

## Allure™ EC-Smart-Vue Sensor Series

Line of communicating sensors with backlit display and graphical menus



### Applications

- Offers temperature, CO<sub>2</sub>, humidity, and motion sensing for the following applications:
  - VAV controllers
  - Fan coil units
  - Roof top units
  - Heat pumps
  - Unit ventilators
- Achieve energy efficiency through occupancy-based control with:
- Motion sensor to readjust the space temperature setpoint and manage lighting
- CO<sub>2</sub> sensor as part of the demand-controlled ventilation strategy that adjusts the amount of outdoor air intake according to the number of occupants

### Features & Benefits

- “4-in-1” communicating sensors—one wire, one connection, four (4) sensing capabilities (temperature, humidity, CO<sub>2</sub>, and motion).
- Encourage occupants to have greener habits with the ECO-Vue icon while reducing energy costs.
- Optimize energy use according to the actual building’s conditions:
- Control heating and cooling setback through motion sensing and adjust outdoor air demand according to air-quality.
- Control lighting through occupancy detection.
- Commission VAV controllers immediately after installation by selecting the built-in controller application and performing system air balancing with the Allure EC-Smart-Vue sensor to get the HVAC system up and running right away.
- Occupants can override the HVAC mode and view and adjust the setpoint and fan speed for improved personal comfort.
- Slim, compact style, and clean lines are well received by architects and building owners.
- Clear and bright LCD display provides real-time access to temperature and other system information such as setpoint, occupancy status, HVAC mode, etc.
- Both power and communications pass through a single Cat 5e cable for reduced installation costs and for easier installation or system retrofit.
- The patented ABC Logic self-calibration system eliminates the need for manual CO<sub>2</sub> calibration in most applications.
- Lifetime CO<sub>2</sub> calibration guaranteed when using ABC Logic.

### Overview

The Allure EC-Smart-Vue Sensor Series is designed to interface with Distech Controls’ ECB and ECL Series of controllers. This line of communicating sensors with backlit display consists of eight (8) models that provide precise environmental zone control. Models are available with any combination of the following: temperature, humidity, CO<sub>2</sub>, and motion sensor.

The innovative ECO-Vue™ leaf pattern, offered by the Allure EC-Smart-Vue sensor series, graphically indicates energy consumption in real time to promote an occupant’s energy-conscious behavior. The more leaves appear in the LCD display, the more energy efficiency is being achieved, while fewer leaves will encourage the occupant to take corrective action to optimize the system’s environmental performance.

Through its user-friendly interface, occupants can view and adjust environmental settings to their liking, for example, view the space temperature, adjust the setpoint, set the fan speed, and apply occupancy overrides.

The Allure EC-Smart-Vue sensors can be customized with the EC-gfxProgram programming tool where you can fully adapt the display for the targeted application and setup user preferences.

A fully configurable password protected technician mode allows an installer to perform commissioning and troubleshooting. When connected to an ECB-VAV or ECL-VAV series controller with its pre-loaded application, commissioning can start immediately after installation. The Allure EC-Smart-Vue sensor can be used as a hand-held tool to select the appropriate controller application for the type of HVAC equipment to be controlled, to perform air balancing of the system without requiring an on-site controls engineer, and to troubleshoot the system. Furthermore, when the controller uses wireless sensors, a technician in the field can use the Allure EC-Smart-Vue sensor to make the controller learn each wireless sensor’s ID on the fly, in order to commission the wireless sensors.

## Allure EC-Smart-Vue Sensor Models



Model	EC-Smart-Vue	EC-Smart-Vue-C	EC-Smart-Vue-H	EC-Smart-Vue-CH	EC-Smart-Vue-M	EC-Smart-Vue-CM	EC-Smart-Vue-HM	EC-Smart-Vue-CHM
Temperature	■	■	■	■	■	■	■	■
Humidity			■	■			■	■
Motion					■	■	■	■
CO <sub>2</sub> <sup>1</sup>		■		■		■		■

1. The Allure EC-Smart-Vue sensor CO<sub>2</sub> models must be used in spaces that are periodically unoccupied (e.g. during evening or nighttime hours). A controller can support a maximum of two (2) Allure EC-Smart-Vue sensor models equipped with a CO<sub>2</sub> sensor. Any remaining connected Allure EC-Smart-Vue sensor model must be without a CO<sub>2</sub> sensor.

