SGX
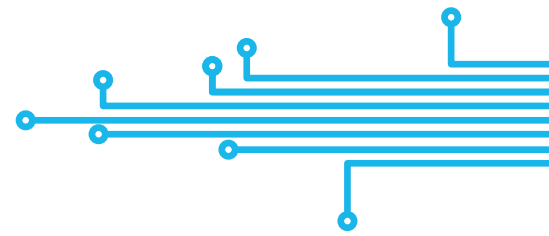## SENSORTECH
An Amphenol Company

PS1-O3-5-MOD

PS1-O3-5-I2S-MOD

Ozone Module
Datasheet

Small size | Low cost | Long life | Fast response | High accuracy | Low power consumption

Quality, Safety, Responsibility

SGX Europe Sp. z o.o.
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Product note

The PS1 series O3 gas module is the perfect combination of our sensor with an advanced printed circuit board. SGX Sensortech gas sensors are using a revolutionary 'Solid Polymer Electrolyte' technology that is based on the principle of electrochemical reaction. The target gas to be measured generates a very small current, proportional to the gas concentration. Our technology offers a stable, high quality and cost-effective manufacturing process.

The module is equipped with a standard UART digital output, allowing operation by anyone without knowledge or understanding of the sensor application and the tedious work of calibration.

Features

- High accuracy and long life
- Fast response speed, fast return to zero, plug and play
- Good anti-toxicity
- Easy to use, UART digital signal output
- Excellent accuracy, repeatability, linearity and consistency
- Zero drift
- Strong anti-electromagnetic interference
- Mounting holes for easy installation
- Sleep function for low power applications
- Independent temperature and humidity digital sensor output
- RoHS compliant
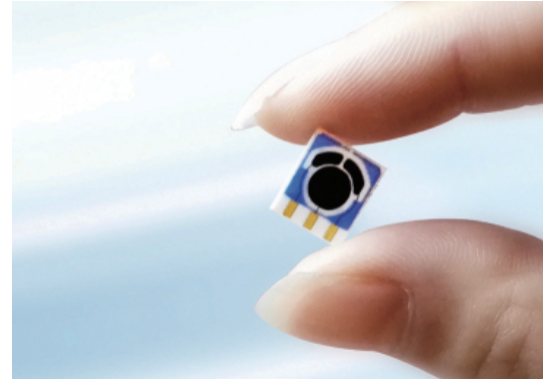
Application

- Detection of Leaks
- Industrial Safety
- Monitoring Outdoor Air Quality
- Sewage and Water Treatment Facilities
- Indoor Air Qualitya

