DISCONTINUED

Contact us at info@sparvembedded.com for alternatives.

SKS4 Datasheet

Ozone Sensor

High-resolution ozone measurements for Sparvio, with built-in fan.
Variants:
SKS4-2: 6.6 – 12 V_{DC} (down to 5 V *might* be possible)
SKS4-234: 6.6 – 15 V_{DC}

Parameters	**Specifications**
Measured Parameters	Ozone
Measurement Range	0 – 150 ppb (parts per billion)
Accuracy	< 5 ppb (under conditions stated in calibration certificate)
Resolution	12 bit (0.0366 ppb)
Response Time	60 seconds
Sampling frequency	1 per 60 seconds
Operating Temperature	0°C – 40°C (-20°C – 50°C if enclosed)
Operating Humidity	10% to 95% RH (non-condensating)
Warm-up time	10 minutes to full spec.
Supply Voltage	SKS4-2: 6.6 – 12 V_{DC} SKS4-234: 6.6 – 15 V_{DC}
Power Consumption	Typical values: SKS4-2 @ 7 V: without fan 0.2 A, with fan 0.42 A

	SKS4-2 @ 9 V: without fan 0.15 A, with fan 0.27 A SKS4-2 @ 9 V: without fan 0.11 A, with fan 0.19 A
Communication	Sparvio SSP
Size	60 mm x 75 mm
Weight	65 gram

Usage
On first time use or after a period of non-use the module should be run for several hours to burn off contaminants on the sensor. When power is switched on the sensor will warm up for up to 10 minutes before full operation.

An air tube 16 - 20 mm can be fitted on the sensor for pulling air through an external enclosure. The sensor should not be exposed to strong wind draft. Instead, shield the sensor intake or turn the sensor away from the wind direction.

The sensor employs active fan sampling for improved accuracy. The Fan is ON for 10 seconds which means that it is sampling the ambient air during this period. Then it is OFF for the next 50 seconds during which the concentration is being calculated and output.

If the power supply can't give enough power or the voltage drops lower than 6.6 volt, the sensor may lock up when the fan is turned on. The sensor will then draw a lot of power but not function until power-cycled.

Sparvio background
The Sparvio system provides a modular, plug-and-play solution for measuring various quantities for UAVs, other environmental studies, lab experiments and education. The system is designed to start immediate measurements without any further integration.