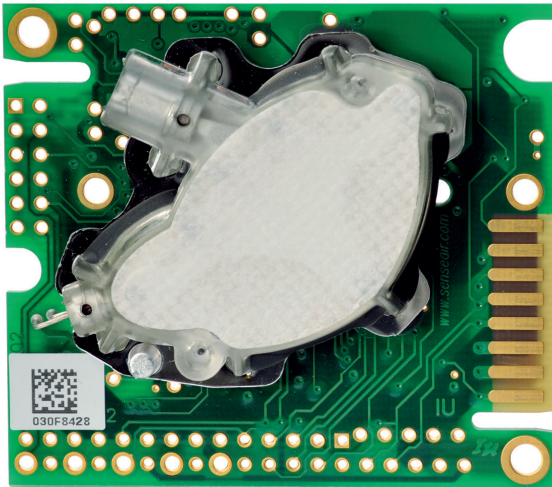


Senseair K30

Sensor Module and OEM Platform

Senseair K30 is a flexible product with two analogue outputs and two digital outputs that can be configured with SADK hardware and UIP or other custom software to meet your requirement.

The platform can be customised for a variety of sensing and control applications. This platform is designed to be an OEM module for built-in applications in a host apparatus.



Standard specification

Measured gas	Carbon dioxide (CO ₂)
Operating principle	Non-dispersive infrared (NDIR)
Measurement range CO ₂	0–5000ppm
OUT1 Linear Output	0–4VDC = 0–2000ppm
OUT2 Linear Output	1–5VDC = 0–2000ppm
OUT3 Digital Output	On ≥800ppm, Off ≤700ppm
OUT4 Digital Output	On ≥1000ppm, Off ≤900ppm
Accuracy CO ₂	±30ppm ±3% of reading
Dimensions	51 x 58 x 12mm ¹
Life Expectancy	>15 years
Operating temperature range	0–50°C
Operating humidity range	0–95%RH (non-condensing)
Power supply	4.5–14VDC
Communication	I ² C, UART (Modbus)

Key benefits

- Flexible
- Easy to configure
- Maintenance-free



Note 1: For tolerances see mechanical drawing.

Senseair K30 Technical Specification

General Sensor Performance:

Storage temperature range	-30–70°C, (non condensing)
Sensor life expectancy	>15 years
Maintenance interval	Maintenance free ¹
Self-diagnostics	Complete function-check of the sensor module
Operating temperature range	0–50°C
Operating humidity range	0–95%RH, (non condensing) ²

Electrical Properties:

Power input	4.5–14VDC max rating, (without reverse polarity protection) stabilised to $\pm 5\%$ over load and line changes. Ripple voltage less than 100mV.
Current consumption	40mA average <150mA peak current (averaged during IR lamp ON, 120msec) <300mA peak power (during IR lamp start-up, the first 50msec)
Dimensions	51 x 58 x 12mm (Length x Width x approximate Height) ³

CO₂ Measurement:

Operating principle	Non-dispersive infrared (NDIR) waveguide technology with ABC (Automatic Baseline Correction)
Sampling method	Diffusion
Response time (T1/e)	<20s, diffusion time
Measurement range	0–5000ppm
Accuracy	$\pm 30\text{ppm} \pm 3\%$ of reading ⁴

Outputs:

Linear

OUT1	0–4VDC = 0–2000ppm
OUT2	1–5VDC = 0–2000ppm
Electrical Characteristics	ROUT <100 Ω , RLOAD >5k Ω , Power input >5.5V ⁵

Digital

OUT3	On $\geq 800\text{ppm}$, Off $\leq 700\text{ppm}$
OUT4	On $\geq 1000\text{ppm}$, Off $\leq 900\text{ppm}$

Note 1: When using ABC (Automatic Baseline Correction) algorithm of Senseair. ABC is enabled in default configuration.

Note 2: For applications operating continuously in high humidity, contact Senseair for further information.

Note 3: For tolerances see mechanical drawing.

Note 4: Accuracy is specified over operating temperature range at normal pressure 101.3kPa. Specification is referenced to certified calibration mixtures. Uncertainty of calibration gas mixtures ($\pm 1\%$ currently) is to be added to the specified accuracy for absolute measurements.

Note 5: For the buffered output OUT2 the maximum output voltage range equals power voltage input minus 0.5V.