Sensor

Indoor Air Quality Sensor Module (Bacnet/Modbus)

QTR...

【Description】

   QTR series sensor is a simple and compact wall mounting indoor Air Quality sensor providing a large screen readout of CO2, Temperature and Humidity. Suitable for residential, factory or office building's air quality monitoring. Using a sophisticated semi conducted chip for sensing and converting the readings to RS485 digital signals for Bacnet MSTP or Modbus protocols as well as providing voltage or current analog output signals for direct control of equipment. Suitable for use with any BMS or PLC controllers for automation control. Optional in touch screen models and varying output signals. There is a model to suit any application making monitoring and control of an indoor space simple and effective.

【Features】

- Adopt NDIR non-dispersive infrared CO2 sensor and chip type temperature and humidity sensor.
- TFT color display screen can display temperature, humidity and carbon dioxide value.
- You can choose to output IAQ information as RS485 signals in different formats such as BACnet MS/TP, Modbus RTU or AIRTEK EIMnet, or as analog signals in different types of 0~10V and 4~20mA.
- The visual deviation value of compensation temperature/humidity/carbon dioxide can be set.
- With a color icon to display the current air quality status function.
- It has an alarm sound effect to prompt indoor personnel with a sound when the air quality is poor.
- The set point of CO2 alarm trigger can be adjusted according to different applications.
- It has a BO dry contact output, which can be interlocked when a CO2 alarm occurs.
- When reading IAQ information through communication, AO*3 & BO can also be set as remote output control
- You can choose different display languages such as Simplified Chinese/Traditional Chinese/English.

【Specifications】

Model	Temp	Humidity	CO₂	Binary output	TFT-LCD touch display	Analog output signal	RS-485 Comm. format
QTR00V	○	○	X	X	X	0-10VDC & 4-20mA *2	Modbus RTU
QTR00V-A	○	○	○	○	X	0-10VDC & 4-20mA *3	
QTR00V-AB	○	○	○	○	X	0-10VDC & 4-20mA *3	BACnet MS/TP
QTR28V	○	○	X	X	○	0-10VDC & 4-20mA *2	Modbus RTU AIRTEK EIMnet
QTR28V-A	○	○	○	○	○	0-10VDC & 4-20mA *3	
QTR28V-AB	○	○	○	○	○	0-10VDC & 4-20mA *3	BACnet MS/TP

Power supply : 24 VAC/VDC, 3VA ±20% (Half-wave rectification design).

Temp sensing range : 0~50℃

Humidity sensing range : 0~100%RH (non-condensing)

CO2 sensing range : 400~2000ppm (Analog output), 0~10,000ppm (RS-485 output signal)

Temp accuracy : ±0.4℃ (At 25℃)

Humidity accuracy : ±3%RH (At 10~90%RH/25℃)

CO2 accuracy : ±40ppm ±3% (+ 1.6％reading/ kPa and off set value of the normal pressure)

RS485 output signal : MODBUS RTU or AIRTEK EIMnet or BACnet MSTP protocol. Include communication status light.

TFT-LCD touch display : 2.8" TFT LCD, 65,536 colors, 320*240 pixels. Modify the parameters settings on touch screen.

Analog output : 0～10VDC & 4～20mA output, (12bit).

Binary output : UL/CUL/TUV certification. 10A, 250VAC, SPST Alarm Output.

Communication speed : 9,600(Modbus RTU) / 38,400 (AIRTEK EIMnet, BACnet MSTP) BPS.

**T&H Sensing element** : Adapt Temp/Humidity CMOS sensor.

CO2 Sensing element : NDIR (Non-dispersive Infrared).

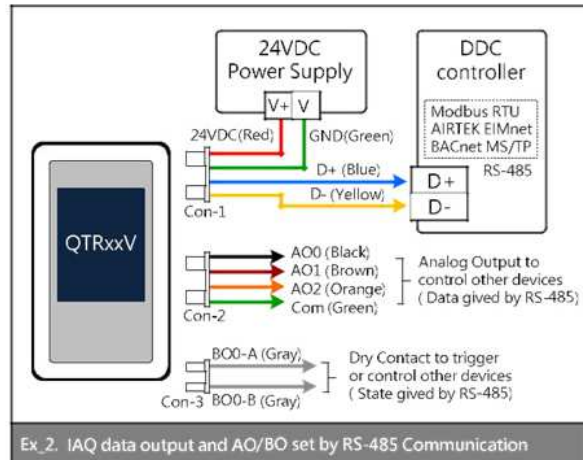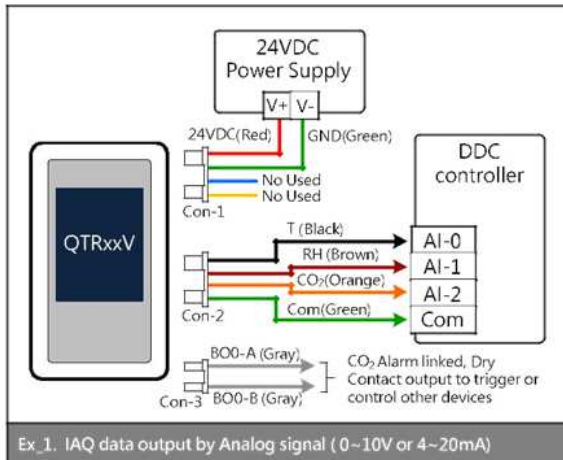**Certificate** : CE, FCC(Part 15,Subpart B, Class A) and RoHS standard.

AIRTEK

【Installation】

- Please read the catalog instructions carefully before installation. Failure to follow the catalog instructions to install the instrument may cause danger or cause product damage, etc., unpredictable adverse results.
- Please install the indoor transmitter in a well-ventilated location to avoid turbulence and severe vibration to ensure that the sensing value is correct and good.
- Do not use this transmitter for detection in explosive environments or flammable media.
- Do not use this transmitter in a system with high pressure.
- Do not connect the instrument to the power supply during installation, because of the danger of electric shock or equipment damage, which may cause personal injury or damage the electrical circuit.
- All wiring must be done in accordance with the applicable electrical rules, do not share the same pipeline wiring with the power cord, otherwise it may cause interference.

【Wiring】
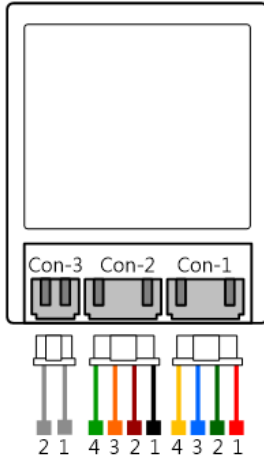
Connector	Number	Color	Function
Con-1	1	Red	V+
	2	Green	GND
	3	Blue	Data+
	4	Yellow	Data-
Con-2	1	Black	Temp/AO0
	2	Brown	RH/AO1
	3	Orange	CO2/AO2
	4	Green	Com
Con-3	1	Gray	BO0_A
	2	Gray	BO0_B

Ex_1. IAQ data output by Analog signal (0~10V or 4~20mA)

Ex_2. IAQ data output and AO/BO set by RS-485 Communication

【Size】 mm