

O₂ Measurement / Amperometric ZrO₂

Selection guide for calibrated systems

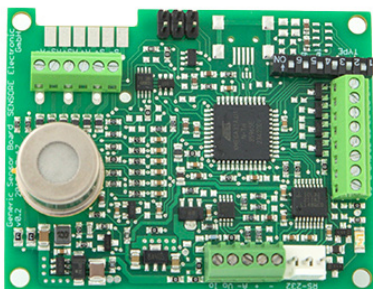
Key Features

- Ready to operate system, consisting of an oxygen sensor and an electronic board
- Factory O₂ calibration of the system is stored in the electronic board
- Analog signal output: 4-20mA or 0-5Vdc, linearized signal from 0% O₂ up to full scale O₂ (see Table 2)
- Recommended power supply 12Vdc/500mA

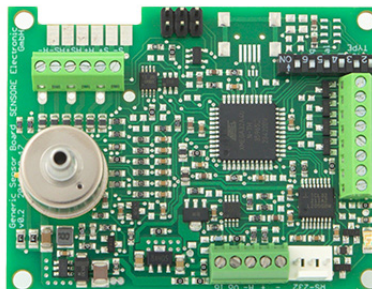
See also datasheets of O₂-sensor and GSB electronic for more detailed information

Overview / Mechanical configurations

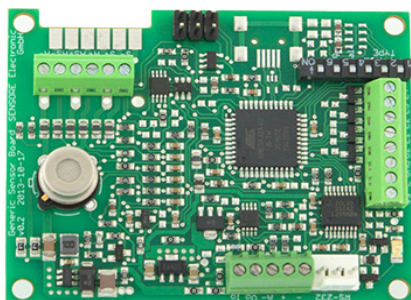
TO8 soldered on PCB / ambient gas diffusion



TO8 soldered on PCB / hose connector to apply



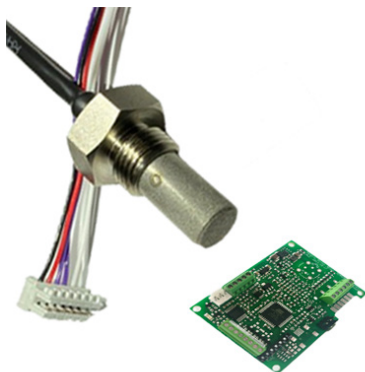
TO39 in PCB socket / ambient gas diffusion



"D1" M10 thread + 300cm cable / mount from inside the chamber



"D0" M16 thread + 300cm / mount from the outside of a chamber



"D2" Aluminum M16 thread +300cm cable / mount from the outside



Configuration options:

- **Mechanical (see pictures in Table 1)**
 - o Compact system with sensor soldered or plugged directly onto the PCB
 - o Sensor with 300cm cable connected to the PCB
- **Gas interface (see pictures in Table 1)**
 - o Gas diffusion from ambient, via mesh on sensor cab
 - o Hose connection, recommended gas flow, see Table 3
 - o M16 thread sensor, for mount in the wall of a process chamber
 - o M10 thread sensor, to mount in the wall of a process chamber from the inside
- **O₂ range (see Table 2)**
 - o Fix range define by selected configuration and cannot be modified afterwards.
 - o The min / max rating of the O₂ range should not be violated. Operation outside of the specified range will not lead to an immediate failure, but it causes a faster deterioration over time.
- Available configurations are summarized in Table 3

O₂ ranges and typical accuracy:

