

## EE893

## Digital CO<sub>2</sub> Sensor Module for OEM Applications

The E+E CO<sub>2</sub> module EE893 is designed for OEM applications and for demanding environment. A multiple point CO<sub>2</sub> and temperature adjustment procedure leads to excellent CO<sub>2</sub> measurement accuracy over the entire temperature working range; this is a must for process control and outdoor applications.

The E+E dual wavelength NDIR CO<sub>2</sub> sensing procedure compensates automatically for ageing effects. EE893 is highly insensitive to pollution and offers outstanding long term stability.

With its small dimensions and electrical connection via contact pins and pads, EE893 is the optimal choice for OEM devices such as wireless transmitters, hand-helds or data loggers. The measured data, with a range of up to 10000ppm, is available on the E2 digital interface.

An optional kit facilitates easy configuration and adjustment of the module. The measurement interval can be set according to the application requirements; by this the average current consumption can be reduced to less than 60 µA for battery-operated devices.



### Typical Applications

**Data loggers**  
**Hand helds**  
**Wireless transmitters**  
**Building management**  
**Demand controlled ventilation**

### Key features

**Autocalibration**  
**Outstanding long-term stability**  
**Temperature compensation**  
**Low power consumption**  
**Very small size**

### Technical Data

#### Measured values

CO <sub>2</sub>	
Measurement principle	Dual wavelength (non-dispersive infrared technology) NDIR
Working range	0...2000 / 5000 / 10000 ppm
Accuracy at 25 °C and 1013 mbar <sup>1)</sup> (77 °F and 14.69 psi)	0...2000 ppm: < ± (50ppm +2% of measuring value) 0...5000 ppm: < ± (50ppm +3% of measuring value) 0...10000 ppm: < ± (100ppm +5% of measuring value)
Response time t <sub>90</sub>	105 s with measured data averaging (smooth output) 60 s without measured data averaging
Temperature dependency	typ. ± (1 + CO <sub>2</sub> concentration [ppm] / 1000) ppm/°C (-20...45 °C) (-4...113 °F)
Calibration interval <sup>2)</sup>	>5 years
Measuring time interval	adjustable from 15 s up to 1 h (factory setting: 15 s)

#### General

Digital interface	E2 ( details: <a href="http://www.epluse.com">www.epluse.com</a> )
Supply voltage	4.75 - 7.5 V DC
Average power consumption <sup>3)</sup>	58 µA (at 1 h measurement interval) ... 3.7 mA (at 15 s measurement interval)
Peak current	see power consumption graph
Electrical connection	contact pins, edge card socket (e.g. type MEC1-108-2)
Working conditions	-40...60 °C (-40...140 °F) 0...95 % RH (not condensating) 85...110 kPa (12.33...15.95 psi)
Storage conditions	-40...60 °C (-40...140 °F) 0...95 % RH (not condensating) 70...110 kPa (10.15...15.95 psi)

1) for averaging output

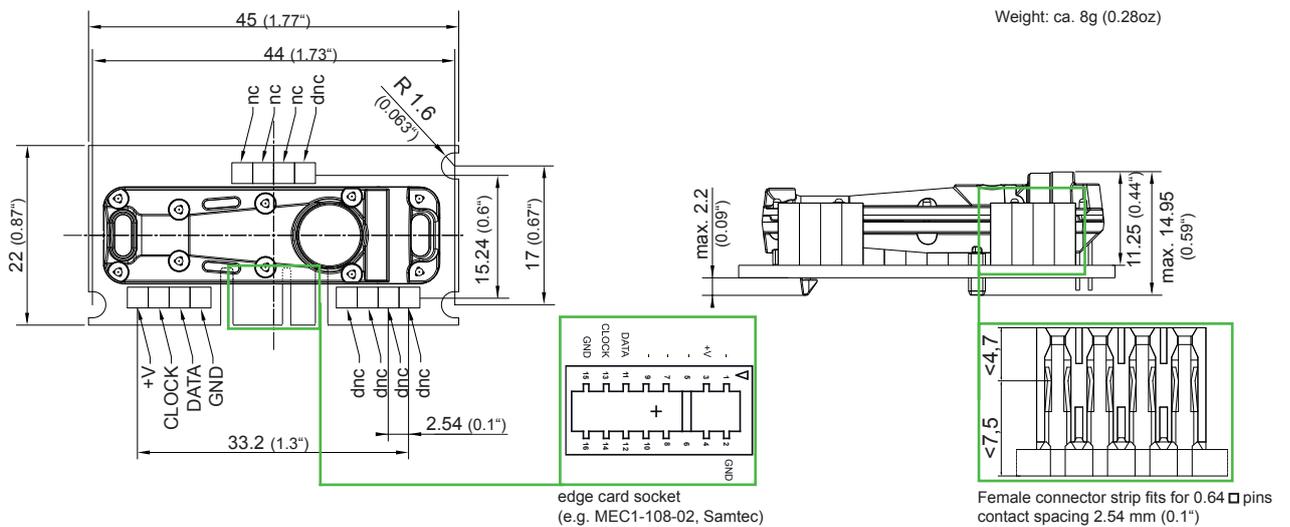
2) under normal operating conditions

3) the average power consumption depends on the adjusted measuring time interval

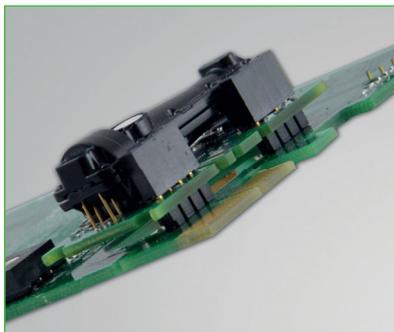
## Power Consumption



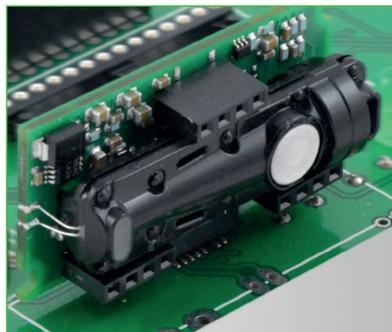
## Connection Diagram / Dimensions in mm (inch)



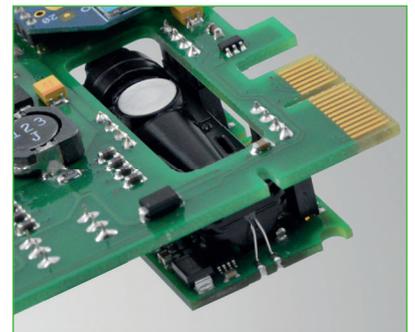
## Mounting Possibilities



Mounting from the top



Mounting with edge card socket



Mounting from the bottom  
(space saving)

## Ordering Guide

MEASURING RANGE	TYPE	OUTPUT
0...2000 ppm	(02)	CO <sub>2</sub> (C) E2 interface(2)
0...5000 ppm	(05)	
0...10000 ppm	(10)	
<b>EE893-</b>		

## Order Example

### EE893-02C2

measuring range: 0...2000 ppm  
type: CO<sub>2</sub>  
output: E2 interface

## Accessories (see also data sheet "Accessories")

E2 Test and Configuration Adapter  
E+E Product Configuration Software

HA011010  
EE-PCS (Download: [www.epluse.com/Configurator](http://www.epluse.com/Configurator))

## Support Literature

[www.epluse.com/EE893](http://www.epluse.com/EE893)