## Portavo AK1207 Multi pH

**Mobile multiparameter analyzer with Memosens and an interface for analog pH or ORP sensors**

The only portable device for all Memosens parameters. For all Memosens pH, ORP, conductivity and amperometric oxygen sensors. Analog pH or ORP sensors can also be connected if required.

### Comprehensive Data Logger

– Manual logging

– Time-controlled logging at a fixed interval

– Signal-controlled logging of measured value and temperature

– Combined time- and signal-controlled logging

– Threshold-controlled logging with pre-trigger

The data logger for up to 10,000 entries records point of measurement, annotation, sensor ID, sensor serial number (Memosens), primary value, temperature, time stamp, and device status.

### Simple Operation

Portavo AK1207 proves that a high level of functionality and easy use are not mutually exclusive. It proceeds step by step through the calibration procedure.

### Tailor-Made pH Calibration
Cal SOP

pH sensors can be tested using the new SOP calibration procedure with up to 3 calibration points. The third buffer is used as a verification buffer. You can pick and choose the buffer set for each calibration point and also set the sequence.

You can use your own buffer solutions or choose from a list of commercially available buffer sets, e.g., CaliMat, NIST and DIN. For the verification buffer, a maximum permitted deviation (delta pH) is entered.

### SecurityPackage Included
User management

The Portavo AK1207 Multi's professional user management regulates access to the device and the sensor.

• Increased security for configuration, calibration and measurement data

• No unauthorized interventions during the operating cycle

• Up to 4 user profiles can be entered

• Different access rights can be established

Depending on user experience, the role profile can be selectively defined for configuring the device and sensor as well as for calibrating the sensor. The risk of changing settings inadvertently is clearly minimized in this way.

### More Safety During Operation

Memosens sensors can be assigned directly to the Portavo AK1207 Multi. As such, data saved in the sensor can be consulted, including
Sensor type
TAG
Group
Unique sensor-to-device assignment reduces potential errors. This ensures that only the right sensors are used for the selected measuring point.

## Facts and Features

– Memosens sensors or analog pH/ORP sensors can be used on one device

– High-resolution color graphic display

– Li-ion battery – charged directly via USB

– Micro USB port and Paraly SW 112 software

– A sensor quiver protects the sensor from damage and drying out

– Robust housing with IP66/67, also for outdoor use

– Intelligent data logger with 10,000 entries and graphical representation

– The mineral glass display is perfectly readable even after years

– Tailor-made pH calibration Cal SOP

– User management for access control

– Sensor check for clear sensor-to-device assignment via sensor model, TAG or "Group"

– Temperature probe adjustment in the Memosens sensor (offset correction)

MEMO⬡SENS

3-year warranty!

Menüauswahl

i
Information

Zurück

enter

meas     on/off

Original size

**Specifications**

| pH/mV input (analog) | pH socket, DIN 19 262 (13/4 mm) | |
|---|---|---|
| | pH range | −2 ... 16 |
| | Decimal places*[)] | 2 or 3 |
| | Input resistance | $1 \times 10^{12}\,\Omega$ (0 ... 35 °C / 32 ... 95 °F) |
| | Input current | $1 \times 10^{-12}$ A (at RT, doubles every 10 K) |
| | Measuring cycle | Approx. 1 s |
| | Measurement error[1,2,3] | < 0.01 pH, TC < 0.001 pH/К |
| | mV range | −1300 ... 1300 mV |
| | Measuring cycle | Approx. 1 s |
| | Measurement error[1,2,3] | < 0.1% meas.val. + 0.3 mV  TC < 0.03 mV/K |

| Temperature input | 2 x 4 mm dia. for integrated or separate temperature detector | |
|---|---|---|
| | Measuring ranges | NTC 30 kΩ — −20 ... 120 °C / −4 ... 248 °F |
| | | Pt1000 — −40 ... 250 °C / −40 ... 482 °F |
| | Measuring cycle | Approx. 1 s |
| | Measurement error[1,2,3] | < 0.2 K (Tamb = 23 °C / 73.4 °F); TC < 25 ppm/K |

| Memosens pH, ISFET input | M8 socket, 4 pins, for Memosens lab cable | |
|---|---|---|
| | Display ranges[4] | pH — −2.000 ... 16.000 |
| | | mV — −1999 ... 1999 mV |
| | | Temperature — −50 ... 250 °C / −58 ... 482 °F |

