

917 Coulometer



Manual – Short Instructions

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Manual – Short Instructions

Technical Communication
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Melody for the BEEP command: excerpt from "En Altfrentsche", with kind permission of the Laseyer Quartett, Appenzell.

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1 About these short instructions

This short instruction manual contains important information concerning the 917 Coulometer. In addition to an introduction, safety instructions and an overview of the instrument, you will also find information about the installation of the coulometer.

Additional information concerning the instrument can be found at <http://products.metrohm.com>.

2.1.2 Connectors

The 917 Coulometer is equipped with the following connectors:

- **Power connection**
For connecting to the power grid using the power supply unit provided.
- **Two MSB connectors (Metrohm Serial Bus)**
For connecting dosing devices, one additional stirrer or a Remote Box.
- **USB connector**
For connecting peripheral devices (printer, PC keyboard, etc.), a USB flash drive, a Sample Processor or a USB hub.
- **Sensor connectors**
One connector each for:
 - Generator electrode
 - Indicator electrode
 - Temperature sensor (Pt1000 or NTC)
- **Ethernet connector**
For connecting the Coulometer to a network.
- **Two connection nipples**
For connecting tubing for replacing reagent using the built-in pump.

2.1.3 Intended use

The 917 Coulometer is designed for usage as a titrator in analytical laboratories. Its main application field is coulometric Karl Fischer titration.

This instrument is suitable for processing chemicals and flammable samples. Therefore, the use of the instrument requires the user to have basic knowledge and experience in handling toxic and caustic substances. Knowledge regarding the application of fire prevention measures prescribed for laboratories is also mandatory.

2.2 About the documentation










CAUTION

Please read through this documentation carefully before putting the instrument into operation. The documentation contains information and warnings which the user must follow in order to ensure safe operation of the instrument.

2.2.1 Symbols and conventions

The following symbols and formatting may appear in this documentation:

<i>(5-12)</i>	Cross-reference to figure legend The first number refers to the figure number, the second to the instrument part in the figure.
1	Instruction step Perform the steps one after the other.
Method	Dialog text, parameter in the software
File ► New	Menu or menu item
[Continue]	Button or key
	WARNING This symbol draws attention to a possible life-threatening hazard or risk of injury.
	WARNING This symbol draws attention to a possible hazard due to electrical current.
	WARNING This symbol draws attention to a possible hazard due to heat or hot instrument parts.
	WARNING This symbol draws attention to a possible biological hazard.
	WARNING Warning of optical radiation
	CAUTION This symbol draws attention to possible damage to instruments or instrument parts.
	NOTICE This symbol highlights additional information and tips.

3 Safety instructions

3.1 General notes on safety



WARNING

Operate this instrument only according to the information contained in this documentation.

This instrument left the factory in a flawless state in terms of technical safety. To maintain this state and ensure non-hazardous operation of the instrument, the following instructions must be observed carefully.

3.2 Electrical safety

The electrical safety when working with the instrument is ensured as part of the international standard IEC 61010.



WARNING

Only personnel qualified by Metrohm are authorized to carry out service work on electronic components.



WARNING

Never open the housing of the instrument. The instrument could be damaged by this. There is also a risk of serious injury if live components are touched.

There are no parts inside the housing which can be serviced or replaced by the user.

Supply voltage

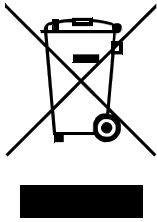


WARNING

An incorrect supply voltage can damage the instrument.

Only operate this instrument with a supply voltage specified for it (see rear panel of the instrument).

3.5 Recycling and disposal



This product is covered by European Directive 2012/19/EU, WEEE – Waste Electrical and Electronic Equipment.

The correct disposal of your old instrument will help to prevent negative effects on the environment and public health.

More details about the disposal of your old instrument can be obtained from your local authorities, from waste disposal companies or from your local dealer.

4 Overview of the instrument

4.1 Front of the instrument

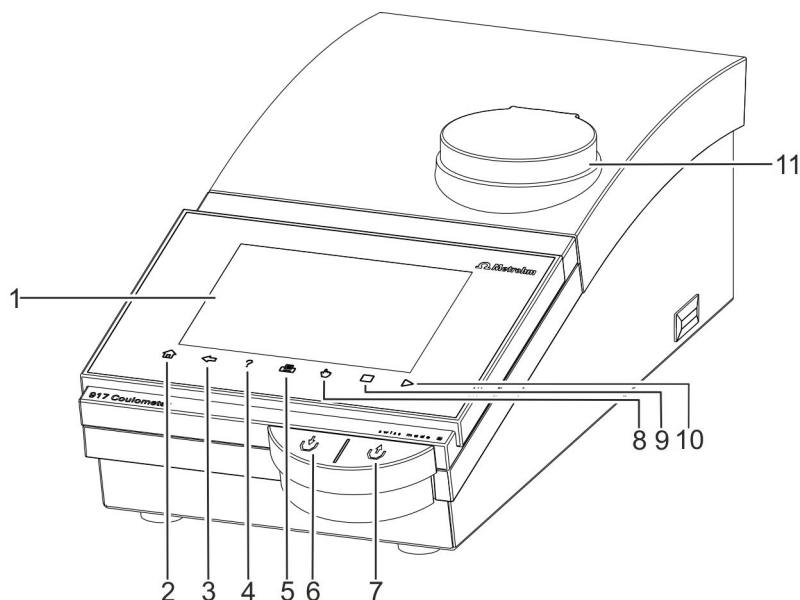


Figure 1 Front

<p>1 Display Touch screen.</p>	<p>2 Fixed key [Home] Opens the main dialog.</p>
<p>3 Fixed key [Back] Saves the entry and opens the next-higher dialog page.</p>	<p>4 Fixed key [Help] Opens the online help for the dialog displayed.</p>
<p>5 Fixed key [Print] Opens the print dialog.</p>	<p>6 Key Pressing the key pumps air into the solvent bottle. The overpressure in the solvent bottle pushes solvent into the titration cell.</p>
<p>7 Key Pressing the key aspirates air out of the aspiration bottle. The vacuum in the aspiration bottle aspirates the liquid out of the titration cell and into the aspiration bottle.</p>	<p>8 Fixed key [Manual] Opens the manual control.</p>
<p>9 Fixed key [STOP] Cancels the running determination.</p>	<p>10 Fixed key [START] Starts a determination.</p>
<p>11 Magnetic stirrer For placing the titration vessel holder.</p>	

