

# Measuring Module Digital



6.02100.010

Product manual

8.0108.8013EN / 2021-09-23





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This documentation has been prepared with great care. However, errors can never be entirely ruled out. Please send comments regarding possible errors to the address above.

### **Disclaimer**

Deficiencies arising from circumstances that are not the responsibility of Metrohm, such as improper storage or improper use, etc., are expressly excluded from the warranty. Unauthorized modifications to the product (e.g. conversions or attachments) exclude any liability on the part of the manufacturer for resulting damage and its consequences. Instructions and notes in the Metrohm product documentation must be strictly followed. Otherwise, Metrohm's liability is excluded.

[illegible][illegible]

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# 1 Overview

## 1.1 Measuring Module Digital – Product description

The Measuring Module Digital is used as an interface for digital electrodes on an OMNIS Titrator or an OMNIS Titration Module.

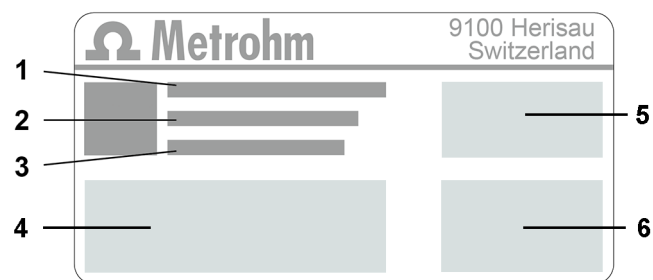
## 1.2 Measuring Module Digital – Product versions

The product is available in the following versions:

Table 1 Product versions

Article number	Designation
6.02100.010	Measuring Module Digital

The article number and serial number for identifying the product can be found on the type plate:



<b>1</b>	<b>(01) = Article number in accordance with GS1 standard</b>	<b>2</b>	<b>(21) = Serial number</b>
<b>3</b>	<b>(240) = Metrohm article number</b>	<b>4</b>	<b>Certification</b>
<b>5</b>	<b>Certification</b>	<b>6</b>	<b>Technical specifications</b>

### 1.3 Symbols and conventions

The following formatting may appear in the documentation:

(5-12)	Cross-reference to figure legend
	The first number refers to the figure number. The second number refers to the product part in the figure.
1	Instruction step
	Numbers indicate the order of the instructions steps.
Method	Names of parameters, menu items, tabs and dialogs
File ► New	Menu path
[Continue]	Button or key

## 1.4 Further information

The Metrohm Knowledge Base <https://guide.metrohm.com> always provides the current version of this document. Further instructions, leaflets, release notes etc. may be available, depending on the product. You can directly access the required information or the associated PDF document using the full-text search function and filters.

## 1.5 Accessories

Up-to-date information on the scope of delivery and on optional accessories can be found on the Metrohm website. Download this information as follows:

## Downloading the accessories list

- 1 Go to <https://www.metrohm.com>.
- 2 Enter the article number of the product (e.g. **2.1001.0010**) into the search field.  
  
The search result is displayed.
- 3 Click on the product.  
  
Detailed information regarding the product is shown on various tabs.



- 

## 2 Safety

## 2.1 Intended use

Metrohm products are used for the analysis and handling of chemicals.

Usage therefore requires the user to have basic knowledge and experience in handling chemicals. Knowledge regarding the application of fire prevention measures prescribed for laboratories is also mandatory.

Adherence to this technical documentation and compliance with the maintenance specifications make up an important part of intended use.

Any utilization in excess of or deviating from the intended use is regarded as misuse.

Specifications regarding the operating values and limit values of individual products are contained in the "Technical specifications" section, if relevant.

Exceeding and/or not observing the mentioned limit values during operation puts people and components at risk. The manufacturer assumes no liability for damage due to non-observance of these limit values.

The EU declaration of conformity loses its validity as soon as modifications are carried out on the products and/or the components.

