

GAS SENSORS

Target gas	Range	Model No.	Type	Typical application
Air contaminants	0 - 30ppm	TGS 2600	S	Indoor air quality control (for general air contaminants detection)
	0 - 30ppm	TGS 2602	S	Indoor air quality control (for VOC detection)
	0 - 30ppm	TGS 2603	S	Indoor air quality control (for odorous gas detection)
	0 - 30ppm	TGS 8100*	S(MEMS)	Indoor air quality control (for general air contaminants detection)
Alcohol	0 - 1,000ppm	TGS 3820	S	Personal alcohol checkers
Alcohol & solvent vapors	0 - 5,000ppm	TGS 2620	S	Alcohol & solvent vapor detectors
Ammonia	0 - 300ppm	TGS 826	S	Refrigerant leak detectors
	0 - 100ppm	TGS 2444	S	Refrigerant leak detectors, ventilation control for agricultural & poultry industries
Carbon dioxide	0 - 5,000ppm	CDM 30K	O	Air quality control in buildings, homes & the agricultural industry
	0 - 2%	CDM 8S	O	Air quality control in buildings, homes & the agricultural industry
	0 - 4,000ppm	CDM 4161A	E(S)	Air quality control in buildings, homes
	0 - 4%	CDM 4160	E(S)	Air quality control in buildings, homes
Carbon monoxide	0 - 1,000ppm	TGS 5042	E(L)	Gas alarms for homes, recreational vehicles, boats, gas boilers, parking garages
Dissolved oxygen	0 - 80ppm	KDS-25B	E(L)	Dissolved oxygen monitors
Halocarbon gas	0 - 3,000ppm	TGS 832	S	Fixed refrigerant leak detectors
	0 - 100ppm	TGS 3830	S	Portable refrigerant leak detectors
Hydrogen	0 - 1,000ppm	TGS 821	S	Hydrogen leak detectors
Hydrogen, Methane & LP	0 - 100%LEL	TGS 6812	C	Hydrogen & combustible gas leak detectors for fuel cells
Hydrogen sulfide	0 - 100ppm	TGS 825	S	Industrial gas detectors
LP gas	0 - 20%LEL	TGS 2610	S	Gas alarms for homes, recreational vehicles, boats, gas boilers
Methane	0 - 20%LEL	TGS 2611	S	Gas alarms for homes, recreational vehicles, boats, gas boilers
	0 - 20%LEL	TGS 8410*	S(MEMS)	Gas alarms for homes
Methane & CO	0 - 25%LEL CH ₄ + 0 - 1,000ppm CO	TGS 3870	S	Gas alarms for homes, gas boilers
Methane & LP	0 - 20%LEL	TGS 2612	S	Gas alarms for homes, recreational vehicles, boats, gas boilers
	0 - 100%LEL	TGS 6810	C	Gas alarms for homes, recreational vehicles, boats, gas boilers
Oxygen	0 - 30%	SK-25F	E(L)	Oxygen monitors
	0 - 100%	KE-25	E(L)	Oxygen monitors
	0 - 100%	KE-50	E(L)	Oxygen monitors

PRE-CALIBRATED SENSOR MODULES

Target gas	Range	Model No.	Type	Typical application
Hydrogen, Methane & LP	0 - 14,000ppm	FCM 6812	C	Hydrogen & combustible gas leak detectors for fuel cells
LP gas	0 - 20%LEL	LPM 2610	S	Gas alarms for homes
Methane	0 - 20%LEL	NGM 2611	S	Gas alarms for homes

Types: S; Semiconductor type
 E(L); Liquid electrochemical type
 E(S); Solid electrochemical type
 C; Catalytic type
 O; Optical type

* : Under development

For sensor needs which are not shown above, please contact Figaro at the locations shown below.

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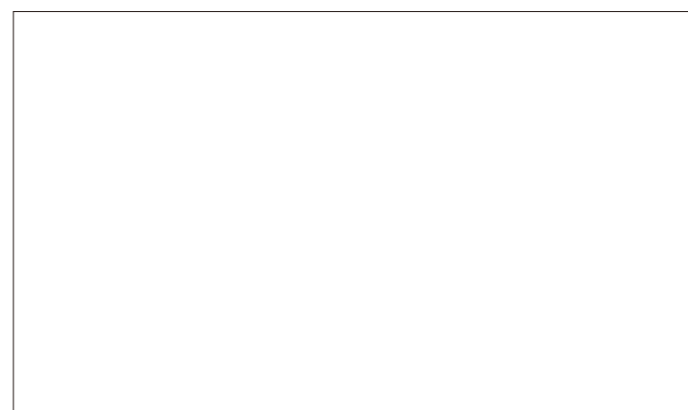
AFFILIATED COMPANY

FIGARO USA INC.