4.2 Rear of the instrument

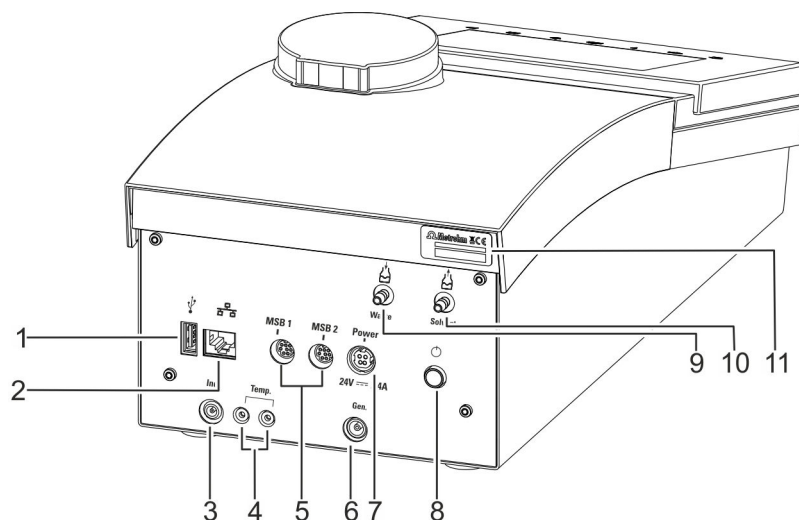


Figure 2 Rear

1 USB connector (type A)

For connecting printers, USB flash drives, USB hubs, 885 Compact Oven SC, etc.

2 Ethernet connector (RJ-45)

For connecting to a network.

3 Indicator electrode connector (Ind.)

For connecting the indicator electrode.

4 Temperature sensor connector (Temp.)

For connecting temperature sensors (Pt1000 or NTC). Two B sockets, 2 mm.

5 MSB connector (MSB 1 and MSB 2)

Metrohm Serial Bus. For connecting external dosing devices, stirrers or a Remote Box. Mini DIN, 8-pin.

6 Generator electrode connector (Gen.)

For connecting the generator electrode.

7 Power socket (Power)

For connecting the external power supply unit.

8 Power switch

Switches the instrument on/off.

9 Connection nipple for PVC tubing

For aspirating the contents of the titration cell.

10 Connection nipple for PVC tubing

For aspirating solvent.

11 Type plate

Contains the serial number.



5 Installation

5.1 Setting up the instrument

5.1.1 Packaging

The instrument is supplied in protective packaging together with the separately packed accessories. Keep this packaging, as only this ensures safe transportation of the instrument.

5.1.2 Checks

Immediately after receipt, check whether the shipment has arrived complete and without damage by comparing it with the delivery note.

5.1.3 Location

The instrument has been developed for operation indoors and may not be used in explosive environments.

Place the instrument in a location of the laboratory which is suitable for operation and free of vibrations and which provides protection against corrosive atmosphere and contamination by chemicals.

The instrument should be protected against excessive temperature fluctuations and direct sunlight.

5.2 Setting up the titration cell for coulometry

5.2.1 Inserting the titration cell

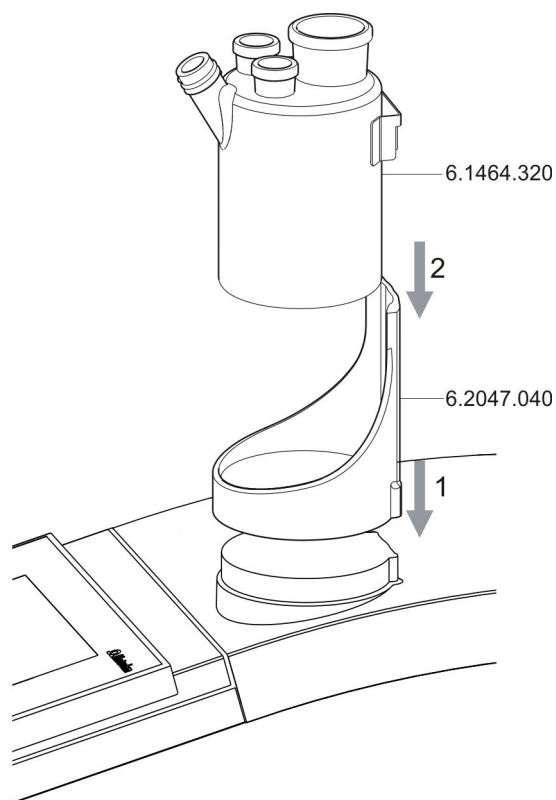


Figure 3 Inserting the titration cell

Set up the titration cell on the magnetic stirrer as follows:

- 1 Attach the 6.2047.040 titration vessel holder to the magnetic stirrer.
- 2 Insert the 6.1464.320 titration cell into the titration vessel holder.

