

## Electrical Specifications

Parameter	Conditions	Value
Average current <sup>10</sup>	Update interval 2 s	19 mA
Max. current	During measurement	75 mA
DC supply voltage (V <sub>ddmin</sub> - V <sub>ddmax</sub> )	Min. and max. criteria to operate SCD30	3.3 V – 5.5 V
Interface	-	UART (Modbus Point to Point), PWM and I <sup>2</sup> C
Input high level voltage (V <sub>IH</sub> )	Min. and max. criteria to operate SCD30	1.75 V – 5.5 V
Input low level voltage (V <sub>IL</sub> )	Min. and max. criteria to operate SCD30	- 0.3 V – 0.9 V
Output low level voltage (V <sub>OL</sub> )	I <sub>IO</sub> = +8 mA, Max. criteria	0.4 V
Output high level voltage (V <sub>OH</sub> )	I <sub>IO</sub> = -6 mA, Min. criteria	2.4 V

**Table 4** SCD30 electrical specifications

## Operation Conditions, Lifetime and Maximum Ratings

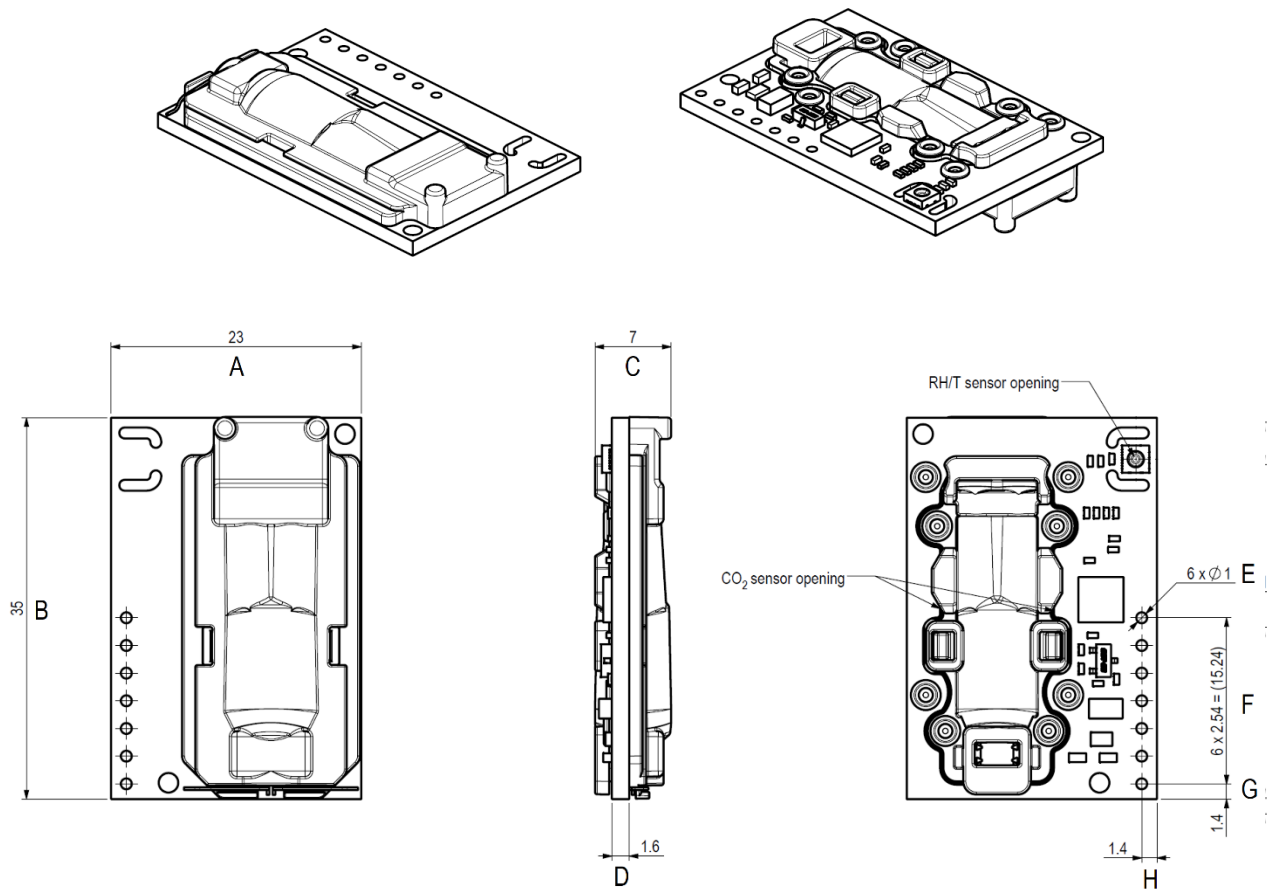
Parameter	Conditions	Value
Temperature operating conditions	Valid for CO <sub>2</sub> sensor.	0 – 50°C
Humidity operating conditions	Non-condensing. Valid for CO <sub>2</sub> sensor.	0 – 95 %RH
DC supply voltage	Exceeding specified range will result in damage of the sensor.	- 0.3 V – 6.0V
Voltage to pull up selector-pin	Max criteria	4.0 V
Storage temperature conditions	Exceeding specified range will result in damage of the sensor.	- 40°C – 70°C
Maintenance Interval	Maintenance free when ASC field-calibration algorithm <sup>11</sup> is used.	None
Sensor lifetime	-	15 years

**Table 5:** SCD30 operation conditions, lifetime and maximum ratings

<sup>10</sup> Average current including idle state and processing. Other update rates for small power budgets can be selected via the digital interface.

<sup>11</sup> CO<sub>2</sub> concentrations < 400 ppm may result in sensor drifts. For proper function of ASC field-calibration algorithm SCD30 has to be exposed to air with 400 ppm regularly.

## 2 Package Outline Drawing



**Figure 1** Product outline drawing of SCD30. Pictures on the left show top-view, pictures on the right bottom-view.

Sensor height is 7 mm at the thickest part of SCD30. The weight of one SCD30 sensor is 3.4 g.

**Table 6:** Nominal dimensions and tolerances SCD30

Dimension	A	B	C	D	E	F	G	H
Nominal [mm]	23.00	35.00	7.00	1.60	1.00	15.24	1.40	1.40
Tolerance [mm]	± 0.20	± 0.20	± 0.70	± 0.20	± 0.15	± 0.30	± 0.15	± 0.15