

MS104K-M Portable Multigas Detector

BTYQ-MS104K-M

A portable gas detector with standard configurations for one to four gases and both diffusion and pumped sampling. An external pump is supplied as standard.

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Configurable monitoring for one to four gases

BTYQ-MS104K-M monitors one to four gases simultaneously in standard configurations; expanded configurations can support up to six, subject to confirmation of the gas and range combination. Diffusion sampling is used for routine monitoring. The supplied external pump can be attached for pumped sampling.

The 2-inch display, Type-C charging and data communication, and storage for at least 200,000 records support field review. Wireless communication and additional safety functions depend on the selected configuration.

Technical data

Ingress protection	IP66
Dimensions	90 × 70 × 38 mm (L × W × H)
Weight	Approx. 200 g - Diffusion operation; approximately 300 g with the supplied external pump.
Battery voltage	7.4 V
Battery capacity	1,400 mAh
Battery runtime	> 100 h - Diffusion operation without catalytic, infrared or PID sensors.
Operating temperature	-20 °C to 55 °C - Typical operating range.
Display size	2 in
Data storage	> 200,000 records
Alarm volume	> 95 dB - Documented alarm volume exceeds 95 dB at 30 cm and 90 dB at 1 m.
Sampling method	Diffusion
Standard gas configuration	1-4 gases
Expanded gas configuration	Up to 6 gases
Sampling modes	Diffusion or pump sampling; external pump supplied as standard
Typical measurement accuracy	≤ ±3% FS; higher-accuracy sensors available
Response time	T90 ≤ 20 s
Recovery time	≤ 30 s
Operating humidity	10-95% RH; -40°C to +70°C available as an optional temperature range

Explosion protection	Ex ia IIC T4 Ga
Wireless options	Bluetooth optional
Enclosure option	IP68 available as a custom configuration

Communication and positioning options

Interface	Availability	Notes
USB-C	Standard	
Bluetooth	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	0.01 ppm
Hydrogen Sulfide (H2S)	0-100 ppm	0.01 ppm
Hydrogen Sulfide (H2S)	0-500 ppm	0.1 ppm
Hydrogen Sulfide (H2S)	0-2,000 ppm	1 ppm
Carbon Monoxide (CO)	0-100 ppm	0.01 ppm
Carbon Monoxide (CO)	0-1,000 ppm	0.1 ppm
Carbon Monoxide (CO)	0-2,000 ppm	1 ppm
Carbon Monoxide (CO)	0-5,000 ppm	1 ppm
Carbon Monoxide (CO)	0-10,000 ppm	1 ppm
Oxygen (O2)	0-30 %Vol	0.01 %Vol
Oxygen (O2)	0-100 %Vol	0.01 %Vol
Methane (CH4)	0-100 %LEL	0.1 %LEL
Methane (CH4)	0-100 %Vol	0.01 %Vol
Carbon Dioxide (CO2)	0-5 %Vol	0.01 %Vol
Carbon Dioxide (CO2)	0-20 %Vol	0.01 %Vol
Carbon Dioxide (CO2)	0-100 %Vol	0.01 %Vol
Carbon Dioxide (CO2)	0-5,000 ppm	1 ppm
Carbon Dioxide (CO2)	0-50,000 ppm	1 ppm
Ammonia (NH3)	0-100 %LEL	0.1 %LEL
Ammonia (NH3)	0-10 ppm	0.01 ppm

Gas	Measuring range	Resolution / notes
Ammonia (NH3)	0-100 ppm	0.01 ppm
Ammonia (NH3)	0-1,000 ppm	0.1 ppm
Ammonia (NH3)	0-5,000 ppm	1 ppm
Chlorine (Cl2)	0-20 ppm	0.01 ppm
Chlorine (Cl2)	0-200 ppm	0.1 ppm
Sulfur Dioxide (SO2)	0-20 ppm	0.01 ppm
Sulfur Dioxide (SO2)	0-100 ppm	0.01 ppm
Sulfur Dioxide (SO2)	0-1,000 ppm	0.1 ppm
Sulfur Dioxide (SO2)	0-5,000 ppm	1 ppm
Nitric Oxide (NO)	0-20 ppm	0.01 ppm
Nitric Oxide (NO)	0-100 ppm	0.01 ppm
Nitric Oxide (NO)	0-1,000 ppm	0.1 ppm
Nitric Oxide (NO)	0-5,000 ppm	1 ppm
Nitrogen Dioxide (NO2)	0-20 ppm	0.01 ppm
Nitrogen Dioxide (NO2)	0-100 ppm	0.01 ppm
Nitrogen Dioxide (NO2)	0-1,000 ppm	0.1 ppm
Nitrogen Dioxide (NO2)	0-2,000 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)	0-20 ppm	0.01 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
Phosphine (PH3)	0-5 ppm	0.001 ppm