5.2.2 Preparing the titration cell

Filling the adsorber tube

Before setting up the titration cell, the 6.1403.030 adsorber tube has to be filled with 6.2811.000 molecular sieve. Proceed as follows:

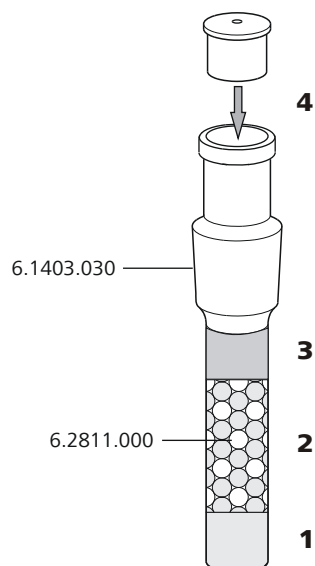


Figure 4 Filling the adsorber tube

- 1** Insert a small cotton plug into the bottom of the adsorber tube. Do not pack the cotton too tightly.
- 2** Fill the molecular sieve up to $\frac{3}{4}$ of the height.
- 3** Place a small cotton plug on the molecular sieve. Do not pack the cotton too tightly.
- 4** Seal the adsorber tube with the appropriate cover.



NOTICE

Note that the molecular sieve must be replaced at regular intervals. Each time you refill the adsorber tube with molecular sieve, you can, for example, write the date directly on the adsorber tube.

Equipping the titration cell

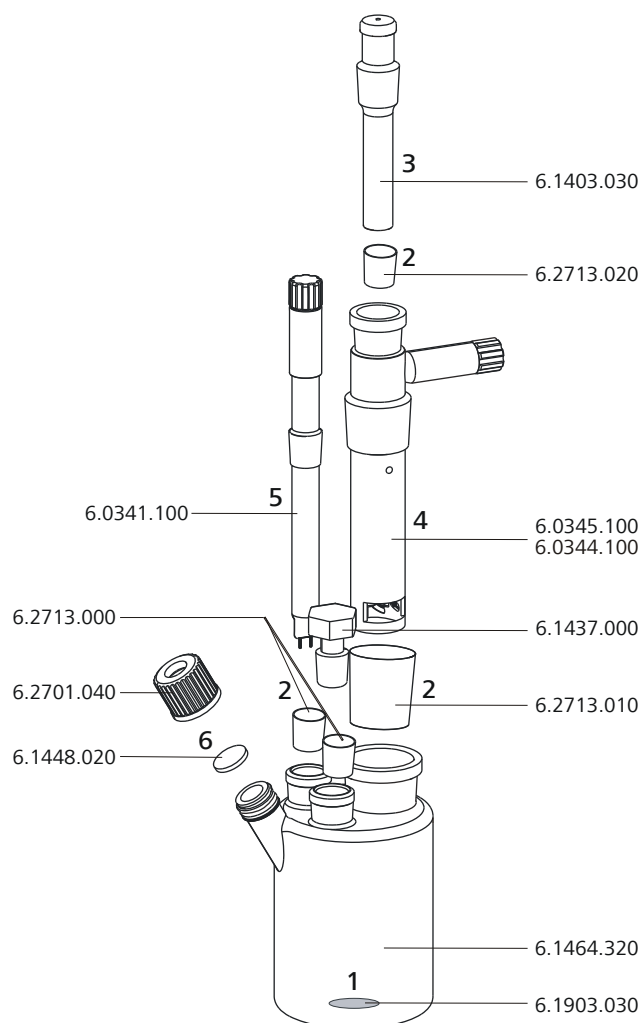


Figure 5 Equipping the titration cell

Equip the titration cell as follows:

- 1** Place the 6.1903.030 stirring bar in the titration cell.
- 2** Cut the 6.2713.0x0 ground-joint sleeves to the correct length and attach them to the ground joints of the inserts (electrodes, adsorber tube, etc.).

Take care to ensure that the edges of the ground-joint sleeves are cut to size cleanly and that there are no fringes. The ground-joint sleeves must not protrude at the lower edge of the ground-joint opening.

- 3** Insert the 6.1403.030 adsorber tube into the generator electrode.



- 4** Insert the 6.0345.100 generator electrode without diaphragm or the 6.0344.100 generator electrode with diaphragm together with the adsorber tube into the large ground-joint opening at the rear.
- 5** Insert the 6.0341.100 indicator electrode into the left ground-joint opening.
- 6** Place the 6.1448.020 septum on the front opening of the titration cell and screw it shut with the 6.2701.040 screw cap.
Tighten the screw cap only enough so that it seals. The septum must not bend.

Filling the titration cell (generator electrode without diaphragm)

Proceed as follows when using a generator electrode without a diaphragm:

- 1** Fill approximately 100 mL of reagent into the titration cell using the 6.2738.000 funnel.
- 2** Close the remaining ground-joint opening on the right with the 6.1437.000 ground-joint stopper (with ground-joint sleeve attached).

Filling the titration cell (generator electrode with diaphragm)

Proceed as follows when using a generator electrode with a diaphragm:

- 1** Fill approximately 5 mL of catholyte into the generator electrode.
- 2** Fill approximately 100 mL of anolyte into the titration cell using the 6.2738.000 funnel. The level of the anolyte should be roughly 1 - 2 mm above the level of the catholyte.
- 3** Close the remaining ground-joint opening on the right with the 6.1437.000 ground-joint stopper (with ground-joint sleeve attached).

