856 Conductivity Module
867 pH Module
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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 tiamo™
- As stand-alone pH, ion or conductivity meter together with 900 Touch Control
- As fully automated pH, ion or conductivity meter with the 869 Compact Sample Changer or the 814/815 USB Sample Processors

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867 pH Module
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 can still be connected via an optional adapter.

Technical specifications

<table>
<thead>
<tr>
<th></th>
<th>6.0915.100</th>
<th>6.0915.130</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft material</td>
<td>PEEK</td>
<td>PEEK</td>
</tr>
<tr>
<td>Temperature sensor</td>
<td>Pt 1000</td>
<td>Pt 1000</td>
</tr>
<tr>
<td>Shaft length</td>
<td>125 mm</td>
<td>142 mm</td>
</tr>
<tr>
<td>Shaft diameter</td>
<td>12 mm</td>
<td>12 mm</td>
</tr>
<tr>
<td>Minimum immersion depth</td>
<td>34 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Cell constant</td>
<td>0.7 cm⁻¹</td>
<td>1 cm⁻¹</td>
</tr>
<tr>
<td>Ideal measuring range</td>
<td>0.005…20 mS/cm</td>
<td>0.005…100 mS/cm</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0…70 °C</td>
<td>0…70 °C</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Measuring range</th>
<th>-13…+20</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>-1200…1200 mV</td>
</tr>
<tr>
<td>Potential</td>
<td>-150…+250 °C</td>
</tr>
<tr>
<td>Temperature Pt 1000</td>
<td>-5…+250 °C</td>
</tr>
<tr>
<td>Temperature NTC</td>
<td>10⁻¹⁹…10⁻²⁵ mol/L</td>
</tr>
<tr>
<td>Concentration</td>
<td>10⁻¹³…10⁺²⁰</td>
</tr>
<tr>
<td>(I_{pol}/U_{pol}) with integrated polarizer</td>
<td>yes</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.001 pH</td>
</tr>
<tr>
<td>pH</td>
<td>0.1 mV</td>
</tr>
<tr>
<td>Potential</td>
<td>0.1 °C</td>
</tr>
<tr>
<td>Temperature</td>
<td></td>
</tr>
<tr>
<td>pH calibration – number of buffers</td>
<td>1…5</td>
</tr>
<tr>
<td>Automatic buffer recognition and temperature compensation</td>
<td>yes</td>
</tr>
<tr>
<td>Intelligent electrodes – «iTrodes»</td>
<td>yes</td>
</tr>
<tr>
<td>Automatic electrode test</td>
<td>yes</td>
</tr>
<tr>
<td>Remote stirrer control</td>
<td>yes</td>
</tr>
<tr>
<td>Method and result storage</td>
<td>yes</td>
</tr>
<tr>
<td>Compliance with GLP, GMP and 21 CFR Part 11</td>
<td>yes</td>
</tr>
<tr>
<td>USB connections for printers, sample processors, barcode readers, etc.</td>
<td>2</td>
</tr>
<tr>
<td>MSB connections for stirrer, dosing devices</td>
<td>4</td>
</tr>
</tbody>
</table>
Ordering information, options

856 Conductivity Module
2.856.0010  856 Conductivity Module (without accessories)
6.0915.100  Conductivity cell with Pt 1000 ($c \approx 0.7 \text{ cm}^{-1}$), plug N
6.0915.130  Conductivity cell with Pt 1000 ($c \approx 1.0 \text{ cm}^{-1}$), 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
2.900.0010  900 Touch Control
6.0915.100  Conductivity cell with Pt 1000 ($c \approx 0.7 \text{ cm}^{-1}$)
6.2324.010  Conductivity standard 100 µS/cm

2.856.0120  As 2.856.0110 package, but with 6.0916.040 conductivity measuring cell is made of stainless steel ($c = 0.1 \text{ cm}^{-1}$)

2.856.0231  856 Conductivity Module with tiamo™ light including:
856 Conductivity Module with stand and electrode holder
6.6056.201  tiamo™ light, 1 license
6.2151.000  Cable USB A – Mini-DIN, 8 pins
6.0915.100  Conductivity cell with Pt 1000 ($c \approx 0.7 \text{ cm}^{-1}$)
6.2324.010  Conductivity standard 100 µS/cm

2.856.0220  As 2.856.0210 package, but with 6.0916.040 conductivity measuring cell with Pt 1000 ($c = 0.1 \text{ cm}^{-1}$)

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
2.900.0010  900 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

2.867.0231  867 pH Module with tiamo™ light including:
867 pH Module with stand and electrode holder
6.6056.201  tiamo™ 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 USB Sample Processor and 815 Robotic USB Sample Processor XL.

**Optional accessories for 856 Conductivity Module and 867 pH Module**

- 2.801.0010 801 Magnetic stirrer
- 2.804.0010 Ti Stand for stand rod
- 2.802.0020 802 Propeller stirrer for 804 Titration stand
- 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
EQUIPEMENTS SCIENTIFIQUES DE CONTRÔLE ET DE LABORATOIRE

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