

GTYQ-MIC-500S Fixed Single-Gas Detector

GTYQ-MIC-500S

A fixed detector for continuous monitoring of one selected gas with industrial analog and digital outputs.

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Continuous fixed single-gas monitoring

GTYQ-MIC-500S is a fixed detector for continuously monitoring one selected toxic, combustible or other target gas. Diffusion measurement is used for standard fixed installation, with pipeline or pumped arrangements available where the sampling conditions require them.

The detector supports 4-20 mA and RS485 Modbus RTU communication, relay alarming and non-intrusive infrared operation. The gas, range, sensor principle and output configuration are selected for the monitoring point.

Technical data

Ingress protection	IP66
Dimensions	240 × 160 × 90 mm; 240 × 220 × 90 mm with alarm (L × W × H)
Weight	1.4 kg - 1.6 kg with the audio-visual alarm.
Operating temperature	-20 °C to 55 °C
Sampling method	Diffusion
Display size	1.7 in
Data storage	> 100,000 records
Standard gas configuration	1 gas
Expanded gas configuration	No higher gas-count expansion documented
Typical measurement accuracy	≤ ±3% FS; higher-accuracy sensors available
Response time	T90 ≤ 30 s
Recovery time	≤ 30 s
Operating humidity	10-95% RH, non-condensing
Power supply	24 V DC; 220 V AC optional
Signal output	RS485 Modbus RTU and three-wire 4-20 mA standard; two-wire 4-20 mA optional
Alarm output	One dry-contact output standard; two available as an option; local audible and visual alarm optional
Wireless options	433 MHz, LoRa, Wi-Fi, 4G/5G and NB-IoT configurations
Explosion protection	Ex db IIC T6 Gb / Ex tb IIIC T80 °C Db

Standard accessories	Operating instructions, product conformity document, warranty card, infrared remote control and outer packaging
Local operation	3-key keypad and infrared remote control

Communication and positioning options

Interface	Availability	Notes
RS485	Standard	
Infrared	Standard	
HART	Optional	
LoRa	Optional	
4G	Optional	
NB-IoT	Optional	
Wi-Fi	Optional	

Supported Gas Configurations

Each row describes one supported gas and measuring range. It does not identify an installed detection channel or an orderable part number. Gas combinations, sensor compatibility and the final configuration require technical confirmation.

Gas	Measuring range	Resolution / notes
Hydrogen Sulfide (H2S)	0-10 ppm	0.001 ppm
Hydrogen Sulfide (H2S)	0-50 ppm	0.01 ppm
Hydrogen Sulfide (H2S)	0-100 ppm	0.01 ppm
Hydrogen Sulfide (H2S)	0-200 ppm	0.1 ppm
Hydrogen Sulfide (H2S)	0-10,000 ppm	1 ppm
Hydrogen Sulfide (H2S)	0-20,000 ppm	1 ppm
Hydrogen Sulfide (H2S)	0-50,000 ppm	1 ppm
Carbon Monoxide (CO)	0-100 %Vol	0.01 %Vol
Carbon Monoxide (CO)	0-500 ppm	0.1 ppm
Carbon Monoxide (CO)	0-1,000 ppm	1 ppm
Carbon Monoxide (CO)	0-2,000 ppm	1 ppm
Carbon Monoxide (CO)	0-20,000 ppm	1 ppm
Carbon Monoxide (CO)	0-100,000 ppm	1 ppm
Oxygen (O2)	0-30 %Vol	0.01 %Vol
Oxygen (O2)	0-100 %Vol	0.01 %Vol
Oxygen (O2)	0-1,000 ppm	1 ppm

