

# Easy Gas Sensor

## ES1-HCHO-100 Formaldehyde



**Part Number:**  
**01-ES1-HCHO-100-01**

### Features

- Extreme linear response up to high concentration
- Fast response
- Low noise
- No electrolyte leakage
- Low cost at large volumes
- Individually calibrated including test report

### Typical applications

- TLV monitoring
- Indoor Air Quality

## Technical Specification

### Performance

Sensitivity	35±20 nA /ppm
Zero current	± 2 nA
Response time	
-T <sub>50</sub>	< 20 s
-T <sub>90</sub>	< 120
Range	100ppm
Repeatability	1% Lower
Detectable Limit (LDL)	≤0.05 ppm
Resolution (16Bit ADC)	0.01 ppm
Maximum overload	200ppm
Linear range	100ppm

### Environment

Temperature Range	-20 to 50°C
Humidity Range (non condensing)	10 to 95% R.H
Pressure Range	800 to 1200hPa

### Operation

Operating principle	amperometric, 3-electrode
Bias voltage	0mV
Recommended load resistor	100Ω
Warm up time	< 20s

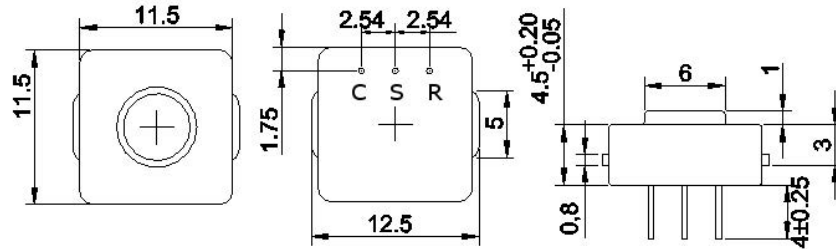
### Lifetime

Long Term Sensitivity Drift	< 1%/month
Zero Drift in clean air	< 0.2ppm
Storage conditions	0-20°C
Storage life	6 month
Expected Life Time	> 3 years
Warranty	12 month

