



# ProfiLine Handhelds

For pH, ISE, Dissolved Oxygen and Conductivity

# ProfiLine

## Single Parameter Instruments

Data-logging

Mobile Lab

Measurements

Communication

Communication

Surface waters

Quality

Ground Water

Fishfarming

Wastewater

Measurements

Mobile Lab



### 3110 Series and 3205 : Functional and easy-to-use

For people who want a reliable, simple and easy-to-use portable pH meter, the **pH3110** is the right choice.

- Robust meter housing plus 100 % waterproof and easy-to-clean keypad
- Keys with tactile feedback for error-free operation
- Built-in calibration timer for reliable results

For conductivity measurement the **Cond3110** is available with a 2- or 4-electrode cell for general purpose applications.

The **Oxi 3205** is an excellent easy-to-use D.O. instruments with a backlit graphic display - ideal for applications like fish farming.

Ease-of-use guarantees dependable results whether measuring surface water or the chemical process.

### Easy-to-clean



Robust sealed silicone keypad - 100% waterproof



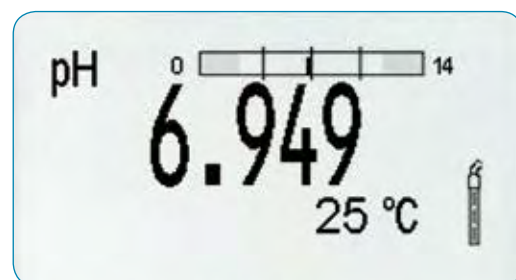


## 3310 Series: Versatile measurement combined with high capacity data logging

The Serie 3310 is perfectly suited for measurements in different applications with defined sensors and exact data sampling. For traceability the instrument allows the storing of a sample ID. The measuring instruments **pH3310**, **pH/ION3310**, **Cond3310** and **Oxi3310** have the following advantages:

- Interval controlled datalogging function for up to 5000 records: perfect for long-term recording in the field
- 100% waterproof USB interface for field measurement
- Fast data transfer to laptop or PC

Secures your measurement range



The CMC function (Continuous Measurement Control) of a pH 3310 informs you whether you are measuring inside the calibrated range. An alert is given as soon as you are outside the limits.

Waterproof USB interface



100% waterproof USB interface for fast communication with a PC or laptop.

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### pH/Cond 3320: Perfect for Process Application

The pH/Cond 3320 with two inputs for pH, mV, ISE and Conductivity measurement is an all-rounder for almost every application in chemical process, Life Science, food and beverages and pharmaceutical industry (Measurement of pH and conductivity according pharmacopeia standards)

- Two inputs for simultaneous measurement of pH/mV/ISE and conductivity
- Backlit two channel LCD display
- Suitable for all modern WTW pH, electrodes, combined ISE electrodes and conductivity cells

### Water proof socket field



With waterproof mini USB-B interface for up-to-date data transfer.



The pH/Cond 3320 has a robust waterproof housing (IP 67) and is equipped with a large memory and a data logging function with an adjustable interval between 1 s and 60 minutes. All records have a time and date stamp as well as an assignable ID number. The waterproof USB interface makes data transfer fast and easy.





Simultaneous measurement



Display with two measured values

## Multi 3320: The Environmental Expert

The Multi 3320 for measurement of pH, ORP, ISE, conductivity and dissolved oxygen (electro chemical) is a perfect meter for environmental applications in ground and surface water, aqua culture, waste water treatment plants and much more. An integrated ISE routine allows also occasional ISE measurement.

- Two inputs for simultaneous measurements of pH and conductivity or pH and dissolved oxygen
- Backlit two channel display
- For all up-to-date WTW pH electrodes, combined ISEs, conductivity cells and galvanic oxygen sensors



The Multi 3320 has a robust waterproof housing (IP 67) and memory with data logger with adjustable interval between 1 s and 60 minutes. The keypad can also be operated when wearing gloves and is easy to clean under a water jet.



