

Allure™ EC-Smart-Vue Sensor Series

Line of communicating sensors with backlit display and graphical menus



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, CO₂, 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 onsite 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.








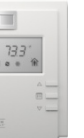
Applications

- Offers temperature, CO₂, 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
 - CO₂ 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, CO₂, 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 CO₂ calibration in most applications.
- Lifetime CO₂ calibration guaranteed when using ABC Logic.

Allure EC-Smart-Vue Sensor Model Selection Table

								
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 ₂ ¹		■		■		■		■

- The Allure EC-Smart-Vue sensor CO₂ 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 CO₂ sensor. Any remaining connected Allure EC-Smart-Vue sensor models must be without a CO₂ 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.

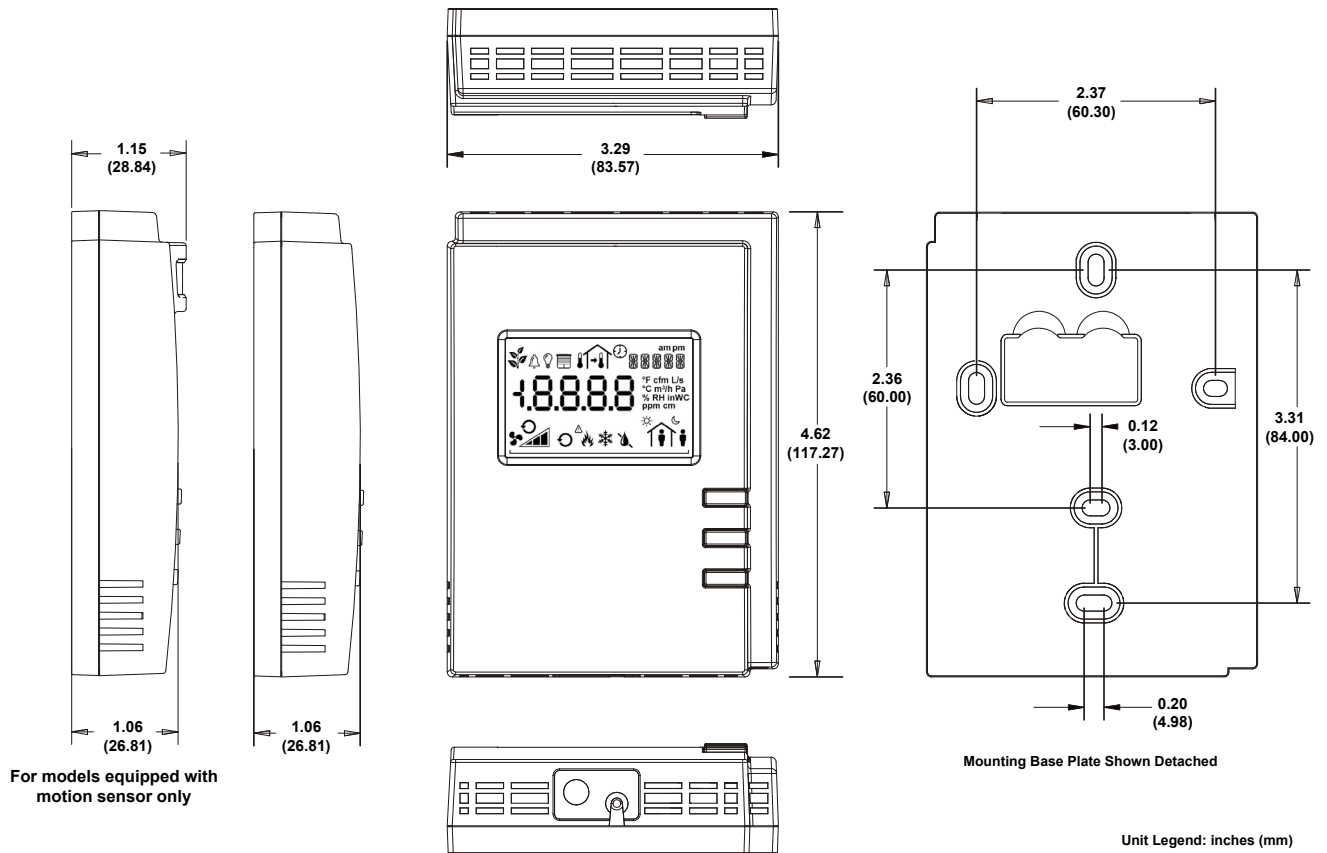
For more information on these or other Distech Controls products please refer to our web site.