Gas	Measuring range	Resolution / notes
Phosphine (PH ₃)	0-20 ppm	0.01 ppm
Phosphine (PH ₃)	0-2,000 ppm	1 ppm
Combustible Gas (EX)	0-100 %LEL	0.1 %LEL
Combustible Gas (EX)	0-100 %Vol	0.01 %Vol
Combustible Gas (EX)	0-1,000 ppm	1 ppm
Chlorine Dioxide (ClO ₂)	0-1 ppm	0.001 ppm
Chlorine Dioxide (ClO ₂)	0-10 ppm	0.01 ppm
Chlorine Dioxide (ClO ₂)	0-100 ppm	0.01 ppm
Ethylene Oxide (ETO)	0-100 %LEL	0.1 %LEL
Ethylene Oxide (ETO)	0-100 ppm	0.01 ppm
Ethylene Oxide (ETO)	0-1,000 ppm	0.1 ppm
Phosgene (COCl ₂)	0-1 ppm	0.001 ppm
Phosgene (COCl ₂)	0-10 ppm	0.01 ppm
Silane (SiH ₄)	0-1 ppm	0.001 ppm
Silane (SiH ₄)	0-50 ppm	0.01 ppm
Fluorine (F ₂)	0-1 ppm	0.001 ppm
Fluorine (F ₂)	0-10 ppm	0.001 ppm
Fluorine (F ₂)	0-100 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	0.01 ppm
Formaldehyde (CH ₂ O)	0-50 ppm	0.01 ppm
Formaldehyde (CH ₂ O)	0-100 ppm	0.01 ppm
Formaldehyde (CH ₂ O)	0-1,000 ppm	1 ppm
Hydrogen Bromide (HBr)	0-50 ppm	0.01 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	0.001 ppm
Ozone (O ₃)	0-1 ppm	0.001 ppm
Ozone (O ₃)	0-10 ppm	0.01 ppm
Ozone (O ₃)	0-100 ppm	0.01 ppm

Gas	Measuring range	Resolution / notes
Ozone (O3)	0-2,000 ppm	1 ppm
Germane (GeH4)	0-1 ppm	0.001 ppm
Germane (GeH4)	0-10 ppm	0.001 ppm
Germane (GeH4)	0-50 ppm	0.01 ppm
Hydrazine (N2H4)	0-1 ppm	0.001 ppm
Hydrazine (N2H4)	0-300 ppm	0.1 ppm
Tetrahydrothiophene (THT)	0-50 mg/m3	0.01 mg/m3
Bromine (Br2)	0-10 ppm	0.01 ppm
Bromine (Br2)	0-50 ppm	0.01 ppm
Acetylene (C2H2)	0-100 %LEL	0.1 %LEL
Acetylene (C2H2)	0-100 ppm	0.1 ppm
Acetylene (C2H2)	0-1,000 ppm	1 ppm
Ethylene (C2H4)	0-10 ppm	0.01 ppm
Ethylene (C2H4)	0-100 ppm	0.1 ppm
Ethylene (C2H4)	0-1,000 ppm	1 ppm
Ethanol (C2H6O)	0-100 %LEL	0.1 %LEL
Ethanol (C2H6O)	0-100 ppm	0.1 ppm
Ethanol (C2H6O)	0-2,000 ppm	1 ppm
Methanol	0-100 %LEL	0.1 %LEL
Methanol	0-100 ppm	0.1 ppm
Methanol	0-2,000 ppm	1 ppm
Nitrogen Oxides (NOx)	0-100 ppm	0.01 ppm
Nitrogen Oxides (NOx)	0-500 ppm	0.1 ppm
Nitrogen Oxides (NOx)	0-2,000 ppm	1 ppm
Carbon Disulfide (CS2)	0-50 ppm	0.01 ppm
Acrylonitrile (C3H3N)	0-100 ppm	0.01 ppm
Nitrous Oxide (N2O)	0-1,000 ppm	1 ppm
Methylamine	0-50 ppm	0.01 ppm
Nitrogen (N2)	0-100 %Vol	0.01 %Vol
Benzene (C6H6)	0-200 ppm	0.1 ppm
Toluene (C7H8)	0-200 ppm	0.1 ppm

Gas	Measuring range	Resolution / notes
Xylene (C ₈ H ₁₀)	0-200 ppm	0.1 ppm
Styrene (C ₈ H ₈)	0-200 ppm	0.1 ppm
Vinyl Chloride (C ₂ H ₃ Cl)	0-200 ppm	0.1 ppm
Trichloroethylene (C ₂ HCl ₃)	0-200 ppm	0.1 ppm
Tetrachloroethylene (PID) (C ₂ Cl ₄)	0-200 ppm	0.1 ppm
Methyl Bromide (CH ₃ Br)	0-200 mg/m ³	0.1 mg/m ³
Methyl Bromide (CH ₃ Br)	0-100 ppm	0.1 ppm
Ethanethiol (C ₂ H ₅ SH)	0-10 mg/m ³	0.01 mg/m ³
Nitrogen Tetroxide (N ₂ O ₄)	0-100 ppm	0.01 ppm

Configuration questions

How many gases can BTYQ-MS104K-M monitor?

BTYQ-MS104K-M supports simultaneous monitoring of one to four gases in standard configurations. An expanded configuration can support up to six, provided the requested gases, measuring ranges and sensor combination are confirmed.

How does MS104K-M sample gas?

The detector uses diffusion sampling. A standard external pump supports pumped sampling when the task requires it. Specify the sampling point and conditions when requesting the configuration.

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/ms104k-m/>