SENVA

AQ2 Pro Series All-in-1 Indoor Air Quality Sensor

High-resolution color OLED screen Capacitive touch buttons Available with CO2, PMx, VOC, RH, Temp, Ambient light, PIR occupancy NDIR CO2 sensor ±30ppm accuracy



DESCRIPTION

The newly designed AQ2 Pro Series is the most attractive air quality sensor in the industry. Color OLED and capacitive touch buttons make setup simple, saving you time and effort on every job.

Versatile and higly accurrate, the AQ2 Series is available with analog or BACnet/Modbus capability and a standard programmable setpoint relay. CO2, PMx, VOC, RH, temp, PIR occupancy, and display options allow configuration for any job.

APPLICATIONS

- HVAC room humidity and temperature measurement and control
- Energy management/building control
- Facilitates compliance with ASHRAE 62.1 standard for air quality
- Contributes toward satisfying Feature A08 and T06 under the WELL Building Standard[®] v2

FEATURES

High accuracy saves energy

- More sensor options and data points allow for better control, cleaner air, and energy savings
- Non-dispersive infrared sensing element (NDIR)
- 15+ year life expectancy on CO2 sensing element; ±30ppm, ±3% of reading

Configure any combination of sensors

- More data allows for cleaner air and safer buildings
- Gather occupancy data from CO2, VOC, ambient light, and/or the PIR occupancy sensor
- PM can be configured for various particle sizes
- CO2 comes standard with barometric pressure compensation



Field Replaceable Sensors
RH, Temp, and CO2 elements are field replaceable



 Air Quality Ring (optional)
 Indicate air quality to occupants without confusion



Versatilie Display (optional)

 Customize the amount of information to display



Slim surface-mount enclosure • Easy to install, tamper-proof



ORDERING

AQ2	Power Su
	Interface
W = Wall Mount	
Output Type	Analog O
A = Analog	(Analog v
B = BACnet/Modbus	oniy)
	Drotocol
C = CO2	(Comms)
D = Dual Channel CO2	only)
Relative Humidity	
A = None	Relay (sta
2 = 2% RH	except fo
VOC	models)
A = None	
V = VOC	
Particulate Matter*	
A = None	CO2 (anti
P = PM 1.0, 2.5, 4.0, 10.0	CO2 (opti
Temperature Output	
A = None	
B = Transmitter/Temp display	
C = 100Pt RTD	
E = 10K Type 2	
F = 10KType 3	Deletter
G = 10k w/11k	Kelative
H = 3k J = 1k8	(optional)
I = 2k2 K = 20k	(optional)
Display	
X = None	
D = OLED Display	
B = Air Ouality Ring	
Options (Choose up to 3)**	Temperat
Blank = None	Transmitt
$C = 1 k \Omega SP Slider$	(optional)
$D = 10k \Omega SP Slider$	
$E = 910 \Omega$ offset resistor	
$\Omega =$ Thermistor Override PB	
U = User PB	
P = PIR Sensing	tVOC (op
*PM Available on BACnet/Modbus versions only	
**Additional SP sliders and offset resistors	
available upon request **Slider and purchautton options not available	
with PM sensor	
with the sense.	PMx (opti
(1) One side of transformer secondary is	
(1) One side of transformer, secondary is connected to signal common Dedicated	
transformer is recommended.	
(2) Quick Start Menu parameters shown, for	PIR (optic
additional capabilities see installation manual.	Ambiert
(3) Time for reaching 63% of reading at 25°C	(std on co
ana 1 11/3 all 110w (4) I ona term exposures to conditions outside	version o
normal range at high humidity may temporarily	Operating
offset the RH reading (+3%RH after 60 hours.)	Environm
BACnet® is a registered trademark of	Enclosure
ASHRAE.	Linciosulo
	Compliar

SPECIFICATIONS

Power Supply		12-30VDC/24VAC ⁽¹⁾ , 100mA max.		
Interface	OLED (optional)	0.5" Organic LED Display, 300 ppi, color		
menace	Air Quality Ring	Color changing (red/yellow/green) LED ring with 12 LED's		
Analog Outputs	Quantity	Up to 3 outputs		
(Analog version	Source	CO2, RH%, Temp, Temp slider, Dew Point (selectable)		
only)	Scale	0-5V, 0-10V, 4-20mA (switch selectable, programmable per		
	Protocol	BACnet (Isolated) or Modbus MS/TP		
Protocol Output	Connection	3-wire RS-485, with isolated around		
(Comms version	Data Bate	9600, 19200, 38400, 57600, 76800, 115200 (switch selectable)		
only)	Address Range	0-127		
Relay (standard	Type	Solid-state output, 1A @ 30VAC/DC, N.O.		
except for PM	Source	CO2 setpoint, RH setpoint, Temp setpoint, off (selectable)		
models)	Polarity	NO/NC (selectable)		
	Type	Non-dispersive Infrared (NDIR)		
	71-	±(30ppm + 3% of reading) (400	-2000ppm), -10-50°C, 0-85%RH	
	Accuracy	±(50ppm+ 5% of reading) (2000-5000ppm), -10-50°C, 0-85%RH		
	Resolution	>5000ppm consult factory 1 ppm		
CO ₂ (optional)	Range	0-2000 PPM (Default) (Programmable up to 10.000ppm)		
	Response time	60 seconds to 90% reading		
	Sample rate	1s		
	Barometric Pressure	Vac pressure readable over comme		
	Compensation			
	lype	Digital CMOS	00/ DL L	
Relative	Accuracy	2% models, +/-2% over 10 to 90%RH range		
	Resolution	0.05%RH		
Humidity	Response time (3)	3US		
(optional)	Sample rate			
	Operating range	u to 100%KH (non-condensing)		
(4) -4 to 140°F (-20 to 60° C) @ RH>90%; -4 to 176		90%; -4 to 176°F @ RH=50%		
		With RH option	Without RH option	
	Туре	Silicon Bandgap	NTC Thermistor	
Temporatura	Nominal Accuracy	±0.3° C (operating range)	±0.5° C (operating range)	
Transmitter	Maximum Accuracy	±0.5° C (at 25° C), ±1.0° C	±1.0° C (at 25° C), ±2.0° C	
(optional)	Resolution	0.01° C	0.05° C	
	Response time ⁽³⁾	30s		
	Sample rate	35	100 milliseconds	
	lype			
	Gas			
tVOC (optional)	Kange	U-5000 ppp		
	Kesponse Lime Humidity	< 1 US		
	Compensation	Yes		
	Output	0-2000 TVOC (default) Program	mable up to 5000 ppb	
PMx (optional)	Туре	Optical		
	Size Range	PM0.5, PM1.0, PM2.5, PM4.0, PM10.0		
	Scale	0-1000 μg/m³		
	Lower detection limit	0.3 μm		
	Accuracy	±10 μg/m³ (0-100μg/m³); ±10% (100-1000 μg/m³)		
	Long-Term Drift	±1.25 μg/m³ / year		
PIR (optional)	Type	Pyroelectric Infrared		
	Axis X field of view	140°, 15 ft (4.5m)		
Ambient Light	Axis Y field of view	76°, 15 ft (4.5m)		
(std on comms	lype	Phototransistor		
version only) Scale 0-100 fc (lm/ft ²), readabl		0-100 fc (Im/ft ²), readable over c	le over comms	
Operating	Temperature	32 to 122°F (0 to 50°C)		
Environment	Humidity	0-95% non-condensing		
Enclosure	Material	ABS Plastic		
	Dimensions	5.6/"h x 3.00"w x 1.07"d		
Compliance	Agency	CE, KOHS		