5.2.3 Mounting the addition and aspiration tube

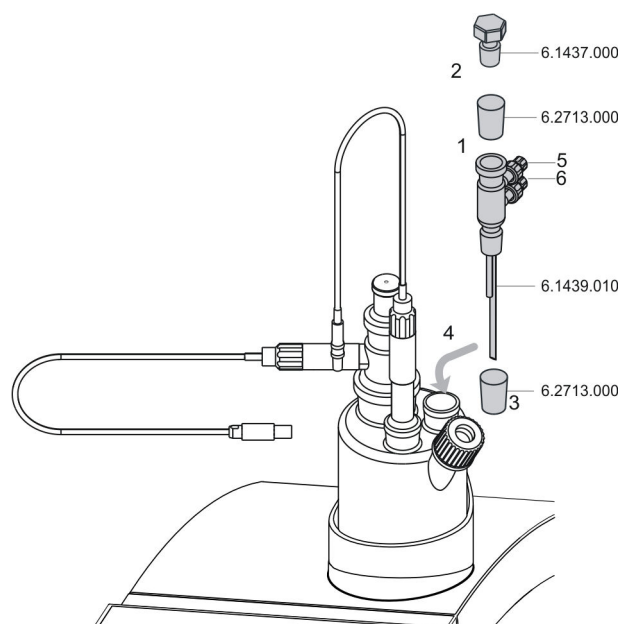


Figure 6 Mounting the addition and aspiration tube

Insert the addition and aspiration tube as follows into the titration cell:

- 1** Attach the 6.2713.000 ground-joint sleeve that has been cut to size to the ground joint of the 6.1437.000 stopper.
- 2** Insert the stopper into the 6.1439.010 addition and aspiration tube.
- 3** Attach the 6.2713.000 ground-joint sleeve that has been cut to size to the ground joint of the addition and aspiration tube.
- 4** Insert this assembly into the ground-joint opening.
- 5** Connect the tubing for the reagent addition at the upper connector of the addition and aspiration tube (5).
- 6** Connect the tubing for the aspiration of the titration cell at the lower connector of the addition and aspiration tube (6).

Details regarding how to connect the addition tubing and the aspiration tubing can be found in the tutorial for the 917 Coulometer.

**NOTICE**

The plug of the power supply unit is protected against accidental disconnection of the cable by means of a pull-out protection feature. If you wish to pull out the plug, you first need to pull back the outer plug sleeve marked with arrows.

- 2 Connect the power cord with the external power supply unit of the coulometer and with the power grid.

**CAUTION**

Switch off the Coulometer correctly by pressing the power switch before you disconnect the electricity supply. If this is not done, then there is a danger of data loss.

5.4 Connecting sensors

The measuring interface contains the following measuring inputs:

- **Gen.** for a generator electrode
- **Ind.** for a double Pt electrode
- **Temp.** for a temperature sensor of the Pt1000 or NTC type

**CAUTION**

Under all circumstances, avoid mixing up the electrode cable from the indicator electrode with the one from the generator electrode. Mark the screw heads of the cables accordingly.

5.4.1 Connecting generator electrodes

Screwing the electrode cable to the generator electrode

- 1 Unscrew the protective cap from the generator electrode.

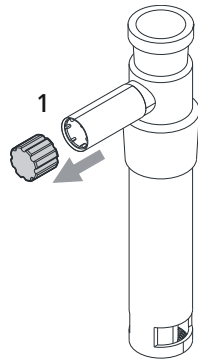


Figure 8 Unscrewing the protective cap from the generator electrode

- 2 Tighten the 6.2104.120 electrode cable to the generator electrode.

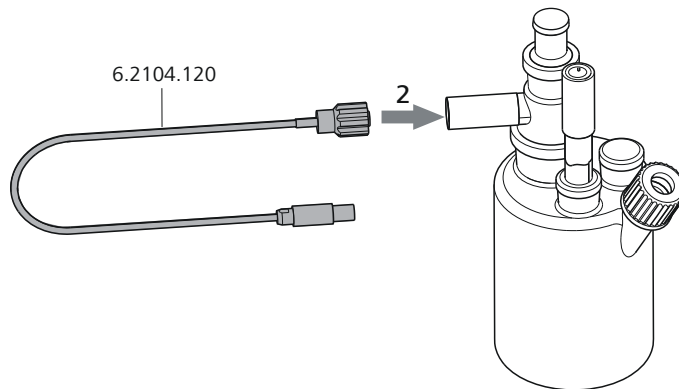


Figure 9 Screwing the electrode cable to the generator electrode

Connecting the electrode cable to the coulometer

- 1 Plug the electrode plug into the **Gen.** socket of the coulometer.

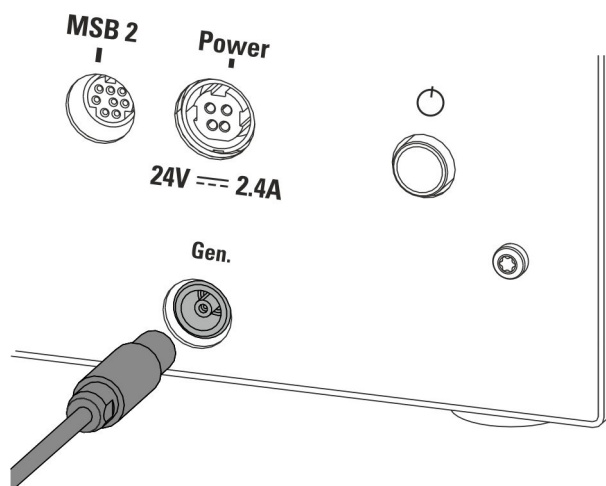


Figure 10 Connecting a generator electrode



NOTICE

The electrode cable is protected against accidental disconnection of the cable by means of a pull-out protection. If you wish to pull out the plug again, you first need to pull back the outer plug sleeve.

5.4.2 Connecting indicator electrodes

Screwing the electrode cable to the indicator electrode

- 1 Unscrew the protective cap from the indicator electrode.

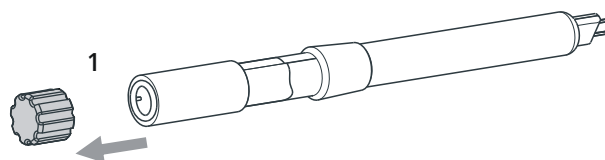


Figure 11 Unscrewing the protective cap from the indicator electrode

- 2 Tighten the 6.2104.020 electrode cable to the indicator electrode.

