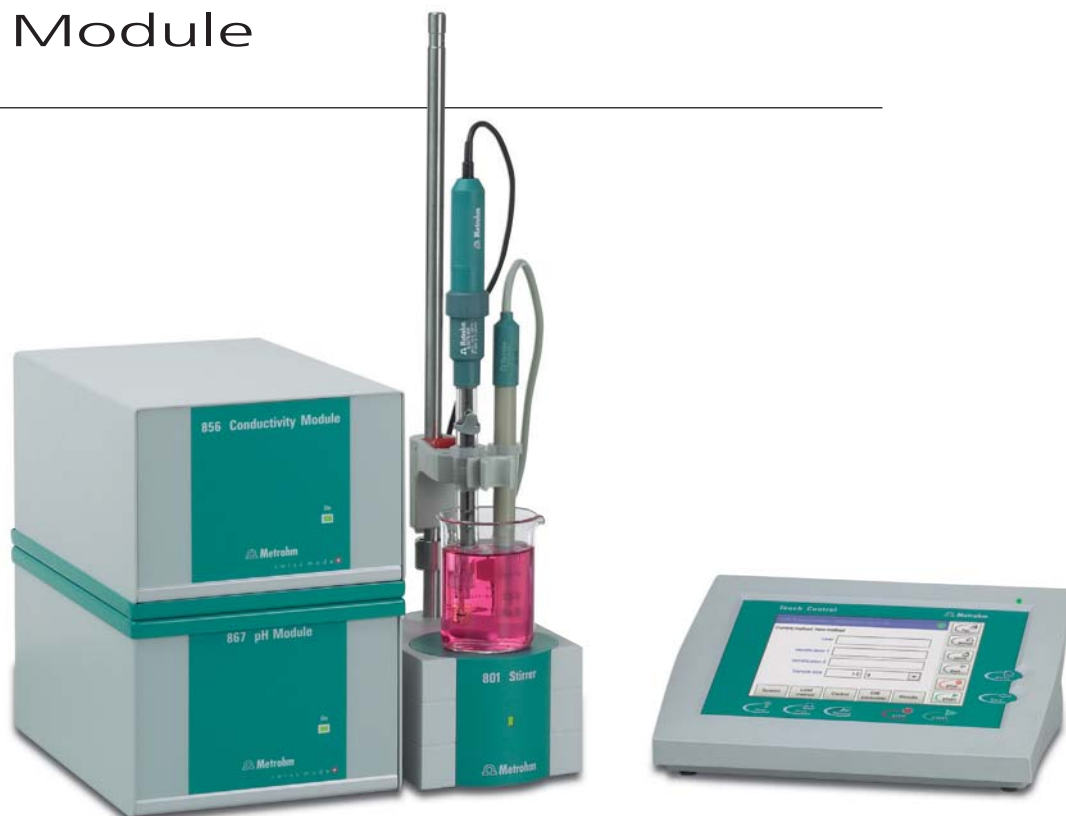# Metrohm

swiss made

856 Conductivity Module
867 pH Module

856 Conductivity Module
867 pH Module

Precision
Both modules are equipped with the latest measuring technology.

• The 856 Conductivity Module introduces the five-ring measuring technique for conductivity measurements with a large linearity range.

• The 867 pH Module can be used with conventional potentiometric sensors for pH and ion measurement or with the «iTrodes» – the new generation of intelligent electrodes.

Modularity
The 856 Conductivity Module and the 867 pH Module can be used in many ways. Whatever your application, you can always be sure that your measurements are fully compliant with 21 CFR Part 11.

• As add-on measuring input for any Titrando for pH, ion or conductivity measurement

• As fully software-controlled pH, ion or conductivity meter together with PC Control

• As stand-alone pH, ion or conductivity meter together with 840 Touch Control

• As fully automated pH, ion or conductivity meter with the 869 Compact Sample Changer or the 814/815 USB Sample Processors

Flexibility

Four MSB and two USB inputs offer Plug&Play functionality for the following uses:

• Connection of printer, sample processor, barcode reader, etc.

• Connection of up to four stirrers and four intelligent dosing devices for the addition of auxiliary solutions or for fully automatic ion measurement using standard addition.

A combination of both modules can be used for pH and conductivity measurement in the same beaker.

856 Conductivity Module

The new five-ring conductivity cells have a wider linearity range than classical conductivity cells with Pt sheets and do not require additional platinization. A current applied to the inner electrode generates a current toward the outer, grounded electrodes. This means that polarization effects and measuring errors are minimized.

There are now no more interferences with potentiometric measurements, conductivity and pH can now be measured in the same beaker simultaneously.

Regular conductivity measuring cells with banana connector (such as the 6.0914.040 for very low conductivities – below 5 µS/cm) can still be connected via an optional adapter.

Technical specifications

	6.0915.100	6.0915.130
Shaft material	PEEK	PEEK
Temperature sensor	Pt 1000	Pt 1000
Shaft length	125 mm	142 mm
Shaft diameter	12 mm	12 mm
Minimum immersion depth	34 mm	50 mm
Cell constant	0.7 cm^{-1}	1 cm^{-1}
Ideal measuring range	0.005…20 mS/cm	0.005…100 mS/cm
Temperature range	0…70 °C	0…70 °C

867 pH Module

The 867 pH Module is equipped with both conventional and intelligent measuring input and can be used for pH/U/ORP/T measurements with intelligent electrodes – «iTrodes» – and conventional potentiometric sensors.