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Functional specifications

| Gas Sensor Specifications	
Principle	Solid Polymer Electrochemical Sensing Technology
Detection Gas	Ozone Gas
Response Time	< 3 seconds (T50: < 40 seconds; T90: < 120 seconds)
Accuracy	< 5% F.S
Repeatability	Full range ± 1% is the normal range
Linearity	Linear
Long-Term Drift	< 1% / month
Expected Lifetime	> 2 years
Temperature & Relative Humidity Sensor Specification	
Temperature Range	-20°C to +70°C
Temperature Accuracy	± 0.2°C (Typical Value)
Humidity Range	0 to 100% RH
Humidity Accuracy	± 2% (Typical Value)
Environment Specifications	
Working Temperature	-20°C to +55°C
Working Humidity	15% - 95% RH. (Non-condensing)
Working Pressure	Atmospheric pressure ± 10%
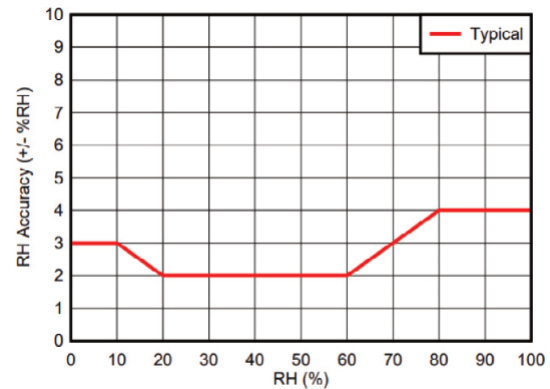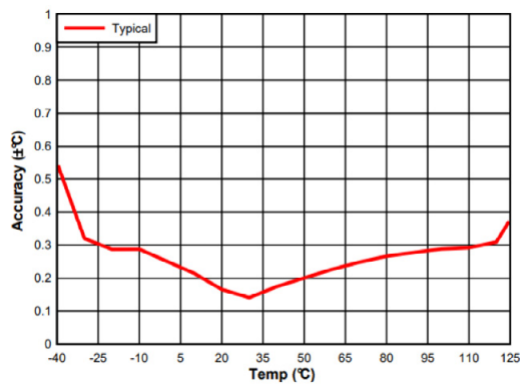
| Mechanical Specifications	
Size (Including gas sensor)	23 x 25.5 x 10.2mm
Size (Without gas sensor)	23 x 25.5 x 4.85mm
Weight	3.1 g
Signal Cable	The standard length is shown in the structure diagram and can be customized if there are special requirements.
Electrical Specifications	
Output Signal	UART TTL 3.3V or I2C digital signal, for more information please see "Conmunication Protocol"
	UART Interface definition: VCC- red, GND- black, RX- yellow, TX- green
	UART Baud rate: 9600 Data bits: 8 bits Stop bits: 1 bit
	I2C Interface definition: VCC-red, GND-black, SDA-yellow, SCL-green
	I2C Frequency: ≦ 20kHz I2C Signal Voltage: 3.3V

UART TTL 3.3V
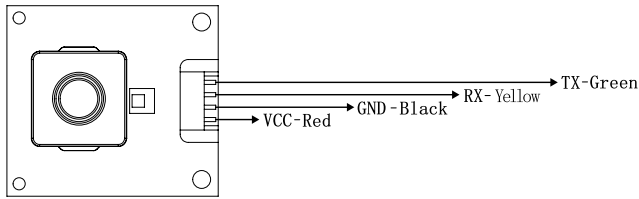
I²C 3.3V
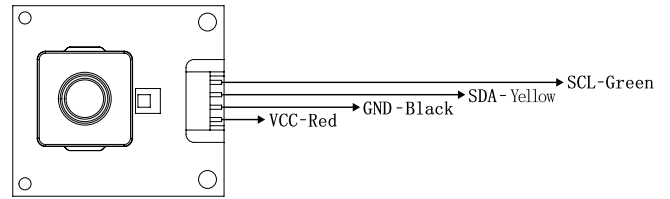
Get Data Command	Communication has active upload and Q&A mode. The default mode is Q&A mode after power-on. You can use instructions to switch between the two modes.
	Note: If you switch off the module or switch to sleep mode, the module remains in Q&A mode.
Supply Voltage	3.3 to 5.5V DC, Recommended 5V DC
Supply Current	9.5mA @ 5VDC
Current (Switch off LED lamp)	8.7mA @ 5VDC
Peak Current	11mA @ 5V DC
Sleep Mode Current	0.85mA @ 5V DC
Power Consumption	40mW @ 5V DC
Working Current	< 5mA
Sleep Mode Power Consumption	25mW @ 5V DC

