Family Datasheet

ECO 510 / ECO 511 Waterproof pH meter

- Modern and functional housing
- Excellent price-performance ratio
- Waterproof (IP65 / IP67)
- 3-line display / overhead display per button, backlight
- Robust, long battery life
- BNC connection for interchangeable electrodes
- Sets with low-maintenance pH electrodes GE 114 / GE 135
- Excellent accuracy thanks to calibration with GPH-DOS 4/7/10 (accessory)
- Hold function for freezing measured values
- Min/max function for minimum and maximum recorded measured values

DESCRIPTION

When developing the ECO 51x series, the focus was placed on the essential functions of measurement technology. Pure measurement with a focus on precision, speed and reliability, packaged in a compact housing, is what makes the outstanding price-performance ratio, Made in Germany, possible.

The handheld meters also impress with their ergonomic design, dust and water-protected design in accordance with IP 65/67 and the illuminated display. The compact pH meters are a real alternative to pH sticks on the one hand and high-priced, complex devices on the other.

The ECO 510 meter enables measurements in the pH range, while the ECO 511 also offers the option of pH/redox measurements with a temperature input (Pt1000).

ECO 510 front   **ECO 511 front**

Applications

The measuring devices can be used in aquaristics, aquaculture and water monitoring, plant cultivation, agriculture, laboratories, quality assurance, service and food.

Applications without temperature input necessary: Measuring in pools, well-water, etc.: Temperature is constant – can be entered manually once.

Applications where temperature input of ECO 511 is recommended: Field measuring, e.g. surface water, wastewater, etc.: Temperature is compensated most precise and comfortable!

Display
Thanks to backlight, the three-line LCD display offers ergonomic wide-angle visibility - by day and night.

Power supply

2 powerful AA batteries, the energy-saving design and the configurable automatic switch-off function ensure long operation.

Configurable LCD backlight for additional energy-saving options.

ECO 510 / ECO 511 Waterproof pH meter

TECHNICAL SPECIFICATIONS

Measurement specifications

	ECO 510	ECO 511
Inputs	BNC pH electrode connector (Temperature input manually)	BNC pH/ORP electrode connector Temperature input Pt1000 2 x 4mm banana Automatic temperature compensation via temperature input
Recommended electrodes	Standard GE 114 WD	pH: Standard GE 114 WD or GE 135 combination electrode with T-sensor Redox: GR 105
Measuring range	0.0…14.00 pH	0.0…14.00 pH ORP ± 1500 mV Temperature -0.5 ..+105.0 °C
Accuracy	±0.02 pH ± 1 digit (at nominal temperature 25 °C)	
Maximum cable length	3 m	

General specifications

Display	3-line with battery status display, Backlight, protected by shatterproof glass, Overhead display at the touch of a button
Power supply	2 x AA alkaline batteries (included)
Power consumption	<1 mA
Battery life	> 3000 h typ. continuous operation
Automatic switch-off	Yes, configurable by the user
Operating conditions	-20...50 °C device (note the application range of the electrode, usually -5...50°C)
Storage temperature	-20...70 °C (without batteries)
Protection class	IP65 / IP67 (only with electrodes with waterproof BNC connection)
Dimensions	108 x 54 x 28 mm (incl. BNC: 116 x 54 x 28 mm)
Weight	approx. 130 g (ECO 510), approx. 135 g (ECO 511)
Housing material	Impact resistant ABS, polyester (front panel)

ECO 510 / ECO 511 Waterproof pH meter

ORDER CODES

ECO510			
Waterproof pH-meter (formerly G 1500)			
	1	**Scope of delivery**	
			Device in carton box, test-protocol, batteries, manual, without electrode
		-114	Device in carton box, test-protocol, batteries, manual, pH electrode GE 114-WD, entry level set, for water with min. conductivity 200 µS/cm
		-100	Device in carton box, test-protocol, batteries, manual, long life versatile pH electrode GE 100, e.g. application Koi Pond, low conductivity from 100µS/cm
		-SET	Device in suitcase GKK 1001, test-protocol, batteries, manual, pH electrode GE 114-WD, GAK 1400, e.g. application pool
		-SET100	Device in suitcase GKK 1001, test-protocol, batteries, manual, pH electrode GE 100, GAK 1400, e.g. application soil /compost

