

Hand-Held Meters Series AL20

(IP 67 waterproof)



The microprocessor-controlled series AL20 of handheld meters from AQUALYTIC® meets the day-to-day demands for sturdy and reliable systems for the measurement of pH value or ORP/Redox, conductivity/TDS and dissolved oxygen.

The water-tight housing complies with **IP67** and is equipped as standard with protective armouring and built-in electrode holder ensuring reliable operation even in extreme ambient conditions.

The support can be flipped up to hang the meter on pipes or branches.

A direct, easily understood user interface, outlining the required configuration options for all three systems, facilitates meter operation both outdoors and in the laboratory.

The automatic Hold function "freezes" stable measuring data in the display and indicates the presence of stable and reproducible results.

The internal memory allows storage of 20 data sets to facilitate subsequent evaluation.

The integral automatic switch-off feature, varying from 1 to 120 minutes, increases the operating life of the units.

The power consumption of all three units has been reduced to a minimum. As a result, the 4 x 1.5 V integrated batteries have an operating life of up to 15000 hours, depending on the unit version.

68

Variants

■ Dissolved Oxygen (O₂)
O₂ Concentration in mg/l
O₂ Saturation in %
°C/°F

■ Conductivity/TDS/Salinity
°C/°F

■ pH/Redox/ORP
°C/°F

AL20pH

- pH / redox measurement and temperature measurement (Pt1000 or NTC 30kOhm)
- Automatic temperature compensation (ATC)
- Auto Hold function
- Internal memory for 20 data sets
- Automatic buffer recognition with Tintometer standard or DIN or individual buffer
- 1, 2 and 3 point calibration
- Low battery and battery change indicator
- Sensor evaluation in the display based on the calibration result (from 10 to 100%)
- Battery operation period up to 15000 hours
- Shock-absorbing rubber protective armouring
- Waterproof

AL20Con

- Conductivity, Total Dissolved Solids (TDS), Salinity and Temperature measurement
- Dirt-insensitive up-to-date 4-pole conductivity cell offering highest precision
- Automatic temperature compensation (ATC)
- Min/Max value storage
- Internal memory for 20 data sets
- Linear and non-linear temperature compensation (EN27888)
- Calibration against standard solutions
- Low battery and battery change indicator
- Shock-absorbing rubber protective armouring
- Battery operation period up to 3000 hours
- Waterproof

AL20Oxi

- Oxygen partial pressure, Oxygen concentration, Oxygen saturation, Temperature measurement
- Automatic absolute air pressure measurement
- Auto Hold function
- Easy calibration against oxygen in air
- Salinity correction
- Self-polarising galvanic oxygen probe, allows instant measurement after the system is switched on
- Low battery and battery change indicator
- Sensor evaluation in the display
- Accessories for depth measurement
- Battery operation period up to 12000 hours
- Shock-absorbing rubber protective armouring
- Waterproof

Electrodes / measuring probes

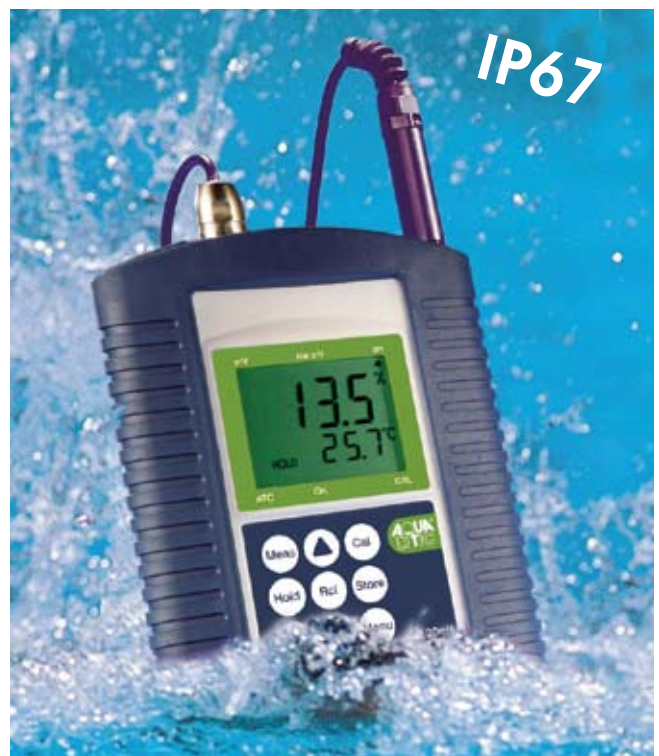
The wide variety of high-quality electrodes and measuring probes for the series AL20 meters makes them suitable for almost any application in water analysis, industry and research.

pH combination electrodes made of glass and plastic, with gel or liquid electrolyte, as well as various temperature sensors (NTC 30kOhm, Pt1000) are considered standard for modern pH meters.