## ECO-Vue Icon

Distech Controls recognizes that the human factor must be considered when designing a building for energy efficiency. To encourage occupants to be as green as possible, the Allure EC-Smart-Vue sensor has an ECO-Vue icon that can be programmed to show more leaves when the occupant chooses a setpoint that reduces energy use. This helps to promote awareness for energy consciousness and to save operational costs.



Low energy efficiency



Moderate energy efficiency



Higher energy efficiency



Highest energy efficiency

## Related Products



A wide range of Cat 5e patch cords (with connectors) in different lengths that feature a protective boot and dust cap. Versions are available that are rated for use in conduit or for plenum applications. The cable is labeled with Distech Controls for easy identification.



1000 ft (305 m) box of Cat 5e Cable, without connectors. Versions are available that are rated for use in conduit or for plenum applications.



100 Crimp RJ-45 connectors for making custom-length cables.

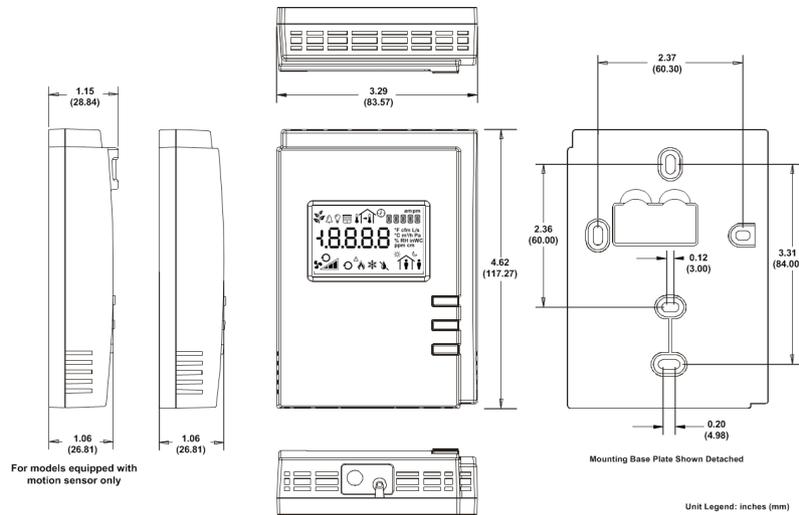
For more information on these or other Distech Controls products, please refer to our website.

## Automatic Calibration of CO<sub>2</sub> Sensors (EC-Smart-Vue-C, EC-Smart-Vue-CH, EC-Smart-Vue-CM, EC-Smart-Vue-CHM)

ABC Logic (Automatic Calibration Logic) is a patented self-calibration technique that eliminates the need for manual calibration in most applications. The Allure EC-Smart-Vue-C series is designed to work in environments where CO<sub>2</sub> concentrations will drop to outdoor ambient conditions (400 ppm) at least three times in a 14-day period, typically during unoccupied periods. For example, in a typical office, school, theater, etc., people are the main source of CO<sub>2</sub> in a building. When people go home at night, the indoor CO<sub>2</sub> level will drop to the outdoor CO<sub>2</sub> level, which is typically 380 to 400 ppm. The ABC Logic system records the lowest reading every 24-hour period for analysis. If there is a statistical difference in the baseline readings, then a calibration factor is applied to all subsequent sensor readings. The ABC Logic system typically takes three weeks of continuous run-time before making corrections.

The sensor will typically reach its operational accuracy after 25 hours of continuous operation on condition that it was exposed to ambient air reference levels of 400 ppm ±10 ppm CO<sub>2</sub>.