## 2.2 Responsibility of the operator

The operator must ensure that basic regulations on occupational safety and accident prevention in chemical laboratories are observed. The operator has the following responsibilities:

- Instruct personnel in the safe handling of the product.
- Train personnel in the use of the product according to the user documentation (e.g. install, operate, clean, eliminate faults).
- Train staff on basic occupational safety and accident prevention regulations.
- Provide personal protective equipment (e.g. protective glasses, gloves).
- Provide suitable tools and equipment to carry out the work safely.

The product may be used only when it is in perfect condition. The following measures are required to ensure the safe operation of the product:

- Check the condition of the product before use.
- Remedy defects and malfunctions immediately.
- Maintain and clean the product regularly.

## 2.3 Requirements for operating personnel

Only qualified personnel may operate the product. Qualified personnel are persons who meet the following requirements:

- Basic regulations on occupational safety and accident prevention for chemical laboratories are known and complied with.
- Knowledge of handling hazardous chemicals is present. Personnel have the ability to recognize and avoid potential dangers.
- Knowledge regarding the application of fire prevention measures for laboratories is available.
- Safety-relevant information is communicated and understood. The personnel can operate the product safely.
- The user documentation has been read and understood. The personnel operate the product according to the instructions in the user documentation.

## 2.4 Safety instructions

### 2.4.1 Danger from electrical potential

Contact with electrical potential can cause serious injuries or death. To avoid danger from electrical potential, observe the following:

- Operate the product only if it is in perfect condition. The housing must also be intact.
- Only use the product with the covers fitted. If covers are damaged or missing, disconnect the product from the energy supply and contact the regional Metrohm service representative.
- Protect live components (e.g. power supply unit, power cord, connection sockets) against moisture.
- Always have maintenance work and repairs on electrical components carried out by a regional Metrohm service representative.
- Disconnect the product from the energy supply immediately if at least one of the following cases occurs:
  - The housing is damaged or open.
  - Live parts are damaged.
  - Moisture penetrates.

### 2.4.2 Danger from biological and chemical hazardous substances

Contact with biological hazardous substances may cause poisoning from toxins or infections from microorganisms. Contact with aggressive chemical substances may cause poisoning or chemical burns. To avoid danger from biological or chemical hazardous substances, observe the following:

- Label the product according to regulations if it is used for substances that have a potential for chemical hazards and are generally subject to the Hazardous Substances Ordinance.
- Wear personal protective equipment (e.g. protective glasses, gloves).
- Use exhaust equipment when working with vaporizing hazardous substances.
- Dispose of hazardous substances in accordance with regulations.
- Clean and disinfect contaminated surfaces.
- Only use detergents that do not cause any unwanted side reactions with the materials to be cleaned.
- Dispose of chemically contaminated materials (e.g. cleaning material) in accordance with regulations.
- Proceed as follows in case of a return shipment to Metrohm AG or a regional Metrohm representative:
  - Decontaminate the product or product component.
  - Remove the labeling for hazardous substances.
  - Create a declaration of decontamination and enclose it with the product.

### 2.4.3 Danger from highly flammable substances

Using highly flammable substances or gases may cause fires or explosions. To avoid danger from highly flammable substances, observe the following:

- Avoid ignition sources.
- Use protective grounding.
- Use exhaust equipment.

## 2.5 Design of warning messages

There are 4 hazard levels for warning messages. The following signal words are used for classifying the hazard levels in warning messages:

- **DANGER** indicates a hazardous situation which, if not avoided, will result in serious injury or death.
- **WARNING** indicates a hazardous situation which, if not avoided, could result in serious injury or death.
- **CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE** indicates a hazardous situation which, if not avoided, could result in property damage.

Warning messages differ in design (color and warning sign) depending on the hazard level:



## **DANGER**

### **Type and source of danger**

Consequences when not observing the notice: An irreversible injury that may result in death is very probable.

- Measures to avoid the danger



## **WARNING**

### **Type or source of danger**

Consequences when not observing the notice: A serious injury that may result in death is probable.

- Measures to avoid the danger



## **CAUTION**

### **Type or source of danger**







Consequences when not observing the notice: A minor to moderate injury is probable.






