

# Lovibond® Water Testing Tintometer® Group



## MD 110 Cooling Water

Photometer with **Bluetooth®** Technology



- Bluetooth® -Interface
- Scroll Memory
- Automatic switch-off
- Calibration mode indicator

Part Number: 2962402

The MD 110 has several key features that make it a favorite among users.

### Waterproof Design

The IP 68 design of this instrument ensures that the MD 110 remains water tight for up to 1 hour at 0.1 meter. Don't worry about dropping the instrument into a body of water - it floats!

### Accurate, Reproducible Results

The optical system of the MD 110 utilizes LEDs and interference filters which quickly gives you results that you can be confident in.

### User Calibration Mode

A one-point calibration is possible. Additionally, all MD 110 instruments have the ability to display readings directly in ABS or %T units.

### One-time-Zero Function

Don't waste time waiting for your instrument to Zero after each test. When testing a new sample, zero the instrument once and all subsequent tests of that sample do not require you to re-zero the instrument.

### Automatic Data Storage with Transfer Capabilities

The MD 110 automatically stores the last 16 readings with time and date stamp. These results can be transferred to a spreadsheet using the IRiM accessory.

### Ergonomic Design

Whether you're using the MD 110 out in the field or in the lab, the design of the instrument makes it easy to handle and view the display. If you're using the instrument in the lab, the rubber feet on

the bottom of the housing eliminates the need for two hand operation or to chase your instrument around the workbench.

### Factory Programmed

All MD 110 instruments are supplied ready to use with up to 14 calibration curves. All you need to do is select the test you need, prepare your sample and test!

### Scroll Driven Menu System

The simple interface allows you to quickly reach the test you need. When the instrument is turned on, it will automatically display the last test used.

### 2-Year Manufacturer's Warranty

## Industry

Chemical Industry | Food and Beverage Industry | Industries Others | Marine Industry | Oil and Gas | Pharmaceutical Industry | Power and Energy

## Application

Boiler Water | Cooling Water | Disinfection Control | Drinking Water Treatment | Galvanization | Pool Water Control | Raw Water Treatment | Waste Water Treatment

## MD 110 Cooling Water

### Bluetooth® function

All MD 110 photometers have a **Bluetooth®** function. To make the most of it, Tintometer offers an app for mobile devices as well as a PC software with dongle.

The measurement results are transmitted to external devices via the **Bluetooth®** interface for quick evaluation and processing so that all data can be evaluated and assigned directly on site.

### App AquaLX®

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

The PC software makes it possible to import data directly from the photometer to the Windows-based PC using the included **Bluetooth®** dongle. As a stationary solution, it facilitates the transfer of data through a quickly established, permanently wireless connection. Further processing of the results can be done 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 available as a separate accessory under item no. 2444480 available.

## Measuring Range

Test Name	Measuring Range	Chemical Method
Aluminium PP	0.01 - 0.25 mg/L Al	Eriochrom Cyanine R
Bromine T	0.05 - 13 mg/L Br <sub>2</sub>	DPD
Chlorine dioxide T	0.02 - 11 mg/L ClO <sub>2</sub>	DPD / Glycine
Chlorine HR (KI) T	5 - 200 mg/L Cl <sub>2</sub>	KI / Acid
Chlorine L	0.02 - 4.0 mg/L Cl <sub>2</sub> <sup>a)</sup>	DPD
Chlorine T	0.01 - 6.0 mg/L Cl <sub>2</sub> <sup>a)</sup>	DPD
Copper T	0.05 - 5 mg/L Cu <sup>a)</sup>	Biquinoline
Iron in Mo PP (224)	0.01 - 1.8 mg/L Fe	TPTZ
Iron LR L (A)	0.03 - 2 mg/L Fe	Ferrozine / Thioglycolate
Molybdate HR L	1 - 100 mg/L MoO <sub>4</sub>	Thioglycolate
Molybdate LR PP	0.03 - 3 mg/L Mo	Ternary Complex
Ozone T	0.02 - 2 mg/L O <sub>3</sub>	DPD / Glycine
Polyacrylate L	1 - 30 mg/L Polyacryl	Turbidity
Sulphate PP	5 - 100 mg/L SO <sub>4</sub> <sup>2-</sup>	Bariumsulphate Turbidity
Triazole PP	1 - 16 mg/L Benzotriazole or Tolytriazole	Catalyzed UV Digestion
Zinc L	0.1 - 2.5 mg/L Zn	Zincon / EDTA

## Technical Data

<b>Optics</b>	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 Δλ = 5 nm 530 nm Δλ = 5 nm 560 nm Δλ = 5 nm 580 nm Δλ = 5 nm 610 nm Δλ = 6 nm 660 nm Δλ = 5 nm
---------------	---