O ₂ range (min / max)	GSB preset	DIP switch bit			GSB full scale (output)	O ₂ -calibration concentration	Typical Accuracy	Sensor Voltage
		1	2	3				
10-1000ppm	1	OFF	ON	ON	1000 vol.-ppm	1000 vol.-ppm	+/- 20ppm	0.70 Vdc
0.01-1vol.%	2	ON	OFF	ON	1 vol.-%	1 vol.-%	+/- 0.01vol.-%	0.75 Vdc
0.01-2vol.%	3	OFF	OFF	ON	2 vol.-%	2 vol.-%	+/- 0.2vol.-%	0.75 Vdc
0.05-5vol.%	4	ON	ON	OFF	5 vol.-%	5 vol.-%	+/- 0.5vol.-%	0.80 Vdc
0.1-25vol.%	5	OFF	ON	OFF	25 vol.-%	20.9 vol.-%	+/- 0.5vol.-%	0.85 Vdc
50-96vol.%	6	ON	OFF	OFF	100 vol.-%	20.9 vol.-%	+/- 1vol.-%	1.60 Vdc
1-96vol.-%	7	OFF	OFF	OFF	100 vol.-%	20.9 vol.-%	+/- 1vol.-%	1.00 Vdc

Table 2 O₂-range specification

O₂ ranges and typical accuracy:

Part No. on product label	O ₂ range	Mechanical Config.	Sensor gas interface
EGa0202std-B0001	10-1000ppm	TO8 soldered on PCB	Ambient gas diffusion
EGa0202std-B0010	0.01-1%	TO8 soldered on PCB	Ambient gas diffusion
EGa0202std-B0250	0.1-25%	TO8 soldered on PCB	Ambient gas diffusion
EGa0202std-B0960	1-96%	TO8 soldered on PCB	Ambient gas diffusion
EGa0202std-E3010	0.01-1%	TO8 soldered on PCB	Hose, gas flow ~0.5LPM
EGa0202std-E3050	0.05-5%	TO8 soldered on PCB	Hose, gas flow 0.2-0.5LPM
EGa0202std-E3250	0.1-25%	TO8 soldered on PCB	Hose, gas flow 0.1-0.5LPM
EGa0202std-E3960	1-96%	TO8 soldered on PCB	Hose, gas flow 0.1-0.5LPM
EGa0202std-A0010	0.01-1%	TO39 in PCB socket	Ambient gas diffusion
EGa0202std-A0250	0.1-25%	TO39 in PCB socket	Ambient gas diffusion
EGa0202std-A0960	1-96%	TO39 in PCB socket	Ambient gas diffusion
EGa0202std-D0001A300	10-1000ppm	300cm, Rast2.5 on GSB	M16 thread in chamber
EGa0202std-D0010A300	0.01-1%	300cm, Rast2.5 on GSB	M16 thread in chamber
EGa0202std-D0050A300	0.05-5%	300cm, Rast2.5 on GSB	M16 thread in chamber
EGa0202std-D0250A300	0.1-25%	300cm, Rast2.5 on GSB	M16 thread in chamber
EGa0202std-D0960A300	1-96%	300cm, Rast2.5 on GSB	M16 thread in chamber
EGa0202std-D1001A300	10-1000ppm	300cm, Rast2.5 on GSB	M10 thread in chamber
EGa0202std-D1010A300	0.01-1%	300cm, Rast2.5 on GSB	M10 thread in chamber
EGa0202std-D1050A300	0.05-5%	300cm, Rast2.5 on GSB	M10 thread in chamber
EGa0202std-D1250A300	0.1-25%	300cm, Rast2.5 on GSB	M10 thread in chamber
EGa0202std-D1960A300	1-96%	300cm, Rast2.5 on GSB	M10 thread in chamber
EGa0202std-D2001A300	10-1000ppm	300cm, Rast2.5 on GSB	AI, M16 thread in chamber
EGa0202std-D2010A300	0.01-1%	300cm, Rast2.5 on GSB	AI, M16 thread in chamber
EGa0202std-D2050A300	0.05-5%	300cm, Rast2.5 on GSB	AI, M16 thread in chamber
EGa0202std-D2250A300	0.1-25%	300cm, Rast2.5 on GSB	AI, M16 thread in chamber
EGa0202std-D2960A300	1-96%	300cm, Rast2.5 on GSB	AI, M16 thread in chamber

Table 3 available configurations