

Portavo 907 Multi Cond

Portable multiparameter analyzer for digital pH/ORP, conductivity, and oxygen sensors, plus an interface for analog conductivity sensors.



Portavo 907 Multi Cond can be used with digital Memosens conductivity sensors, analog 2-electrode sensors, and analog 4-electrode sensors. The powerful Li-ion rechargeable battery can be charged via USB in the device. The clear sensor diagram provides an at-a-glance view of the sensor condition.

Comprehensive Data Logger

The following logger types can be selected:

- Manual logging
- Time-controlled logging at set intervals
- Signal-controlled logging of process variables and temperatures
- Combined time- and signal-controlled logging
- Threshold-controlled logging with pre-trigger

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

User-Friendly Software

Portavo 907 proves that high functionality and ease of use do not exclude one another. It guides you step by step through the calibration procedure. Technical terms are clearly explained in the context help.

Multi-Channel Function for Simultaneous Operation of 2 Sensors

If equipped with the multi-channel option, Portavo 907 Multi Cond can be used for simultaneous measurements using 2 flexibly combined sensors. The multi-channel function is added to the functionality of the data logger.

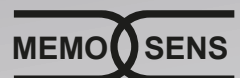
Facts and Features

- High-resolution color graphic display
- Transflective, even when exposed to direct sunlight
- Li-ion rechargeable battery
- Micro USB port and Paraly SW 112 operating software
- Sensor quiver protects the sensor from drying out and damage
- High-performance polymer housing ensures low water absorption and high impact resistance
- Intelligent data logger with 10,000 entries and graphic display
- Use Memosens and analog sensors with one device
- Multi-channel function
- IP 66 / IP 67 protection
- Mineral glass screen can still be read perfectly after many years
- New add-on functions, such as a new pH calibration procedure, user management, sensor check, and calibration of the temperature probe, are available as options.

Portavo



Original size



Specifications

| | | | |
|--|---|--|---|
| Conductivity input, analog | Multi-contact for 2-/4-electrode sensors with integrated temperature probe | | |
| | Measuring ranges | Sensor SE 202: 0.01 ... 200 $\mu\text{S}/\text{cm}$ | |
| | Decimal places*) | Sensor SE 204: 1 $\mu\text{S}/\text{cm}$... 500 mS/cm | |
| | 2-electrode sensors | 0.1 $\mu\text{S} \cdot \text{cm} \dots 200 \text{mS} \cdot \text{cm}^5$ | |
| | 4-electrode sensors | 0.1 $\mu\text{S} \cdot \text{cm} \dots 1000 \text{mS} \cdot \text{cm}^5$ | |
| | Permissible cell constant | 0.005 ... 200.0 cm^{-1} (adjustable) | |
| Measurement error ^{1,2,3)} | | < 0.5 % of measured value + 0.4 $\mu\text{S} \cdot \text{cm}^5$ | |
| Temperature input | 2 x Ø 4 mm for integrated or separate temperature probe | | |
| | Measuring ranges | NTC 30 k Ω -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 (T _{amb} = +23 °C / +73.4 °F); TC < 25 ppm/K | | |
| Conductivity input, Memosens | M8 socket, 4-pin, for Memosens laboratory cable | | |
| | Measuring range | Sensor SE 615/1-MS 10 $\mu\text{S}/\text{cm}$... 20 mS/cm | |
| Conductivity input | Measuring cycle | Approx. 1 s | |
| | Temperature compensation | Linear 0 ... 20 %/K, adjustable reference temp. | |
| | | nLF: 0 ... +120 °C / +32 ... +248 °F | |
| | | NaCl | |
| | | HCl (ultrapure water with traces) NH ₃ (ultrapure water with traces) NaOH (ultrapure water with traces) | |
| Display resolution ⁵⁾ (autoranging) | Conductivity | 0.001 $\mu\text{S}/\text{cm}$ (c < 0.05 cm^{-1}) | |
| | | 0.01 $\mu\text{S}/\text{cm}$ (c = 0.05 ... 0.2 cm^{-1}) | |
| | | 0.1 $\mu\text{S}/\text{cm}$ (c > 0.2 cm^{-1}) | |
| | Resistivity | 00.00 ... 99.99 M $\Omega \cdot \text{cm}$ | |
| | 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 ₂ SO 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 ₂ SO 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 ₂ SO 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 adjustment | Cell constant | Input of cell constant with simultaneous display of conductivity value and temperature | |
| | Solution input | Input of calibration solution conductivity with simultaneous display of cell constant and temperature | |
| | Auto | Automatic determination of cell constant with KCl or NaCl solution | |

