MD 110 Photometer

Photometer with **Bluetooth®** Technology

Highlights

- Drift-free results through high quality interference filter ensured
- Scroll Memory
- Automatic switch-off
- Real-Time- Clock and date
- Calibration mode indicator
- Backlit display
- Storage function
- One Time Zero (OTZ)
- **Bluetooth®**- Interface
- Waterproof*)

*) as defined in IP 68, 1 hour at 0,1 meter

Delivery Content

- Instrument in carrying case
- 4 micro batteries (AAA)
- 3 round vials (glass) with lids
- 1 stirring rod & 1 brush
- Tablet reagents and/or liquid reagents or VARIO Powder reagents
- Warranty information
- Certificate (Certificate of Compliance)
- Instruction Manual

Technical Data

Optics	LEDs, interference filters (IF) and photo sensor in transparent sample chamber. Depending on the version, up to 3 different interference filters are used. Wavelength specifications of interference filters: 430 nm Δ λ = 5 nm 530 nm Δ λ = 5 nm 560 nm Δ λ = 5 nm 580 nm Δ λ = 5 nm 610 nm Δ λ = 6 nm 660 nm Δ λ = 5 nm
Wavelength Accuracy	± 1 nm
Photometric Accuracy[4)]	3 % FS (T = 20 °C – 25 °C)
Photometric	0.01 A
Resolution	
Power Supply	4 micro batteries (AAA), capacity approx. 17 hours or aprox. 5000 tests in continuous operation with the display lighting switched off

Auto - OFF	automatic switch-off
Display	backlit LCD (on keypress)
Storage	internal ring memory for 125 data sets
Interface	**Bluetooth®** interface for data transfer
Additional feature	Real-Time-Clock and date
Calibration	factory calibration and user calibration. Reset to factory calibration possible
Dimensions	155 x 75 x 35 mm (L x W x H)
Weight	basic unit approx. 260 g
Environmental conditions	temperature: 5 – 40 °C rel. humidity: 30 – 90 % (non condensing)
Approval	CE

[4)] tested with standard solutions

Single-Parameter

MD 110 COD, tube tests, without reagents — 29 61 202
3 - 150 mg/l O_2 (ø 16 mm)
15 - 300 mg/l O_2 (ø 16 mm) available soon!
20 - 1500 mg/l O_2 (ø 16 mm)
200 - 15000 mg/l O_2 (ø 16 mm)

MD 110 Boiler Water

MD 110 Aluminium, Chloride, Copper, DEHA, Hydrazine, Iron, Oxygen (dissolved), Phosphate, Polyacrylate, Silica — 29 62 302
(delivery without reagents)

MD 110 Cooling Water

MD 110 Aluminium, Bromine, Chlorine, Chlorine HR, Chlorine dioxide, Copper, Iron, Iron in Mo, Molybdate LR, Molybdate HR, Ozone, Polyacrylate, Sulphate, Triazoles, Zinc — 29 62 402
(delivery without reagents)

3in1

Test	Code
MD 110 Chlorine, pH, Cyanuric Acid tablet reagents 0,01 - 6,0 mg/l Cl_2 / 0,1 - 10 mg/l Cl_2* 6,5 - 8,4 pH/ 0 - 160 mg/l cyanuric acid	29 80 102
MD 110 Chlorine, pH, Cyanuric Acid liquid reagent for chlorine and pH 0,02 - 4 mg/l Cl_2 / 6,5 - 8,4 pH 0 - 160 mg/l cyanuric acid	29 80 152

4in1

Test	Code
MD 110 Chlorine, pH, Cyanuric Acid, Alkalinity-M (total) tablet reagents 0,01 - 6,0 mg/l Cl_2 / 0,1 - 10 mg/l Cl_2* 6,5 - 8,4 pH / 0 - 160 mg/l cyanuric acid 5 - 200 mg/l $CaCO_3$ (TA)	29 80 702
MD 110 Chlorine, pH, Cyanuric Acid, Alkalinity-M (total) liquid reagent for chlorine and pH 0,02 - 4 mg/l Cl_2 / 6,5 - 8,4 pH 0 - 160 mg/l cyanuric acid / 5 - 200 mg/l $CaCO_3$ (TA)	29 80 752

6in1

Test	Code
MD 110 Chlorine, Bromine, pH, Cyanursäure, Alkalinity-M (total), Calcium hardness tablet reagents 0,01 - 6,0 mg/l Cl_2 / 0,1 - 10 mg/l Cl_2* 0,05 - 13 mg/l Br / 6,5 - 8,4 pH 0 - 160 mg/l cyanuric acid / 5 - 200 mg/l $CaCO_3$ (TA) 0 - 500 mg/l $CaCO_3$ (CaH)	29 80 902

* Delivery without reagents for measuring range 0.1 - 10 mg/l Cl_2

Please see pages 88 onwards for reagents (order codes)

Data Transfer

The MD 110 photometers have a **Bluetooth®** feature. In order to get the best use out of this, Tintometer offers an app for mobile devices and PC software with a dongle.

Via the **Bluetooth®** interface, the measurement results are transmitted to external devices for prompt assessment and processing, so that all data can be evaluated and collated directly on site.

The free app AquaLX® is ideally designed for use in on-site measurements. Compatible with IOS®- and Android®-based smartphones and Tablets, it enables fuss-free data transfer. It maps all measured values as descriptive graphs with minimum and maximum limits and supports export of the data as an Excel®-compatible CSV file.

With the aid of the complimentary **Bluetooth®** dongle, the PC software makes it possible to import data directly from the photometer to the Windows-based PC. As a stationary solution, it facilitates the transfer of data through a fast established, permanent wireless connection.

Further processing of the results can be effected both in the software itself and by exporting the data to Excel or as a CSV file.

The set of software and **Bluetooth®** dongle is offered as separate accessories under item no. 2444480.

www.lovibond.com/bluetooth

Bluetooth® is a wireless technology subject to regional approval. The use of the MD 110 with **Bluetooth®** is currently only permitted within Europe, the USA, and in Canada.
The use of the MD 110 will also be possible in other regions in the future. For current regions and further information, visit: www.lovibond.com/bluetooth
Regions in which the MD 110 with **Bluetooth®** can currently be used (status: 01/2015):
within Europe (according R&TTE Directive 1999/5/EC) ; USA (according to FCC part 15, comprised in FCC ID QOQBT113) ; Canada (comprised in IC 5123A-BGTBLE113)