

# CO<sub>2</sub> SENSORS OVERVIEW



<b>Type:</b>	<b>C3 Infrared CO<sub>2</sub> sensor</b>
<b>Application:</b>	General CO <sub>2</sub> monitoring
<b>Principle:</b>	Double beam infrared absorption
<b>Ranges:</b>	Various: 0-3000ppm to 0-10% Volume
<b>Response time:</b>	30 sec (t <sub>90</sub> )
<b>Signal output:</b>	4-20 mA or 0.1-10 V
<b>Dimensions:</b>	74 x 55 x 30 mm (L x W x H)
<b>Part Numbers:</b>	2112B7000 or 2112B7050



<b>Type:</b>	<b>Infrared CO<sub>2</sub> monitor</b>
<b>Application:</b>	Indoor air quality monitoring
<b>Principle:</b>	Double beam infrared absorption
<b>Range:</b>	0-3000ppm CO <sub>2</sub>
<b>Response time:</b>	30 sec (t <sub>90</sub> )
<b>Signal output:</b>	4-20 mA or 0.1-10 V
<b>Dimensions:</b>	78 x 78 x 35 mm (L x W x H)
<b>Part Number:</b>	2112B8000



<b>Type:</b>	<b>Infrared CO<sub>2</sub> monitor with traffic light</b>
<b>Application:</b>	Indoor air quality monitoring
<b>Principle:</b>	Double beam infrared absorption
<b>Range:</b>	0-3000ppm CO <sub>2</sub>
<b>Response time:</b>	30 sec (t <sub>90</sub> )
<b>Dimensions:</b>	78 x 78 x 35 mm (L x W x H)
<b>Part Numbers:</b>	2112B8000-TLM or -TLR



<b>Type:</b>	<b>Infrared CO<sub>2</sub> gas measuring system</b>
<b>Application:</b>	<b>CO<sub>2</sub> monitoring (heavy duty)</b>
<b>Principle:</b>	Double beam infrared absorption
<b>Ranges:</b>	Various: 0-3000ppm to 0-10% Volume
<b>Response time:</b>	30 sec (t <sub>90</sub> )
<b>Signal output:</b>	4-20 mA or 0.1-10 V
<b>Dimensions:</b>	90 x 85 x 65 mm (L x W x H)
<b>Part Numbers:</b>	2112B9000 or 2112B9050 or 2112B9055



# INFRARED CO<sub>2</sub> SENSOR FOR OEM APPLICATIONS

The innovative material and construction of this double beam infrared measuring system ensures Carbon Dioxide is detected quickly and precisely. A new digital algorithm evaluates and processes the measured signals, offering long-term stability in a light-weight, compact and cost-effective package. The infrared measuring system detects the absolute Carbon Dioxide content of ambient air and monitors itself constantly, signalling if there is a malfunction of its hardware or software.



**C3 standard CO<sub>2</sub>  
infrared sensor.**  
Part no. 2112B7000 or  
2112B7050

## C3 STANDARD CO<sub>2</sub> SENSOR – SPECIFICATION –

**Principle:** Double beam infrared absorption

**Range:** **Variant 1 – ppm ranges**

**Part No: 2112B7000**

standard: 0 – 3,000 ppm  
optional: 0 – 4,000 ppm  
optional: 0 – 5,000 ppm  
optional: 0 – 10,000 ppm  
optional: 0 – 20,000 ppm  
optional: 0 – 30,000 ppm

**Variant 2 – % volume ranges**

**Part No: 2112B7050**

standard: 0 – 5 % volume  
optional: 0 – 6 % volume  
optional: 0 – 7 % volume  
optional: 0 – 10 % volume

