Conductivity Measurement



Portavo 907 Multi Cond

Multiparameter portable meter with additional analog conductivity measurement capability. For all digital Memosens pH, conductivity and oxygen sensors and for analog 2- and 4-electrode sensors.

The only portable device for all Memosens parameters. Also for conventional analog sensors. The powerful Li-ion battery can be charged in the device via USB. The clear network diagram provides an at-a-glance view of the sensor condition.

Comprehensive data logger

The following logging types can be selected:

- 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.

User-friendly software

Portavo 907 proves that a high level of functionality and easy use are not mutually exclusive. It proceeds step by step through the calibration procedure. Technical terms are clearly explained in the context-sensitive help.

Facts

- High-resolution color graphic display
- Transflective and sunlight readable
- Li-ion battery
- Micro USB port and Paraly SW 112 software
- A sensor quiver protects the sensor from damage and drying out
- The high-performance polymer housing ensures low water absorption and high impact resistance
- Intelligent data logger with 10,000 entries and graphical representation
- Memosens sensors and analog sensors can be used on one device
- IP 66 / IP 67 protection
- The mineral glass display is perfectly readable even after years

M4Knick >



Multi-contact for 2-/4-electron Measuring ranges 2-electrode sensors: 4-electrode sensors: Permissible cell constant Measurement error ^{1,2,3)} 2 x 4 mm diameter for integral Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memosime and Measuring range	SE 202 sensor: SE 204 sensor: $0.1 \mu S \cdot c 200 \text{mS} \cdot c^{-5}$ $0.1 \mu S \cdot c 1000 \text{mS} \cdot c^{-5}$ $0.005 200.0 \text{cm}^{-1}$ (adjuction of the sensor	0.01 200 μS/cm 1 μS/cm 500 mS/cm 5) istable) S•c ⁵⁾ ture detector -20 +120 °C -40 +250 °C	
2-electrode sensors: 4-electrode sensors: Permissible cell constant Measurement error ^{1,2,3)} 2 x 4 mm diameter for integr Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	0.1 μS • c 200 mS • c ⁵⁾ 0.1 μS • c 1000 mS • c ⁵⁾ 0.005 200.0 cm ⁻¹ (adju < 0.5 % meas.val. + 0.4 μ! rated or separate temperat NTC 30 kΩ Pt 1000 Approx. 1 s < 0.2 K (Tamb = 23 °C); To sens lab cable	1 μS/cm 500 mS/cm sistable) S • c ⁵⁾ cure detector -20 +120 °C -40 +250 °C	
4-electrode sensors: Permissible cell constant Measurement error ^{1,2,3)} 2 x 4 mm diameter for integral Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memosimesuring range	0.1 μS • c 200 mS • c ⁵⁾ 0.1 μS • c 1000 mS • c ⁵⁾ 0.005 200.0 cm ⁻¹ (adju < 0.5 % meas.val. + 0.4 μ! rated or separate temperat NTC 30 kΩ Pt 1000 Approx. 1 s < 0.2 K (Tamb = 23 °C); To sens lab cable	sstable) S • c ⁵⁾ cure detector -20 +120 °C -40 +250 °C	
Permissible cell constant Measurement error ^{1,2,3)} 2 x 4 mm diameter for integral Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	$0.1~\mu \text{S} \cdot \text{c} \dots 1000~\text{mS} \cdot \text{c}^{-1}$ $0.005~\dots~200.0~\text{cm}^{-1}$ (adjuction) (adju	stable) S • c ⁵⁾ cure detector -20 +120 °C -40 +250 °C	
Measurement error ^{1,2,3)} 2 x 4 mm diameter for integral Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	$0.005 \dots 200.0 \text{ cm}^{-1}$ (adjuted on separate temperate NTC 30 k Ω) Pt 1000 Approx. 1 s < 0.2 K (Tamb = 23 °C); To sens lab cable	stable) S • c ⁵⁾ cure detector -20 +120 °C -40 +250 °C	
2 x 4 mm diameter for integral Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	< 0.5 % meas.val. + 0.4 μt rated or separate temperat NTC 30 kΩ Pt 1000 Approx. 1 s < 0.2 K (Tamb = 23 °C); To sens lab cable	S • c ⁵⁾ Fure detector -20 +120 °C -40 +250 °C	
Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	NTC 30 k Ω Pt 1000 Approx. 1 s < 0.2 K (Tamb = 23 °C); To sens lab cable	-20 +120 °C -40 +250 °C	
Measuring ranges Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	NTC 30 k Ω Pt 1000 Approx. 1 s < 0.2 K (Tamb = 23 °C); To sens lab cable	-20 +120 °C -40 +250 °C	
Measuring cycle Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	Approx. 1 s < 0.2 K (Tamb = 23 °C); To sens lab cable		
Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	< 0.2 K (Tamb = 23 °C); To sens lab cable	C < 25 ppm/K	
Measurement error ^{1,2,3)} M8 socket, 4 pins, for Memos Measuring range	sens lab cable	C < 25 ppm/K	
Measuring range	sens lab cable		
	CE 21E MC concor		
Manageria	SE 215 MS sensor	10 μS/cm 20 mS/cm	
ivieasuring cycle	Approx. 1 s	-	
Temperature compensation	Linear 0 20 %/K, reference temp. adjustable		
	nLF: 0 120 °C		
	NaCl		
	HCI (ultrapure water with traces) NH3 (ultrapure water with traces)		
	NaOH (ultrapure water with traces)		
Conductivity	0.001 μS/cm	$(c < 0.05 \text{ cm}^{-1})$	
	0.01 μS/cm	$(c = 0.05 \dots 0.2 \text{ cm}^{-1})$	
	0.1 μS/cm	$(c > 0.2 \text{ cm}^{-1})$	
Resistivity	00.00 99.99 MΩ • cm		
Salinity	0.0 45.0 g/kg	(0 30 °C)	
TDS	0 1999 mg/l	(10 40 °C)	
Concentration	0.00 9.99 % by wt		
NaCl	0.00 9.99 % by wt	(0 60 °C)	
HCI	0.00 9.99 % by wt	(-20 50 °C)	
NaOH	0.00 9.99 % by wt	(0 100 °C)	
H2SO4	•	(-17 110 °C)	
HNO3	0.00 9.99 % by wt	(-17 50 °C)	
Cell constant			
Input of solution			
	-	iy oi ceii constant and	
Auto		Automatic determination of the cell constant with	
nato	KCl solution or NaCl solution		
	Measuring cycle Temperature compensation Conductivity Resistivity Salinity TDS Concentration NaCl HCl NaOH H2SO4	Measuring cycle Approx. 1 s Temperature compensation Linear 0 20 %/K, referent nLF: 0 120 °C NaCl HCI (ultrapure water with NH3 (ultrapure water with NH3 (ultrapure water with NaOH (ultrapure water with NaOH (ultrapure water with NaOH (ultrapure water with NaOH 0.00 99.99 MΩ • cm Resistivity 0.000 99.99 MΩ • cm Salinity 0.0 45.0 g/kg TDS 0 1999 mg/l Concentration 0.00 9.99 % by wt NaCl 0.00 9.99 % by wt HCl 0.00 9.99 % by wt NaOH 0.00 9.99 % by wt H2SO4 0.00 9.99 % by wt HNO3 0.00 9.99 % by wt Cell constant Input of cell constant with conductivity value and to linput of conductivity value and to with simultaneous displatemperature Auto Automatic determination	



