

Allure™ EC-Smart-Air Series

Communicating sensors



Overview

The Allure EC-Smart-Air Series communicating sensors combine a precise environmental sensing in a discrete and alluring enclosure: temperature, humidity and CO₂.

Compatible with the ECL series LonWorks® Controllers, ECB series BACnet® Controllers and ECLYPSE™ series BACnet/IP and Wi-Fi Controllers, including the Smart Room Control solution.

Features & Benefits

- The Allure EC-Smart-Air Sensor is wired to the dedicated subnet port on the controller which frees up controller inputs
- Both power and communications pass through a single Cat 5e cable for reduced installation costs and easier installation
- Included quick-link connectors accelerates installation time by up to 75% while at the same time reduces potential wiring errors.
- Versatile mounting options including dry way, or North American, European, Swiss, or Asian style switch box
- Automatic self-calibration guarantees lifetime CO₂ calibration
- All models come with an on-board temperature sensor for a precise feedback based temperature control
- Humidity sensing to optimize ideal level of comfort
- CO₂ sensing increases energy efficiency as part of the demand-controlled ventilation strategy

Model Selection

Example: Allure EC-Smart-Air-C

Series	Option
Allure EC-Smart-Air	[blank]: Temperature only -H: Humidity, Temperature -C: CO ₂ ¹ Temperature -CH: CO ₂ ¹ Humidity, Temperature

1. A controller can support a maximum of two communicating sensors equipped with a CO₂ sensor. Any remaining connected communicating sensors must be without a CO₂ sensor.

Product Specifications

Power Supply Input

Voltage	16 VDC maximum, Class 2
Power Consumption	At the connected controller, an additional 0.5 VA per CO ₂ sensor model (peak consumption: 1.5 VA) and 0.25 VA per non-CO ₂ sensor model

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)

Temperature Sensor

Type	10 kΩ NTC Thermistor
Range	41°F to 104°F (5°C to 40°C)
Accuracy	± 0.9°F (± 0.5°C)
Resolution	0.18°F (0.1°C)

Humidity Sensor

Accuracy	±3%
Resolution	1%

CO₂ Sensor

Measurement Range	0 to 2000 ppm
Operating Elevation	0 to 10000 ft (0 to 3050 m)
Warm-up Time	< 2 minutes (operational), 10 minutes (maximum accuracy)
CO ₂ Accuracy ¹	400-1000 ppm ± 75 ppm or 3% of reading, whichever is greater 1000-2000 ppm ± (40 ppm + 5% of reading)
Repeatability	± 10 ppm
Response Time	60 s
Accuracy Drift	< 0.03 °C / year
Additional accuracy drift per year after five years of sensor operation and with automatic self-calibration algorithm enabled	Typical ± (5 ppm + 0.5 % of reading)
Pressure Dependence	0.135% of reading per mm Hg; Elevation adjusted in configuration software
Sensing Method	Non-dispersive infrared (NDIR)
Calibration Method	Automatic self-calibration enabled

1. Tolerance based on span gas of ±2% and automatic self-calibration enabled.

Mechanical

Dimensions (H × W × D)	4.60 × 3.30 × 0.99" (117 × 84 × 25 mm)
Shipping Weight	Models with CO ₂ sensing: 0.346lbs (0.157 kg) Model without CO ₂ sensing: 0.311lbs (0.141 kg)
Enclosure Material	ABS
Enclosure Rating	Plastic housing, UL94-V0 flammability rating
Color	white
Installation	Wall mounting through mounting holes (see figure on next page for hole positions) or switch box (North America / European / Asian / Swiss)

Environmental

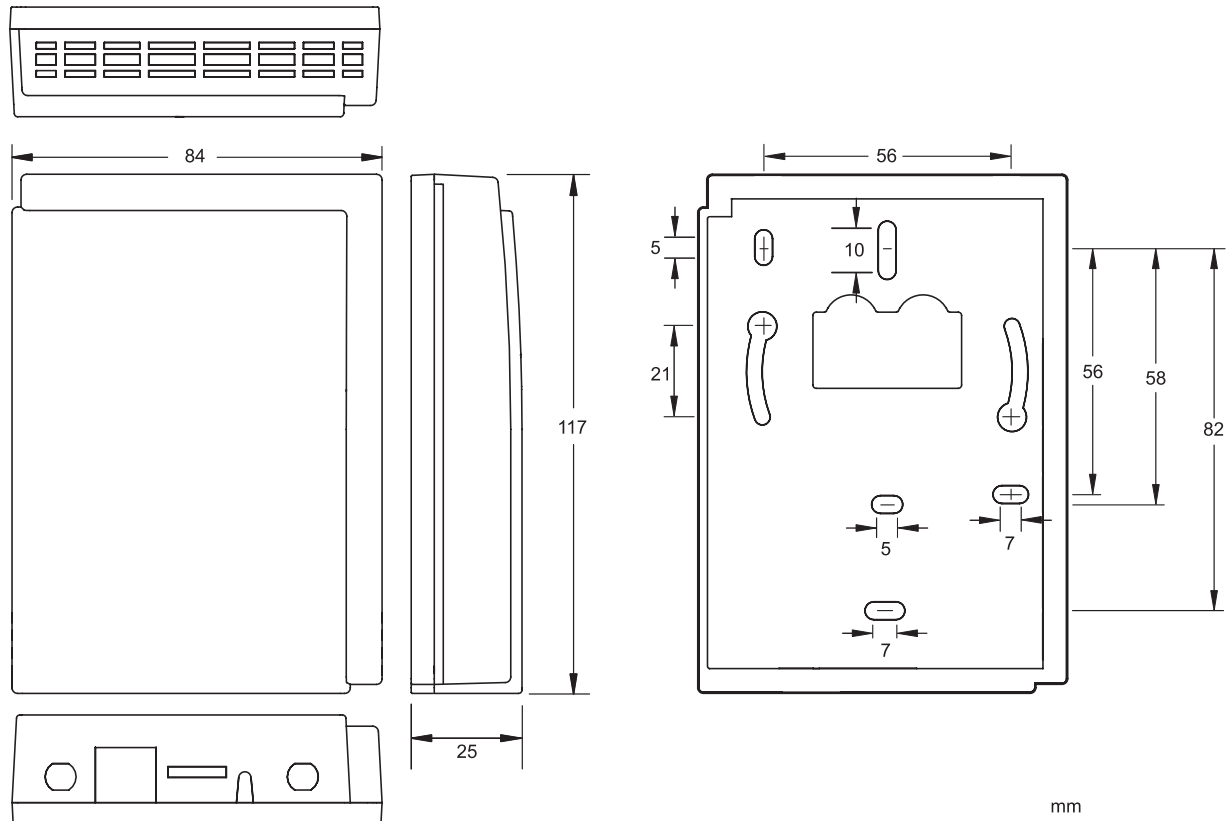
Operating Temperature	32°F to 122°F (0°C to 50°C)
Storage Temperature	-4°F to 122°F (-20°C to 50°C)
Relative Humidity	0 to 90% Non-condensing
Ingress Protection Rating	IP20
Nema Rating	1

Standards and Regulations

CE Emission	EN 61000-6-3: 2007 + A1: ed.2011
CE Immunity	EN 61000-6-1: 2007
FCC	FCC rules part 15, subpart B class B
UL Listed (CDN & US)	UL 916 Energy Management Equipment
	CSA C22.2 No. 205-12
	File number: E228719

RoHS All materials and manufacturing processes comply with the RoHS directive

WEEE All products are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive



Specifications subject to change without notice.

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