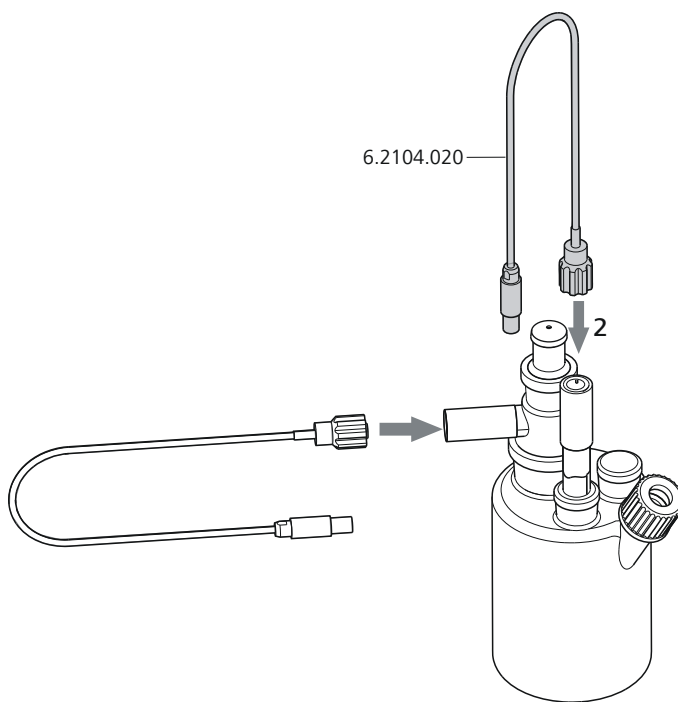


Figure 12 Screwing the electrode cable to the indicator electrode

Connecting the electrode cable to the coulometer

- 1 Plug the electrode plug into the **Ind.** socket of the coulometer.

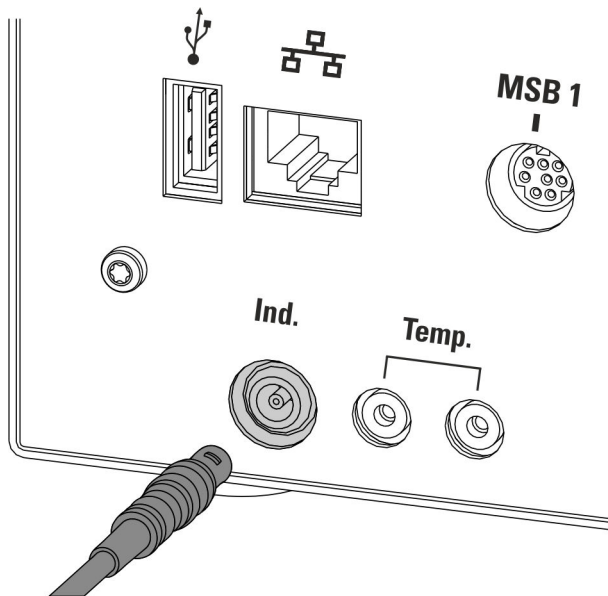


Figure 13 Connecting an indicator electrode

**NOTICE**

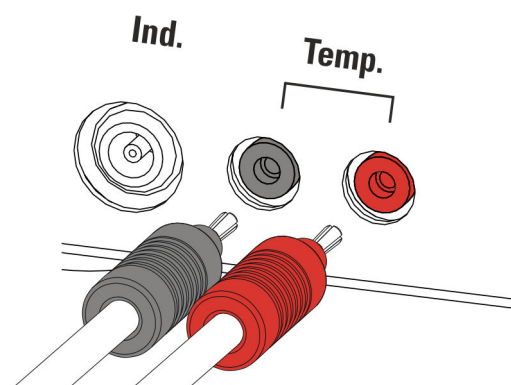
The electrode cable is protected against accidental disconnection of the cable by means of a pull-out protection. If you wish to pull out the plug again, you first need to pull back the outer plug sleeve.

5.4.3 Connecting a temperature sensor

A temperature sensor of the Pt1000 or NTC type can be connected to the **Temp.** connector.

Connect the temperature sensor as follows:

- 1 Insert the plugs of the temperature sensor into the **Temp.** sockets of the coulometer.

**NOTICE**

Always insert the red plug into the red socket. This is the only way that shielding against electrical interference can be ensured.

5.5 Connecting MSB devices

In order to connect MSB devices, e.g. dosing device or Remote Box, the Coulometer has two connectors at what is referred to as the *Metrohm Serial Bus* (MSB). Various peripheral devices can be connected in sequence (daisy chain) at a single MSB connector (8-pin Mini DIN socket) and be controlled simultaneously by the Coulometer. In addition to the connection cable, stirrers and the Remote Box are each equipped with their own MSB socket for this purpose.



NOTICE

The additional stirrer must not be connected to the MSB 1!

The following figure provides an overview of the instruments that can be connected to an MSB socket, along with a number of different cabling variations.

