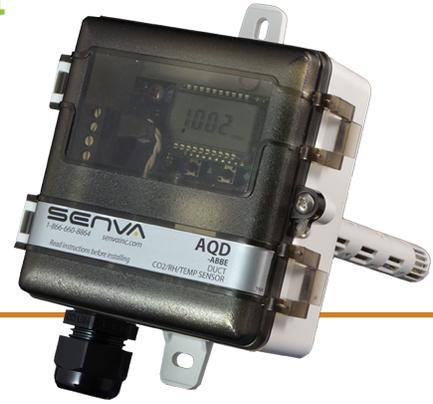


AQD Series CO2/Humidity/Temp

Available with analog outputs or protocol for BACnet RS-485
Integrated set-point relay
Optional field replaceable NDIR CO2 and RH elements



DESCRIPTION

The AQD series design allows customization for a sensor that meets project requirements for monitoring temperature, CO2 and relative humidity. The sensor can be ordered as stand alone temperature, CO2/Temp, RH/Temp or all-in-one CO2/RH/Temp with a 0-5/10V analog or BACnet RS485 output. Lower material costs and installation time by combining multiple sensors into a single sensor housing with standard LCD and optional add-on features.

FEATURES

Customize to meet project requirements

- Standard LCD and temperature on each device
- Options to add CO2 and/or RH sensing elements
- Field replaceable elements for CO2 and RH
- Available with 0-5/10V Analog or BACnet protocol communication

Protocol Version

- BACnet RS-485 ready
- Auto-configuration wizard detects baud rate and MAC address
- Adjustable set-point using button menu or optional 10k slider

Analog Version

- LCD for easy setup of all parameters (concealment cover included)
- Programmable set-points for complete control
- Provision to offset CO2 reading
- Optional thermistors, sliders and override button

High performance field replaceable NDIR CO2 element

- Selectable auto-calibration mode returns sensor to baseline values

2% RH field replaceable sensor

- On-board temperature compensation for RH eliminates temp coefficient errors achieving excellent measurement accuracy, high repeatability and offset stability.
- State of the art testing facilities. 8-point NIST traceable certification available—consult factory

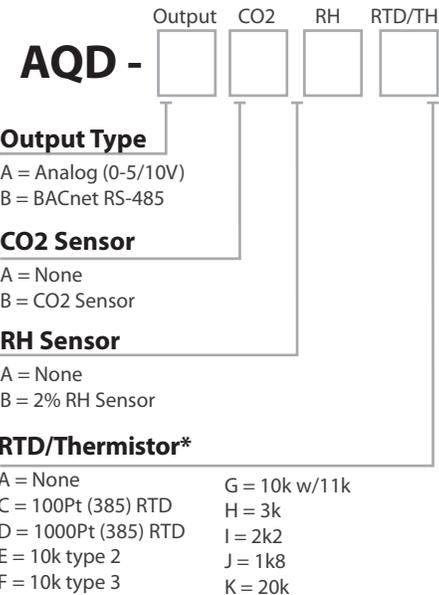
Quality

- Industry leading 7-year limited warranty/ 2-year RH element, 3-year CO2 element limited warranties

APPLICATIONS

- Controlling ventilation in response to occupancy
- Facilitates compliance with ASHRAE 62.1 standard for air quality
- Offices, conference rooms, and public assembly areas

ORDERING INFORMATION



*Add-on RTD/Thermistor not readable via BACnet; Temperature output is standard on AQD devices, Add-on RTD/Thermistor is option for Analog.



