

# Comprehensive List of 100 Gas Sensor Types and Variations

#	Sensor Type / Variation	Technology	Primary Target Gas
Electrochemical Sensors (EC) (30 Types)			High selectivity, used for toxic gases
1	EC Sensor (Standard)	Electrochemical	Carbon Monoxide (CO)
2	EC Sensor (High Concentration)	Electrochemical	Carbon Monoxide (CO)
3	EC Sensor (Low Concentration)	Electrochemical	Carbon Monoxide (CO)
4	EC Sensor (Standard)	Electrochemical	Hydrogen Sulfide (H2S)
5	EC Sensor (High Range)	Electrochemical	Hydrogen Sulfide (H2S)
6	EC Sensor (Standard)	Electrochemical	Oxygen (O2) (Consumption)
7	EC Sensor (High Range)	Electrochemical	Oxygen (O2) (Production)
8	EC Sensor (Standard)	Electrochemical	Ammonia (NH3)
9	EC Sensor (Low Range)	Electrochemical	Ammonia (NH3)
10	EC Sensor (Standard)	Electrochemical	Chlorine (Cl2)
11	EC Sensor (Standard)	Electrochemical	Nitrogen Dioxide (NO2)
12	EC Sensor (Standard)	Electrochemical	Sulfur Dioxide (SO2)
13	EC Sensor (Standard)	Electrochemical	Hydrogen Chloride (HCl)
14	EC Sensor (Standard)	Electrochemical	Hydrogen Cyanide (HCN)

15	EC Sensor (Standard)	Electrochemical	Ethylene Oxide (ETO)
16	EC Sensor (Standard)	Electrochemical	Phosphine (PH3)
17	EC Sensor (Standard)	Electrochemical	Ozone (O3)
18	EC Sensor (Standard)	Electrochemical	Hydrazine (N2H4)
19	EC Sensor (Standard)	Electrochemical	Formaldehyde (HCHO)
20	EC Sensor (Standard)	Electrochemical	Carbon Dioxide (CO2) (Solid-State)
21	EC Sensor (Standard)	Electrochemical	Hydrogen (H2)
22	EC Sensor (Standard)	Electrochemical	Nitric Oxide (NO)
23	EC Sensor (Standard)	Electrochemical	Fluorine (F2)
24	EC Sensor (Standard)	Electrochemical	Bromine (Br2)
25	EC Sensor (Standard)	Electrochemical	Chlorine Dioxide (ClO2)
26	EC Sensor (Standard)	Electrochemical	Silane (SiH4)
27	EC Sensor (Standard)	Electrochemical	Arsine (AsH3)
28	EC Sensor (Standard)	Electrochemical	Diborane (B2H6)
29	EC Sensor (Standard)	Electrochemical	Germane (GeH4)
30	EC Sensor (Standard)	Electrochemical	Toluene Diisocyanate (TDI)
<b>Catalytic Bead Sensors (CB) (10 Types)</b>			<b>Used for combustible gases (LEL detection)</b>
31	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Methane (CH4)
32	CB Sensor (Poison Resistant)	Catalytic Bead (Pellistor)	Methane (CH4)
33	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Propane (C3H8) / LPG

34	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Hydrogen (H2)
35	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Pentane (C5H12)
36	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Butane (C4H10)
37	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Hexane (C6H14)
38	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Ethanol (C2H5OH)
39	CB Sensor (Standard)	Catalytic Bead (Pellistor)	Jet Fuel Vapors
40	CB Sensor (Standard)	Catalytic Bead (Pellistor)	General Combustible Gases (LEL)
<b>Metal Oxide Semiconductor (MOS) Sensors (20 Types)</b>			<b>Low cost, high sensitivity, broad-spectrum detection</b>
41	MOS Sensor (MQ-2 Series)	Chemiresistive (MOS)	Flammable Gas, Smoke
42	MOS Sensor (MQ-3 Series)	Chemiresistive (MOS)	Alcohol/Ethanol
43	MOS Sensor (MQ-4 Series)	Chemiresistive (MOS)	Methane (CH4)
44	MOS Sensor (MQ-5 Series)	Chemiresistive (MOS)	LPG, Natural Gas
45	MOS Sensor (MQ-6 Series)	Chemiresistive (MOS)	LPG, Isobutane
46	MOS Sensor (MQ-7 Series)	Chemiresistive (MOS)	Carbon Monoxide (CO)
47	MOS Sensor (MQ-8 Series)	Chemiresistive (MOS)	Hydrogen (H2)
48	MOS Sensor (MQ-9 Series)	Chemiresistive (MOS)	CO, Flammable Gas