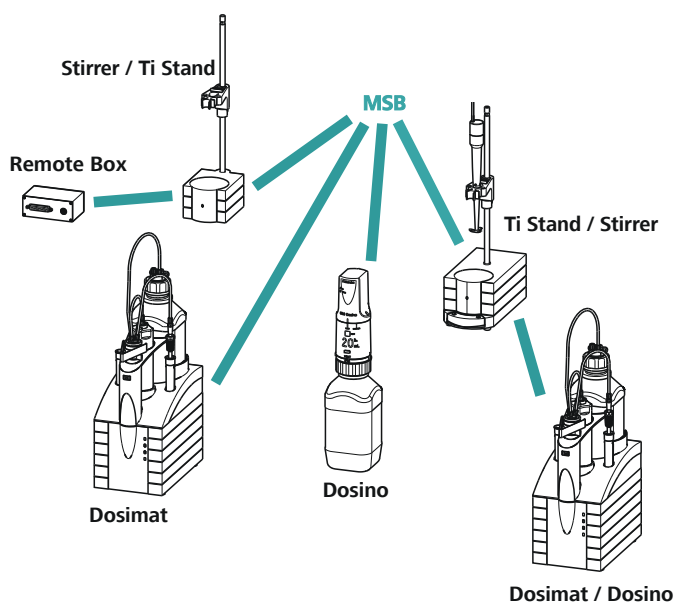


Figure 14 MSB connections

**NOTICE**

When connecting MSB devices together, the following must be observed:

- No additional stirrer may be connected to the MSB 1!
- Only one device of the same type may be used at a single MSB connector at one time.
- When making the connection, take care to ensure that the flat part of the MSB plug marked with arrows is pointing in the direction of the marking on the MSB connector (see figure 15, page 23).

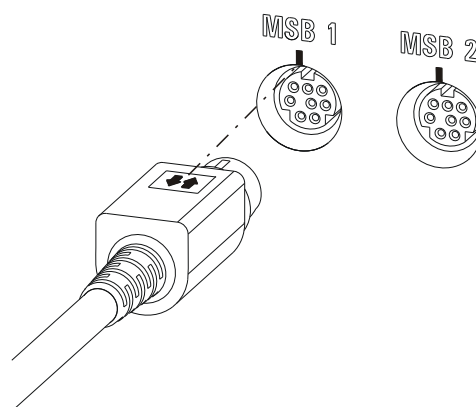


Figure 15 MSB connector

**CAUTION**

Switch off the Coulometer before you plug in MSB devices. When it is switched on, the Coulometer automatically recognizes which device is connected to which MSB connector. The connected MSB devices are entered automatically in the device manager.

MSB connections can be extended with the 6.2151.010 cable. The maximum connection length permitted is 6 m.

5.5.1 Connecting a dosing device

You can connect two dosing devices to the Coulometer.

The types of dosing devices that are supported are:

- 800 Dosino
- 805 Dosimat



Proceed as follows:

- 1 Switch off the Coulometer.
- 2 Connect the dosing device connection cable to an MSB connector on the rear side of the Coulometer.
- 3 Switch on the Coulometer.

5.5.2 Connecting an additional stirrer or titration stand

Proceed as follows:

- 1 Switch off the Coulometer.
- 2 Connect the connection cable of the magnetic stirrer or of the titration stand to MSB 2 on the rear of the Coulometer.
- 3 Switch on the Coulometer.

5.5.3 Connecting a Remote Box

Instruments that are controlled via remote lines and/or that send control signals via remote lines can be connected via the 6.2148.010 Remote Box. In addition to Metrohm, other instrument manufacturers also use similar connectors that make it possible to connect different instruments together. These interfaces are also frequently given the designations "TTL Logic", "I/O Control" or "Relay Control" and they generally have a signal level of 5 volts.

Control signals are understood to be electrical line statuses or brief (> 200 ms) electrical pulses which display the operational state of an instrument or which trigger or report an event. Sequences on a variety of instruments can thus be coordinated in a single complex automation system. However, no exchange of data is possible.

Proceed as follows:

- 1 Switch off the Coulometer.
- 2 Connect the Remote Box connection cable to an MSB connector on the rear side of the Coulometer.
- 3 Switch on the Coulometer.

You will find precise information concerning the pin assignment of the interface on the Remote Box in the Appendix of the more detailed manual.

5.6 Connecting USB devices

5.6.1 General

The 917 Coulometer has a USB connector (type A socket) for peripheral devices with a USB interface and for the 885 Compact Oven SC. If you wish to connect more than one device to the USB, you can use a commercially available USB hub.



NOTICE

We recommend that the Coulometer be switched off while you set up or disconnect connections between the devices.

5.6.2 Connecting a USB hub

Use a USB hub with its own power supply.

Connect the USB hub as follows:

- 1 With the help of the 6.2151.030 cable (length 0.6 m) or the 6.2151.020 cable (length 1.8 m), connect the USB connector of the Coulometer (Type A) with the USB connector of the hub (Type B, see manual for the USB hub).

The USB hub is recognized automatically.

5.6.3 Connecting a printer

Printers connected to the 917 Coulometer must meet the following requirements:

- Printer languages: HP-PCL, HP-PCL-GUI, Canon BJL Commands or Epson ESC P/2
- Paper size: A4 or Letter.

Connect the printer as follows:

- 1 With the aid of the 6.2151.020 cable, connect the USB connector of the Coulometer (type A) with the USB connector of the printer (type B, see manual for the printer).
- 2 Configure the printer in the device manager of the Coulometer.



5.6.4 Connecting a balance

If you want to connect a balance to the Coulometer you need a USB/RS-232 adapter (6.2148.050).

The following table offers an overview of the balances that you can use together with the Coulometer and of which cable you will need for connection to the RS-232 interface:

Balance	Cables
AND ER, FR, FX with RS-232 interface (OP-03)	6.2125.020 + 6.2125.010
Mettler AB, AG, PR (LC-RS9)	In the scope of delivery for the balance
Mettler AM, PM, PE with interface option 016 or Mettler AJ, PJ with interface option 018	6.2146.020 + 6.2125.010 Also from Mettler: ME 47473 adapter and either ME 42500 hand switch or ME 46278 foot switch
Mettler AT	6.2146.020 + 6.2125.010 Also from Mettler: ME 42500 hand switch or ME 46278 foot switch
Mettler AX, MX, UMX, PG, AB-S, PB-S, XP, XS	6.2134.120
Mettler AE with interface option 011 or 012	6.2125.020 + 6.2125.010 Also from Mettler: ME 42500 hand switch or ME 46278 foot switch
Ohaus Voyager, Explorer, Analytical Plus	Cable AS017-09 from Ohaus
Precisa balances with RS-232-C interface	6.2125.080 + 6.2125.010
Sartorius MP8, MC, LA, Genius, Cubis	6.2134.060
Shimadzu BX, BW	6.2125.080 + 6.2125.010

