



ESENSE ROOM

CO2 Room Sensor with LCD Display Option

ESENSE Room series monitors the carbon dioxide (CO2) levels in school and office type environments. The concentration of CO2 is a good indication of the overall indoor air quality. The ESENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ESENSE Series measures the CO2 concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building Automation or Demand Control

Ventilation System to decrease energy consumption while creating a healthier indoor climate.

Applications: Schools, Office Buildings, Auditoriums, Gymnasiums, Shopping Malls, Theaters, Demand Control Ventilation & Economizers

The ESENSE Room Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

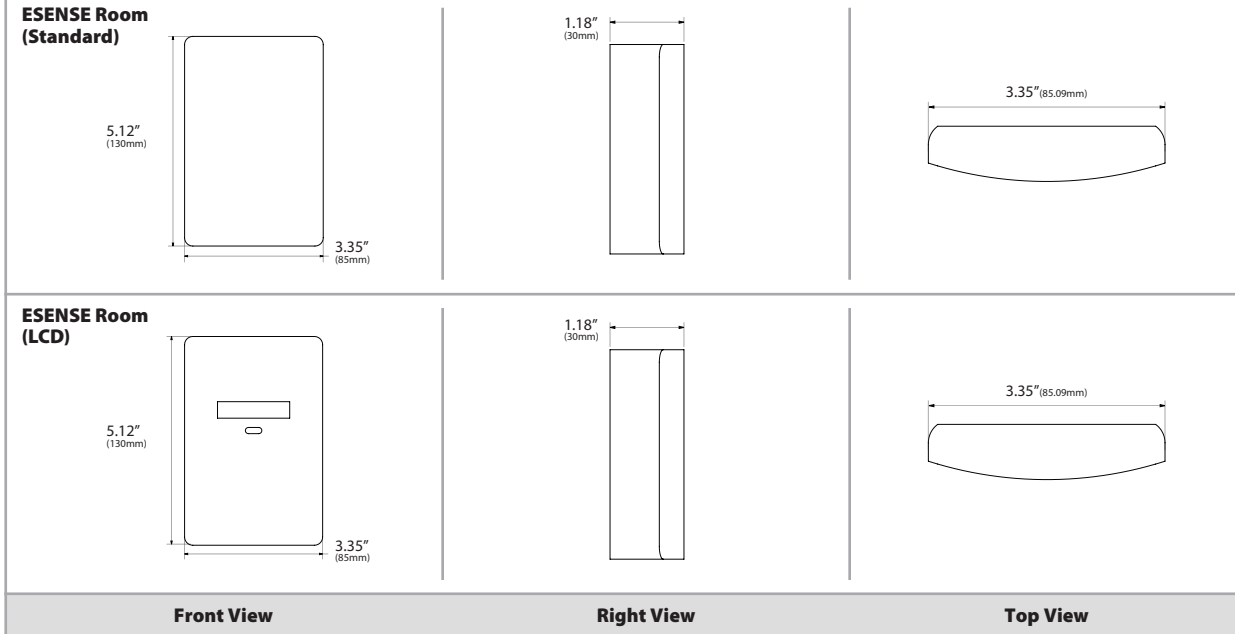
Supply Voltage:	24 VAC/VDC ±20%; 50/60Hz (Half-wave rectified)
Power Consumption:	<1W
Electrical Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 – 95% RH Non-condensing
Warm-Up Time:	1 minutes (@ full specs 15 minutes)
Accuracy¹:	±30 ppm and ±3% of reading
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life²:	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc/min flow rate, < 3 minutes diffusion time
Operating Environment:	Residential, Commercial spaces
Sensing Range:	0 to 2000 ppm
Extended CO2 Ranges:	Up to 10,000 ppm (factory set or SADK Kit required)
Extended Range Accuracy >2,000 PPM:	+/- 30 ppm and +/- 5% of reading
Coverage Area:	7500 sq. ft. maximum
Mounting Height:	4-6' off the floor
Display (Optional):	4 digits, 7 segments LCD with ppm indicator
Calibration³:	Senseair ABC algorithm (Automatic Baseline Correction)
Outputs:	Standard: Out 1: 0-10V for 0 to 2000 ppm Out 2: 2-10V or 4-20mA for 0 to 2000 ppm
Storage:	ESENSE-R: -40 to 158°F (-40 to 70°C) ESENSE-R-LCD: -4 to 122°F (-20 to 50°C)
Enclosure:	ABS, Flammability Rating UL94V-0
Room Dimensions:	(H) 5.12" (130 mm) x (W) 3.35" (85.1 mm) x (D) 1.18" (30 mm)
Product Weight (Standard & LCD):	ESENSE-R: 0.294 lbs (0.133 kg) ESENSE-R-LCD: 0.304 lbs (0.138 kg)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | Changes can be made using the SADK Calibration Kit and UIP5 software | **Note 3:** Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly. If the building is occupied 24 hrs/day, ABC must be turned off





DIMENSIONAL DRAWING



STANDARD ORDERING			Model # Example: ESENSE-R-S -OR- 130162
Model #	Item #	Description	
ESENSE-R	130079	CO2 Room Mount, 0-10 VDC, 2-10 VDC or 4-20 mA Output	
ESENSE-R-LCD	130158	CO2 Room Mount with Display, 0-10 VDC, 2-10 VDC or 4-20 mA Output	
ESENSE-R-5-LCD	130163	CO2 Room Mount with Display, 0-5 VDC Output	

ACCESSORIES ORDERING			Model # Example: A/CUSTOM CAL GAS -OR- 140970
Model #	Item #	Description	
A/CUSTOM CAL GAS*	140970	Custom Calibration	
SADK	130502	SADK Calibration Kit	
UIP5	---	Free Software Download (Contact ACI)	

Note*: Contact ACI's Technical Support for custom calibration ranges

