



- Measuring range
pH: 0.00 ... 14.00
Redox (ORP): -1999 mV...+2000 mV
Temperature: -100.0 °C...+250.0 °C
rH: 0.0 rH...70.0 rH
- Measuring accuracy:
±0.01 pH / ±0.1% FS (mV) / ±0.2 °C / ±0.1 rH
- Serial interface,
minimum/maximum memory, hold function,
auto-off, automatic temperature compensation
- Robust housing, IP 65, front



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Model:
HND-R



Description

The KOBOLD hand-held pH, Redox and temperature measuring units of the HND-R105 model are compact and universally applicable measuring units for electrodes with BNC plug connection. An extensive selection of electrodes makes it possible to use the HND-R105 in almost all application areas. The KOBOLD HND-R105 measuring unit offers functions like minimum/maximum value memory, hold function, auto-off function and automatic temperature compensation. In addition to pH, Redox and temperature measurement, the device can display the relative humidity value. This is calculated from the measured Redox-value and the previously measured or manually entered pH-value.

Areas of application

- Chemistry, pharmacy
- Wastewater treatment
- Laboratory application

Technical Data

(The data listed refers to the measuring unit without consideration for the respective electrodes)

Measurement input: for pH and Redox electrodes with BNC plug connection
for Pt 100 / 4-wire with 4-pin Mini-DIN plug

- Measuring range: (measuring unit)
- pH: 0.00...14.00 pH
 - Redox (ORP): -1999...+2000 mV
 - Temperature: -100.0...+250.0 °C or -148.0...+482.0 °F
 - rH: 0.0...70.0 rH

Accuracy: (measuring unit) (±1 digit, at nominal temp. 25 °C)

- pH: ±0.01 pH
- Redox (ORP): ±0.1% FS (mV)
- Temperature: ±0.2 °C (-20...+80 °C), otherwise ±0.4 °C
- Relative humidity: ±0.1 rH

Technical Data (continued)

- Display: two 4-digit LCD
- Operating temp.: 0 to +50 °C (housing)
- Storage temperature: -20 to +70 °C
- Storage humidity: 0 to +95 % rH (non-condensing)
- Electrode: see technical data
pH-, Redox probe for HND-R
- Output: serial interface
(via 3-pin jack, transformer on RS232 or USB optional)
- Power supply: 9 V-monobloc battery
(included in the scope of delivery), external 10.5-12 V_{DC} via jack
- Material: housing made of impact-resistant ABS plastic
- Protection: IP 65, front
- Dimensions: 142 x 71 x 26 mm (H x W x D)
- Weight: approx. 165 g

Scope of functions:

- Minimum/maximum value memory
- Hold-function: »freezing« of the current value
- Automatik-off function: 1...120 min (can be deactivated).
- Automatic temperature compensation with connected temperature probes (manually: without connected temperature probes)
- Replace battery display

Order Details

Order no.	Housing design
HND-R 105	pH and Redox with BNC-electrode connection, temperature with 4-pin Mini-DIN plug



pH- and Redox-electrodes for HND-R

Order-no.	Electrode type
HND-RF01	Low-cost pH-electrode, 2-12 pH, 0-60°C, > 200 µS/cm, 1 m cable, 3 mol/L KCL, refillable, without thread
HND-RF02	Standard pH-electrode, 0-14 pH, 0-80°C, > 200 µS/cm, 1 m cable, 3 mol/L KCL, refillable, without thread
HND-RF03	Insertion pH-electrode, 2-11 pH, 0-60°C, > 200 µS/cm, 1 m cable, 3 mol/L KCL, refillable, without thread
HND-RF04	Two-chamber pH-electrode, 0-14 pH, 0-80°C, > 200 µS/cm, incl. 1 mol/L KNO ₃ -electrolyte 100 ml Wash bottle, 1 m cable, 3 mol/L KCL, 1 mol/L KNO ₃ , refillable, without thread
HND-RF05	Demineralised-water-pH-electrode, 2-11 pH, 10-80°C, > 25 µS/cm, 1 m cable, 3 mol/L KCL, refillable, without thread
HND-RF06	Standard-pH-electrode, pressure-resistant up to 6 bar, 0-14 pH, 0-80°C, > 200 µS/cm, 2 m cable, gel electrolyte, not refillable, thread Pg 13.5
HND-RF07	pH-electrode with integrated Pt 100 sensor, pressure-resistant up to 6 bar, 0-14 pH, 0-80°C, > 200 µS/cm, 2 m cable, gel electrolyte, not refillable, without thread
HND-RF08	Redox-electrode, ± 2000 mV, 0-80°C, > 25 µS/cm, incl. 100 ml Redox testing solution, 3 mol/L KCL, refillable
HND-RF09	Supplementary set consisting of: HND-RF02, HND-TF06 (Pt100 4-wire), HND-Z023 and HND-Z076

Accessories for pH, Redox and temperature measuring units HND-R and HND-RF electrodes

Order-no.	Description
HND-Z002	Plug power supply unit (220/240 V _{AC} , 50/60 Hz), 10.5 V _{DC} /10 mA
HND-Z012	Protective housing bag, nappa leather, 2 with cut-outs for round sensor connections
HND-Z021*	Case with recess (275 x 229 x 83 mm)
HND-Z022*	Universal case with egg crate foam (275 x 229 x 83 mm)
HND-Z023*	Large case with recess (394 x 294 x 106 mm)
HND-Z031	Interface converter on RS 232, galvanically isolated
HND-Z032	Interface converter on USB, galvanically isolated
HND-Z033	Adapter RS 232-converter on USB-interface
BUS-SW9M	Software for recording measurement data on a computer, for instruments of the HND-series without logger function
HND-Z071	3 mol/L KCl-electrolyte for refilling or storing electrodes, 100 ml wash bottle
HND-Z072	1 mol/L KNO ₃ -electrolyte, 100 ml wash bottle
HND-Z073	100 ml Pepsin cleaning solution
HND-Z074	100 ml Redox testing solution (220 mV at 25°C)
HND-Z075	100 ml plastic wide mouth bottle
HND-Z076	Work and calibration set, consisting of 5 buffer capsules each pH 4, pH 7, pH 10, 3 x HND-Z075, 1 x HND-Z071, 1 x HND-Z073

* Observe instrument dimensions

Additional accessories upon request

No responsibility taken for errors;
subject to change without prior notice.