

Ozone analyzer

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Bench top version of high concentration ozone gas analyzer BMT 965 BT



The OZONE ANALYZER BMT 965 BT is the portable version of the standard BMT 965 ST (see data sheet of standard BMT 965 ST). The instrument is not much bigger than the standard BMT 965 ST. For safety reasons it has a wall mount wide-range power supply 24 VDC.

The BMT 965 BT has a throttle valve with flow meter attached on the right (sample gas inlet), and a Catalyzing Cartridge (catalytic ozone destruct) on the left to remove the ozone from the sample gas before it is vented to the ambient. The sample gas enters the throttle valve through a fitting for 3 x 5 mm (1/8" x 3/16") PTFE tubing, and then enters the BMT 965 BT through a replaceable porous PTFE sample gas filter. Upon exiting the BMT 965 BT, the sample gas passes through the Catalyzing Cartridge where the ozone is destroyed.

An eight gigabyte non-volatile log memory is included, providing virtually unlimited storage capacity for concentration and error logs. If connected to a PC, the instrument acts as an external USB drive, from which concentration and error logs can be downloaded. Logs can also be copied and firmware can be upgraded without an external computer just by connecting a USB flash drive.

Applications

- Ozone measurement on the bench
- Ozone measurement in the laboratory
- Ozone measurement in the field
- Experiments with ozone
- Waste water treatment
- Industrial ozone processes

Complete control of all operating parameters is provided with the Windows software BMT 965 Link.

As an option the BMT 965 BT can be ordered with an Internal Purge Unit (IPU) for fully automatic purging and zeroing the analyser. Another option is a soft carrying bag.



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The OZONE ANALYZER BMT 965 BT is a portable instrument.

Fittings for the inlet and outlet tubing (connected to the Catalyzing Cartridge), and the connectors for the signals, and isolated RS-232 interface, are accessible from the rear. The total depth thus is about 250 mm.

As an option the OZONE ANALYZER BMT 965 BT may be ordered equipped with an Internal Purge Unit (IPU), which consists of a built-in 3-way solenoid valve plus air pump with particle filter, for fully automatic purging and zeroing the instrument. This option makes sure that the cuvette is flushed with ambient filtered air (zero gas) upon activating the AUTO ZERO function.

For applications in the field we recommend the soft carrying bag which has room enough for the BMT 965 BT and accessories.

Additional BMT Products (for details, refer to the appropriate data sheets):

- MT 965 C (Cabinet) for truly automatic stand-alone applications in a rough service environment
- BMT 965 AQ and BMT 965 AQ-INLINE for ozone measurement in DI (de-ionized) water
- BMT 965 AQ/HF for ozone measurement in DI water with HF
- OZONE-IN-OFF-GAS System
- BMT 932 Ozone Monitor for TLV monitoring in ambient air (1, 3 & 6 channels)
- Ozone generators BMT 802X and BMT 803 for small scale ozone production from oxygen 4 to 8 g/h

Features

- Dual beam UV photometer
- Long-life mercury lamp
- Warranty 3 years, 5 years on the UV lamp
- High accuracy, error less than 0.5%
- Pressure and temperature compensated
- Ranges from 2 to 600 g/Nm³
- Built-in sample gas filter
- Internal Purge Unit (IPU) as an option
- Relay contact for control of external zeroing valve
- Failure warnings include: lamp low, cuvette dirty, overrange, summary error
- Key functions programmable via the front panel, or a Windows PC
- Display in g/Nm³, %wt/wt, or ppm_v
- High and low limit alarms
- Timing sequence for automatic zeroing
- Pressure readout in bar, psi, Torr or MPa
- 4-20 mA and 0-10 V isolated outputs
- 8 GB non-volatile log memory (binary and Excel CSV)
- USB On-The-Go, Firmware upgrades in the field
- RS-232 interface (bidirectional, isolated)

