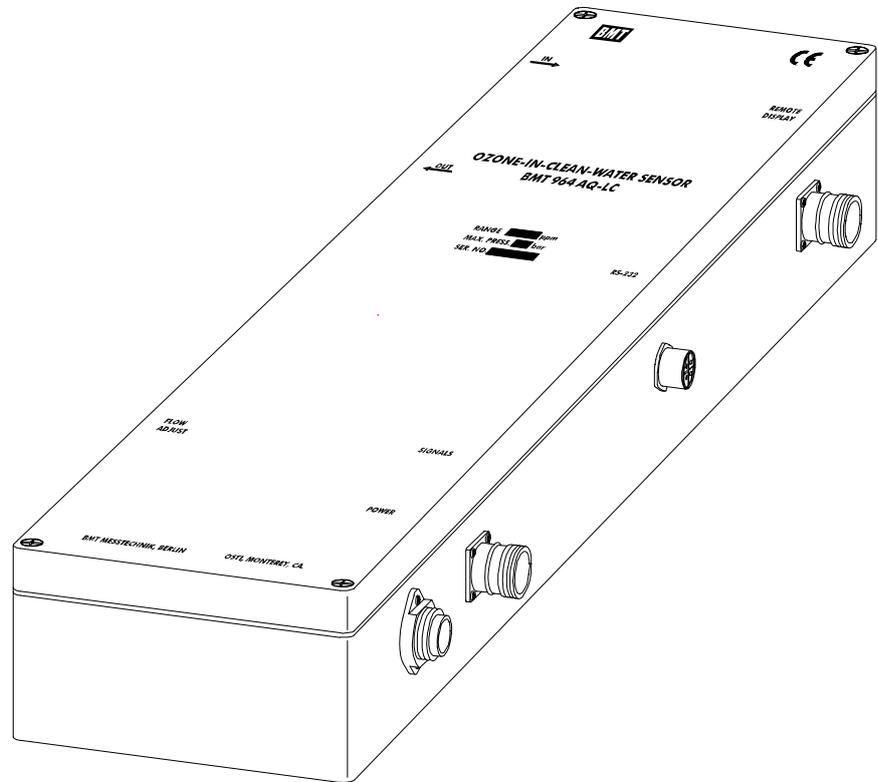


## OZONE-IN-CLEAN-WATER SENSOR BMT 964 AQ-LC

*Low Concentration  
Ozone Sensor  
for Clear and Clean Water*



### FEATURES

- Dual beam UV photometer
- Stainless steel cuvette
- Long-life mercury lamp
- Warranty 3 years, 5 years on the UV lamp
- High accuracy, error less than 0.5%
- Ranges from 0.5 to 15 g/m<sup>3</sup> (ppm<sub>w</sub>)
- Simple cleaning of the cuvette windows
- Relay contact for control of automatic zeroing
- Failure warnings include: lamp low, cuvette dirty, overrange, summary error
- Key functions programmable via a Windows PC
- High and low limit alarms
- Timing sequence for automatic zeroing
- 4-20mA and 0-10V isolated outputs
- RS-232 interface (bidirectional, isolated)
- Option: Remote Display for readout and control

### APPLICATIONS

- Monitoring of ozone in clear and clean water systems, or water with constant turbidity
- Pharmaceutical
- Biotechnology
- Food, baby food
- Beverages

The OZONE-IN-CLEAN-WATER SENSOR BMT 964 AQ-LC is a precise UV photometer for direct measurement of the ozone content of clear and clean water, or water with constant turbidity, without gas bubbles. Clear means: very low turbidity. Clean means: very low deposits on inner surfaces.

Cleaning of the quartz cuvette windows, if necessary, is quite simple. Materials in contact with the ozonated water are: stainless steel, PVDF, PFA, quartz and FFPM.

Superior stability of the photometer is achieved by use of a true dual beam optical system with an extremely long-life mercury lamp. MTBF of the instrument, including the lamp, is in excess of 65,000 hours. Excluding the lamp, it is 120,000 hours.