Redox electrodes made of plastic with gel electrolyte and platinum tip are hardwearing and easy to use.

The galvanic, membrane-covered oxygen sensor with built-in temperature sensor allows instant measurement without the need for time-consuming polarisation.

The sturdy, dirt-insensitive 4-pole conductivity measuring cell with graphite electrodes is ideal for use in industrial process and waste water analysis. The temperature range from 0...80 °C, for a short period up to 100°C, make this sensor to a practice-oriented, user friendly item.



Applications

- Drinking Water
- Cooling/Boiler Water
- Waste Water
- Pool Water
- Surface Water
- Water Treatment Companies
- Industrial and Governmental Laboratories

AL20pH

Technical Data

pH	0.00 ... 14.00
Accuracy	± 0.01 pH (at nominal temperature, unit ± 1 digit)
Temperature	-10.0 ... +110.0 °C / 14.0 ... 230.0 °F
Accuracy	± 0.2 °C (-0..50 °C), otherwise ± 0.4 °C
Redox (ORP)	-1999 ... +2000 mV
Relative Redox	-1792 ... +2206 Rel mV (based on DIN 38 404)
Accuracy	± 0.1 % FS (mV or Rel mV)
Sensor connections	DIN 19262 and two 4 mm banana sockets "Temp" and "Ref"
Input resistance	>1012 Ohm (typ.)
Input current	<1 pA
Nominal temperature	25 °C
Operating temperature	0 to +50 °C
Storage temperature	-20 to +70 °C
Power supply	4 x 1.5V battery, type AA Operating time up to >15,000h
Power consumption	0.2 mA
Auto-Off function	0 - 120 minutes
Calibration	1-, 2- or 3-point calibration with auto buffer recognition Tintometer buffer, DIN buffer or user-selectable buffer
CE	EN 55 022 : 6 / 1993 class B, EN 50 082-1 (EN 61000-4-6, EN 61000-4-4, EN 61000-4-3, EN 61000-4-2 conforms to the EMC Directive 89/336/EEC and 73/23/EEC

Delivery Content AL20pH

Code	Article
4721200	AL20pH, without electrode, with batteries, instruction manual, lanyard, in case
4721220	AL20pH (SET 1) instrument, batteries, pH/temp. plastic-electrode type 230, pH-buffer-set (pH 4.00/7.00/10.00), in case, manual, guarantee sheet
4721221	AL20pH (SET 2) as SET1, but with pH/temp. plastic-electrode type 225, and temperature sensor Pt 1000, manual, guarantee sheet

Accessories AL20pH

Code	Article
721225	pH-electrode plastic/gel-type 225
721230	pH/temp.-electrode type 230 plastic/gel/temperature NTC30kOhm
721235	pH-electrode glass/gel-type 235
721240	Redox-electrode plastic-type 240
721245	Temperature sensor
418609	KCl-solution, 3 molar saturated with AgCl, 100 ml
721250	pH buffer-set 4.00/7.00/10.00 (25°C)
721252	pH buffer 4.00 (25°C) 1 litre
721254	pH buffer 7.00 (25°C) 1 litre
721256	pH buffer 10.00 (25°C) 1 litre
721260	Adapter cable DIN19262 - BNC
721265	Adapter cable DIN19262, S7 plug-head
725010	Lanyard
725020	Case with foam inlet

