

## 854 iConnect



### Introduction

The 854 iConnect is the measuring input for electrodes with an integrated memory chip (iTrodes). The analog-digital 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.

### Connecting the iConnect

The 854 iConnect can be connected to the following devices:

- Titrando's with an iConnect connector
- 867 pH Module

### Connecting to a Titrando

Either one or two 854 iConnect can be connected to a Titrando depending on the Titrando's model version.

- Plug the iConnect plug of the 854 iConnect into the socket "iConnect" of the Titrando. Make sure that the marking on the plug matches the marking on the Titrando as shown in figure 1.

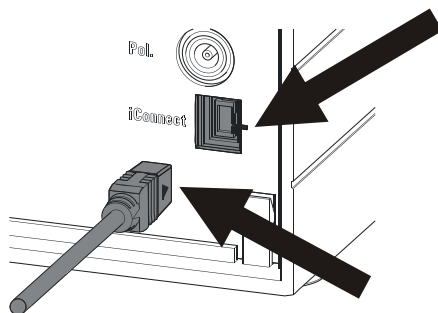


Fig. 1: Connecting the 854 iConnect

- The 854 iConnect is detected automatically and entered as measuring input into the device properties of the Titrando. If an electrode is connected to the 854 iConnect that is not yet listed in the sensor list of the control software, a corresponding message is displayed.

The 854 iConnect can be plugged in and disconnected without problems while the instrument is switched on.

### Connecting an electrode

- Remove the protective cap and connect the electrode as shown in figure 2. The guide pin guarantees correct connection in such a way that the contact pins cannot be damaged.
- Tighten the screw coupling with two fingers.

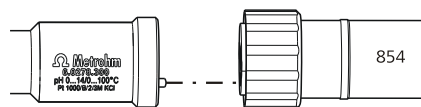


Fig. 2: Connecting an electrode

### Note

Screw on the protective cap when the 854 iConnect is not in use as a protection against chemicals and mechanical impact.

## 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 <sub>pol</sub> <sup>1)</sup>	–122.5...+122.5 $\mu\text{A}$ in steps of 2.5 $\mu\text{A}$
Polarization voltage U <sub>pol</sub> <sup>2)</sup>	–1225...+1225 mV in steps of 25 mV

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

<sup>2)</sup> –1250 / +1250 mV: non-guaranteed values, dependent on reference voltage +2.5 V

### Measuring ranges

#### pH values:

Range	–13...+20 pH
Resolution	0.001 pH
Measuring accuracy <sup>1)</sup>	$\pm 0.003 \text{ pH}$

#### Voltage:<sup>2)</sup>

Range	–1200 mV... +1200 mV
Resolution	0.1 mV
Measuring accuracy <sup>1)</sup>	$\pm 0.2 \text{ mV}$

#### Current:<sup>3)</sup>

Range	–120 $\mu\text{A}$ ...+120 $\mu\text{A}$
Resolution	0.01 $\mu\text{A}$

### Temperature:

Range	
Pt1000	–150 °C...+250 °C
NTC	–5 °C...+250 °C <sup>4)</sup>
Resolution	
Pt1000	0.1 °C
NTC	0.1 °C

#### Measuring accuracy<sup>1)</sup>

Pt1000	$\pm 0.2 \text{ °C}$ (–20 °C... +150 °C)
NTC	$\pm 0.6 \text{ °C}$ (+10 °C... +40 °C)

<sup>1)</sup>  $\pm 1$  digit, without sensor error, under reference conditions

<sup>2)</sup> potentiometric and voltametric

<sup>3)</sup> amperometric

<sup>4)</sup> for an NTC sensor with  $R(25 \text{ °C}) = 30'000 \Omega$  and  $B(25/50) = 4100 \text{ K}$ .

### Power supply

Power supply	via data cable, e.g. from Titrando
Operating voltage	5 V
Power consumption	approx. 10 mA during measurement

### Safety specifications

Design and testing	According to EN/IEC/UL 61010-1, CSA-C22.2 No. 61010-1 Protection class III
--------------------	--

### Electromagnetic compatibility

Emission	Standards fulfilled: EN/IEC 61326-1 EN/IEC 61000-6-3 EN 55022 / CISPR 22
----------	---

Immunity	Standards fulfilled: EN/IEC 61326-1 EN/IEC 61000-6-2 EN/IEC 61000-4-2 EN/IEC 61000-4-3
----------	--

### Ambient temperature

Nominal function range	+5 °C...+45 °C (at a maximum of 85 % humidity)
Storage	−20 °C...+60 °C
Transport	−40 °C...+60 °C

### Reference conditions

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

### Dimensions

Material of housing	Polypropylene (PP) with 5 % steel fibers
Diameter	23 mm
Length of housing	71 mm
Length of cable	1500 mm
Weight (without electrode)	51 g

### Recycling and disposal



This product is covered by European Directive 2002/96/EC, WEEE – Waste from Electrical and Electronic Equipment.

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

More details about the disposal of your old equipment can be

obtained from your local authorities, from waste disposal companies or from your local dealer.

### Scope of delivery

#### 2.854.0010 iConnect

854 iConnect	1.854.0010
Manual	8.854.8001DE, 854 iConnect, DE, EN
854 iConnect, DE, EN	8.854.8001EN

#### Optional accessories

iAquatrode Plus with Pt1000	6.0277.300
iUnitrode with Pt1000	6.0278.300
iSolvotrode	6.0279.300
iAg Titrode	6.0470.300
iPt Titrode	6.0471.300
iEcotrode plus	6.0280.300
iAg ring electrode, comb.	6.0450.300
iPt ring electrode, comb.	6.0451.300

### Warranty (guarantee)

Metrohm guarantees that the deliveries and services it provides are free from material, design or manufacturing errors. The warranty period is 36 months from the day of delivery; for day and night operation it is 18 months. The warranty remains valid on condition that the service is provided by an authorized Metrohm service organization.

Glass breakage is excluded from the warranty for electrodes and other glassware. The warranty for the accuracy corresponds to the technical specifications given in this manual. For components from third parties that make up a considerable part of our instrument, the manufacturer's war-

ranty provisions apply. Warranty claims cannot be pursued if the Customer has not complied with the obligations to make payment on time.

During the warranty period Metrohm undertakes, at its own choice, to either repair at its own premises, free of charge, any instruments that can be shown to be faulty or to replace them. Transport costs are to the Customer's account.

Faults arising from circumstances that are not the responsibility of Metrohm, such as improper storage or improper use, etc. are expressly excluded from the warranty.

### Further documents

Documentation in additional languages can be found on <http://products.metrohm.com> under **Literature/Technical documentation**.