49	MOS Sensor (MQ-131 Series)	Chemiresistive (MOS)	Ozone (O3)
50	MOS Sensor (MQ-135 Series)	Chemiresistive (MOS)	Air Quality (VOCs, NH3, NOx)
51	MOS Sensor (MQ-136 Series)	Chemiresistive (MOS)	Hydrogen Sulfide (H2S)
52	MOS Sensor (MQ-137 Series)	Chemiresistive (MOS)	Ammonia (NH3)
53	MOS Sensor (MQ-138 Series)	Chemiresistive (MOS)	Benzene, Toluene, Xylene (BTX)
54	MOS Sensor (BME680/688)	Chemiresistive (IC)	Volatile Organic Compounds (VOCs)
55	MOS Sensor (SGP30/40)	Chemiresistive (IC)	Total VOCs (TVOC)
56	MOS Sensor (Standard)	Chemiresistive (Thin-Film)	Formaldehyde (HCHO)
57	MOS Sensor (Standard)	Chemiresistive (Thin-Film)	Nitrogen Oxides (NOx)
58	MOS Sensor (Standard)	Chemiresistive (Thin-Film)	Acetone
59	MOS Sensor (Standard)	Chemiresistive (Thin-Film)	Propylene
60	MOS Sensor (Standard)	Chemiresistive (Thin-Film)	Hydrogen Fluoride (HF)
<b>Non-Dispersive Infrared (NDIR) Sensors (15 Types)</b>			<b>Measures gas concentration via infrared absorption</b>
61	NDIR Sensor (Standard)	NDIR	Carbon Dioxide (CO2)
62	NDIR Sensor (High Accuracy)	NDIR	Carbon Dioxide (CO2)
63	NDIR Sensor (Miniature)	NDIR	Carbon Dioxide (CO2)

64	NDIR Sensor (Standard)	NDIR	Methane (CH4)
65	NDIR Sensor (High Range)	NDIR	Methane (CH4)
66	NDIR Sensor (Standard)	NDIR	Propane (C3H8)
67	NDIR Sensor (Standard)	NDIR	Sulfur Hexafluoride (SF6)
68	NDIR Sensor (Standard)	NDIR	Nitrous Oxide (N2O)
69	NDIR Sensor (Standard)	NDIR	Carbon Monoxide (CO)
70	NDIR Sensor (Standard)	NDIR	Ethylene (C2H4)
71	NDIR Sensor (Standard)	NDIR	Refrigerants (R134a)
72	NDIR Sensor (Standard)	NDIR	Refrigerants (R410a)
73	NDIR Sensor (Standard)	NDIR	Refrigerants (R404a)
74	NDIR Sensor (Dual Wavelength)	NDIR	Compensated for dust/aging
75	NDIR Sensor (Photoacoustic)	Photoacoustic Spectroscopy	High sensitivity, multi-gas detection
<b>Photoionization Detectors (PID) (10 Types)</b>			<b>Ionizes VOCs and measures current</b>
76	PID Sensor (10.6 eV Lamp)	Photoionization	Broad-spectrum VOCs
77	PID Sensor (11.7 eV Lamp)	Photoionization	Detects wider range of VOCs
78	PID Sensor (9.8 eV Lamp)	Photoionization	Selective VOC detection

79	PID Sensor (Standard)	Photoionization	Benzene
80	PID Sensor (Standard)	Photoionization	Toluene
81	PID Sensor (Standard)	Photoionization	Xylene
82	PID Sensor (Standard)	Photoionization	Styrene
83	PID Sensor (Standard)	Photoionization	Formaldehyde (HCHO)
84	PID Sensor (Standard)	Photoionization	Isocyanates
85	PID Sensor (Standard)	Photoionization	General Total VOCs (TVOC)
<b>Thermal Conductivity (TC) Sensors (5 Types)</b>			<b>Measures change in gas thermal conductivity</b>
86	TC Sensor (Standard)	Thermal Conductivity	Hydrogen (H2)
87	TC Sensor (Standard)	Thermal Conductivity	Helium (He)
88	TC Sensor (Standard)	Thermal Conductivity	Argon (Ar)
89	TC Sensor (Standard)	Thermal Conductivity	Binary Gas Mixtures
90	TC Sensor (Standard)	Thermal Conductivity	High Concentration Methane (CH4)
<b>Specialized &amp; Advanced Sensors (10 Types)</b>			<b>Niche applications and technologies</b>
91	TDLAS Sensor	Laser-Based	Methane (CH4) (Remote/Open Path)
92	TDLAS Sensor	Laser-Based	Hydrogen Fluoride (HF)
93	TDLAS Sensor	Laser-Based	Ammonia (NH3)
94	Chemiluminescence Sensor	Chemiluminescence	Nitrogen Oxides (NOx)

95	Paramagnetic Sensor	Paramagnetic	Oxygen (O2) (High Accuracy)
96	Zirconia Oxide Sensor	Solid Electrolyte	Oxygen (O2) (High Temperature)
97	Flame Ionization Detector (FID)	Ionization	Total Hydrocarbons (THC)
98	Acoustic Sensor	Ultrasonic	Methane (CH4) Leak Detection
99	Colorimetric Sensor	Optical/Chemical	Single-use chemical reaction detection
100	Mass Spectrometer Sensor	Advanced	Multi-gas analysis (Trace level)