| Sensor standardization*[)] | pH calibration |
|---|---|

| Operating modes*[)] | Calimatic | Calibration with automatic buffer recognition |
|---|---|---|
| | Manual | Manual calibration with entry of individual buffer values |
| | Data entry | Data entry of zero and slope |
| | Cal-SOP (TAN option) | Software option SW-P001: Defining the pH buffers and the sequence of the calibration steps; defining the delta deviation for the verification buffer |
| | Temperature calibration (TAN option) | Software option SW-P002: Temperature probe adjustment in the Memosens sensor (offset correction) |

| Calimatic buffer sets*[)] | –01– Mettler-Toledo | 2.00/4.01/7.00/9.21 |
|---|---|---|
| | –02– Knick CaliMat | 2.00/4.00/7.00/9.00/12.00 |
| | –03– Ciba (94) | 2.06/4.00/7.00/10.00 |
| | –04– NIST technical | 1.68/4.00/7.00/10.01/12.46 |
| | –05– NIST standard | 1.679/4.006/6.865/9.180 |
| | –06– HACH | 4.01/7.00/10.01/12.00 |
| | –07– WTW techn. buffers | 2.00/4.01/7.00/10.00 |
| | –08– Hamilton | 2.00/4.01/7.00/10.01/12.00 |
| | –09– Reagecon | 2.00/4.00/7.00/9.00/12.00 |
| | –10– DIN 19267 | 1.09/4.65/6.79/9.23/12.75 |
| | –11– Metrohm | 4.00/7.00/9.00 |
| | –U1– (User) | loadable via Paraly SW 112 |

| Permissible calibration range | Zero point | 6 ... 8 pH |
|---|---|---|
| | Slope | Approx. 74 ... 104 % |
| | (possibly restricting notes from Sensoface) | |

| Calibration timer*[)] | Interval 1 ... 99 days, can be switched off |
|---|---|

| Sensoface | Provides information on the sensor condition | |
|---|---|---|
| | Evaluation of | zero/slope, response, calibration interval |

## Specifications

| | | | |
|---|---|---|---|
| **Memosens ORP input** | M8 socket, 4 pins, for Memosens lab cable | | |
| | Display ranges[4] | mV | −1999 … 1999 mV |
| | | Temperature | −50 … 250 °C / −58 … 482 °F |
| **Sensor standardization*[)]** | ORP calibration (zero adjustment) | | |
| | Permissible cal. range | ΔmV (offset) | −700 … 700 mV |
| | Temperature calibration (TAN option) | Software option SW-P002: Temperature probe adjustment in the Memosens sensor (offset correction) | |
| **Memosens conductivity input** | M8 socket, 4 pins, for Memosens lab cable | | |
| | Measuring cycle | Approx. 1 s | |
| | Temperature compensation | Linear 0 … 20 %/K, reference temperature adjustable nLF: 0 … 120 °C / 32 … 248 °F NaCl (ultrapure water with traces) HCl (ultrapure water with traces) NH3 (ultrapure water with traces) NaOH (ultrapure water with traces) | |
| **Display resolution[5] (autoranging)** | Conductivity | 0.001 µS/cm 0.01 µS/cm 0.1 µS/cm | ($c < 0.05$ cm$^{-1}$) ($c = 0.05 … 0.2$ cm$^{-1}$) ($c > 0.2$ cm$^{-1}$) |
| | Resistivity | 00.00 …99.99 MΩ • cm | |
| | Salinity | 0.0 …45.0 g/kg | (0 … 30 °C / 32 … 86 °F) |
| | TDS | 0 … 1999 mg/l | (10 … 40 °C / 50 … 104 °F) |
| | Concentration | 0.00 … 100 wt% | |

| | | |
|---|---|---|
| **Concentration determination** | NaCl | 0 – 26 wt% (0 °C / 32 °F) … 0 – 28 wt% (100 °C / 212 °F) |
| | HCl | 0 – 18 wt% (−20 °C / −4 °F) … 0 – 18 wt% (50 °C / 122 °F) |
| | NaOH | 0 – 13 wt% (0 °C / 32 °F) … 0 – 24 wt% (100 °C / 212 °F) |
| | $H_2SO_4$ | 0 – 26 wt% (−17 °C /−1.4 °F) … 0 – 37 wt% (110 °C / 230 °F) |
| | $HNO_3$ | 0 – 30 wt% (−20 °C / −4 °F) … 0 – 30 wt% (50 °C / 122 °F) |
| | $H_2SO_4$ | 94 – 99 wt% (−17 °C /−1.4 °F) … 89 – 99 wt% (115 °C / 239 °F) |
| | HCl | 22 – 39 wt% (−20 °C / −4 °F) … 22 – 39 wt% (50 °C / 122 °F) |
| | $HNO_3$ | 35 – 96 wt% (−20 °C / −4 °F) … 35 – 96 wt% (50 °C / 122 °F) |
| | $H_2SO_4$ | 28 – 88 wt% (−17 °C /−1.4 °F) … 39 – 88 wt% (115 °C / 239 °F) |
| | NaOH | 15 – 50 wt% (0 °C / 32 °F) … 35 – 50 wt% (100 °C / 212 °F) |