In case you have doubts about the condition of your pH electrode, the implemented electrode test allows a fast check and suggests troubleshooting measures.

iTrodes – the built-in memory chip allows the storage of such important sensor data as article and serial numbers, calibration data, calibration history, working life and calibration validity period. All the sensor data is read in automatically when the iTrode is connected to the 867 pH Module. Mix-ups, editing errors or expired calibration periods are therefore avoided.

Ion determination with ion selective electrodes can either be done by direct measurement or fully automatically by standard addition with an optional 800 Dosino or 805 Dosimat.

Measuring range	
pH	-13…+20
Potential	-1200…1200 mV
Temperature Pt 1000	-150…+250 °C
Temperature NTC	-5…+250 °C
Concentration	$10^{-21}…10^{+20}$ mol/L
I_{pol} / U_{pol} with integrated polarizer	yes
Resolution	
pH	0.001 pH
Potential	0.1 mV
Temperature	0.1 °C
pH calibration – number of buffers	1…5
Automatic buffer recognition and temperature compensation	yes
Intelligent electrodes – «iTrodes»	yes
Automatic electrode test	yes
Remote stirrer control	yes
Method and result storage	yes
Compliance with GLP, GMP and 21 CFR Part 11	yes
USB connections for printers, sample processors, barcode readers, etc.	2
MSB connections for stirrer, dosing devices	4

Ordering Information

856 Conductivity Module

2.856.0010	856 Conductivity Module (without accessories)
6.0915.100	Conductivity cell with Pt 1000 (c ≈ 0.7 cm^{-1}), plug N
6.0915.130	Conductivity cell with Pt 1000 (c ≈ 1.0 cm^{-1}), plug N
6.2103.160	Adapter 4 x B (4 mm) / plug N (connection of conventional conductivity measuring cells)

2.856.0110	856 Conductivity Module with Touch Control including:
	856 Conductivity Module with stand and electrode holder

	2.840.0100	Touch Control
	6.0915.100	Conductivity cell with Pt 1000 (c ≈ 0.7 cm^{-1})
	6.2324.000	Conductivity standard 100 µS/cm

2.856.0210	856 Conductivity Module with *tiamo*™ 2.0 light including:
	856 Conductivity Module with stand and electrode holder

	6.6056.201	*tiamo*™ 2.0 light, 1 license
	6.2151.000	Cable USB A – Mini-DIN, 8 pins
	6.0915.100	Conductivity cell with Pt 1000 (c ≈ 0.7 cm^{-1})
	6.2324.000	Conductivity standard 100 µS/cm

867 pH Module

2.867.0010	867 pH Module (without accessories)

2.867.0110	867 pH Module with Touch Control including:
	867 pH Module with stand and electrode holder

	2.840.0100	Touch Control
	2.854.0010	iConnect
	6.0278.300	iUnitrode with Pt 1000
	6.2307.230	Buffer solutions pH 4, 7, 9 (3 x 10 x 30 mL)
	6.2325.000	pHit Kit

2.867.0210	867 pH Module with *tiamo*™ 2.0 light including:
	867 pH Module with stand and electrode holder

	6.6056.201	*tiamo* 2.0 light, 1 license
	6.2151.000	Cable USB A – Mini-DIN, 8 pins
	2.854.0010	iConnect
	6.0278.300	iUnitrode with Pt 1000
	6.2307.230	Buffer solutions pH 4, 7, 9 (3 x 10 x 30 mL)
	6.2325.000	pHit Kit

Automation options

Both modules can easily be expanded to fully automated systems. The economical 869 Compact Sample Changer can handle up to 11 samples for immediate measurement.

2.869.0010	869 Compact Sample Changer
6.2148.010	Remote Box
6.2141.320	Remote Cable
6.1459.300	Sample beaker (PP) 120 mL, 100 pieces

For higher sample numbers and advanced automation applications (pipetting, dilution, etc.) please ask for the 814/815 USB Sample Processors.

Optional accessories for 856 Conductivity Module and 867 pH Module

2.801.0040	801 Magnetic stirrer
2.804.0040	Ti Stand with stand rod
2.802.0020	802 Propeller stirrer for 804 Titration stand
2.847.0010	USB Lab Link
6.2065.000	Stacking frame
2.800.0010	800 Dosino
6.3032.120	Intelligent Dosing Unit 2 mL for 800 Dosino
6.3032.150	Intelligent Dosing Unit 5 mL for 800 Dosino
6.3032.210	Intelligent Dosing Unit 10 mL for 800 Dosino
6.3032.220	Intelligent Dosing Unit 20 mL for 800 Dosino
6.3032.250	Intelligent Dosing Unit 50 mL for 800 Dosino
2.805.0010	805 Dosimat
6.3026.110	Intelligent Exchange Unit 1 mL for 805 Dosimat
6.3026.150	Intelligent Exchange Unit 5 mL for 805 Dosimat
6.3026.210	Intelligent Exchange Unit 10 mL for 805 Dosimat
6.3026.220	Intelligent Exchange Unit 20 mL for 805 Dosimat
6.3026.250	Intelligent Exchange Unit 50 mL for 805 Dosimat

c(NaOH) = 0.1 mol/L

856 Conductivity Mo

867 pH Module

Ω **Metrohm**

Metrohm AG
CH-9101 Herisau/Switzerland
Phone +41 71 353 85 85
Fax +41 71 353 89 01
www.metrohm.com
info@metrohm.com

3 year
instrument warranty