

MS600-S1 Smart Portable Multigas Detector

BTYQ-MS600-S1

A pumped portable instrument for configurable multigas and environmental monitoring with a 4-inch touchscreen.

Revision TS-20261008-d0a0928a | Prepared 2026-10-08 from approved product data

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Portable multigas and environmental measurement

BTYQ-MS600-S1 is a portable pumped detector configurable for one to six gases and selected environmental measurements. The installed gases, ranges and additional measurement factors depend on the sensing configuration and the requirements of the application.

A 4-inch color touchscreen, Type-C, Wi-Fi, Bluetooth and positioning functions support field operation and data handling. Additional communication, printing and remote-monitoring functions can be selected as project options.

Technical data

Ingress protection	IP66
Dimensions	201 × 93 × 71 mm (4-inch model, L × W × H)
Weight	Approx. 900 g - Weight varies by configuration.
Battery capacity	10,000 mAh
Operating temperature	-20 °C to 55 °C - Typical operating range.
Display size	4 in
Data storage	> 10,000,000 records
Sampling method	Pump
Battery voltage	3.7 V
Battery runtime	> 14 h - Documented runtime exceeds 14 hours.
Alarm volume	> 95 dB - Documented alarm volume exceeds 95 dB at 30 cm.
Standard gas configuration	1-6 gases
Expanded gas configuration	No higher gas-count expansion documented
Display	4-inch 800 × 480 color IPS touchscreen
Power input	3-5 V DC
Typical accuracy	≤ ±2% FS; 1% high-accuracy sensor option available
Response time	T90 ≤ 20 s (general)
Recovery time	≤ 30 s
Operating humidity	10-95% RH

Communication and positioning options

Interface	Availability	Notes
USB-C	Standard	
Wi-Fi	Standard	
Bluetooth	Standard	
GPS	Standard	
BeiDou	Standard	
RS485	Optional	
LoRa	Optional	
4G	Optional	
MESH	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)	0-10 ppm	0.001 ppm
Hydrogen Sulfide (H ₂ S)	0-100 ppm	0.01 ppm
Hydrogen Sulfide (H ₂ S)	0-500 ppm	0.1 ppm
Hydrogen Sulfide (H ₂ S)	0-2,000 ppm	0.1 ppm
Carbon Monoxide (CO)	0-50 ppm	0.01 ppm
Carbon Monoxide (CO)	0-500 ppm	0.1 ppm
Carbon Monoxide (CO)	0-1,000 ppm	0.1 ppm
Carbon Monoxide (CO)	0-5,000 ppm	0.1 ppm
Carbon Monoxide (CO)	0-100,000 ppm	1 ppm
Oxygen (O ₂)	0-30 %Vol	0.01 %Vol
Oxygen (O ₂)	0-100 %Vol	0.01 %Vol
Methane (CH ₄)	0-100 %LEL	0.1 %LEL
Methane (CH ₄)	0-100 %Vol	0.01 %Vol
Carbon Dioxide (CO ₂)	0-5 %Vol	0.01 %Vol
Carbon Dioxide (CO ₂)	0-20 %Vol	0.01 %Vol

Gas	Measuring range	Resolution / notes
Carbon Dioxide (CO2)	0-50 %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	0.001 ppm
Ammonia (NH3)	0-50 ppm	0.01 ppm
Ammonia (NH3)	0-100 ppm	0.01 ppm
Ammonia (NH3)	0-1,000 ppm	0.1 ppm
Ammonia (NH3)	0-5,000 ppm	0.1 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
Sulfur Dioxide (SO2)	0-10 ppm	0.001 ppm
Sulfur Dioxide (SO2)	0-50 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)	0-5,000 ppm	0.1 ppm
Nitric Oxide (NO)	0-10 ppm	0.001 ppm
Nitric Oxide (NO)	0-50 ppm	0.01 ppm
Nitric Oxide (NO)	0-100 ppm	0.01 ppm
Nitric Oxide (NO)	0-500 ppm	0.1 ppm
Nitric Oxide (NO)	0-5,000 ppm	0.1 ppm
Nitrogen Dioxide (NO2)	0-10 ppm	0.001 ppm
Nitrogen Dioxide (NO2)	0-50 ppm	0.01 ppm
Nitrogen Dioxide (NO2)	0-100 ppm	0.01 ppm
Nitrogen Dioxide (NO2)	0-500 ppm	0.1 ppm
Nitrogen Dioxide (NO2)	0-5,000 ppm	0.1 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

