



**Datasheet: CO2 sensor module for high concentration (10%, 20%)
SEN CO2 HC 100**

.This CO2 sensor is particularly suitable for CO2 measurement of high concentrations of up to 20% (equivalent to 200,000ppm). The sensor is long-term stable and suitable for various applications in the high concentration range due to its robust housing.



Technical data

SEN CO2 HC 100

Accuracy	Measuring method	Dual Wavelength NDIR
	Measuring range	0 - 10 %; 0 - 20 %
	Measurement accuracy	± 3% FS + 2% reading value
	Response	< 65 sec
	Measuring interval	1,5 sec
General	Warm-up time	< 2 min
	Ambient temperature	-40 - + 70 °C
	Temperature dependence	0,2 % FS/ °C
Operating characteristics	Operating temperature	5 - 45 °C
	Perm. rel. humidity	0 - 99 % Non condensing
	Max. Air velocity	0,2 - 1 m/s
Voltage	Power supply	12 - 24 VDC
	Power consumption	70 mA
Output	Analog output	0- 5 VDC; 0 - 10 VDC; 4 - 20 mA
	Communication	RS485
Dimensions	SEN CO2 H 100	DN 43 mm, length 91 mm
	Cable length	1,50 m

Subject to technical changes Subject to technical changes

Wall bracket is not included



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Connector Input & output signal

	Pin No.	Name	Notes	Wire color
1	G+	24V DC(+)	System Power	Red
2	G0	24V DC(-)	Ground	Black
3	Out1	Output 1(+)	0~10V (output error FS+2%)	Yellow
4	Out2	Output 2 (+)	4~20mA (output error FS+2%)	White, purple or Orange
5	RS 485A	RS485 terminal A		Green
6	RS 485B	RS485 terminal B		Blue

1) You should insulate the unused output signal line of the cable. It may be damaged for a short time

Output mode can be set as RS485 communication.

2) When you change the output mode (current or voltage), you should select "current" or "voltage" with communication first. Then you can get the output on the corresponding pin

See "Setting the communication".
(0x0000 Current output 0x0100 Voltage output)

- **RS485 Communication protocol**

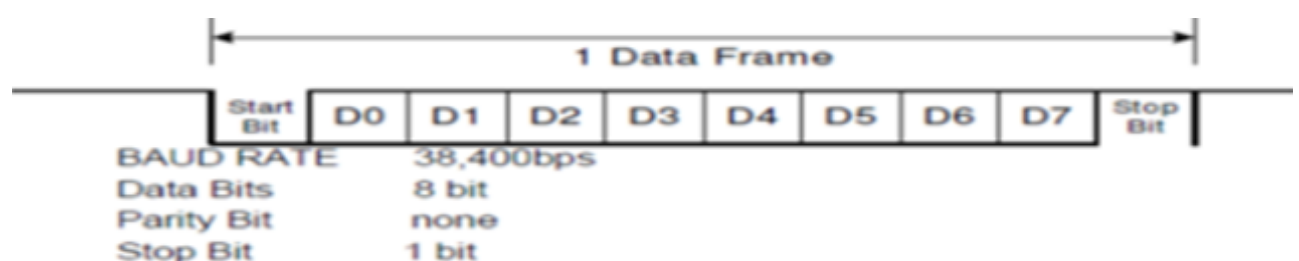
1.Communication Connector

Pin No.	Name	Notes
5	RS485 A	RS-485 connection terminal A
6	RS485 B	RS485 connection terminal B

2. Communication Mode

ASYNC (UART Universal Asynchronous Receiver Transmitter)

3. Communication data type



4. Communication protocol

1) Commands for querying product information and setting the status from MASTER to SLAVE

Command	Description
10(0x0A)	Transfer measures the CO2 content
58(0x3A)	Change of CO2 module ID
59(0x3B)	Changing the signal output mode of the CO2 module
60(0x3C)	Changing the communication bus of the co2 module (default 38.400bps)