

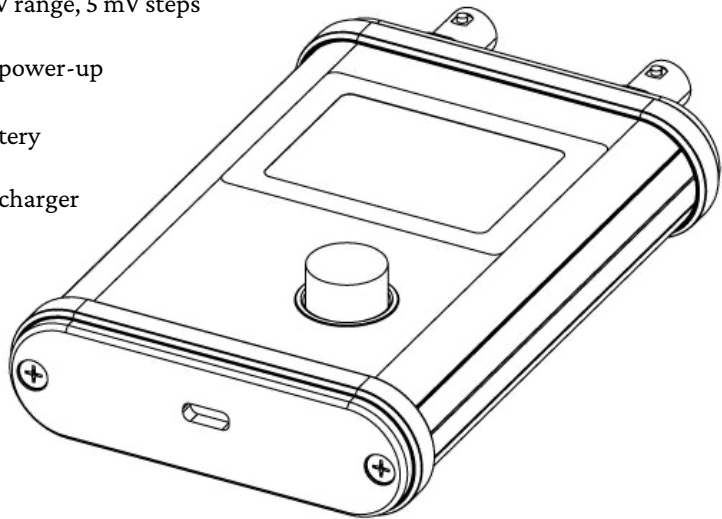


EPH 200A

Battery powered handheld pH/ORP meter and pH/ORP simulator

Features

- Works with any analog pH probe
- Works with any analog ORP probe comprising reference system
- High precision pH-/ORP-value input
 - pH: 0 ... 14 pH range, 0.001 pH display resolution, noise-free
 - ORP: -1000 mV ... +1000 mV range, 0.1 mV display resolution, noise-free
 - >100 G Ω input impedance
 - 24-bit ADC
- High precision pH-/ORP-value output simulation
 - pH: 0 ... 14 pH range, 0.05 pH steps
 - ORP: -1000 mV ... +1000 mV range, 5 mV steps
 - 1 M Ω output impedance
 - Automatic offset correction on power-up
 - 14-bit DAC
- Integrated rechargeable lithium-ion battery
 - 2000 mAh capacity
 - Rechargeable by standard USB charger
 - USB-C connector
- Protection class: IP54
- Robust aluminum enclosure



Applications

- pH/ORP probe functionality testing
- Swimming pool controller pH-/ORP input testing



Specifications

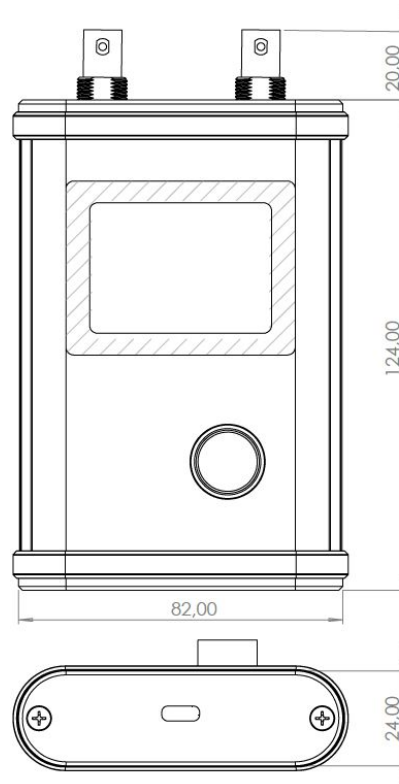
Electrical Data

All specifications at $T_A = 25\text{ °C}$ unless otherwise noted.

Parameter	Min.	Typ.	Max.	Unit	Conditions/Comments
Operating temperature	0		50	°C	
Input/Output voltage reference					
Reference voltage ¹	2.4975	2.5	2.5025	V	
Temperature coefficient ¹		±10		ppm/°C	
Input channel					
Input impedance ²	100	500		GΩ	
Time constant ^{2,3}	1 m	1		s	
ADC resolution ¹		24		bit	@ 2.5 V
pH-value noise-free resolution ¹		0,0006		pH	Input connected to output
ORP-value noise-free resolution ¹		50		μV	Input connected to output
Output channel					
Output impedance ²		1		MΩ	
Time constant ²		10		ms	
DAC resolution ¹		14		bit	@ 2.5 V
pH step size ¹	0.05	0.5		pH	0 ... 14 pH
ORP step size ¹	5	50		mV	-1000 mV ... +1000 mV
Power supply					
USB charging current ²		490	500	mA	
Standby current ²		12	30	μA	

- 1) Guaranteed by design.
- 2) 100 % production tested.
- 3) Depends on probe output impedance R_{probe} : $\tau = (1\text{ M}\Omega + R_{\text{probe}}) \cdot 1\text{ nF}$.

