

854 iConnect



Introduction

The 854 iConnect is used as measuring input for **iTrodes** (electrodes with integrated memory chip).

The A/D converter in the 854 iConnect transforms the analog measuring signal of the electrode into digital pulses directly at the sensor. As a result of the digital data transfer, the measuring signal is no longer prone to electrostatic influences. A transmission free from interferences can be guaranteed no matter how long the electrode cable is.

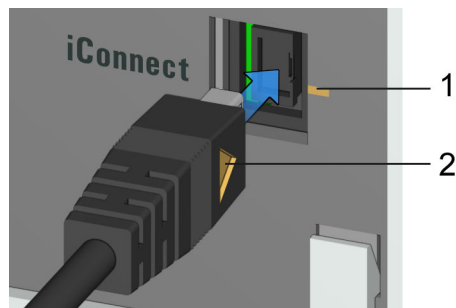
NOTICE

Use the **mini USB adapter cable** to connect the 854 iConnect to an instrument.

Connecting the mini USB adapter cable to an instrument

If the mini USB adapter cable is not connected to the instrument yet, proceed as follows:

1. Plug the **mini USB adapter cable** (2) into the **iConnect** connector of the instrument (1). Observe the correct orientation (markings).



Depending on the instrument's model version, there may be several **iConnect** connectors.

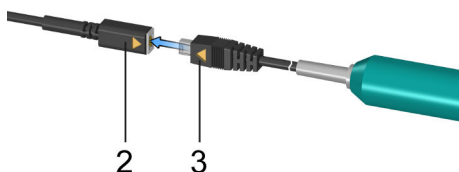
2. Leave the adapter cable plugged in to protect the connector inside the instrument (1) against mechanical impact.

Connecting the 854 iConnect

Make sure that the mini USB adapter cable is connected to the instrument.

The 854 iConnect can be connected when the instrument is switched on.

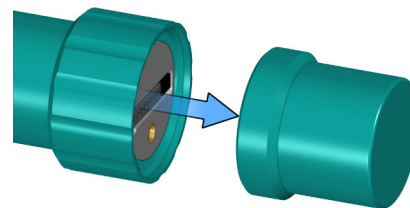
1. Plug the plug of the 854 iConnect (3) into the socket of the mini USB adapter cable (2). Observe the correct orientation (markings).



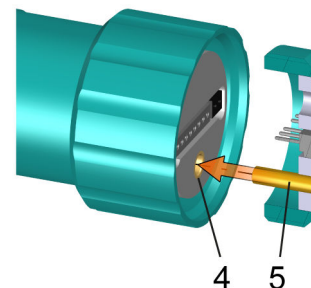
As soon as the instrument is switched on, the 854 iConnect is detected automatically and entered as measuring input into the device properties.

Connecting the electrode

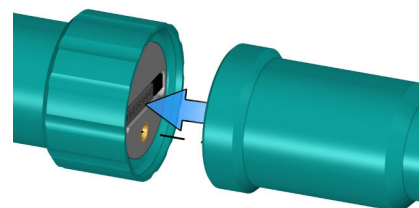
1. Remove the protective cap of the 854 iConnect.



2. Align the guide pin (5) of the electrode with the recess in the 854 iConnect (4).



3. Attach the electrode to the 854 iConnect.



4. Tighten the screw cap by hand.

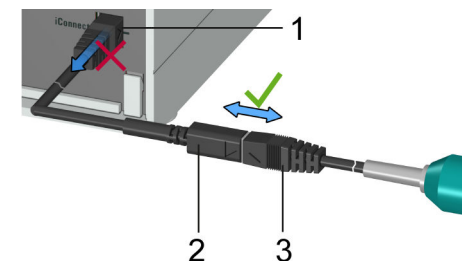
If there is an electrode in the sensor list of the firmware or software, the electrode is detected automatically when connecting it.

NOTICE

Mount the protective cap again as soon as the 854 iConnect is not in use anymore and no electrode is connected.

Removing the 854 iConnect

The 854 iConnect can be removed while the instrument is switched on.



1. Unplug the 854 iConnect (3) from the socket of the mini USB adapter cable (2).
2. Leave the mini USB adapter cable (2) plugged into the socket of the instrument (1).

NOTICE

Position the mini USB adapter cable in such a way that it cannot be removed by accident.

Technical specifications

Measuring interface

Potentiometry:

Input resistance	$> 1 \cdot 10^{12} \Omega$
Offset current	$< 1 \cdot 10^{-12} \text{ A}$ under reference conditions

Polarizer:

Polarization current $I_{pol}^{1)}$	$-122.5 - +122.5 \mu\text{A}$ in steps of $2.5 \mu\text{A}$
Polarization voltage $U_{pol}^{2)}$	$-1,225 - +1,225 \text{ mV}$ in steps of 25 mV

¹⁾ $-125.0 / +125.0 \mu\text{A}$: non-guaranteed values, dependent on reference voltage $+2.5 \text{ V}$

²⁾ $-1,250 / +1,250 \text{ mV}$: non-guaranteed values, dependent on reference voltage $+2.5 \text{ V}$

Measuring ranges

pH values:

Range	-13 - +20 pH
Resolution	0.001 pH
Measuring accuracy ¹⁾	±0.003 pH

Voltage: ²⁾

Range	-1,200.0 mV - +1,200.0 mV
Resolution	0.1 mV
Measuring accuracy ¹⁾	±0.2 mV

Current: ³⁾

Range	-120 µA - +120 µA
Resolution	0.01 µA

Temperature:

Range	
Pt1000	-150 °C - +250 °C
NTC	-5 °C - +250 °C ⁴⁾
Resolution	
Pt1000	0.1 °C
NTC	0.1 °C
Measuring accuracy ¹⁾	
Pt1000	±0.6 °C (+10 °C - +40 °C)
NTC	±0.2 °C (-20 °C - +150 °C)

¹⁾ ± 1 digit, without sensor error, under reference conditions

²⁾ potentiometric and voltametric

³⁾ amperometric

⁴⁾ for an NTC sensor with $R(25\text{ °C}) = 30,000\ \Omega$ and $B(25/50) = 4,100\ \text{K}$.

Energy supply

Energy supply	via data cable
Operating voltage	+5 V, controlled

Power consumption approx. 10 mA

Ambient temperature

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

Reference conditions

Ambient temperature	+25 °C (±3 °C)
Relative humidity	≤ 60 %
Operating temperature status	Instrument in operation at least 30 min

Dimensions

Material of housing	Polypropylene (PP) with 5% steel fibers
Diameter	23 mm
Length of housing	71 mm
Length of cable	1,500 mm
Weight (without electrode)	51 g

Disposal



This product is covered by European Directive, 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.

Accessories

Up-to-date information on the scope of delivery and optional accessories for your product can be found on the Internet. You can download this information using the article number as follows:

Downloading the accessories list

1. Enter <https://www.metrohm.com/> into your Internet browser.
2. Enter the article number (e.g. **854**) into the search field.
The search result is displayed.
3. Click on the product.
Detailed information regarding the product is shown on various tabs.
4. On the **Included parts** tab, click on **Download the PDF**.
The PDF file with the accessories data is created.

NOTICE

Once you have received your new product, we recommend downloading the accessories list from the Internet, printing it out and keeping it together with the manual for reference purposes.