Automatic Calibration of CO₂ 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 CO₂ 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 CO₂ in a building. When people go home at night, the indoor CO₂ level will drop to the outdoor CO₂ 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 \pm 10 ppm CO₂.

Product Dimensions



Product Specifications

Power

Voltage	16Vdc maximum, Class 2
Power Consumption	At the connected controller, an additional 5.25VA per CO ₂ sensor model and 1.0VA per non-CO ₂ sensor model

LCD Display:

Type	1.85" X 1.18" (47 mm X 30 mm) with backlight
Symbols	Language-independent icons for mode and operating status

Environmental

Operating Temperature	5°C to 40°C; 41°F to 104°F
Storage Temperature	-20°C to 50°C; -4°F to 122°F
Relative Humidity	0 to 95% Non-condensing

Enclosure

Material	ABS
Color	White
Dimensions (overall):	
-Without Motion Sensor	3.29" x 4.62" x 1.06" (83.57mm x 117.27mm x 26.81mm)
-With Motion Sensor	3.29" x 4.62" x 1.06"/1.15" (83.57mm x 117.27mm x 26.81mm/28.80mm)
Shipping Weight	0.4 lbs to 0.44 lbs (0.18 kg to 0.2 kg)
Installation	Wall mounting through mounting holes (see hardware installation guide for hole positions)

Temperature Sensor

Types	10KΩ NTC Thermistor
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

Humidity Sensor

Accuracy	±3%
Resolution	1%

CO₂ Sensor

Measurement Range	0 to 2000 ppm
Operating Elevation	0 to 16000 ft (4877 m)
Warm-up Time	< 2 minutes (operational), 10 minutes (maximum accuracy)
CO ₂ Accuracy	400-1250 ppm ± 30 ppm or 3% of reading, whichever is greater ¹ 1250-2000 ppm ±5% of reading + 30ppm ¹
Temperature Dependence	0.2% FS per °C (±0.11% per °F)
Stability	<2% of FS over life of sensor (15 years)
Pressure Dependence	0.135% of reading per mm Hg; software adjustable
Sensing Method	Non-dispersive infrared (NDIR) absorption Gold-plated optics
Calibration Method	Patented ABC Logic self calibration algorithm

Product Specifications (continued)

Communications	
Rate	38 400 bps
Communications	RS-485
Wiring	Cable length: 600 ft (180 m) maximum
Cable Type	T568B Cat 5e network cable, 4 twisted pairs
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
Daisy-chaining	Ranging from 4 to 12 Allure EC-Smart-Vue sensors or room devices depending on the controller model – see the controller's datasheet. For supported quantities with VAV models, see the <i>VAV-IRC Room Device Calculator.xlsx</i> spreadsheet file available for download from SmartSource.

Agency Approvals

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

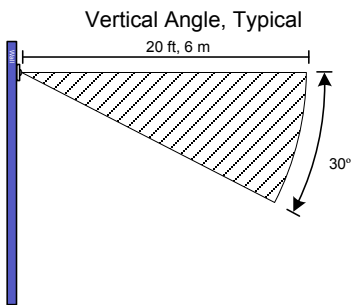
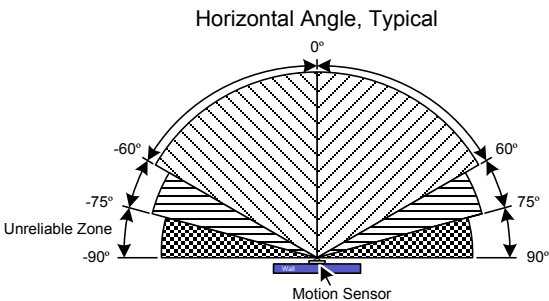


Electromagnetic Compatibility (Directive 2004/108/EC)

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



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:	



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 .

Total Quality Commitment

All Distech Controls product lines are built to meet rigorous quality standards. Distech Controls is an ISO 9001 registered company.

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