ECO511			
Waterproof pH/ORP-meter with Pt1000 input and alarm (formerly G 1501)			
	1	**Scope of delivery**	
			Device in carton box, test-protocol, batteries, manual, without electrode
		-114	Device in carton box, test-protocol, batteries, manual, pH electrode GE 114-WD (without T-sensor)
		-SET	Device in carton box, test-protocol, batteries, manual, pH electrode GE 114-WD + GF1T-T3-B-BS + GPH4.0/5+GPH7.0/5 + 2x GPF100
		-135	Device in carton box, test-protocol, batteries, manual, pH electrode GE 135 1m (PT1000)
		-SET114	Device in suitcase GKK 1001, test-protocol, batteries, manual, pH electrode GE 114-WD, T-probe GF1T-T3-B-B, GAK 1400
		-SET135	Device in suitcase GKK 1001, test-protocol, batteries, manual, pH electrode GE 135 1m (Pt1000), GAK 1400

STANDARD ARTICLES

ECO510 Waterproof pH meter (formerly G 1500) Device in carton box, test-protocol, batteries, manual, without electrode **Art no. 486761**

ECO510-114 Waterproof pH meter (formerly G 1500) Device in carton box, test-protocol, batteries, manual, pH electrode GE 114-WD, entry level set, for water with min. conductivity 200 µS/cm **Art no. 486762**

ECO510-SET Waterproof pH meter (formerly G 1500) Device in suitcase GKK 1001, test-protocol, batteries, manual, pH electrode GE 114-WD, GAK 1400, e.g. application pool **Art no. 487057**

ECO511 Waterproof pH/ORP meter with Pt1000 input & alarm (formerly G 1501) Device in carton box, test-protocol, batteries, manual, without electrode **Art no. 486763**

ECO511-114 Waterproof pH/ORP meter with Pt1000 input & alarm (formerly G 1501) Device in carton box, test-protocol, batteries, manual, pH electrode GE 114-WD (without T-sensor) **Art no. 487060**

ECO511-SET Waterproof pH/ORP meter with Pt1000 input & alarm (formerly G 1501) Device in carton box, test-protocol, batteries, manual, pH electrode GE 114-WD + GF1T-T3-B-BS + GPH4.0/5+GPH7.0/5 + 2x GPF100 **Art no. 487062**

ECO511-135 Waterproof pH/ORP meter with Pt1000 input & alarm (formerly G 1501) Device in carton box, test-protocol, batteries, manual, pH electrode GE 135 1m (PT1000) **Art no. 486764**

ECO511-SET135 Waterproof pH/ORP meter with Pt1000 input & alarm (formerly G 1501) Device in suitcase GKK 1001, test-protocol, batteries, manual, pH electrode GE 135 1m (Pt1000), GAK 1400 **Art no. 487064**

ACCESSORIES

GE 114 WD   Low-maintenance gel electrode GE 114 WD (waterproof BNC connection) , 1 m
Art no. 610460

Measuring range:	0.0...14.00 pH
Operational range:	0...60 °C
Conductivity:	>200 µS/ cm
Waterproof:	IP 65/67
Electrolyte:	Gel electrolyte
Diaphragm:	1 x Pellon

GE 100 BNC   Universal electrode, replacement pH electrode, 1 m   **Art no. 600704**

Conductivity:	>100 µS/ cm
Measuring range:	0.0...14.00 pH
Operational range:	0...80 °C
Waterproof:	only shaft
Electrolyte:	KCL
Diaphragm:	2 x Ceramic

Only for ECO 511, not ECO 510:

GE 135-WD   Universal combination pH electrode incl. Pt1000, replacement pH electrode, 1 m
Art no. 483292

GE 135-WD-L02 Universal combination pH electrode incl. Pt1000, replacement pH electrode, 2 m
Art no. 483293

Conductivity:	>150 µS/ cm
Measuring range:	0.0...14.00 pH, 0...80 °C
Waterproof:	IP 65/67
Pressure resistant:	5bar
Electrolyte:	Gel electrolyte
Diaphragm:	1 x Ceramic

GR 105-BNC   Redox electrode   **Art no. 607798**

CONSUMABLES:

GPH-DOS-4	ready-to-use buffer solution (pH 4.01 / 25 °C), 250 ml	**Art no. 485556**
GPH-DOS-7	ready-to-use buffer solution (pH 7.00 / 25 °C), 250 ml	**Art no. 485554**
GPH-DOS-10	ready-to-use buffer solution (pH 10.01 / 25 °C), 250 ml	**Art no. 485557**
GAK 1400	Working- and calibration set consisting of: 5 x buffer capsules GPH 4.0, GPH 7.0 and GPH 10.0, 3 x 100 ml plastic bottle GPF 100, 1 x 3 mol KCL electrolyte, KCL3M and 1 x cleaning solution GRL 100	**Art no. 603523**

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