<b>Wavelength Accuracy</b>	± 1
<b>Photometric Range</b>	-2500 - 2500 mAbs
<b>Display</b>	backlit LCD (on keypress)
<b>Interfaces</b>	Bluetooth
<b>Operation</b>	Foil keypad
<b>Calibration</b>	factory calibration and user calibration. Reset to factory calibration possible
<b>Internal Storage</b>	internal ring memory for 125 data sets
<b>Battery Life Time</b>	approx. 17 hours
<b>Clock</b>	Real Time Clock and Date
<b>Portability</b>	Portable
<b>Degree of Pollution</b>	2
<b>Maximum altitude above sea level</b>	2000 m
<b>Compliance</b>	CE
<b>Dimensions</b>	6.1 x 2.95 x 1.38"

## Delivery Scope

- Instrument in plastic case with 4 micro batteries (AAA)
- 1 Adapter for round cuvettes 16 mm
- 3 round vials 24 mm (glass) with lid
- 3 round vials 16 mm (glass) with lid
- sealing rings
- 1 stirring rod
- 1 brush
- 1 Syringe (20 ml)
- 1 Plastic shaker tube, graduated 100 ml, with lid
- instruction manual
- Manual of Methods
- certificate (COC)
- warranty information
- without reagents

Title	Part Number
Water sampler with bottle 250 mL and lid, AF 631	170500
Micro batteries (AAA), set of 4	1950026
Multy cuvette-2, set of 12	197600
Round cuvette 24 mm ø, set of 12	197620
Sealing ring for round vials 24 mm ø, set of 12	197626
Round cuvette 24 mm ø, set of 5	197629
Cleaning cloth	197635
Round cuvette 16 mm ø, set of 10	197665
Adapter for round cuvettes 16 mm ø	19802190
Mixing cylinder, 25 ml	19802650
Verification Standard Kit MD 100 / 200	215670
Kit of BT data transfer software and Bluetooth Dongle	2444480
Reference Standard Kit Chlorine - 0.2 and 1.0 mg/l (MD 100/110/200)	275650
Reference Standard Kit Chlorine - 0.5 and 2.0 mg/l (MD 100/110/200)	275655
Reference Standard Kit Chlorine - 1.0 and 4.0 mg/l (MD 100/110/200)	275656
Stirring rod, 13 cm length	364100
Stirring rod, 10 cm length	364109
Stirring rod, 13 cm length, set of 10	364120
Stirring rod, 10 cm length, set of 10	364130
Membrane filter set for use when preparing samples, 25 membrane filters 0.45 µm, 2 syringes 20 ml	366150
250 mL bottle, AF 631	375072
Brush, 11 cm length	380230
Measuring beaker, 100ml	384801
UV Pen Lamp, 254 nm	400740
UV protection glasses, orange	400755
Cuvette stand for 6 round cuvettes Ø 24 mm	418951

Title	Part Number
Cuvette stand for 10 round cuvettes Ø 16 mm	418957
Plastic funnel with handle (white)	471007
ValidCheck Chlorine 1,5 mg/l	48105510
Additionally for each method	999855

#### Tintometer GmbH

Lovibond® Water Testing  
Schleefstraße 8-12  
44287 Dortmund  
Tel.: +49 (0)231/94510-0  
sales@lovibond.com  
www.lovibond.com  
Germany

#### The Tintometer Limited

Lovibond House  
Sun Rise Way  
Amesbury, SP4 7GR  
Tel.: +44 (0)1980 664800  
Fax: +44 (0)1980 625412  
sales@lovibond.uk  
www.lovibond.com  
UK

#### Tintometer China

9F, SOHO II C.  
No.9 Guanghualu,  
Chaoyang District,  
Beijing, 100020  
Customer Care China Tel.: 4009021628  
Tel.: +86 10 85251111 Ext. 330  
Fax: +86 10 85251001  
chinaoffice@tintometer.com  
www.lovibond.com  
China

#### Tintometer South East Asia

Unit B-3-12, BBT One Boulevard,  
Lebuh Nilam 2, Bandar Bukit Tinggi,  
Klang, 41200, Selangor D.E  
Tel.: +60 (0)3 3325 2285/6  
Fax: +60 (0)3 3325 2287  
lovibond.asia@tintometer.com  
www.lovibond.com  
Malaysia

#### Tintometer Brazil

Caixa Postal: 271  
CEP: 13201-970  
Jundiaí – SP  
Tel.: +55 (11) 3230-6410  
sales@lovibond.us  
www.lovibond.com.br  
Brazil

#### Tintometer Inc.

6456 Parkland Drive  
Sarasota, FL 34243  
Tel: 941.756.6410  
Fax: 941.727.9654  
sales@lovibond.us  
www.lovibond.us  
USA

#### Tintometer India Pvt. Ltd.

Door No: 7-2-C-14, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> Floor  
Sanathnagar Industrial Estate,  
Hyderabad, 500018  
Telangana  
Tel: +91 (0) 40 23883300  
Toll Free: 1 800 599 3891/ 3892  
indiaoffice@lovibond.in  
www.lovibondwater.in  
India

#### Tintometer Spain

Postbox: 24047  
08080 Barcelona  
Tel.: +34 661 606 770  
sales@tintometer.es  
www.lovibond.com  
Spain