ZS2 ZONE SENSORS

COMMUNICATING IAQ SENSORS

Automated Logic

INTELLIGENT IAQ SENSORS FOR THE WEBCTRL® BUILDING AUTOMATION SYSTEM

Multiple public studies[1] suggest that indoor environments can profoundly impact the health and decision-making performance of building occupants. They advise that the levels of carbon dioxide, volatile organic compounds, and particulate matter that we commonly encounter in schools, healthcare facilities, and commercial office buildings should be held within healthy thresholds. Additionally, humidity can increase heating and cooling costs, support mold and bacterial growth, contributing to allergies, respiratory problems, and occupant discomfort.

Automated Logic's ZS2 line of intelligent IAQ zone sensors provides the function and flexibility you need to manage the conditions essential to your facility's comfort, productivity, and sustainability. ZS2 sensors are designed to measure room temperature, motion, relative humidity, carbon dioxide (CO_2), volatile organic compounds (VOCs), total volatile organic compounds (TVOCs), and particulate matter 2.5 micrometers and smaller (PM2.5). They are available in a variety of zone sensing combinations to address your specific control requirements and ventilation strategies.

Standard

- Temperature, Humidity, Motion, CO2, VOC, TVOC[2], and PM2.5[2] options
- Supports daisy-chaining
- Hidden communication port

Plus

All the features of Standard and

- Push-button occupancy override
- Occupancy status indicator
- Setpoint adjust

Pro[3]

All the features of Plus and

- Large, easy- to-read LCD
- Alarm indicator
- Push-button controls

Pro F

All the features of Pro and

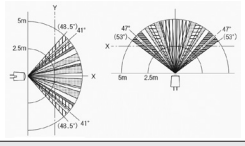
- Fan speed control
- °F to °C conversion button
- Cooling / Heating / Fan Only Modes

1) Harvard T.H. Chan School of Public Health; The COGfx Study: https://cogfx.forhealth.org
US EPA Indoor Air Quality (IAQ) https://www.epa.gov/indoor-air-quality-iaq

2) TVOC and PM 2.5 options are only available on Standard and Plus using model type HCMPV

3) TVOC and PM2.5 are not available in Pro or Pro F models

SPECIFICATIONS

ZS2 Zone Sensors		
Sensing Element	**Range**	**Accuracy**
Temperature with any option (excluding humidity)	32° to 122° F (0° C to 50° C)	±0.35° F (0.2° C)
Temperature with humidity and any option	50° F to 104° F (10° C to 40° C)	±0.5° F (0.3° C)
Humidity	20% to 80%	±2% typical. Less than 0.5% drift per year
Carbon dioxide (CO_2)	400 to 2000 PPM	±50PPM plus 2% of reading
Volatile organic compounds (VOC)	0 to 2,000 CO2 PPM equivalent reading (CO2e)	±100 PPM
Total volatile organic compounds (TVOC)[4]	125 to 600 PPB @ 77° F (25° C)	20 PPB + 30% of reading
Particulate matter (PM)	0 to 1,000 ug/m3 (max)	1 to 100 ug/m3 ± 15 ug/m3 101 to 500 ug/m3 ± 15% (25 ± 2° C, 50 ± 10% RH)
Motion Sensing	Sensor Type: PIR Distance: 16.4 feet, (5 m) Detection range: (HxV) 100° x 82° Movement speed: 2.62 to 3.94 ft/s (0.8 to 1.2 m/s) Detection object: 27.56 x 9.84 in. (700 x 250 mm)	
Power Requirements	**Model Type**	**Power Required**
Temperature Only Temperature with Humidity	All Models	12 Vdc @ 8 mA
Temp with VOC, or Temp / VOC / Humidity	All Models	12 Vdc @ 60 mA
Temp with CO_2 , or Temp / CO_2 / Humidity	All Models	12 Vdc @ 15 mA (idle) to 90 mA (CO_2 measurement cycle)
Temp with CO_2 , TVOC / PM / Humidity	Standard and Plus Models	12 Vdc @ 15 mA (idle) to 150 mA
Power Supply	A controller supplies limited amount of power. Please refer to the controller's specifications. Additional power may be required. See sensor power requirements above.	
Other Specs		
Communication	115 kbps Rnet connection between sensor(s) and controller 15 sensors max per Rnet network; 5 sensors max per control program	
Local Access Port	For connecting a laptop computer to the local equipment or WebCTRL® network for maintenance and commissioning	
Environmental Operating Range	32° to 122° F (0° - 50° C), 10% to 90% relative humidity, non-condensing	
Dimensions	**North American Models**	
Overall dimensions	Width: 2.75" (6.99 cm); Height: 4.75" (12.07 cm); Depth: .858" (2.18 cm)	
Overall dimensions - for ZS2-7 models only	Width: 2.75" (6.99 cm); Height: 4.75" (12.07 cm); Depth: 1.15" (2.92 cm)	
Compliance	FCC Part 15-Subpart B-Class B, CE	