- Measures to avoid the danger

## **2.6 Meaning of warning signs**

This documentation uses the following warning signs:

*Table 2 Warning sign according to ISO 7010*

Warning sign	Meaning
	General warning sign
	Warning of electrical voltage
	Warning of hand injuries
	Warning of sharp object
	Warning of hot surface
	Warning of biological hazard

Warning sign	Meaning
	Warning of toxic materials
	Warning of flammable materials
	Warning of corrosive substances
	Warning of optical radiation
	Warning of laser beams

Depending on the intended use of the product, the corresponding warning sign stickers must be placed on the product.

## 3 Functional description

### 3.1 Measuring Module Digital – Overview



Figure 1 Measuring Module Digital – Overview

#### 1 Fastening screws

Fastening screws, left and right. These fasten the measuring module in the housing and ground the electronics.

#### 2 Connection socket

For dTodes

### 3.2 Measuring Module Digital – Functional description

The Measuring Module Digital is used as an interface for digital electrodes on an OMNIS Titrator or an OMNIS Titration Module.

The digital electrodes, the dTodes, can be plugged into its connection socket.







Figure 2 Measuring Module Digital – Interfaces and connectors

## 1 Connection socket for digital electrodes

## Connection socket

The black marking around the connection socket indicates that only a cable of a digital electrode may be plugged in here.

## 4.1 Delivery

- Check the delivery against the delivery note to ensure completeness.
- Check the product for damage.
- If the delivery is incomplete or damaged, contact your regional Metrohm representative.

- Check the delivery against the delivery note to ensure completeness.
- Check the product for damage.
- If the delivery is incomplete or damaged, contact your regional Metrohm representative.

The product and accessories are supplied in protective special packaging. Keep this packaging to ensure safe transportation of the product. If a transport locking device is present, keep this as well for future reuse.

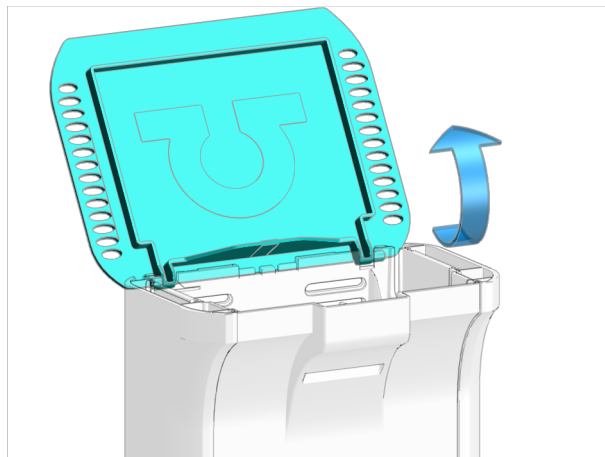
The product and accessories are supplied in protective special packaging. Keep this packaging to ensure safe transportation of the product. If a transport locking device is present, keep this as well for future reuse.

## 5 Installation

### 5.1 Mounting the measuring module

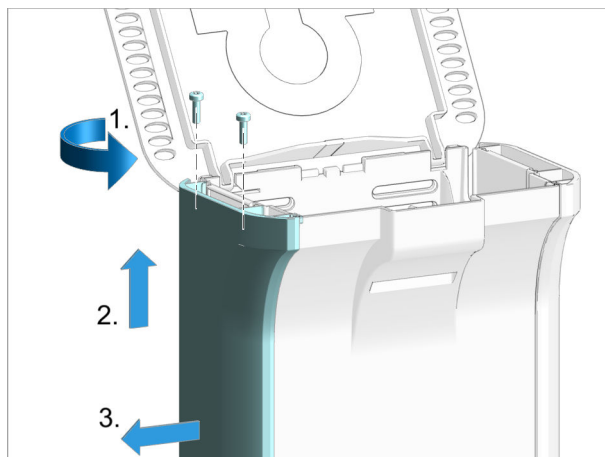
The measuring module is supplied with mounted fastening screws. These fastening screws are used to secure the measuring module in the instrument to ensure trouble-free operation.

#### 1 Opening the lid



- Open the lid.