### Housing

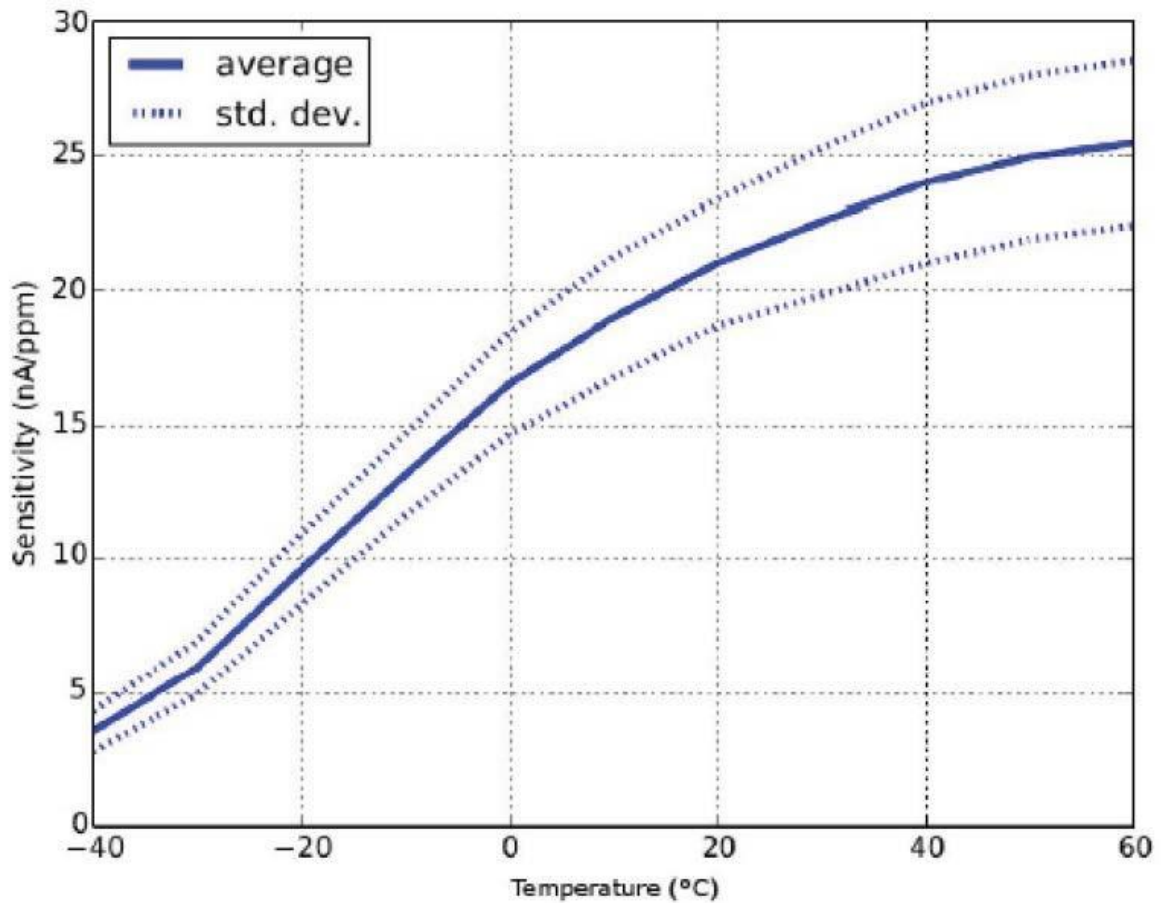
Housing material	PPO
Weight	< 0.7g

## Dimensions



All dimensions in mm

## Temperature curve



## Cross sensitivity

Gas		Test Gas Concentration	Reading in ppm
Carbon Dioxide	CO <sub>2</sub>	5000ppm	0ppm
Ammonia	NH <sub>3</sub>	100ppm	0ppm
Carbon Monoxide	CO	100ppm	6ppm
Methane	CH <sub>4</sub>	10000ppm	0ppm
Toluene	C <sub>7</sub> H <sub>8</sub>	50ppm	0ppm
Benzene	C <sub>6</sub> H <sub>6</sub>	50ppm	0ppm
Ethanol	C <sub>2</sub> H <sub>6</sub> O	100ppm	0ppm
Ethylene	C <sub>2</sub> H <sub>4</sub>	100ppm	0ppm
Hydrogen	H <sub>2</sub>	100ppm	<3ppm
Hydrogen	H <sub>2</sub>	20000ppm	<50ppm
Hydrogen Cyanide	HCN	20ppm	<1ppm
Sulphur Dioxide	SO <sub>2</sub>	10ppm	<1ppm
Nitrogen Dioxide	NO <sub>2</sub>	10ppm	0ppm
Chlorine	Cl <sub>2</sub>	20ppm	0ppm
Hydrogen Chloride	HCl	5ppm	0ppm
HCHO sensor no reaction for all of these material: Shampoo, Washing Powder, Washing liquid, Washing Spirit, 84 Toilet Liquid, Iodine.			
When you are eating in the room, the HCHO sensor no reaction for this food smelling.			
HCHO sensor reaction in mouth smelling;			
HCHO sensor reaction with Orange smelling, this smelling is high HCN gas, please see above the cross data.			

Test Conditions: T=20°C, P=1013hPa, Flow Rate=300ml/min

We will continue improve this data and will test more gas.

If you have any question please contact with us

**DISCLAIMER:**

rate>150qcm/min using EC-Sense recommended circuitry. Cross sensitivity gases are not target gases. Relations and performance can change, also with ageing of the accept any legal responsibility for customer applications of our sensors. EC-Sense accepts no liability for any consequential losses, injury or damage resulting from the is for guidance only and may not be taken as warranty. Any use of the given data must be assessed and determined by the user thereof to be in accordance with federal,

**WARNING:** EC-Sense sensors are designed to operate in a wide range of harsh conditions. It is nevertheless essential to prevent exposure to high concentrations of solvent

Please note that gluing or soldering direct to the pins of EC-Sense gas sensors will void any warranty. Please use PCB sockets when connecting EC-Sense sensors. Any

sensors and instruments for response to gas before use, especially where life safety is a performance requirement of the product. At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste but contact EC-Sense or their distributor for disposal instructions. Customers should test under their own conditions to ensure that the sensors are suitable for their specific requirements.