# Technical Data

(all values ± 1 digit)

Instrument	3110/3205	3310/3320
Calibration memory	current calibration	up to 10 calibrations
Celsius/Fahrenheit	yes	yes
AutoRead	automatic	automatic/manual selectable
Display	Customized LCD, 3205: LCD graphic display, backlit	LCD graphic display, backlit
Data memory	-	manual 200/5000 automatic
Logger	-	manual/time controlled
Interface	-	USB 1.1
Power supply	4 x 1.5 V AA oder 4 x 1.2 V NiMH-rechargeable battery	4 x 1.5 V AA oder 4 x 1.2 V NiMH-rechargeable battery
Continuous operation time	up to 3000 hours (pH 3110) to 1000 hours/800 hours (Cond 3110/Oxi 3205: 100 hours with backlit)	up to 100 hours/800 hours w/o backlit
Protection class	IP 67	IP 67

Model	pH 3110	pH 3310,pH/ION 3310,pH/Cond 3320, Multi 3320
pH	-2.0 ... 20.0 ± 0.1 pH -2.00 ... 20.00 ± 0.01 pH -2.000 ... 19.999 ± 0.005 pH	-2.0 ... 20.0 ± 0.1 pH -2.00 ... 20.00 ± 0.01 pH -2.000 ... 19.999 ± 0.005 pH
mV	± 1200.0 ± 0.3 mV ± (2000 ± 1) mV	± 1200.0 ± 0.3 mV ± (2500 ± 1) mV
ISE (mg/l, µmol/l, mg/kg, ppm, %)	-	0.000 ... 9.999 (Not pH 3310) 10.00 ... 99.99 100.0 ... 999.9 1000 ... 999999
Temperature	-5.0 ... 105.0 °C ± 0.1 °C	-5.0 ... 105.0 °C ± 0.1 °C
CMC	-	yes
Calibration	1-. 2-. 3 point WTW Technical and NIST Buffer	1-. 2-. 3-. 4-. 5 point WTW Technical NIST and 20 additional buffer sets pH/ION 3320,pH/Cond 3320,Multi 3320: ISE: 2-7 point

Model	Oxi 3205	Oxi 3310
Dissolved Oxygen Concentration*	0.00 ... 20.00 mg/l ± 0.5 % of val. 0 ... 90 mg/L ± 0.5 % of val.	0.00 ... 20.00 mg/l ± 0.5 % of val. 0 ... 90 mg/L ± 0.5 % of val.
Saturation*	0.0 ... 200.0% ± 0.5 % of val. 0 ... 600 % ± 0.5 of val.	0.0 ... 200.0% ± 0.5 % of val. 0 ... 600 % ± 0.5 of val.
Partial pressure*	0 ... 200.0 hPa, 0 ... 1250 hPa. ± 0.5 % of val.	0 ... 200.0 hPa, 0 ... 1250 hPa. ± 0.5 % of val.
Temperature	-5.0 ... 50.0 °C ± 0.1 °C	-5.0 ... 50.0 °C ± 0.1 °C
Calibration	CellOx®/DurOx® with calibration vessels	CellOx®/DurOx® with calibration vessels versus external standard
Built-in barometric sensor	yes	yes