Connect the balance as follows:

- 1** Connect the USB plug of the USB/RS-232 adapter with the USB connector of the Coulometer (Type A).
The USB/RS-232 adapter will be recognized automatically and entered in the device manager of the Coulometer.
- 2** Connect the RS-232 interface of the USB/RS-232 adapter with the RS-232 interface of the balance (see table for cable).
- 3** Switch on the balance.
- 4** If necessary, switch on the RS-232 interface of the balance.
- 5** Configure the RS-232 interface of the USB/RS-232 adapter in the device manager of the Coulometer .
- 6** Enter and configure the balance in the device manager of the Coulometer.
- 7** Make sure that the parameters of the USB/RS-232 adapter configured in the device manager match those of the balance.

5.6.5 Connecting a PC keyboard

The PC keyboard is used as an aid for text and numerical input.

Connect the PC keyboard as follows:

- 1** Connect the USB plug of the keyboard with the USB connector of the Coulometer (Type A).
- 2** Enter and configure the keyboard in the device manager of the Coulometer.

5.6.6 Connecting a barcode reader

The barcode reader is used as an aid for text and numerical input. You can connect a barcode reader with USB interface.

Connect the barcode reader as follows:

- 1** Connect the USB plug of the barcode reader with the USB connector of the Coulometer (Type A).



- 2 Enter and configure the barcode reader in the device manager.

Settings on the barcode reader:

Program the barcode reader as follows (also see manual for the barcode reader):

- 1 Switch the barcode reader to programming mode.
- 2 Specify the desired layout for the keyboard (USA, Germany, France, Spain, German-speaking Switzerland).
This setting must match the setting in the device manager.
- 3 Make sure that the barcode reader is set in such a way that Ctrl characters (ASCII 00 to 31) can be sent.
- 4 Program the barcode reader in such a way that the ASCII character 02 (STX or Ctrl B) is sent as the first character. This first character is normally referred to as the "Preamble" or "Prefix Code".
- 5 Program the barcode reader in such a way that the ASCII character 04 (EOT or Ctrl D) is sent as the last character. This last character is normally referred to as the "Postamble", "Record Suffix" or "Postfix Code".
- 6 Exit the programming mode.

5.6.7 Connecting the 885 Compact Oven SC



NOTICE

In order for the 885 Compact Oven SC to be controlled with the 917 Coulometer, the following firmware versions must be installed on the instruments as a minimum requirement:

- 917 Coulometer 5.917.0025
- 885 Compact Oven SC 5.885.0013

The 885 Compact Oven SC is connected via the USB interface. The 6.2151.110 USB cable is required for this.

If the USB interface on the 917 Coulometer is also needed for other USB devices (USB flash drive, USB keyboard, USB/RS-232 adapter for balance), use a USB hub with its own power supply.

Connect the 885 Compact Oven SC as follows:

- 1 Switch off the 917 Coulometer.
- 2 Connect the 885 Compact Oven SC to the Coulometer using a USB cable.
- 3 Switch on the 885 Compact Oven SC.
- 4 Switch on the 917 Coulometer.



NOTICE

When the 917 Coulometer is started, the 885 Compact Oven SC is added to the device manager and the settings from the device manager are transferred to the instrument.

The switch-on sequence must be strictly observed with the 885 Compact Oven SC.

- 5 Configure the 885 Compact Oven SC in the device manager.

5.7 Connecting the Coulometer to a network

The 917 Coulometer has a network connection (Ethernet). This can be used to integrate your Coulometer in your network. You can, for example, store data on a PC within the network or print reports on a network printer. You will find information as to which settings are necessary for the network connection in the *Device manager* chapter contained in the more detailed manual.

Connecting the Coulometer to a network

6 Operation

6.1 Switching the instrument on and off

Switching on the instrument



CAUTION

Peripheral devices (e.g., printers, 885 Compact Oven SC, etc) must be connected and switched on before you switch on the 917 Coulometer.



NOTICE

English is set as the default dialog language when the instrument is switched on for the first time.

Information about changing the dialog language can be found in the chapter *Selecting the dialog language* of the detailed manual.

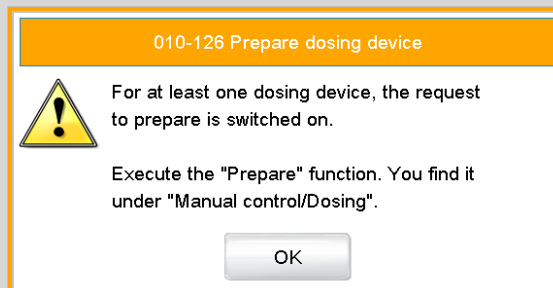
Proceed as follows:

- 1** ▪ Press the power switch on the left-hand side of the back panel of the 917 Coulometer.
The 917 Coulometer is initialized. A system test is performed. This process takes some time.



NOTICE

If a buret unit is connected, then a request appears to carry out the **Prepare** function:



All tubings and the cylinder are rinsed with the **Prepare** function. The preparing of the buret unit is described in the chapter *Manual control* of the detailed manual.

- Confirm the message with **[OK]**.

The main dialog is displayed:

Switching off the instrument



CAUTION

The 917 Coulometer must be switched off by pressing the power switch on the rear of the instrument before the electricity supply is interrupted. If this is not done, then there is a danger of data loss.




Proceed as follows:

- 1 Press the power switch on the left-hand side of the back panel of the 917 Coulometer.