Portavo

Specifications

| | | | |
|-------------------------------------|---|---|------------------------------------|
| Memosens pH input (also ISFET) | M8 socket, 4-pin, for Memosens laboratory cable | | |
| | Display ranges ⁴⁾ | pH | -2.000 ... +16.000 |
| | | mV | -2000 ... +2000 mV |
| | | Temperature | -50 ... +250 °C -58 ... +482 °F |
| Memosens ORP input | M8 socket, 4-pin, for Memosens laboratory cable | | |
| | Display ranges ⁴⁾ | mV | -2000 ... +2000 mV |
| | | Temperature | -50 ... +250 °C -58 ... +482 °F |
| | | Sensor adjustment ^{*)} | ORP calibration (zero offset) |
| Permissible calibration range | Δ mV (offset) | -700 ... +700 mV | |
| Sensor adjustment ^{*)} | pH calibration | | |
| Operating modes ^{*)} | Calimatic | Calibration with automatic buffer recognition | |
| | Manual | Manual calibration with entry of individual buffer values | |
| Calimatic buffer sets ^{*)} | Data entry | Data entry of zero point and slope | |
| | Knick CaliMat | Ciba (94) | User-defined |
| | NIST Technical | HACH | Mettler-Toledo |
| | NIST Standard | Hamilton | WTW techn. buffers |
| Permissible calibration range | DIN 19267 | Reagecon | |
| | Zero point | 6 ... 8 pH | |
| | With ISFET: | -750 ... +750 mV | Operating point (asymmetry) |
| Slope | approx. 74 ... 104 % | | |
| | Interval 1 ... 99 days, can be switched off | | |
| Calibration timer ^{*)} | Interval 1 ... 99 days, can be switched off | | |
| Sensoface | Provides information on the condition of the sensor | | |
| | Evaluation of | Zero point/slope, response time, calibration interval | |

Specifications

| | | | |
|---|--|---|--------------------------|
| Memosens input, oxygen | M8 socket, 4-pin, for Memosens laboratory cable | | |
| | Display ranges ⁴⁾ | Saturation | 0.000 ... 1000.0 % |
| | | Concentration | 000 µg/l ... 100.00 mg/l |
| | | Partial pressure | 0.0... 2000 mbar |
| | Temperature range ⁴⁾ | -20 ... +150 °C / -4 ... +302 °F | |
| Sensor adjustment | Automatic calibration in air, adjustable relative humidity Zero calibration | | |
| Storage | In quiver | | |
| Connections | 2 x socket Ø 4 mm for separate temperature probe 1 x M8 socket, 4-pin, for Memosens laboratory cable 1 x micro USB-B for data transmission to PC 1 x multi-contact socket for 2- and 4-electrode sensors | | |
| Device operation | Easy-to-use menu navigation with graphic symbols and detailed user hints in plain text | | |
| Languages | German, English, French, Spanish, Italian, Portuguese | | |
| Status indicators | For battery condition, logger | | |
| Graphic display | QVGA TFT display with white backlighting | | |
| Keypad | [on/off], [meas], [enter], [◀], [▶], [▲], [▼] 2 softkeys with context-dependent assignment | | |
| Data logger | Space for 10,000 entries | | |
| | Recording | Manual, interval- and/or event-controlled with limit value and pre-trigger, management of tag numbers and annotations | |
| MemoLog calibration data logger (Memosens only) | Can save up to 100 Memosens calibration records – recording can be shown on the display – directly readable via MemoSuite (USB): Manufacturer, sensor type, serial no., zero point, slope, calibration date | | |
| Communication | USB 2.0 | | |
| | Profile | HID, driverless installation | |
| | Usage | Data transfer and configuration via the Paraly SW 112 software | |
| Diagnostic functions | Sensor data (Memosens only) Manufacturer, sensor type, serial number, wear, operating time | | |
| | Calibration data | Calibration date, zero point, slope | |
| | Device self-test | Automatic memory test (FLASH, EEPROM, RAM) | |
| | Device data | Device type, software version, hardware version | |
| Data retention | Parameter, calibration data > 10 years | | |
| EMC | EN 61326-1 (General requirements) | | |
| | Emitted interference | Class B (residential) | |
| | Interference immunity | Industrial applications | |
| | EN 61326-2-3 (Particular requirements for transducers) | | |
| RoHS conformity | According to Directive 2011/65/EU | | |