**Accuracy:** +/- 2% of f.s.d.

**Reproducibility:** +/- 1% of f.s.d.

**Response time t90:** approximately 30 sec

**Gas entry:** by diffusion

**Ambient temperature:** -10°C up to +50°C

**Weight:** 98g

**Warranty period:** 6 months

**Resolution:** dependent upon range. For example, 0-3000ppm range – 60ppm resolution

**Output signal:** 4 – 20 mA or 0.1 – 10 V

**Ambient pressure:** 900 – 1100 hPa

**Ambient humidity:** 15 – 95% rel.

**Operating voltage:** 24 V d.c. +/- 5%

**Monitoring coverage:** 80 – 200m<sup>2</sup>

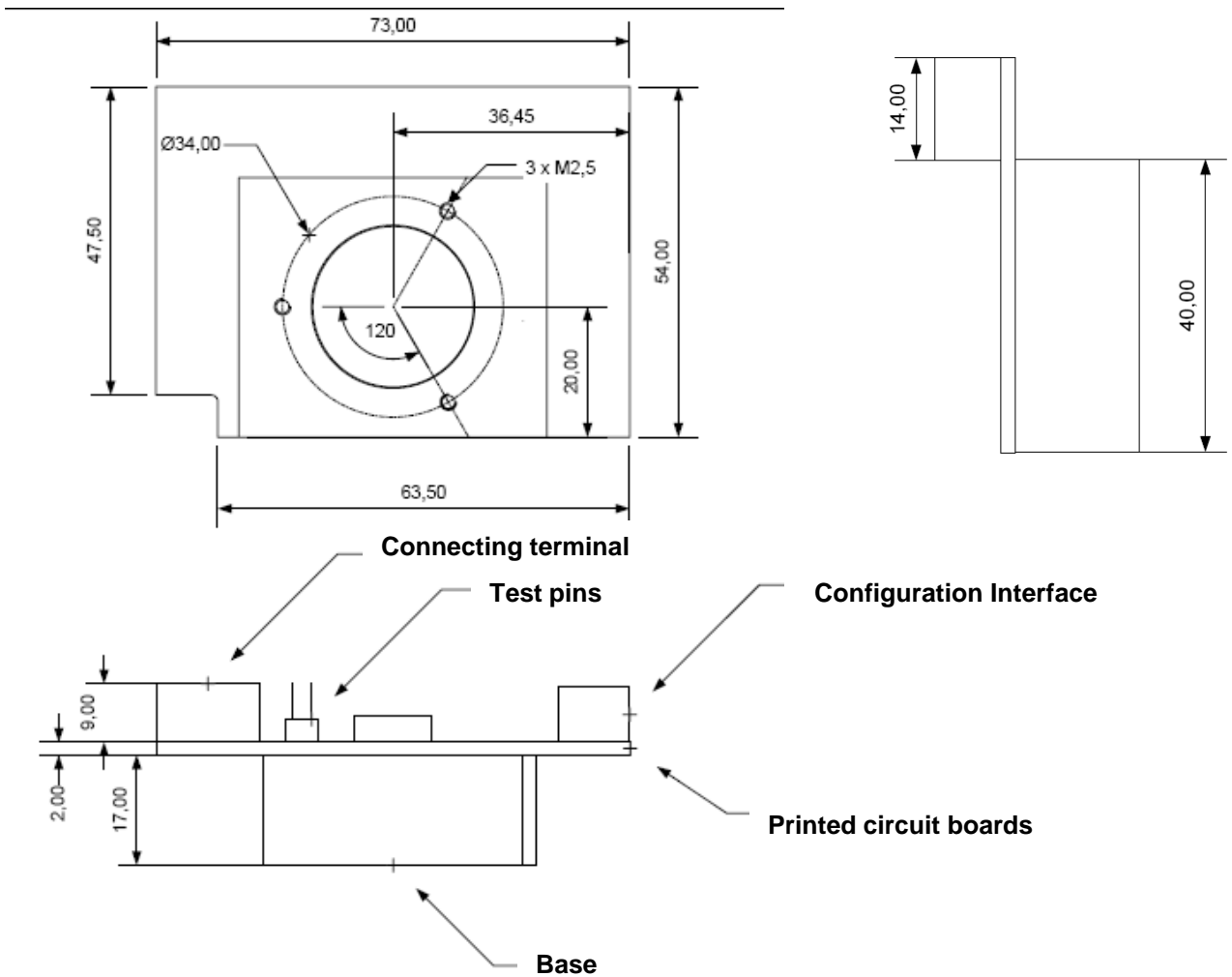
**Min-max. operating voltage:** 21,6 – 26,4V

