

SC 102 – CO₂ SENSORS TO THE INTERIOR WITH RS 485 (MODBUS) OUTPUT

H09.01en



DESCRIPTION AND APPLICATION

The SC 102 - CO₂ sensor is designed to measure the carbon dioxide concentration of the air in spaces protected against water. This CO₂ sensor consists of a plastic ribbing head where a printed circuit board with the CO₂ sensor and a converter is placed to establish a communication via the RS 485 bus. The CO₂ value is measured by a NDIR module whose digital signal is also converted to an output signal of MODBUS RTU. For the CO₂ concentration sensor, there is an autocalibration function available to set the sensor at the minimum CO₂ value corresponding to the outside concentration level. The SC 102 - CO₂ sensor meets the ingress protection of IP 30 according to EN 60529, as amended. Suitable design and high-quality material ensure that the sensor does not feel disturbing even in the interiors with high aesthetic requirements.

The SC 102 - CO₂ sensor is designed to be operated in a chemically non-aggressive environment; its use must be chosen with regard to temperature and chemical resistance of the head and of the individual sensors.

The operating conditions to establish the correct function are:

- ambient temperature in the vicinity of the sensor: 0 to 45 °C
- relative ambient humidity: 0 to 95% (non-condensing humidity)
- atmospheric pressure: 87 to 106 kPa

DECLARATION, CERTIFICATES, CALIBRATION

Manufacturer provides **EU Declaration of Conformity**.

Calibration – The final metrological inspection – comparison with standards or working instruments – is carried out for all the products. Continuity of the standards and working measuring instruments is ensured within the meaning of the Section 5 of Act no.505/1990 on metrology. The manufacturer offers a possibility to supply the sensors calibrated in SENSIT s.r.o.'s laboratory (according to requirements of the EN ISO/IEC 17025 standard, as amended) or in an Accredited laboratory.

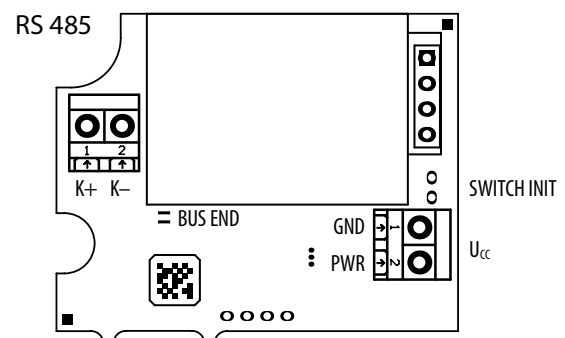
SPECIFICATIONS

Sensor type	SC 102
CO ₂ measuring range *	400 to 5000 ppm
CO ₂ measuring accuracy *	± 200 ppm *
Time response CO ₂ (90%)	90 s
Output signal	RS 485 / MODBUS RTU
Supply voltage U	15 to 30 VDC
Rated supply voltage Un	24 VDC
Consumption	maximum: 500 mW typical: 300 mW
Ingress protection	IP 30 acc. to EN 60529, as amended
Dimension of the head	71.9 x 59 x 27 mm
Material of the head	LEXAN
Weight	min 35 g
Recommended wire cross section	0.14 to 1 mm ²

* The stated measurement ranges and accuracies for the individual sensors refer to operating conditions when the supply voltage is connected.



WIRING DIAGRAM



- GND, PWR – U_{cc} supply voltage
- K+/K- – communication line
- BUS END – RS 485 termination

DIMENSIONAL DRAFT