Portavo

Specifications

| | | |
|----------------------------|---|--|
| Power supply | 4 x AA (Mignon) alkaline batteries or 1 x Li-ion rechargeable battery (rechargeable via USB) | |
| Rated operating conditions | Ambient temperature | -10 ... +55 °C / +14 ... +131 °F |
| | Transport/Storage temperature | -25 ... +70 °C / -13 ... +158 °F |
| | Relative humidity | 0 ... 95 %, brief condensation permissible |
| Housing | Material | PA12 GF30 + TPE |
| | 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 rated operating conditions


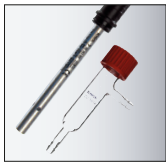




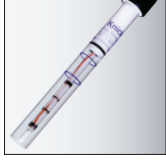
2) ± 1 digit

3) Plus sensor error

4) Ranges dependent on Memosens sensor

5) c = cell constant

Portavo 907 Multi Cond Product Line

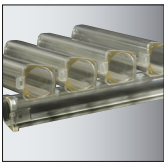




| Portavo 907 Multi Cond | | Order no. |
|---|---|------------------------|
|  | Portavo 907 Multi Cond for measurement using digital Memosens sensors for pH/ORP, conductivity (contacting or toroidal), and oxygen or using the SE 340 optical oxygen sensor, incl. Paraly SW 112 configuration software with USB connector cable and USB adapter (A female to B male) for printer connection. | Portavo 907 Multi Cond |
| 2-electrode sensor | | |
|  | Digital conductivity sensor with Memosens technology Stainless steel body, length 120 mm / 4.72 inches | SE 202-MS |
| 2-electrode sensor | | |
|  | Digital conductivity sensor with Memosens technology Polymer body, length 120 mm / 4.72 inches | SE 615/1-MS |
| Toroidal conductivity sensor (digital) | | |
|  | with dairy pipe DN 50 process connection | SE 680N-C1N4U00M |
| | with Varivent DN 50 process connection | SE 680N-V1N4U00M |
| | with 2" clamp process connection | SE 680N-J2N4U00M |
| | with process connection for für ARF 210/215 | SE 680N-K8N4U00M |
| 2-electrode sensor | | |
|  | With integrated temperature probe (NTC 30 k Ω), stainless steel body, incl. flow cell. For measurements in solutions with low conductivity such as ultrapure water and boiler feedwater, e.g., for checking water desalination systems. | SE 202 |
| 4-electrode sensor | | |
|  | With integrated temperature probe (NTC 30 k Ω) and epoxy body. For measurements in natural waters such as surface water or drinking water, in aqueous solutions such as acids and bases, and for determining the salinity of seawater. | SE 204 |
| 4-electrode sensor | | |
|  | With glass body (ZU 0290 adapter required). The sensor works reliably within a large range of < 1.00 μ S/cm to > 1000 mS/cm and is equipped with a quick-reacting Pt1000 temperature detector. It has a glass/platinum measuring system with an easy-to-replace KPG tube, is simple to clean, and does not require platinization. With its glass body, use in laboratory conditions is recommended. | ZU 6985 |

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Portavo 907 Multi Cond Product Line

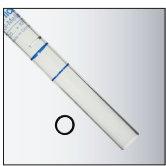






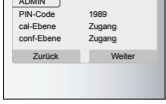


| pH/Pt1000 sensor | | Order no. |
|---|--|----------------|
|  | Digital Memosens pH sensor Polymer body, ceramic junction, length 120 mm / 4.72 inches | SE 101 MS |
| pH/Pt1000 sensor | | |
|  | Digital Memosens pH sensor Glass body, ceramic junction, length 110 mm / 4.33 inches | SE 102 MS |
| pH/Pt1000 sensor | | |
|  | Digital Memosens pH puncture sensor Polymer body, length 90 mm / 2.36 inches | SE 104 MS |
| Oxygen sensor | | |
|  | The SE 715 oxygen sensor with Memosens plug-in system requires little maintenance and is equipped with a temperature probe. It features high long-term stability, a fast response, and low flow dependence. The sensor is designed for the simultaneous measurement of dissolved oxygen and temperature. | SE 715 MS |
| Optical oxygen sensor | | |
|  | Thanks to its optical measuring function and digital data transmission, the SE 340 oxygen sensor is ideal for use with the Portavo 907. It is sturdy and waterproof (IP 68), and, with its extremely fast response time, suitable for a wide range of applications. A further plus point is the beveled membrane, which is both free from incident flow and easy to clean. With a 1.5 m / 4.92 ft fixed cable. | SE 340 |
| Memosens cable | | |
|  | Measuring cable for digital sensors with Memosens connector Length 1.5 m / 4.92 ft | CA/MS-001XFA-L |
|  | Measuring cable for digital sensors with Memosens connector Length 2.9 m / 9.51 ft | CA/MS-003XFA-L |
|  | Measuring cable for digital sensors with M12 socket, 4-pin, M8 connector, 4-pin, length 1.5 m / 4.92 ft | CA/M12-001M8-L |
| Adapter | | |
|  | Adapter for 12 mm / 0.47 inch industrial sensors with PG 13.5 thread. | ZU 0939 |