#### 2 Removing the side parts

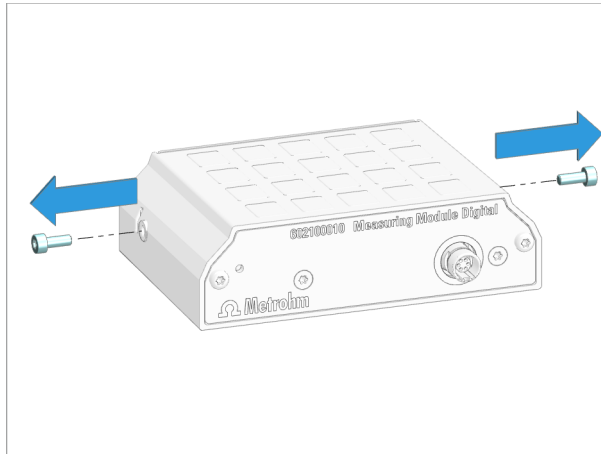


Carry out the following steps on **both sides** of the instrument.

- Remove the 2 screws from above using the hex key.

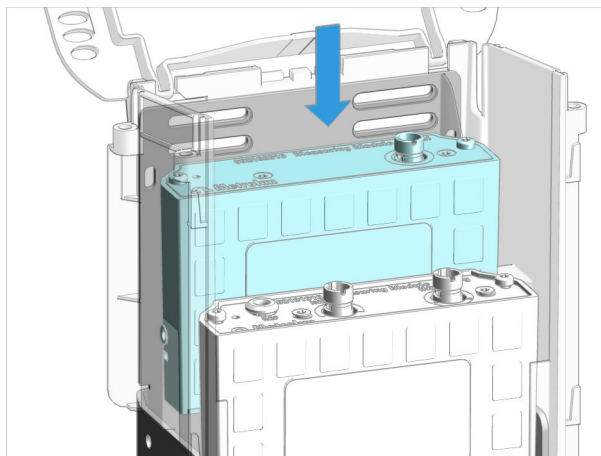
- Push the side covering upwards until it can be removed from the side.
- Remove the side covering to the side.

### 3 Removing the fastening screws



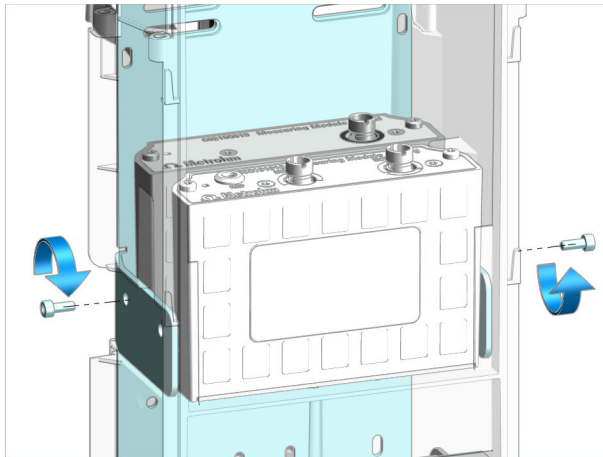
- Remove the 2 fastening screws from the measuring module using the hex key.

## 4 Inserting the measuring module



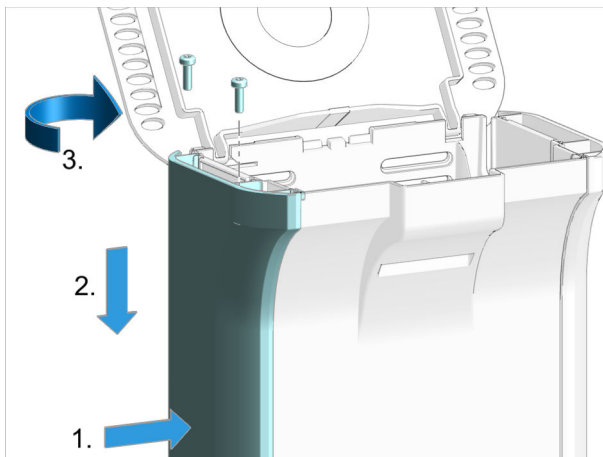
- Insert the measuring module into an empty slot.  
The slots are designated with 1 (rear) and 2 (front).