Gas	Measuring range	Resolution / notes
Oxygen (O2)	0-50,000 ppm	1 ppm
Methane (CH4)	0-100 %LEL	0.1 %LEL
Methane (CH4)	0-100 %Vol	0.1 %Vol
Carbon Dioxide (CO2)	0-10 %Vol	0.01 %Vol
Carbon Dioxide (CO2)	0-20 %Vol	0.01 %Vol
Carbon Dioxide (CO2)	0-50 %Vol	0.01 %Vol
Carbon Dioxide (CO2)	0-2,000 ppm	1 ppm
Carbon Dioxide (CO2)	0-5,000 ppm	1 ppm
Carbon Dioxide (CO2)	0-10,000 ppm	1 ppm
Carbon Dioxide (CO2)	0-50,000 ppm	1 ppm
Ammonia (NH3)	0-100 %LEL	0.1 %LEL
Ammonia (NH3)	0-50 ppm	0.01 ppm
Ammonia (NH3)	0-100 ppm	0.01 ppm
Ammonia (NH3)	0-1,000 ppm	1 ppm
Ammonia (NH3)	0-5,000 ppm	1 ppm
Ammonia (NH3)	0-10,000 ppm	1 ppm
Chlorine (Cl2)	0-10 ppm	0.001 ppm
Chlorine (Cl2)	0-20 ppm	0.01 ppm
Chlorine (Cl2)	0-200 ppm	0.1 ppm
Chlorine (Cl2)	0-1,000 ppm	1 ppm
Sulfur Dioxide (SO2)	0-10 ppm	0.001 ppm
Sulfur Dioxide (SO2)	0-20 ppm	0.01 ppm
Sulfur Dioxide (SO2)	0-100 ppm	0.01 ppm
Sulfur Dioxide (SO2)	0-500 ppm	0.1 ppm
Sulfur Dioxide (SO2)	0-2,000 ppm	1 ppm
Sulfur Dioxide (SO2)	0-5,000 ppm	1 ppm
Sulfur Dioxide (SO2)	0-10,000 ppm	1 ppm
Nitric Oxide (NO)	0-25 ppm	0.001 ppm
Nitric Oxide (NO)	0-100 ppm	0.01 ppm
Nitric Oxide (NO)	0-2,000 ppm	0.1 ppm
Nitric Oxide (NO)	0-5,000 ppm	1 ppm

Gas	Measuring range	Resolution / notes
Nitrogen Dioxide (NO2)	0-20 ppm	0.01 ppm
Nitrogen Dioxide (NO2)	0-200 ppm	0.1 ppm
Nitrogen Dioxide (NO2)	0-1,000 ppm	1 ppm
Nitrogen Dioxide (NO2)	0-5,000 ppm	1 ppm
Hydrogen (H2)	0-100 %LEL	0.1 %LEL
Hydrogen (H2)	0-100 %Vol	0.01 %Vol
Hydrogen (H2)	0-1,000 ppm	0.1 ppm
Hydrogen (H2)	0-20,000 ppm	1 ppm
Hydrogen (H2)	0-40,000 ppm	1 ppm
Volatile Organic Compounds (VOC)	0-10 ppm	0.001 ppm
Volatile Organic Compounds (VOC)	0-200 ppm	0.1 ppm
Volatile Organic Compounds (VOC)	0-2,000 ppm	1 ppm
Volatile Organic Compounds (VOC)	0-10,000 ppm	1 ppm
Hydrogen Cyanide (HCN)	0-30 ppm	0.01 ppm
Hydrogen Cyanide (HCN)	0-100 ppm	0.01 ppm
Hydrogen Chloride (HCl)	0-20 ppm	0.01 ppm
Hydrogen Chloride (HCl)	0-200 ppm	0.1 ppm
Hydrogen Chloride (HCl)	0-2,000 ppm	1 ppm
Phosphine (PH3)	0-5 ppm	0.001 ppm
Phosphine (PH3)	0-25 ppm	0.01 ppm
Phosphine (PH3)	0-2,000 ppm	1 ppm
Combustible Gas (EX)	0-100 %LEL	0.1 %LEL
Combustible Gas (EX)	0-100 %Vol	0.1 %Vol
Chlorine Dioxide (ClO2)	0-1 ppm	0.001 ppm
Chlorine Dioxide (ClO2)	0-10 ppm	0.01 ppm
Chlorine Dioxide (ClO2)	0-200 ppm	0.01 ppm
Ethylene Oxide (ETO)	0-100 %LEL	1 %LEL
Ethylene Oxide (ETO)	0-100 ppm	0.01 ppm
Ethylene Oxide (ETO)	0-1,000 ppm	1 ppm
Phosgene (COCl2)	0-1 ppm	0.001 ppm
Phosgene (COCl2)	0-50 ppm	0.01 ppm

