



ESENSE: CO2

ESENSE Carbon Dioxide Sensor

The ESENSE room and duct transmitters monitor the carbon dioxide (CO2) levels in industrial, school, and office-type environments. The concentration of CO2 is a strong 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. This decreases energy consumption while creating a healthier indoor climate. Units come with combined output options of 0-5 VDC and 4 to 20 mA or 0-10 VDC and 4 to 20 mA.

The ESENSE 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 web site, www.workaci.com.



SPECIFICATIONS

Supply Voltage	24 VAC/VDC +/-20%, 50/60 Hz (half-wave rectifier)	
Power Consumption	< 1 Watt average	
Measurement Range Default	0 to 2,000 ppm (up to 3,000 with software adjustment)	
Output Signal	0-5 VDC and 4-20 mA or 0-10 VDC and 4-20 mA	
Accuracy	+/- 30 ppm +/- 3% of reading	
Repeatability	+/- 20 ppm +/- 1% of reading	
Annual Zero Drift	< +/- 10 ppm	
Pressure Dependence	+ 1.6% reading per kPa	
Response Time	< 10 seconds @ 30 cc/minute flow rate	< 3 minute diffusion time
Warm Up Time	< 1 minute (@ full specs < 15 minutes)	
Operating Temperature/Relative Humidity Range	32 to 122°F (0 to 50°C)/0 to 95%, non-condensing	
Sensor Coverage Area	7,500 sq. ft. maximum	
Life Expectancy	> 15 years (typical)	
Sensing Technology	Single beam infrared sensing technology (NDIR)	
Product Dimesions (Room Mount) (US)	(H) 5.12" (W) 3.35" (D) 1.18"	
Product Dimesions (Duct Mount)	(H) 5.98" (W) 3.33" (D) 1.85"	
Product Dimesions (Industrial Wall Mount)	(H) 5.98" (W) 3.33" (D) 1.85"	
Product Dimesions (In Duct/Wall Mount)	(H) 5.12" (@) 3.35" (D) 1.18"	

ORDERING

Select one Enclosure (A), one Output (B) & one Display (C). When selecting an Enclosure (A), if a "D" Duct Mount (IP65) is selected, complete (B), (C) & (D). All other Enclosure (A) options are finished after selecting a Display (C).

A Enclosure	B Output	C Display	D Adapter
<input type="radio"/> R (Room (US)) (Only Complete B & C)	<input type="radio"/> ---- (0-10 VDC & 4-20 mA)	<input type="radio"/> ---- (None) (Standard)	<input type="radio"/> ---- (None)
<input type="radio"/> RE (Room (European)) (Only Complete B & C)	<input type="radio"/> 5 (0-5 VDC & 4-20 mA)	<input type="radio"/> LCD (LCD Display)	<input type="radio"/> C (Conduit)
<input type="radio"/> D (Duct (IP65)) (Complete B, C & D)			
<input type="radio"/> IP54 (Wall Mount) (Only Complete B & C)			
<input type="radio"/> IP50 (In Duct/Wall Mount (Only Complete B)			

BUILD PART NUMBER

After completing (A), (B), (C) & (D) from the above table, fill in the Part Number Table below. The "Sensor Series" is a factory default. An example part number is offered.

ESENSE	—	—	—	—
SENSOR SERIES	A	B	C	D

EXAMPLE: ESENSE - IP50 - 5