PS1-O3-5-MOD   Dimensions (mm)
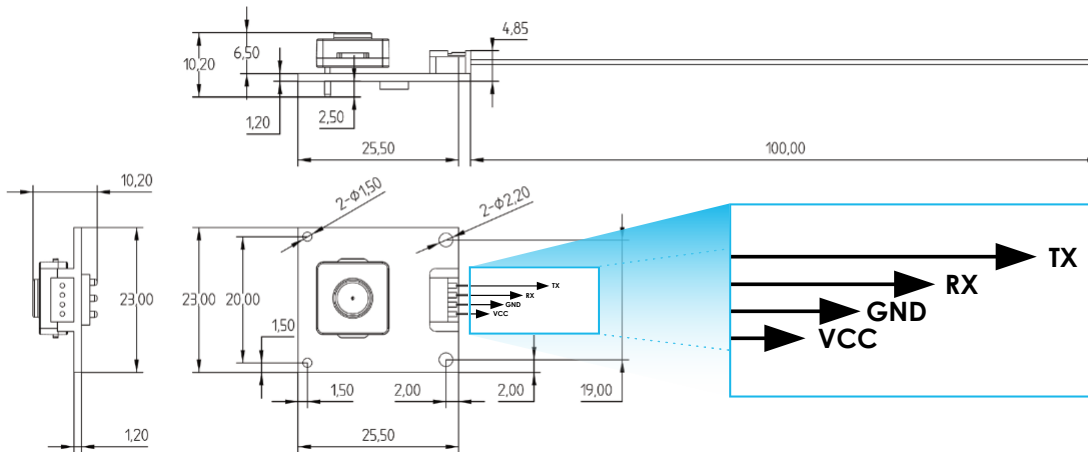
MOD-4Pin-Cable   Dimensions (mm)
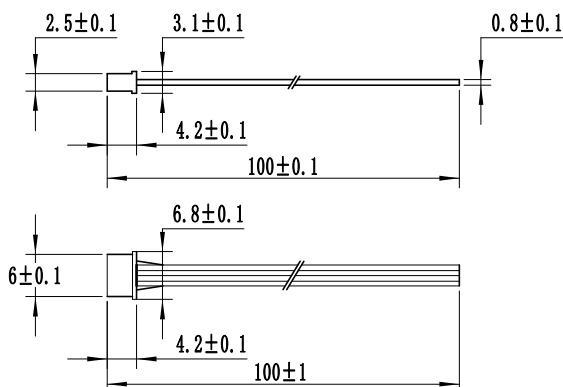
Cable color	Signal
Red	VCC
Black	GND
Yellow	RX
Green	TX

EK6-PSX   Evaluation Kit
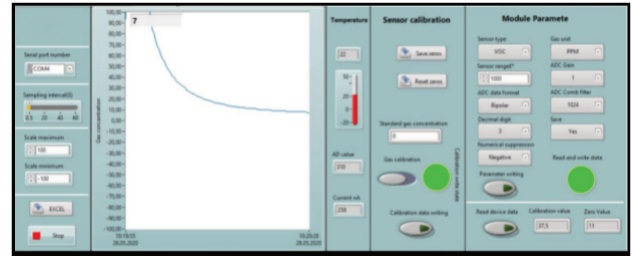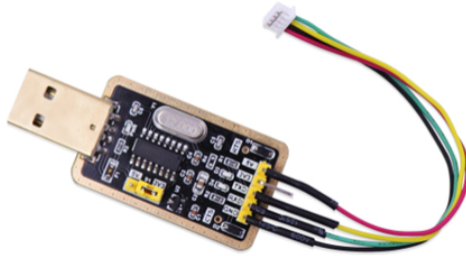
The main purpose of the Evaluation Kit is to install software that allows the user to read data from SGX Sensortech sensor module boards.

We offer an Evaluation Kit for all of our sensor modules. The Evaluation Kit includes a USB UART interface and comes with a USB to TTL adapter and cable. In addition, the kit includes easy-to-use testing software that can be installed on any PC, allowing you to test and equally get familiar with our product.

The software displays data from the sensor modules and can be exported. Therefore, it can only read data from the sensor module and cannot write data to it. All of the SGX Sensortech products are delivered factory calibrated.

Order Information

Product	Partnumber	Range	Resolution	Output
Ozone Gas Sensor Module	**PS1-O3-5-MOD**	0-5ppm	< 0.01 ppm	UART TTL 3.3V
	PS1-O3-5-I2S-MOD	0-5ppm	< 0.01ppm	I₂C
Evaluation Kit	**EK6-PSX**			