

MS104K-S1 Portable Single-Gas Detector

BTYQ-MS104K-S1

A low-power portable diffusion detector for continuous single-gas monitoring.

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Low-power single-gas monitoring

BTYQ-MS104K-S1 is a compact portable diffusion detector for one selected gas, with audible, visual and vibration alarms when configured limits are reached. Its low-power, non-rechargeable design has a working time of one to two years with eight hours of use per day.

A 1.7-inch LCD shows readings and alarms. Alarm-event storage and man-down alarming support field use. The gas, measuring range and electrochemical or low-power infrared sensing principle are selected for the application.

Technical data

Ingress protection	IP68
Dimensions	87 × 63 × 32 mm (maximum L × W × H)
Weight	Approx. 200 g
Battery voltage	3.6 V
Battery capacity	1,600 mAh
Battery runtime	At least 1 year - Working time is 1-2 years with 8 hours of use per day; non-rechargeable design.
Operating temperature	-20 °C to 55 °C - Typical operating range.
Display size	1.7 in
Sampling method	Diffusion
Alarm volume	> 90 dB - Documented alarm volume exceeds 90 dB at 30 cm.
Standard gas configuration	1 gas
Expanded gas configuration	No higher gas-count expansion documented
Sensor principles	Electrochemical or low-power infrared, selected by range and application
Sensor life	Electrochemical: 2-3 years; infrared: 5-10 years
Typical measurement accuracy	± 3% FS; higher-accuracy sensors available
Response time	T90 ≤ 30 s
Recovery time	≤ 30 s
Operating humidity	10-95% RH; -40°C to +70°C available as a custom temperature range

Explosion protection	Ex ia IIC T4 Ga
Housing	High-strength, corrosion-resistant, flame-retardant polycarbonate with rubber overmould; drop resistance ≥8 m
Optional accessories	Communication dock with Type-C interface

Communication and positioning options

Interface	Availability	Notes
Infrared	Optional	
USB-C	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 (H ₂ S)	0-100 ppm	0.01 ppm
Carbon Monoxide (CO)	0-1,000 ppm	0.1 ppm
Oxygen (O ₂)	0-30 %Vol	0.01 %Vol
Methane (CH ₄)	0-100 %LEL	0.1 %LEL
Carbon Dioxide (CO ₂)	0-1.5 %Vol	0.01 %Vol
Carbon Dioxide (CO ₂)	0-5,000 ppm	1 ppm
Ammonia (NH ₃)	0-100 ppm	0.01 ppm
Chlorine (Cl ₂)	0-20 ppm	0.01 ppm
Sulfur Dioxide (SO ₂)	0-100 ppm	0.01 ppm
Nitric Oxide (NO)	0-100 ppm	0.01 ppm
Nitrogen Dioxide (NO ₂)	0-100 ppm	0.01 ppm
Hydrogen (H ₂)	0-1,000 ppm	0.1 ppm
Hydrogen (H ₂)	0-40,000 ppm	1 ppm
Volatile Organic Compounds (VOC)	0-20 ppm	0.001 ppm
Volatile Organic Compounds (VOC)	0-200 ppm	0.001 ppm
Volatile Organic Compounds (VOC)	0-2,000 ppm	0.1 ppm
Hydrogen Cyanide (HCN)	0-30 ppm	0.01 ppm
Hydrogen Chloride (HCl)	0-20 ppm	0.01 ppm
Phosphine (PH ₃)	0-20 ppm	0.01 ppm
Combustible Gas (EX)	0-100 %LEL	0.1 %LEL

Gas	Measuring range	Resolution / notes
Chlorine Dioxide (ClO ₂)	0-1 ppm	0.001 ppm
Chlorine Dioxide (ClO ₂)	0-100 ppm	0.01 ppm
Ethylene Oxide (ETO)	0-100 ppm	0.01 ppm
Phosgene (COCl ₂)	0-1 ppm	0.001 ppm
Silane (SiH ₄)	0-1 ppm	0.001 ppm
Silane (SiH ₄)	0-50 ppm	0.01 ppm
Fluorine (F ₂)	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
Diborane (B ₂ H ₆)	0-10 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
Germane (GeH ₄)	0-10 ppm	0.001 ppm
Hydrazine (N ₂ H ₄)	0-1 ppm	0.001 ppm
Tetrahydrothiophene (THT)	0-50 mg/m ³	0.01 mg/m ³
Acetylene (C ₂ H ₂)	0-100 ppm	0.1 ppm
Ethylene (C ₂ H ₄)	0-100 ppm	0.1 ppm
Ethanol (C ₂ H ₆ O)	0-100 ppm	0.01 ppm
Methanol	0-100 ppm	0.1 ppm
Carbon Disulfide (CS ₂)	0-50 ppm	0.01 ppm
Acrylonitrile (C ₃ H ₃ N)	0-100 ppm	0.01 ppm
Styrene (C ₈ H ₈)	0-100 ppm	0.1 ppm
Vinyl Chloride (C ₂ H ₃ Cl)	0-100 ppm	0.1 ppm
Trichloroethylene (C ₂ HCl ₃)	0-100 ppm	0.1 ppm
Tetrachloroethylene (PID) (C ₂ Cl ₄)	0-100 ppm	0.1 ppm
Nitrogen Tetroxide (N ₂ O ₄)	0-100 ppm	0.01 ppm
Propane (C ₃ H ₈)	0-100 %LEL	0.1 %LEL

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.eranntex.com/products/ms104k-s1/>