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SPECIFICATIONS

Power Supply		12-30VDC/24VAC ⁽¹⁾ , 100mA max.
Analog Outputs	Temperature	0--5/10V standard, Scaling 50°F to 95°F (10°C to 35°C); thermistor/RTD values optional
	CO ₂ and RH	0-5/10V
	Update Rate	Continuous
	Programmable Relay	Solid-state output, 1A @ 30VAC/DC, N.O. Source Selectable: CO ₂ , RH, Temperature
Analog LCD Menu Parameters ⁽²⁾	SPt, Set point, Hi (On)	Sets relay turn-on threshold (800ppm default)
	SPh, Set point, hysteresis (Off)	Sets the relay turn-off hysteresis (100ppm default)
	SCl, Scaling	0-2000ppm or 0-5000ppm (2000ppm default)
	Adj, Adjustment	CO ₂ Offset adjustment +/-250ppm (0 default)
	CRl, Auto Calibration Period	Off, 7 days, 14 days, 30 days, 60 days (14 days default)
	FE, Displayed Temp Unit	F degrees fahrenheit (default), C degrees celsius
	LuL Analog Output Scale	5u 5.0V full scale, 10u 10.0V full scale (default)
Protocol Output	Run Mode	Displays temp and optional CO ₂ and RH
	Protocol	BACnet (Isolated)
	Connection	3-wire RS-485, with isolated ground
	Data Rate	Locally set baud rate up to 115200 (9600, 19200, 28800, 38400, 57600, 76800, 115200)
Protocol Relay Set-point	Address Range	0-127
	Programmable	Solid-state output, 1A @ 30VAC/DC, N.O. Source Selectable: CO ₂ , RH, Temperature Source selectable: CO ₂ , RH, Temperature
CO ₂	Type	Non-dispersive Infrared (NDIR)
	Accuracy	±30ppm, ±3% of reading (400-2000ppm), -10-50°C, 0-85%RH ±50ppm, ±5% of reading (2000-5000ppm), -10-50°C, 0-85%RH (<5000ppm consult factory)
	Range	0-2000/5000ppm; Programmable up to 10,000ppm
	Response time	30s
Relative Humidity	Sample rate	1s
	Type	Digital CMOS
	Accuracy	2% models, +/-2% over 10 to 90%RH range
	Resolution	0.05%RH
	Hysteresis	+/-1%RH
	Temperature coefficient	Compensated on-board
	Response time ⁽³⁾	30s
	Sample rate	3s
	Operating range/Output Scale	0 to 100%RH (non-condensing)
	Long term drift	<0.5%RH per year
Operating conditions ⁽⁴⁾	-4 to 140°F (-20 to 60° C) @ RH>90%; -4 to 176°F (-20 to 80° C) @ RH=50%	
Temperature (with RH option)	Type	Silicon Bandgap
	Nominal Accuracy	+/-0.3° C (operating range)
	Maximal Accuracy	+/-0.5° C (at 25° C), +/-1.0° C (operating range)
	Resolution	0.01° C
	Repeatability	+/-0.1° C
	Response time ⁽³⁾	30s
Temperature (without RH option)	Sample rate	3s
	Type	NTC Thermistor
	Nominal Accuracy	+/-0.5° C (operating range)
	Maximal Accuracy	+/-1.0° C (at 25° C), +/-2.0° C (operating range)
	Resolution	0.05° C
	Repeatability	+/-0.2° C
Operating Environment ⁽⁵⁾	Sample Rate	100 milliseconds
	Temperature	-4 to 122°F (-20 to 50°C)
Enclosure	Humidity	0-95% non-condensing
	Material	ABS Plastic
	Dimensions	4.0"h x 4.4"w x 2.1"d (+6.8" probe)

⁽¹⁾ One side of transformer, secondary is connected to signal common. Dedicated transformer is recommended.

⁽²⁾ Quick Start Menu parameters shown, for additional capabilities see installation manual.

⁽³⁾ Time for reaching 63% of reading at 25° C and 1 m/s airflow.

⁽⁴⁾ Long term exposures to conditions outside normal range at high humidity may temporarily offset the RH reading (+3%RH after 60 hours.)

⁽⁵⁾ Accuracy of CO₂ reading may be reduced at temperatures below 14°F (-10°C).