The current data is saved and the system is shut down. This process takes just a short time. At the same time, all other instruments connected to the 917 Coulometer via a USB cable are also being switched off (except the 885 Compact Oven SC).

6.2 Fundamentals of operation

6.2.1 Touch-sensitive screen

The entire 917 Coulometer user interface is touch-sensitive. Simply touch a few of the buttons on the interface to learn how a touch-sensitive screen reacts. You can always return to the main dialog by touching [].

In order to enable an element on the 917 Coulometer user interface, just touch the screen with your fingertip, the eraser of a pencil or a stylus (special tool for operating instruments with touch-sensitive screens).

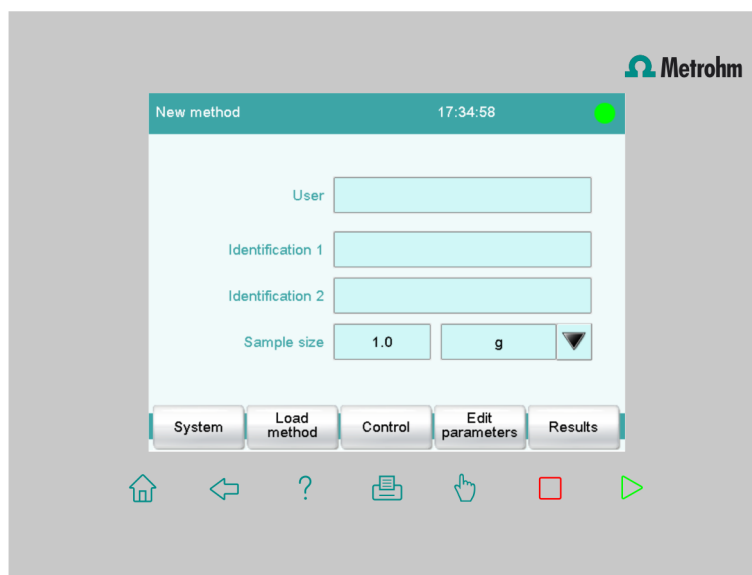


CAUTION

Never touch the touch screen with a pointed or sharp object such as a ballpoint pen.








In the default setting, the software is configured in such a way that an acoustic signal will be generated every time an active control is touched. This setting can be deactivated in the system settings.

6.2.2 Display elements and controls



The following display elements and controls are available:



Table 1 Fixed keys which are always available

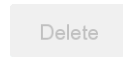
	[Home] always opens the main dialog.
	[Back] saves the entry and opens the next-higher dialog page.
	[Help] opens the online help for the dialog displayed.
	[Print] opens the printing dialog.
	[Manual] opens the manual control.
	[Stop] cancels the running determination.
	[Start] starts a determination.

The file name of the loaded method, the time and the system status are displayed in the main dialog in the **Title bar**.

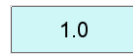
In the other dialogs, the title bar shows the headings of the next upper level and of the displayed dialog. This is an aid for orientation during navigation through the user dialog.

Table 2 Screen elements

	Buttons open a new dialog when they are tapped.
	



Inactive buttons with gray lettering indicate that the respective function is not available at the moment.



Input fields open an input dialog when tapped.



Tapping on the **selection symbol** opens a selection list.



A **check box** can also be activated or deactivated by tapping on it.

6.2.3 Status display

The current status of the system is displayed in the upper right-hand corner of the title bar.

Table 3 Status displays



The instrument is in normal status.



The working medium is being conditioned.



Conditioning has been paused.



The working medium is conditioned.



A method has been started.



A method has been paused.



An action has been started in manual control.

6.2.4 Entering text and numbers

In the editing dialog for text or numerical input, enter the individual characters by tapping in the input field. The following functions are available:

Text editor



Table 4 Editing functions

Editing function	Description
[OK]	The modification is applied and the editing dialog is exited.
[Cancel]	The editing dialog is exited without applying the modification.
[Delete entry]	The content of the input field is deleted completely.
[□]	The character in front of the cursor is deleted.
[←]	The cursor within the input field is shifted to the left by one character.
[⇒]	The cursor within the input field is shifted to the right by one character.
[a...z]	The lower-case letters are displayed. The label changes to [A...Z]. The upper-case letters are displayed again by tapping.
[0-9]	Numbers and mathematical characters are displayed.
[Special characters]	Special characters are displayed. You can use the button [More] to navigate through all available characters.

Number editor

Edit command / Stop conditions

Stop time

Input:
1 ... 999999

Default value:
off

7	8	9	off
4	5	6	R1 ▼
1	2	3	
0	+/-	.	

Cancel Delete entry OK

Table 5 Editing functions

Editing function	Description
[OK]	The modification is applied and the editing dialog is exited.
[Cancel]	The editing dialog is exited without applying the modification.
[Delete entry]	The content of the input field is deleted completely.
[off]	If not only numbers but also special values (e.g., off) can be entered, then the corresponding buttons will be shown to the right of the numerical keypad.
[R1]	For many parameters, a result previously defined in the method can also be entered in place of a number. You can select the result variable by touching [R1] .



NOTICE

A commercially available USB keyboard can be connected to make text and numerical input easier.

7 Maintenance

Maintenance

The electronic and mechanical functional groups of Metrohm instruments can and should be checked by specialist personnel from Metrohm as part of a regular preventive maintenance schedule. Please ask your local Metrohm representative regarding the precise terms and conditions involved in concluding a corresponding maintenance agreement.

For detailed information on this topic, please visit www.metrohm.com.

Cleaning

Cleaning the surfaces of the instrument

Prerequisites

- The instrument is disconnected from the power grid.

- 1 Clean the surfaces with a damp cloth.



NOTICE

Water or ethanol can be used as a cleaning medium.



NOTICE

The connectors at the rear of the instrument must only be cleaned with a dry cloth.



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