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Technical specification

Measurement principle	Dual-beam UV photometer (254 nm)
MTBF	Instrument incl. UV lamp 65,000 h, excl. UV lamp 120,000 h
UV lamp	Low pressure mercury lamp, long life design, burnt-in for 300 h
Display	16 character alphanumeric backlit LCD
Concentration ranges	50, 100, 200, 300, 400, 500, 600 g/Nm ³ , selectable units g/Nm ³ , %wt/wt and ppm _v
Optional ranges	2, 5, 10, 20 g/Nm ³ , selectable units g/Nm ³ , %wt/wt and ppm _v
Accuracy	After zeroing the max. error is the sum: 0.4% of measurement + 0.1% of scale
Repeatability error	0.2 % of measurement
Response time	0.1 s (analog output), 0.3 s (display)
Zero drift	Typ. 0.2% of range per day, after warm-up, non-cumulative
Max. inlet pressure	2.5 bar g
Max. outlet pressure	1.15 bar abs
Ambient temperature	0 - 50 °C (non-condensing)
Materials in contact with ozone	Quartz (cuvette windows), stainless steel (cuvette, fittings, cuvette spacer), FFPM (window seals), FEP (tubing)
Gas ports	For PTFE tubing 3x5 mm (1/8" x 3/16"), opt. 4x6 mm PTFE or 1/8" Swagelok Built-in sample gas filter is standard
Recommended flow rate	0.1 to 1 l/min typical
Temperature compens.	Is standard
Pressure compensation	With built-in cuvette pressure transducer, units selectable: bar, psi, Torr, MPa
Signal outputs	Concentration 4 - 20 mA (isolated, active) concentration 0 - 10 V (isolated)
Concentration alarms	High Alarm, Low Alarm, latching, not latching
Control input	Set to zero (24 V, 8 mA, isolated)

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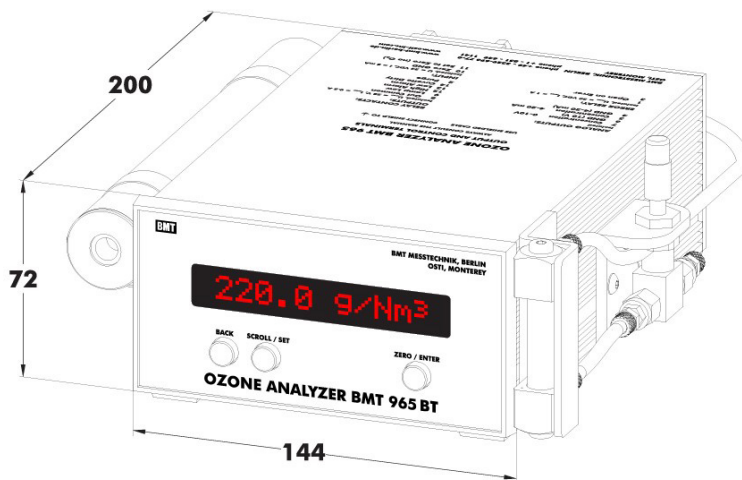
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Control outputs	Relay contacts, 28 V, 0.5 A, isolated: Lamp Low Warning Cuvette Dirty Warning High Alarm Low Alarm Purge Control
Error handling	Error Relay: 30 V, 0.5 A, summarizing instrument failures, Lamp Low Error, Lamp Off Error, Cuvette Dirty Error, Overrange, Overpressure
Early warnings	Lamp Low Warning, Cuvette Dirty Warning
Memory	8 GB for error and concentration logs
USB	On-The-Go, Device/Host mode, Full speed
Serial interface	RS-232, bidirectional, isolated, 2400 - 38400 Baud
Automatic zeroing	With optional Internal Purge Unit (IPU)
Software	BMT 965 Link, instrument configuration and readout of Concentration, Event and Error Logs on a Windows PC
Power	wide range input: 100 - 240 VAC, 15 VA, optional: 12 - 36 VDC, 15 W
Dimensions (W x H x D)	144 x 72 x 230 mm, DIN IEC 61554
Panel cut-out (W x H)	139 x 67 mm
Weight	2.1 kg



Dimensional outline

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