## 5 Attaching the measuring module



- Insert the fastening screws. Tighten the measuring module to the housing from **both sides** using the hex key.

## 6 Mounting the side parts



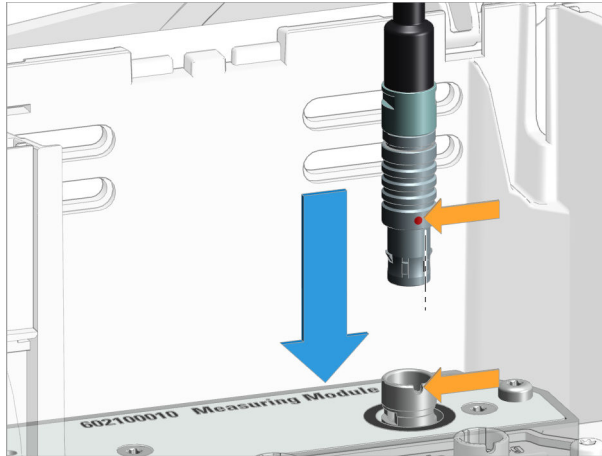
Carry out the following steps on **both sides** of the instrument.


- Position the side covering from the side in an elevated position.
- Insert the side covering into the guide rail and push it downwards.
- Insert the 2 screws and tighten them from above using the hex key.

## 5.2 Connecting the sensor

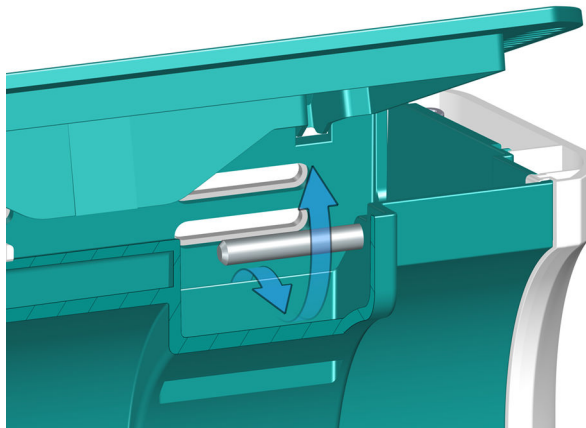
## 1 Plugging in the electrode cable

- Open the lid of the instrument.
- Align the red dot on the plug with the groove on the connection socket.
- Plug in the plug of the electrode cable until you can feel it snap in.



 If the plug cannot be inserted easily, rotate the plug to the right or left using light pressure until it latches in the socket.

## 2 Guiding out the cable



- Guide the cable out under the bar.
- Close the lid.

## 6 Operation and control

### 6.1 Operation

The product can be operated via the OMNIS Software. Further information on the OMNIS Software under [OMNIS Help](#).







Severe injuries with possibly fatal consequences.

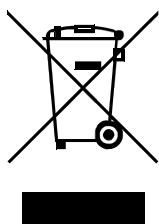
- Prerequisite:**

- ### Required accessories:

- 3** Clean the connectors with a dry cloth.



## 9 Disposal



Properly dispose of chemicals and of the product to reduce negative effects on the environment and public health. Local authorities, waste disposal companies or dealers provide more detailed information on disposal. Observe the WEEE EU directive (WEEE = Waste Electrical and Electronic Equipment) for the proper disposal of waste electronic equipment within the European Union.



## 10 Technical specifications

### 10.1 Ambient conditions

Nominal function range	+5 to +45 °C	at max. 80% relative humidity, non-condensing
Storage	+5 to +45 °C	

### 10.2 Measuring module – Energy supply

Power consumption	max. 0.6 W	
Energy transmission		inductive coupling

### 10.3 Measuring module – Dimensions

Measurements		
Width	105 mm	
Height	31 mm	
Depth	72 mm	
Weight	approx. 420 g	