4) Available on HCMPV model types only

Part Number Codestring:

ZS2 (XX) - (XXX) - ALC

- **Brand:** ALC
- **Model Type[2]:** H, C, V, M, HC, HV, HM, CM, HCM, HVM
- **Model Designation[1]:** Plus (PL), Pro (P), Pro F (PF)
- **Zone Sensor Gen. 2**

NOTE 1: (XX) optional and not applicable to standard versions for Plus, Pro, Pro F only
NOTE 2: (XXX) optional sensing models up to three (3) characters

Part Number Codestring:

ZS2 (XX) - 7 - HCMPV - (X) - ALC

- **Brand:** ALC
- **Color[2]:** White, Black (B)
- **Model Type:** HCMPV
- **Vendor Code**
- **Model Designation[1]:** Plus (PL)
- **Zone Sensor Gen. 2**

NOTE 1: (XX) optional and not applicable to standard versions for Plus, Pro, Pro F only
NOTE 2: (X) white sensors do not have any codestring letter or (X)

Part Number Examples: ZS2-ALC, ZS2P-H-ALC, ZS2PF-HCM-ALC

PART NUMBERS

Style Color: White	Standard	Plus	Pro	ProF
Temp Only	ZS2-ALC	ZS2PL-ALC	ZS2P-ALC	ZS2PF-ALC
Temp + Humidity	ZS2-H-ALC	ZS2PL-H-ALC	ZS2P-H-ALC	ZS2PF-H-ALC
Temp + Humidity + Motion	ZS2-HM-ALC	ZS2PL-HM-ALC	ZS2P-HM-ALC	-
Temp + Humidity + CO2	ZS2-HC-ALC	ZS2PL-HC-ALC	ZS2P-HC-ALC	ZS2PF-HC-ALC
Temp + Humidity + VOC	-	-	ZS2P-HV-ALC	ZS2PF-HV-ALC
Temp + Humidity + CO2 + Motion	ZS2-HCM-ALC	ZS2PL-HCM-ALC	ZS2P-HCM-ALC	ZS2PF-HCM-ALC
Temp + Humidity + VOC + Motion	-	-	ZS2P-HVM-ALC	-
Temp + Motion	ZS2-M-ALC	ZS2PL-M-ALC	ZS2P-M-ALC	ZS2PF-M-ALC
Temp + CO2	ZS2-C-ALC	ZS2PL-C-ALC	ZS2P-C-ALC	ZS2PF-C-ALC
Temp + CO2 + Motion	-	-	ZS2P-CM-ALC	-
Temp + VOC	-	-	-	-
Temp + Humidity + CO2+ Motion + TVOC + PM	ZS2-7-HCMPV-ALC	ZS2PL-7-HCMPV-ALC	-	-
Style Color: Black	**Standard**	**Plus**	**Pro**	**ProF**
Temp + Humidity + CO2+ Motion + TVOC + PM	ZS2-7-HCMPV-B-ALC	ZS2PL-7-HCMPV-B-ALC	-	-

Branding Examples

These sensors are available with Automated Logic branding or can be unbranded. See price list for unbranded part numbers.
Black is only available in Standard and Plus models with configuration HCMPV.
Sensors shown below include motion option.

Automated Logic

1150 Roberts Boulevard, Kennesaw, Georgia 30144
770-429-3000 • Fax 770-429-3001 | automatedlogic.com | A Carrier Company