| | | |
|---|---|---|
| **Sensor standardization** | Cell constant | Input of cell constant with simultaneous display of conductivity value and temperature |
| | Input of solution | Input of conductivity of the calibration solution with simultaneous display of cell constant and temperature |
| | Auto | Automatic determination of the cell constant with KCl solution or NaCl solution |
| | Temperature calibration (TAN option) | Software option SW-P002 for temperature probe adjustment in the Memosens sensor (offset correction) |

**Specifications**

| | | | |
|---|---|---|---|
| Memosens input, amperometric oxygen | M8 socket, 4 pins, for Memosens lab cable | | |
| | Display ranges[4] | Saturation | 0.000 ... 200.0 % |
| | | Concentration | 000 µg/l ... 20.00 mg/l |
| | | Partial pressure | 0.0 ... 1000 mbar |
| | Temperature meas. range[4] | –20 ... 150 °C / –4 ... 302 °F | |
| Sensor standardization | Automatic calibration in air, humidity adjustable | | |
| | Temperature calibration (TAN option) | Software option SW-P002 for temperature probe adjustment in the Memosens sensor (offset correction) | |
| | Zero calibration | | |
| Temperature detector | Temperature adjustment (offset) for Memosens sensors | | |
| Storage | In quiver | | |
| Connections | 2 x socket, 4 mm dia., for separate temperature probe<br>1 x M8 socket, 4 pins, for Memosens lab cable<br>1 x micro USB-B for data transmission to PC<br>1 x pH socket, to DIN 19262 | | |
| User interface | Straightforward menu navigation with graphic icons and detailed operating instructions in plain text | | |
| Languages | German, English, French, Spanish, Italian, Portuguese, Russian | | |
| Status indicators | For battery power level, logger | | |
| Graphic display | QVGA TFT display with white backlighting | | |
| Keypad | [on/off], [meas], [enter], [◄], [►], [▲], [▼]<br>2 context-sensitive softkeys | | |
| Data logger | 10,000 memory locations | | |
| | Recording | Manual, interval- or event-controlled with limit value and pre-trigger, management of tag numbers and annotations | |
| MemoLog calibration data logger<br>(Memosens only) | Up to 100 Memosens calibration records can be saved | | |
| | Recording | Directly retrievable via MemoSuite or Paraly SW 112 (USB) | |
| | Viewable on the display | Manufacturer, sensor type, serial no., zero, slope, calibration date | |
| Communication | USB 2.0 | | |
| | Profile | HID, driverless installation | |
| | Usage | Data exchange and configuration via Paraly SW 112 software | |
| Diagnostic functions | Sensor data (Memosens only) | Manufacturer, sensor type, serial number, wear, operating time | |
| | Calibration data | Calibration date, zero, slope | |
| | Device self-test | Automatic memory test (FLASH, EEPROM, RAM) | |
| | Device data | Device type, software version, hardware version | |
| Data retention | Parameters, calibration data > 10 years | | |
| EMC | EN 61326-1 (General Requirements) | | |
| | Emitted interference | Class B (residential environment) | |
| | Immunity to interference<br>EN 61326-2-3 | Industrial applications | |

**Specifications**

| RoHS conformity | According to directive 2011/65/EU | |
|---|---|---|
| Power supply | 4 x AA alkaline batteries<br>4 x NiMH battery or<br>1 x Li-ion battery, USB chargeable | |
| Nominal operating conditions | Ambient temperature | −10 ... 55 °C / 14 ... 131 °F |
| | Transport/Storage temp. | −25 ... 70 °C / −13 ... 158 °F |
| | Relative humidity | 0 ... 95 %, short-term condensing allowed |
| Housing | Material | PA12 GF30 (silver gray RAL 7001) + TPE (black) |
| | Protection | IP 66/67 with pressure compensation |
| | Dimensions | Approx. 132 x 156 x 30 mm / 5.2 x 6.14 x 1.18 inches |
| | Weight | Approx. 500 g / 1.10 lbs |

\* user-defined
1) at nominal operating conditions
2) ± 1 count
3) plus sensor error
4) ranges depending on Memosens sensor
5) c = cell constant