Memosens pH input (also ISFET)	M8 socket, 4 pins, for Memosens lab cable			
	Display ranges4)	рН	-2.000 +16.000	
		mV	-2000 +2000 mV	
		Temperature	-50 +250 °C	
Memosens ORP input	M8 socket, 4 pins, for Memosens lab cable			
	Display ranges4)	mV	-2000 +2000 mV	
		Temperature	-50 +250 °C	
	Sensor standardization*)	ORP calibration (zero adjustment)		
	Permissible calibration range	Δ mV (offset)	-700 +700 mV	
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		
Calimatic buffer sets*)	Knick CaliMat	Ciba (94)	User defined	
	NIST technical	HACH	Mettler-Toledo	
	NIST standard	Hamilton	WTW techn. buffers	
	DIN 19267	Reagecon		
Permissible calibration range	Zero point	6 8 pH		
	With ISFET:	-750 +750 mV	Operating point (asymmetry)	
	Slope	Approx. 74 104 %		
Calibration timer*)	Interval 1 99 days, can be switched off			
Sensoface	Provides information on the sensor condition			
	Evaluation of	zero/slope, response,	calibration interval	

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Memosens input, oxygen	M8 socket, 4 pins, for Memo	M8 socket, 4 pins, for Memosens lab cable		
	Display ranges ⁴⁾	Saturation	0.000 1000.0 %	
		Concentration	000 μg/l 100.00 mg/l	
		Partial pressure	0.0 2000 mbars	
	Temperature meas. range ⁴⁾	-20 150 °C		
Sensor standardization	Automatic calibration in air, humidity adjustable			
	Zero calibration			
Storage	in quiver			
Connections	2x socket, 4 mm diameter, for separate temp. detector			
	1x M8 socket, 4 pins, for Memosens lab cable			
	1x micro USB-B for data transmission to PC			
	1x multi-contact socket for 2- and 4-electrode sensors			

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], $[\blacktriangle]$, $[\blacktriangleright]$		
Кеурац			
Data la man	2 context-sensitive softkeys		
Data logger	10,000 memory locations	Manual internal and/an area area lade in	
	Recording	Manual, interval- and/or event-controlled with	
		limit value and pre-trigger, management of tag numbers and annotations	
MemoLog calibration data logger	Up to 100 Memosens calibr		
	•		
(Memosens only)	– recording viewable on the display		
	– directly retrievable via Me		
		serial no., zero, slope, calibration date	
Communication	USB 2.0		
	Profile	HID, driverless installation	
	Usage	Data exchange and configuration via Paraly SW 112 software	
Diagnostics functions	Sensor data (only Memoser	ns) Manufacturer, sensor type, serial number, wear, operating time	
	Calibration data	Calibration date, zero, slope, or cell constant, resp.	
	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 area)	
	Immunity to interference	Industry	
	EN 61326-2-3 (Particular Requirements for Transmitters)		
RoHS conformity	According to directive 2011/65/EU		
Power supply	4x AA batteries		
rowei supply		torios	
	4 x rechargeable NiMH batteries		
NI 1 I II III	1x Li-ion battery, USB charg		
Nominal operating conditions	Ambient temperature	-10 +55 °C	
	Transport/Storage	-25 +70 ℃	
	temperature	O OF 0/ shout town condensing allowed	
Havete e	Relative humidity	0 95 %, short-term condensing allowed	
Housing	Material	PA12 GF30 + TPE	
	Ingress protection	IP66/67 with pressure compensation	
	Dimensions	Approx. (132 x 156 x 30) mm	
	Weight	Approx. 500 g	

^{*)} user-defined

¹⁾ According to EN 60746-1, at nominal operating conditions

^{2) ± 1} count

³⁾ Plus sensor error

⁴⁾ Ranges depending on Memosens sensor

⁵⁾ c = cell constant