AL20Con

Technical Data

Conductivity	0.0 ... 200.0 µS/cm 0 ... 2000 µS/cm 0.00 ... 20.00 mS/cm 0.0 ... 200.0 mS/cm
Resistance	0.005 ... 100.0 kOhm*cm
TDS	0 ... 1999 mg/l
Salinity	0.0 ... 70.0 g/kg
Accuracy	± 0.5 % FS ± 0.5 % FS (± 3 digits)
Temperature	-5.0 ... 100.0 °C / 23.0 ... 212 °F
Accuracy	± 0.3K
Cell constant	0.50 ± 0.10 cm-1
Temperature compensation	selectable: - linear , 0.3 to 3.0 %/K - non-linear in acc. with EN 27 888 - no compensation
Reference temperature	20 °C and 25 °C
Calibration	1-point calibration in the range from 1000 to 2000 µS/cm
Nominal temperature	25 °C
Operating temperature	Unit: 0 to + 50 °C Measuring cell: -5 to 80 °C (up to 100 °C for short periods)
Power supply	4 x 1.5 V battery, Type AA Operating time up to 1500 h
Power consumption	ca. 2 mA, max. 4.2 mA
Auto-Off function	0 - 120 minutes
Measuring cell	4-pole conductivity measuring cell with integrated temperature- sensor (NTC10kOhm). Electrode material: special graphite Shaft material: epoxy Temperature sensor: stainless steel Dimensions: diameter 12 mm, 120 mm long
CE	EN 55 022 : 6 / 1993 class B, EN 50 082-1 (EN 61000-4-6, EN 61000-4-4, EN 61000-4-3, EN 61000-4-2 conforms to the EMC Directive 89/336/EEC and 73/23/EEC

Delivery Content AL20Con

Code	Article
4722220	AL20Con with, batteries, 4-Pole conductivity cell, in case, manual, guarantee sheet

Accessories AL20Con

Code	Article
722225	SensoDirect Conductivity Cell, 4-Pole Technology
722250	Calibration solution 1413µS/cm
725010	Lanyard
725020	Case with foam inlet

AL20Oxi

Technical Data

O₂ partial pressure	0.0...570.0 hPa, 0...1200 hPa 0.0...427.5 mm Hg, 0...900 mm Hg
O₂ concentration	0.00...25.00 mg/L, 0.0...70.0 mg/L
O₂ saturation	0.0...250.0 %, 0...600 %
Accuracy	± 1.5% ± 0.2 mg/L (0...25 mg/L) ± 2.5% ± 0.3 mg/L (25...70 mg/L) ±1Digit
Temperature	-5.0 ... + 50.0 °C / 23.0 ... 122.0 °F
Accuracy	± 0.1 °C
Abs. air pressure	500..1100 hPa
Accuracy	± 0.5% full scale
Nominal temperature	25 °C
Operating temperature	0 to +50 °C
Storage temperature	-20 to +70 °C
Power supply	4 x 1.5 V battery, Type AA Operating time up to 12,000 h
Power consumption	max. 0.25 mA
Auto-Off function	0 - 120 minutes
Dimensions	175 x 140 x 45 mm (L x W x H)
Weight	approx. 580 g
Electrode	Self-polarising oxygen electrode with integrated NTC sensor Connection: 7-pin DIN socket Installation diameter: 12.0 ± 0.2 mm Overall length: approx. 220 mm (incl. kink protection) Operating temperature: 0...40 °C
CE	EN 55 022 : 6 / 1993 class B, EN 50 082-1 (EN 61000-4-6, EN 61000-4-4, EN 61000-4-3, EN 61000-4-2 conforms to the EMC Directive 89/336/EEC and 73/23/EEC

Delivery Content AL20Oxi

Code	Article
4723220	AL20Oxi with batteries, oxygen sensor (1.5 m cable), electrolyte (KOH), 3 interchangeable membrane heads, in case, manual, guarantee sheet
4723221	AL20Oxi as above, but with oxygen sensor 10 m cable
4723222	AL20Oxi as above, but with oxygen sensor 30 m cable

Accessories AL20Oxi

Code	Article
723201	Oxygen sensor, 1.5 m cable
723210	Oxygen sensor, 10 m cable
723230	Oxygen sensor, 30 m cable
723250	Service Set Oxygen sensor 3 interchangeable membrane heads, 100 ml plastic bottle KOH-solution 3 mol/l
723260	Protection cap for depth measurement
725010	Lanyard
725020	Case with foam inlet



AL20pH in carrying case



AL20Con in carrying case



AL20Oxi in carrying case