Gas	Measuring range	Resolution / notes
Hydrogen (H2)	0-20,000 ppm	1 ppm
Hydrogen (H2)	0-40,000 ppm	1 ppm
Volatile Organic Compounds (VOC)	0-20 ppm	0.001 ppm
Volatile Organic Compounds (VOC)	0-200 ppm	0.01 ppm
Volatile Organic Compounds (VOC)	0-2,000 ppm	0.1 ppm
Volatile Organic Compounds (VOC)	0.001-10,000 ppm	0.001 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
Phosphine (PH3)	0-20 ppm	0.01 ppm
Phosphine (PH3)	0-2,000 ppm	0.1 ppm
Combustible Gas (EX)	0-100 %LEL	0.1 %LEL
Combustible Gas (EX)	0-100 %Vol	0.01 %Vol
Chlorine Dioxide (ClO2)	0-1 ppm	0.001 ppm
Chlorine Dioxide (ClO2)	0-10 ppm	0.01 ppm
Chlorine Dioxide (ClO2)	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 (COCl2)	0-1 ppm	0.001 ppm
Silane (SiH4)	0-1 ppm	0.001 ppm
Silane (SiH4)	0-50 ppm	0.01 ppm
Fluorine (F2)	0-1 ppm	0.001 ppm
Fluorine (F2)	0-10 ppm	0.01 ppm
Fluorine (F2)	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 (CH2O)	0-10 ppm	0.001 ppm
Formaldehyde (CH2O)	0-50 ppm	0.01 ppm

Gas	Measuring range	Resolution / notes
Formaldehyde (CH ₂ O)	0-100 ppm	0.01 ppm
Formaldehyde (CH ₂ O)	0-1,000 ppm	0.1 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
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)	0-100 ppm	0.01 ppm
Ozone (O ₃)	0-2,000 ppm	0.1 ppm
Germane (GeH ₄)	0-2 ppm	0.001 ppm
Germane (GeH ₄)	0-50 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)	0-50 mg/m ³	0.01 mg/m ³
Bromine (Br ₂)	0-10 ppm	0.001 ppm
Bromine (Br ₂)	0-50 ppm	0.01 ppm
Acetylene (C ₂ H ₂)	0-100 %LEL	0.1 %LEL
Acetylene (C ₂ H ₂)	0-100 ppm	0.01 ppm
Acetylene (C ₂ H ₂)	0-1,000 ppm	0.1 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	0.1 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	0.1 ppm
Methanol	0-100 %LEL	0.1 %LEL
Methanol	0-100 ppm	0.01 ppm
Methanol	0-2,000 ppm	0.1 ppm
Nitrogen Oxides (NO _x)	0-10 ppm	0.001 ppm

Gas	Measuring range	Resolution / notes
Nitrogen Oxides (NOx)	0-100 ppm	0.01 ppm
Nitrogen Oxides (NOx)	0-500 ppm	0.1 ppm
Nitrogen Oxides (NOx)	0-5,000 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
Nitrous Oxide (N ₂ O)	0-1,000 ppm	1 ppm
Methylamine	0-50 ppm	0.01 ppm
Nitrogen (N ₂)	0-100 %Vol	0.01 %Vol
Benzene (C ₆ H ₆)	0-200 ppm	0.1 ppm
Toluene (C ₇ H ₈)	0-200 ppm	0.1 ppm
Xylene (C ₈ H ₁₀)	0-200 ppm	0.1 ppm
Styrene (C ₈ H ₈)	0-200 ppm	0.1 ppm
Styrene (C ₈ H ₈)	0-5,000 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 ppm	0.1 ppm
Helium (He)	0-100 %Vol	0.01 %Vol
Helium (He)	0-100,000 ppm	10 ppm
Argon (Ar)	0-100 %Vol	0.01 %Vol
Sulfuryl Fluoride (SO ₂ F ₂)	0-200 g/m ³	0.1 g/m ³
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
Sulfur Hexafluoride (SF ₆)	0-1,000 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/ms600-s1/>