**Dimensions:** 74 x 55 x 30 mm (L x W x H)



# INFRARED CO<sub>2</sub> SENSOR FOR OEM APPLICATIONS

## C3 STANDARD CO<sub>2</sub> SENSOR - DIMENSIONS



**C3 standard CO<sub>2</sub> infrared sensor.** Part no. 2112B7000 or 2112B7050

Please note: The components on the front and back printed circuit boards, including the configuration interface and connecting terminal, require a distance of at least 10mm from housing or other devices.



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**EURO-GAS**  
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# INFRARED CO<sub>2</sub> SENSOR FOR HEAVY DUTY AND INDUSTRIAL APPLICATIONS



## Infrared CO<sub>2</sub> gas measuring system

Part Numbers:  
2112B9000 or 2112B9050  
or 2112B9055

## CO<sub>2</sub> GAS MEASURING SYSTEM – SPECIFICATION –

**Principle:** Two beam infrared

**Range:** **Variant 1 – ppm ranges**

**Part No: 2112B9000**

standard: 0 – 3,000 ppm

optional: 0 – 4,000 ppm

optional: 0 – 5,000 ppm

optional: 0 – 10,000 ppm

optional: 0 – 20,000 ppm

optional: 0 – 30,000 ppm

**Variant 2 – volume ranges**

**Part No: 2112B9050**

standard: 0 – 5 % volume

optional: 0 – 6 % volume

optional: 0 – 7 % volume

optional: 0 – 10 % volume

**Accuracy:** +/- 2% f.s.d.

**Reproducibility:** +/- 1% f.s.d.

**Response time:** approximately 30 sec

**Gas entry:** by diffusion

**Operating voltage:** 24 V d.c. +/- 5%

**Output signal:** 4-20 mA or 0.1-10 V

**Operating temperature:** -10°C up to +50°C

**Operating pressure:** 900 - 1100 hPa

**Operating humidity:** 15 – 95% rel.

**Housing material:** Aluminium housing, suitable for wall mounting

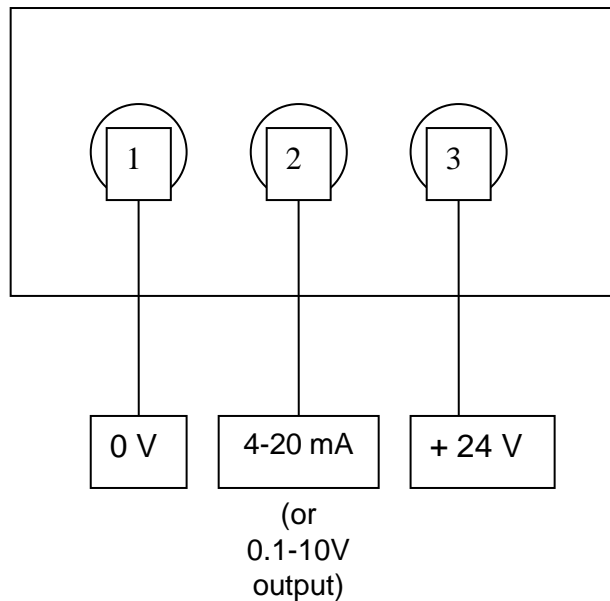
**Dimensions:** 90 x 85 x 65 mm (L x W x H)

**Weight:** 560g

**IP rating of housing:** IP65 (IP40 at drilling points)



# Terminal diagram OEM Infrared CO<sub>2</sub> Sensors



For the connection between the infrared sensor and Controller, a four wire screened cable with a total loop resistance of max. 100  $\Omega$  should be used. Terminal 1 and 3 is used for power supply 24 V d.c. The measuring signal 4-20 mA or 0.1-10V is available at terminal 2.

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