Mechanical Data

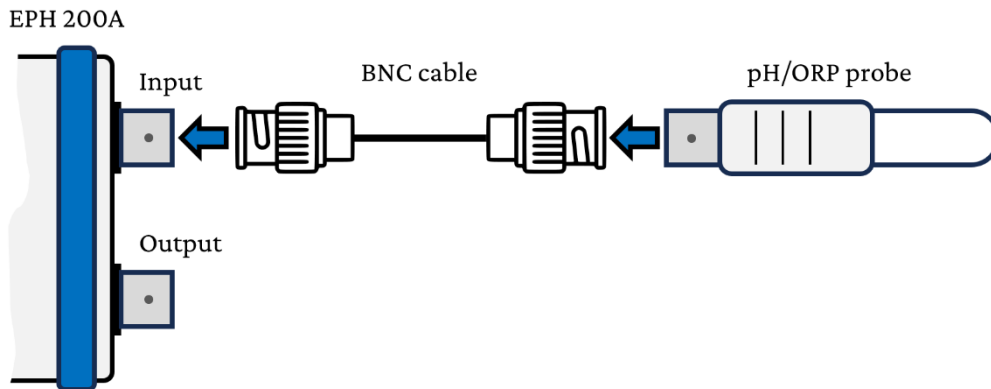


- [1] All dimensions are in millimeters.
(tolerance: ± 0.2)
- [2] Scale: freestyle
- [3] This drawing without tolerances
are for reference only

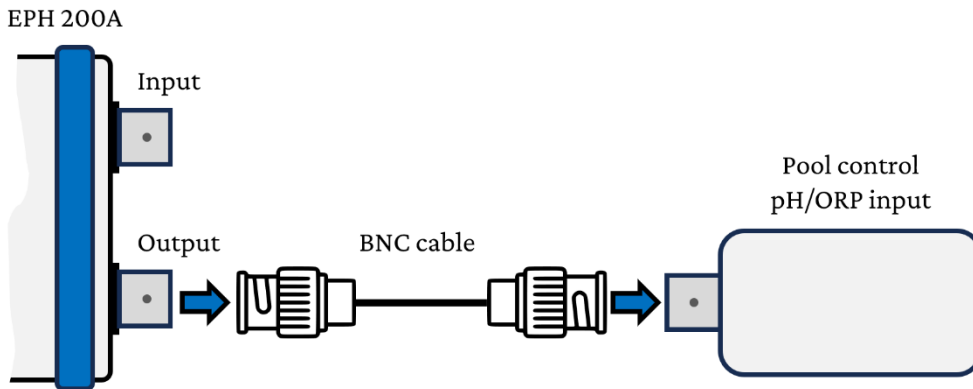


Typical Applications

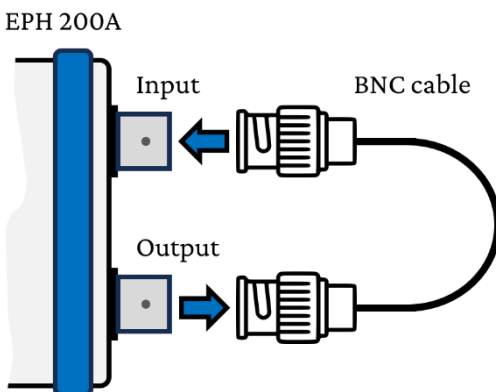
pH/ORP probe measurement



Pool control testing



EPH 200A self-testing



Ordering

<i>Product/Replacement part</i>	<i>Order number</i>
EPH 200A	730000
Enclosure for EPH 200A	490000
Main board for EPH 200A	010000
LiPo battery, 3.7 V, 2000 mAh	040000
LCD unit, 240 x 160 pixels, 65k colors	010001
Rotary knob, dia. 15 mm x 18 mm, black	270001
Display protection glass, 58 mm x 44 mm	490001
BNC cable, 50 cm, RG178, female–female	510000
BNC receptable jam nut	270000
BNC receptable gasket	500000
Rotary knob gasket	270002



Revision History

2024-01-16	Rev. 0: Initial Version

Disclaimer

All product, product specifications and data are subject to change without notice.

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