



# 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.



**SPECIFICATIONS**

<b>Supply Voltage</b>	24 VAC/VDC +/-20%, 50/60 Hz (half-wave rectifier)
<b>Power Consumption</b>	< 1 Watt average (for OUTDOOR when heater is off)
<b>Measurement Range Default</b>	0 to 2,000 ppm (up to 10,000 ppm with software adjustment)
<b>Output Signal</b>	0-5 VDC and 4-20 mA or 0-10 VDC and 4-20 mA
<b>Accuracy</b>	+/- 30 ppm +/- 3% of reading
<b>Repeatability</b>	+/- 20 ppm +/- 1% of reading
<b>Annual Zero Drift</b>	< +/- 10 ppm
<b>Pressure Dependence</b>	+ 1.6% reading per kPa
<b>Response Time</b>	< 10 seconds @ 30 cc/minute flow rate   < 3 minute diffusion time
<b>Warm Up Time</b>	< 1 minute (@ full specs < 15 minutes)
<b>Operating Temperature/Relative Humidity Range</b>	32 to 122°F (0 to 50°C)/0 to 95%, non-condensing (-22 to 115°F for OUTDOOR)
<b>Sensor Coverage Area</b>	7,500 sq. ft. maximum
<b>Life Expectancy</b>	> 15 years (typical)
<b>Sensing Technology</b>	Single beam infrared sensing technology (NDIR)
<b>Product Dimesions (Room Mount) (US)</b>	(H) 5.12" (W) 3.35" (D) 1.18"
<b>Product Dimesions (Duct Mount)</b>	(H) 5.98" (W) 3.33" (D) 1.85"
<b>Product Dimesions (Industrial Wall Mount)</b>	(H) 5.98" (W) 3.33" (D) 1.85"
<b>Product Dimesions (In Duct/Wall Mount)</b>	(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"/> <b>R</b> (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"/> <b>RE</b> (Room (European)) (Only Complete B & C)	<input type="radio"/> <b>5</b> (0-5 VDC & 4-20 mA)	<input type="radio"/> <b>LCD</b> (LCD Display)	<input type="radio"/> <b>C</b> (Conduit)
<input type="radio"/> <b>D</b> (Duct (IP65)) (Complete B, C & D)			
<input type="radio"/> <b>IP54</b> (Wall Mount) (Only Complete B & C)			
<input type="radio"/> <b>IP50</b> (In Duct/Wall Mount (Only Complete B)			
<input type="radio"/> <b>OUTDOOR</b> (IP65 Housing w/ in-line heater) (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.

<b>ESENSE</b>	—	—	—	—
SENSOR SERIES	A	B	C	D

EXAMPLE: ESENSE - IP50 - 5