Gas	Measuring range	Resolution / notes
Silane (SiH ₄)	0-1 ppm	0.001 ppm
Silane (SiH ₄)	0-50 ppm	0.01 ppm
Silane (SiH ₄)	0-1,000 ppm	1 ppm
Fluorine (F ₂)	0-1 ppm	0.001 ppm
Fluorine (F ₂)	0-10 ppm	0.01 ppm
Fluorine (F ₂)	0-50 ppm	0.01 ppm
Hydrogen Fluoride (HF)	0-10 ppm	0.01 ppm
Hydrogen Fluoride (HF)	0-50 ppm	0.01 ppm
Formaldehyde (CH ₂ O)	0-10 ppm	0.001 ppm
Formaldehyde (CH ₂ O)	0-50 ppm	0.01 ppm
Formaldehyde (CH ₂ O)	0-100 ppm	0.01 ppm
Hydrogen Bromide (HBr)	0-50 ppm	0.01 ppm
Hydrogen Bromide (HBr)	0-2,000 ppm	1 ppm
Diborane (B ₂ H ₆)	0-10 ppm	0.001 ppm
Arsine (AsH ₃)	0-1 ppm	0.001 ppm
Arsine (AsH ₃)	0-10 ppm	0.01 ppm
Ozone (O ₃)	0-1 ppm	0.001 ppm
Ozone (O ₃)	0-10 ppm	0.001 ppm
Ozone (O ₃)	0-50 ppm	0.01 ppm
Ozone (O ₃)	0-100 ppm	0.01 ppm
Ozone (O ₃)	0-2,000 ppm	1 ppm
Ozone (O ₃)	0-30,000 ppm	1 ppm
Germane (GeH ₄)	0-2 ppm	0.001 ppm
Germane (GeH ₄)	0-20 ppm	0.01 ppm
Hydrazine (N ₂ H ₄)	0-1 ppm	0.001 ppm
Hydrazine (N ₂ H ₄)	0-300 ppm	0.1 ppm
Tetrahydrothiophene (THT)	0-100 mg/m ³	0.01 mg/m ³
Bromine (Br ₂)	0-10 ppm	0.001 ppm
Bromine (Br ₂)	0-50 ppm	0.001 ppm
Acetylene (C ₂ H ₂)	0-100 %LEL	0.1 %LEL
Acetylene (C ₂ H ₂)	0-100 ppm	0.01 ppm