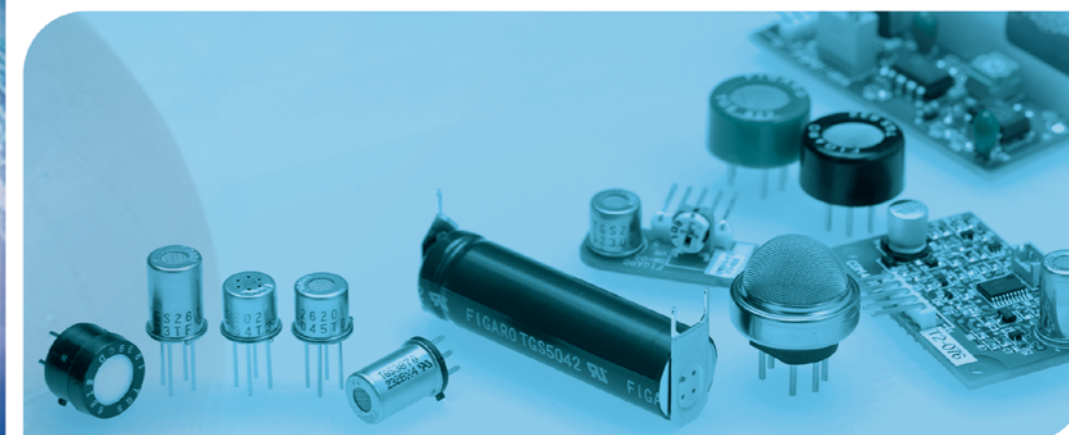
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Gas Sensors



World leader in gas sensing innovation

FIGARO

ISO9001 Company

The World Leader in Gas Sensing Innovation

The World Leader in Gas Sensing Innovation, Figaro has more than 40 years of experience in supplying cost-effective gas sensing solutions in the fields of safety, air quality control, HVAC, home appliance, and the automotive industry.



Our Company

Figaro is a global provider of solutions for sensing requirements in the fields of safety, comfort & health, and controls & measurements. Founded by Naoyoshi Taguchi, who pioneered application of metal oxide semiconductors (MOS) to gas sensing, Figaro was the first company to successfully commercialize MOS gas sensors. To date, more than 200 million Figaro sensors have been supplied to the gas sensing market. Its technical expertise has been recognized and awarded over the years by various industry and professional organizations, and it is acknowledged as the world leader in the development and high-volume production of semiconductor gas sensors. Expanding its reach into the gas sensing field, Figaro has added new technologies to its product lines. Worldwide, industries for gas detection, safety, air quality control, HVAC, appliances, and automotive applications have all relied on Figaro for cost-effective solutions to their gas sensing needs for more than 40 years.

As a full service company in the gas sensing industry, Figaro understands customer needs from development to production to on-time delivery. Figaro products are manufactured to the highest quality standards in our state-of-the-art facilities. Our flexible production system and ample capacity ensure just-in-time supply for any high-volume requirements.

In Rossini's opera, "The Barber of Seville", the main character is Figaro, a unique individual with boundless enthusiasm, curiosity, creativity, and the drive to tackle any problem, no matter how difficult. These are the qualities upon which Figaro was founded, so it was natural that the company assumed this name. Figaro strives to meet each challenge with the same vitality and spirit as its namesake.

World Class Product Support

Together with our products comes access to Figaro's unparalleled product support services. Starting at initial design and continuing through successful launch of customer production and beyond, Figaro provides in-depth technical support to its customers with a worldwide reach. With support staff located in both our head office in Japan and in North America, and with a comprehensive network of distributors worldwide, technical assistance is readily available, and our engineers are prepared to respond to your needs verbally, in writing, as well as with timely in-person visits. Figaro's ability to support your efforts worldwide is unmatched among gas sensor suppliers in today's marketplace.