Portavo 907 Multi Cond Product Line

| Sensor quiver | | Order no. |
|---|---|----------------|
|  | 5 pcs., replacement, for leak-proof storage of sensors | ZU 0929 |
| Sturdy field case | | |
|  | For device and sensor | ZU 0934 |
| Pt1000 temperature probe | | |
|  | For temperature measurements with quick response time: Monel 2.4360, -10 ... +100 °C / +14 ... +212 °F, accuracy class A according to DIN IEC 751 | ZU 6959 |
| Base stand | | |
|  | Base stand for accepting up to 3 sensors with base plate made of stainless steel | ZU 6953 |
| Conductivity standard | | |
|  | For determining and checking cell constants, 1 ampoule for producing 1000 ml 0.1 mol/l NaCl solution (12.88 mS/cm) | ZU 6945 |
| | For determining and checking cell constants, conductivity 12.88 mS/cm ±1 % (0.1 mol/l KCl), 500 ml ready-to-use solution | CS-C12880K/500 |
| | For determining and checking cell constants, conductivity 1413 µS/cm ±1 % (0.01 mol/l KCl), 500 ml ready-to-use solution | CS-C1413K/500 |
| | For determining and checking cell constants, conductivity 147 µS/cm ±1 %, 500 ml ready-to-use solution | CS-C147K/500 |
| | For determining and checking cell constants, low conductivity 15 µS/cm ±5 %, 500 ml ready-to-use solution | CS-C15K/500 |
| | For determining and checking cell constants, conductivity standard 1.3 µS/cm KCl 300 ml | ZU 0701 |

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Portavo 907 Multi Cond Product Line

| KPG® tube | | Order no. |
|---|--|-----------|
|  | For ZU 6985 4-electrode sensor, incl. O-ring | ZU 0180 |
| Replacement flow cell | | |
|  | For SE 202 2-electrode sensor | ZU 0284 |
| Replacement flow cell | | |
|  | For SE 202-MS 2-electrode sensor | ZU 1014 |
| Adapter | | |
|  | For connecting a conductivity sensor with 2 banana plugs to the socket on the Portavo Cond product line | ZU 0289 |
|  | For connecting the ZU 6985 4-electrode sensor to the socket on the Portavo Cond product line | ZU 0290 |
| Li-ion rechargeable battery | | |
|  | Li-ion rechargeable battery (USB chargeable with Portavo 904, 907, and 908 only) | ZU 0925 |
| TAN Options | | |
|  | Cal SOP calibration method: User management, sensor check, temperature adjustment (offset) | SW-P001 |
|  | Temperature adjustment (offset) | SW-P002 |
|  | Multi-channel function | SW-P003 |
| Software | | |
|  | PC software for configuration and firmware update (free download at www.knick.de) | |

Portavo 907 Multi pH Product Line

CaliMat pH Buffer Solutions



pH 2.00 (20 °C / 68 °F)

Quantity

250 ml

Order no.

CS-P0200/250



pH 4.00 (20 °C / 68 °F)

250 ml

CS-P0400/250

1000 ml

CS-P0400/1000



pH 7.00 (20 °C / 68 °F)

250 ml

CS-P0700/250

1000 ml

CS-P0700/1000



pH 9.00 (20 °C / 68 °F)

250 ml

CS-P0900/250

1000 ml

CS-P0900/1000



pH 12.00 (20 °C / 68 °F)





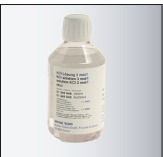
250 ml

CS-P1200/250

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Portavo 907 Multi pH Product Line

CaliMat pH Buffer Solutions

| | Quantity | Order no. |
|---|---|------------|
|  | Set pH 4.00 (20 °C / 68 °F) 3 x 250 ml | CS-PSET4 |
|  | Set pH 7.00 (20 °C / 68 °F) 3 x 250 ml | CS-PSET7 |
|  | Set pH 9.00 (20 °C / 68 °F) 3 x 250 ml | CS-PSET9 |
|  | Set pH 4.00 / 7.00 / 9.00 (20 °C / 68 °F) 3 x 250 ml | CS-PSET479 |
|  | KCl solution, 3 molar 250 ml | ZU 0062 |