Gas	Measuring range	Resolution / notes
Acetylene (C ₂ H ₂)	0-1,000 ppm	1 ppm
Acetylene (C ₂ H ₂)	0-10,000 ppm	1 ppm
Ethylene (C ₂ H ₄)	0-100 %LEL	0.1 %LEL
Ethylene (C ₂ H ₄)	0-100 ppm	0.01 ppm
Ethylene (C ₂ H ₄)	0-1,000 ppm	1 ppm
Ethylene (C ₂ H ₄)	0-10,000 ppm	1 ppm
Ethanol (C ₂ H ₆ O)	0-100 %LEL	0.1 %LEL
Ethanol (C ₂ H ₆ O)	0-100 ppm	0.01 ppm
Ethanol (C ₂ H ₆ O)	0-2,000 ppm	1 ppm
Methanol	0-100 %LEL	0.1 %LEL
Methanol	0-100 ppm	0.01 ppm
Methanol	0-2,000 ppm	1 ppm
Nitrogen Oxides (NO _x)	0-100 ppm	0.01 ppm
Nitrogen Oxides (NO _x)	0-5,000 ppm	1 ppm
Carbon Disulfide (CS ₂)	0-50 ppm	0.01 ppm
Carbon Disulfide (CS ₂)	0-5,000 ppm	1 ppm
Acrylonitrile (C ₃ H ₃ N)	0-50 ppm	0.01 ppm
Acrylonitrile (C ₃ H ₃ N)	0-100 ppm	0.01 ppm
Acrylonitrile (C ₃ H ₃ N)	0-2,000 ppm	1 ppm
Nitrous Oxide (N ₂ O)	0-100 ppm	0.01 ppm
Nitrous Oxide (N ₂ O)	0-5,000 ppm	1 ppm
Methylamine	0-50 ppm	0.01 ppm
Benzene (C ₆ H ₆)	0-10 ppm	0.01 ppm
Benzene (C ₆ H ₆)	0-100 ppm	0.01 ppm
Toluene (C ₇ H ₈)	0-10 ppm	0.01 ppm
Toluene (C ₇ H ₈)	0-20,000 ppm	1 ppm
Xylene (C ₈ H ₁₀)	0-10 ppm	0.01 ppm
Xylene (C ₈ H ₁₀)	0-200 ppm	0.01 ppm
Styrene (C ₈ H ₈)	0-200 ppm	0.1 ppm
Styrene (C ₈ H ₈)	0-6,000 ppm	1 ppm
Vinyl Chloride (C ₂ H ₃ Cl)	0-200 ppm	0.01 ppm

Gas	Measuring range	Resolution / notes
Trichloroethylene (C ₂ HCl ₃)	0-200 ppm	0.01 ppm
Tetrachloroethylene (PID) (C ₂ Cl ₄)	0-200 ppm	0.01 ppm
Methyl Bromide (CH ₃ Br)	0-200 g/m ³	0.1 g/m ³
Methyl Bromide (CH ₃ Br)	0-200 ppm	0.01 ppm
Methyl Bromide (CH ₃ Br)	0-10,000 ppm	1 ppm
Helium (He)	0-100 %Vol	0.01 %Vol
Argon (Ar)	0-100 %Vol	0.01 %Vol
Xenon (Xe)	0-100 %Vol	0.01 %Vol
Nitrogen Trifluoride (NF ₃)	0-100 ppm	0.01 ppm
Nitrogen Trifluoride (NF ₃)	0-5,000 ppm	1 ppm
Sulfuryl Fluoride (SO ₂ F ₂)	0-200 ppm	0.01 ppm
Sulfuryl Fluoride (SO ₂ F ₂)	0-5,000 ppm	1 ppm
Acetaldehyde	0-10 ppm	0.01 ppm
Total Volatile Organic Compounds (TVOC)	0-10 ppm	0.01 ppm
Total Volatile Organic Compounds (TVOC)	0-100 ppm	0.1 ppm
Total Volatile Organic Compounds (TVOC)	0-1,000 ppm	1 ppm
Total Volatile Organic Compounds (TVOC)	0-10,000 ppm	1 ppm
Iodine (I ₂)	0-50 ppm	0.01 ppm
Sulfur Hexafluoride (SF ₆)	0-100 ppm	0.1 ppm
Sulfur Hexafluoride (SF ₆)	0-3,000 ppm	1 ppm

Document scope

This summary records the approved model data shown on the product page. It is not an operating manual, installation approval or certificate. Review the applicable certificate record and exact model or configuration scope separately. Request the operating instructions for the supplied configuration before installation or use.

Product information and inquiry: <https://www.erantex.com/products/mic-500s/>