\* depending

Model	Cond 3110	Cond 3310
Conductivity	0.0 ... 1000 mS/cm ± 0.5 % of val.	0.0 ... 1000 mS/cm ± 0.5 % of val.
additionally		0.000 ... 1.999 µS/cm. K=0.01 cm <sup>-1</sup> 0.00 ... 19.99 µS/cm. K=0.1 cm <sup>-1</sup>
Specific resistance	-	0.00 ... 20 MΩ cm
Cell constants	fixed: 0.475 cm <sup>-1</sup> calibratable: 0.450 ... 0.500 cm <sup>-1</sup> , 0.800 ... 0.880 cm <sup>-1</sup>	fixed: 0.010 cm <sup>-1</sup> calibratable: 0.450 ... 0.500 cm <sup>-1</sup> , 0.800 ... 0.880 cm <sup>-1</sup> adjustable: 0.090 ... 0.110 cm <sup>-1</sup> , 0.250 ... 25.000 cm <sup>-1</sup>
Salinity	0.0 ... 70.0 (acc. IOT)	0.0 ... 70.0 (acc. IOT)
TDS	-	0 ... 1999 mg/l. 0 bis 199.9 g/l
Temperature	-5.0 ... 105.0 °C ± 0.1 °C	-5.0 ... 105.0 °C ± 0.1 °C
T <sub>ref</sub>	20 °C/25 °C	20 °C/25 °C
Temperature Compensation	nLF	none. nIF. 0.000 ... 3.000 %/K

## Handy case sets for field applications

The ProfiLine handhelds are available as single instruments in a case without measurement accessories, but also as sets supporting individual application requirements.

The case also serves as a small field laboratory.



Set in case

## Ordering Information

Model	Description	Order No.
pH 3110 Set 2	Easy-to-operate, robust pH/mV-meter with large LCD-display, for mobile routine measurement. Meter in carry case with pH-sensor SenTix® 41, buffer solution STP 4 and STP 7, stand, beaker, short instruction manual, CD-ROM and batteries.	2AA112
Oxi 3205 Set 1	Easy-to-use, robust D.O. meter with backlit LCD graphic display, for routine measurement. Meter with carry case including galvanic D.O. probe CellOx® 325, cleaning solution, electrolyte, exchange membrane head, stand, beaker. Including short instruction manual, CD-ROM and batteries.	2BA101
Oxi 3310 Set 1	Professional, field proven D.O. meter with backlit graphic display for mobile applications including data logger and USB interface. Meter with carry case including galvanic D.O. probe CellOx® 325, cleaning solution, electrolyte, 3 exchange membrane heads, stand, beaker. Including short instruction manual CD-ROM, batteries, driver software for USB, cable.	2BA301
Cond 3110 Set 1	Easy-to-operate, robust conductivity meter with large LCD-display, for mobile routine application for 2- and 4-electrode cells. Meter with carry case including 2-electrode conductivity cell TetraCon® 325, standard solution 1413 µS/cm at 25 °C, stand, beaker, short instruction manual, CD-ROM and batteries.	2CA101
Cond 3310 Set 1	Professional, field proven conductivity meter with backlit graphic display for mobile applications including data logger, USB-interface. Meter with carry case including 4-electrode conductivity cell TetraCon® 325, standard solution 1413 µS/cm at 25 °C, stand, beaker, short instruction manual, CD-ROM and batteries, driver software for USB, cable.	2CA301
pH/Cond 3320 Set 2	Professional pH/conductivity meter with 2 inputs (DIN, 8 pin socket), backlit graphic display, for mobile application with data logger and USB interface, meter in carry case including SenTix® 41, TetraCon® 325, buffer solution STP 4 and STP 7, conductivity standard 0.01 mol/l KCl. Instruction manual, stand, beaker, CD-ROM, driver software for USB, batteries, cable.	2EA312
Multi 3320 Set 1	Professional pH/dissolved oxygen/conductivity meter with 2 inputs (DIN, 8 pin socket), backlit graphic display, for mobile application with data logger and USB interface, meter in field case with SenTix® 41, CellOx® 325, TetraCon® 325, sensor accessories, instruction manual, stand, beaker, CD-ROM, driver software for USB, batteries, cable.	2FA311
pH/ION 3310	Professional pH/mV/ISE meter with DIN socket, backlit graphic display, for mobile application with data logger and USB interface. Single instrument including instruction manual, CD-ROM and batteries, cable.	2GA310
SM Pro	SM Pro Rubber elastic armor for WTW handhelds	902 780