## Product Dimensions



## Product Specifications

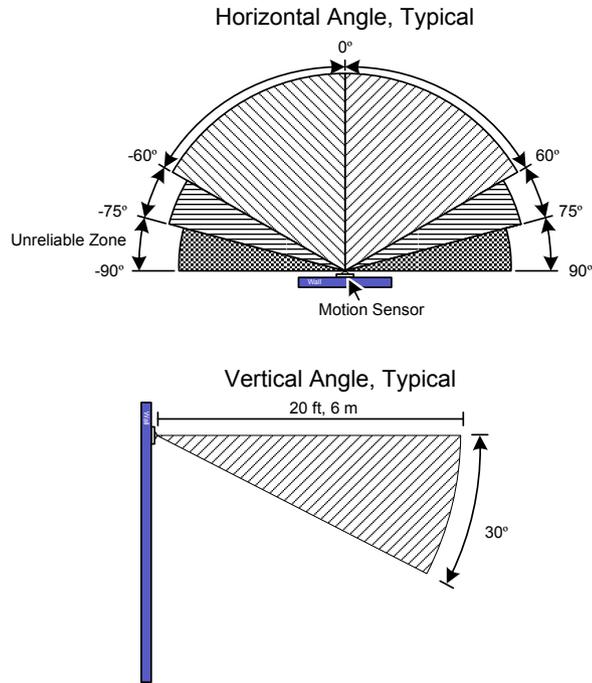
<b>Power</b>		<b>Humidity Sensor</b>	
Voltage	16Vdc maximum, Class 2	Accuracy	±3%
Power Consumption	At the connected controller, an additional 5.25VA per CO <sub>2</sub> sensor model and 1.0VA per non-CO <sub>2</sub> sensor model	Resolution	1%
<b>LCD Display</b>		<b>CO<sub>2</sub> Sensor</b>	
Type	1.85" X 1.18" (47 mm X 30 mm) with backlight	Measurement Range	0 to 2000 ppm
Symbols	Language-independent icons for mode and operating status	Operating Elevation	0 to 16000 ft (4877 m)
<b>Environmental</b>		Warm-up Time	< 2 minutes (operational), 10 minutes (maximum accuracy)
Operating Temperature	5°C to 40°C; 41°F to 104°F	CO <sub>2</sub> Accuracy	400-1250 ppm ± 30 ppm or 3% of reading, whichever is greater <sup>1</sup> 1250-2000 ppm ±5% of reading + 30ppm <sup>1</sup>
Storage Temperature	-20°C to 50°C; -4°F to 122°F	Temperature Dependence	0.2% FS per °C (±0.11% per °F)
Relative Humidity	0 to 95% Non-condensing	Stability	<2% of FS over life of sensor (15 years)
<b>Material</b>		Pressure Dependence	0.135% of reading per mm Hg; software adjustable
Material	ABS	Sensing Method	Non-dispersive infrared (NDIR) absorption Gold-plated optics
Color	White	Calibration Method	Patented ABC Logic self-calibration algorithm
Dimensions (overall):		<b>Communications</b>	
-Without Motion Sensor	3.29" x 4.62" x 1.06" (83.57mm x 117.27mm x 26.81mm)	Rate	38 400 bps
-With Motion Sensor	3.29" x 4.62" x 1.06"/1.15" (83.57mm x 117.27mm x 26.81mm/28.80mm)	Communications	RS 485
Shipping Weight	0.4 lbs to 0.44 lbs (0.18 kg to 0.2 kg)	Wiring	Cable length: 600 ft (180 m) maximum
Installation	Wall mounting through mounting holes (see hardware installation guide for hole positions)	Cable Type	T568B Cat 5e network cable, 4 twisted pairs
<b>Temperature Sensor</b>		Connectors	IN: RJ-45 OUT: RJ-45 (pass-through for daisy chain Connection to other room devices) Network Access Jack: 1/8" (3.5 mm) stereo plug connector
Types	10KΩ NTC Thermistor	Daisy-chaining	Up to 12 Allure EC-Smart-Vue sensors or room devices depending on the controller model – see the controller's datasheet.
Range	5°C to 40°C; 41°F to 104°F		
Accuracy	±0.5°C; ±0.9°F		
Resolution	0.1°C; 0.18°F		

## Product Specifications (continued)

### Motion Sensor

Type Passive Infrared (PIR) sensor with Fresnel lens  
 Range Up to 20 ft (6 m); see Typical Motion Detection pattern figure below

Typical Motion Detection Pattern:



### Agency Approvals

UL Listed (CDN & US) UL916 Energy management equipment  
 Material<sup>2</sup> UL94V-1



### Electromagnetic Compatibility (Directive 2004/108/EC)

CE EN 61000-6-3:2007  
 EN 61000-6-1:2007  
 FCC Part 15, subpart B class B



1. Tolerance based on span gas of  $\pm 2\%$  and ABC Logic enabled.

2. All materials and manufacturing processes comply with the RoHS directive and are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive 

Specifications subject to change without notice.

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