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】

● Adapt NDIR (Non-dispersive Infrared) CO_2 sensor and CMOS temp/humidity sensor
● With TFT color LCD, can display temperature, humidity and CO_2 readings.
● Output IAQ data via Modbus or Bacnet MS/TP RS485 signal or AIRTEK MSnet port as well as 4-20ma or 0-10vdc signals including 1 x relay output for Alarm or control purposes.
● Enable off set calibration for compensation of temperature/humidity/CO_2 readings
● Provides color icon display of current air quality status.
● 1 x Do for alarm alert for poor air quality status.
● Adjustable CO_2 alarm trigger set point.
● IAQ data via communication for remote monitoring and calibration/settings.
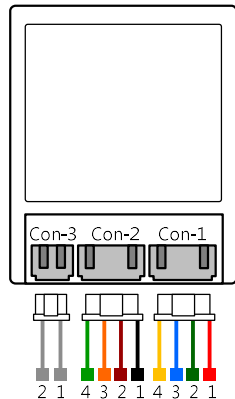
【Specifications】

Model	Temp	Humidity	CO$_2$	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	AIRTEK EIMnet
QTR00V-AB	○	○	○	○	X	0-10VDC & 4-20mA *3	BACnet MS/TP
QTR28V	○	○	X	X	○	0-10VDC & 4-20mA *2	Modbus RTU
QTR028V-A	○	○	○	○	○	0-10VDC & 4-20mA *3	AIRTEK EIMnet
QTR28V-AB	○	○	○	○	○	0-10VDC & 4-20mA *3	BACnet MS/TP

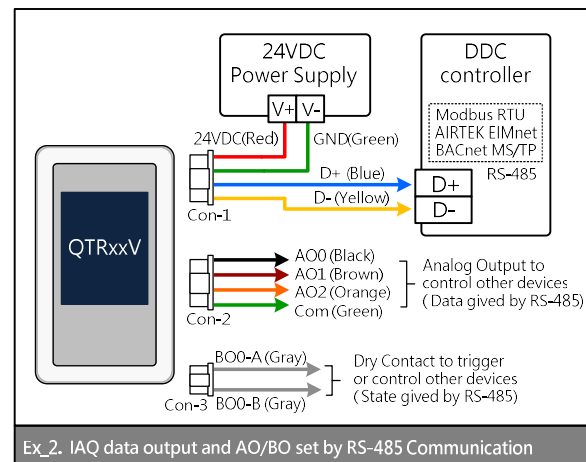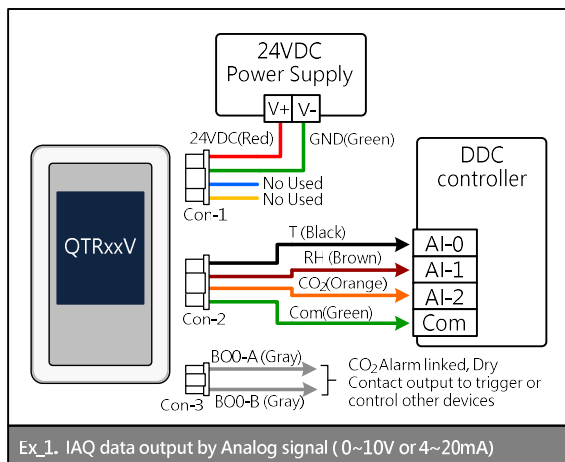|	
Power supply	: 24VAC/DC±20%
Temp sensing range	: 0~50℃
Humidity sensing range	: 0~100%RH (non-condensing)
CO$_2$ sensing range	: 400~2000ppm (Analog output), 0~10,000ppm (RS-485 output signal)
Temp accuracy	: ±0.4℃ (At 25℃)
Humidity accuracy	±3%RH (At 10~90%RH/25℃)
CO$_2$ accuracy	: ±40ppm ±3% (+ 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.
CO$_2$ Sensing element	: NDIR (Non-dispersive Infrared).
Certificate	: CE、FCC(Part 15,Subpart B, Class A) and RoHS standard.

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【Installation Instruction】

- Please read the instructions carefully before installing. Incorrect wiring may damage the screen.
- Please install in well-ventilated location, avoid turbulent air flow and severe vibration locations.
- Do not use in explosive environment or near flammable medium.
- Do not use in a high-pressure system.
- Connect the power last when installing, ensure correct wiring.
- All wiring must be in accordance with appropriate electrical rules. Keep communication cabling (RS485) segregated from the rest of the cabling to minimize electrical 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