Visit www.figaro.co.jp for more information, including data sheets.

Quality Our No. 1 Priority

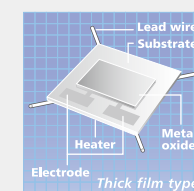
Figaro is widely recognized throughout the global gas sensing industry for its goal of producing the highest quality gas sensors. Figaro's commitment to excellence is reflected in the fact that it was one of the first gas sensor manufacturers to obtain ISO9001 certification and has obtained UL component recognition for many of its products. Providing reliable products is paramount in the gas sensing industry where protection of lives and property is the main focus.



Features

- Reliable
- Long life
- Competitive cost
- Easy to use
- Compact size
- Environmentally friendly
- UL component recognition
- Meets and exceeds requirements of performance standards
- ISO9001 company
- More than 40 years of experience in the marketplace
- Global engineering support for both applications and implementation
- Continuous product support after point-of-sale
- Innovative

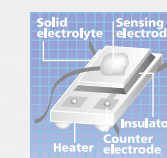
Advanced Sensor Technologies



Metal Oxide Semiconductor

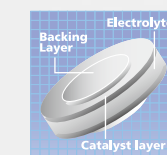
Figaro's signature technology is the metal oxide semiconductor type gas sensor. This type of Taguchi Gas Sensor (TGS) uses doped metal oxides with noble metal which, when heated to a certain temperature, react to the presence of oxidizing gases with a large drop in resistance. Since the sensing material is not consumed in this process, the sensor possesses a long life, as much as 10 years in some cases. A simple circuit can monitor this reaction, making TGS sensors easy and inexpensive to use. This patented innovation has enabled mass production of gas sensors which provide safety from toxic, explosive, and combustible gases at a reasonable price. More than 200 million TGS sensors have been supplied to the marketplace since the product's inception. While TGS sensors are often the target of imitators, Figaro's 40+ years of experience in tailoring products to its customers' needs separates TGS sensors from the rest of the field, making them unrivaled among semiconductor gas sensor suppliers. Since the original generation of **bulk type sensors** were released, Figaro has enhanced its semiconductor product line with new technologies that have expanded the field of applications for its sensors. Figaro has developed **thick film type sensors** which use a screen printing technique, offering the advantage of narrow variation from sensor to sensor within production lots. Using micro-fabrication technology, Figaro also produces **micro bead type sensors** with a minute heater wire coil that can be operated at lower power and lower voltages.

Electrochemical



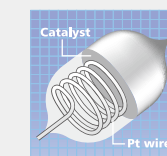
Solid state electrolyte type

Figaro was the first company to successfully commercialize solid state electrolyte CO₂ sensors by using a Figaro patented technology. This CO₂ sensor has compact size, low power consumption, and has lower cost and longer life than conventional Infra-red sensor technology.



Liquid electrolyte type

This type of sensor shows good accuracy, linear response, and exhibit excellent selectivity to its target gas. Since liquid electrolyte sensors can be operated without heat, they can be used in the development of battery operated sensing devices. Unlike traditional electrochemical sensors, Figaro's sensors are designed for environmental safety, using weak alkaline electrolyte.



Catalytic

The catalytic type gas sensor is a long established technology. The principle is based on combustion of the target gas on a heated catalyst, producing heat which is measured in order to determine the presence of gas. Figaro's 40+ years of experience in catalyst material technology and its advanced micro fabrication technology enable production of the most advanced compact pellistor sensors whose durability, stability, quick response, and linear output make them ideal for detecting many combustible gases.

A World of Sensing Solutions



Safety

- Toxic and explosive gas leak detectors for residential, RV, marine, and industrial applications
- Portable gas leak detectors and alarms
- Industrial gas monitors
- Fuel cell leakage detection
- Gas boiler leak detectors
- Refrigerant leak detectors
- Ignition interlock devices



Comfort & Health

- Personal air quality monitors
- Odor detection
- Air purifiers for residential and automotive usage
- Individual room CO₂ monitors
- VOC monitors for the workplace



Controls & Measurements

- Residential air cleaners and air conditioner control
- Building and room ventilation control
- Automobile damper control
- Parking garage ventilation control
- Automated cooking control in microwave ovens
- Breath alcohol detectors
- Oxygen monitors for medical usage
- Incubator air quality monitors