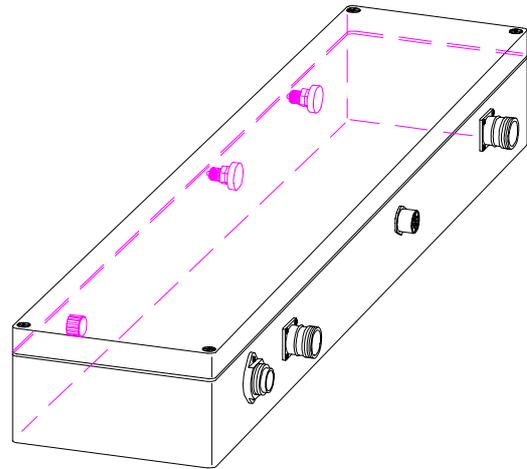
The BMT 964 AQ-LC is a SENSOR because it does not have a display. It is designed to directly be connected to a workstation via a 4 - 20 mA, or 0 - 10 V, signal line, or via an isolated RS-232 serial connection.

An optional Remote Display BMT 964 RD is available for installations without a workstation. To operate with the Remote Display, the BMT 964 AQ-LC has to be ordered in the version BMT 964 AQ-LC/RD.

The built-in microcontroller allows for programming many parameters of the instrument via the Remote Display, or via a Windows PC using the software BMT 964 Link (delivered with the instrument).

## SPECIFICATIONS

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
concentration ranges	0.5, 0.75, 2, 5, 10 and 15 g/m <sup>3</sup> (ppm <sub>w</sub> ), selectable units g/m <sup>3</sup> and ppm <sub>w</sub>
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	0.03 s (analog output), 0.3 s (remote display)
zero drift	typ. 0.2% of range per day, after warm-up, non-cumulative
max. inlet pressure	10 bar
ambient temperature	0 - 50°C (non-condensing)
materials in contact with the ozonated water	SS, PVDF, PFA, quartz, FFPM
fluid ports	PVDF compression fittings for 4 x 6 mm (5/32" x 1/4") PTFE tubing or 1/4" SS Swagelok
recommended flow rate	0.05 to 0.1 l/min typical
pressure drop without valve	approx. 10 mbar at 0.1 l/min
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, 18 mA, isolated)
control outputs	relay contacts, 28 V, 0.5 A, isolated: Lamp Low Cuvette Dirty High Alarm Low Alarm Purge Control
error handling	Error Relay: 30 V, 1 A, summarizing instrument failures.  Warnings and errors: Lamp Low Warning, Lamp Low Error, Lamp Off Error, Cuvette Dirty Warning, Cuvette Dirty Error, Overrange, Overpressure
serial interface	RS-232, bidirectional, isolated 2400 - 38400 Baud
automatic zeroing	possible via the purge contact
software	BMT 964 Link, instrument configuration and readout of 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)	360 x 160 x 91 (W x H x D)
weight	4 kg



dimensional outline

The OZONE-IN-CLEAN-WATER SENSOR BMT 964 AQ-LC comes in a splash proof aluminium enclosure (IP 65, NEMA 4X) 360 x 160 x 91 mm (W x H x D) with sea water resistant coating (RAL 5009, azure), and weighs about 4 kg. Four mounting brackets are provided for installing the SENSOR where it is needed. All electric connectors are water proof.

As long as the cuvette of the SENSOR remains clean, zeroing of the instrument is not necessary for weeks, or even for months. But for safety, zero reading should be checked on a regular basis.

In the OZONE-IN-CLEAN-WATER SENSOR BMT 964 AQ-LC the isolated signal outputs are tied to protective ground by a resistor of 10 MegOhms.

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

- BMT 964 AQ for ultra-pure DI water
- BMT 964 (standard version) for ozone measurement in the gas phase
- BMT 932 Ozone Monitor for TLV monitoring in ambient air (1, 3 & 6 channels)
- BMT 802X (4 g/h) and BMT 803 (8 g/h) Ozone Generators
- Broad spectrum of field-proven accessories for ozone measurement

Rev. Jun 2017