Portavo 907 Multi Oxy

The only solution you need for optical oxygen measurement Multiparameter analyzer for digital pH/ORP, conductivity, and oxygen sensors with Memosens technology

Portavo 907 Multi Oxy optionally features a powerful Li-ion rechargeable battery that can be charged via USB directly 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 Multi Oxy 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 Oxy can be used for simultaneous measurements using 2 flexibly combined sensors. The multi-channel function is added to the functionality of the data logger.

Oxygen Measurement


Facts and Features

- Use with SE 340 optical oxygen sensor
- High-resolution color graphic display Transflective, even when exposed to direct sunlight
- Oxygen measurement in liquids or in the gaseous phase
- Li-ion rechargeable battery
- Integrated pressure measurement to compensate for air pressure fluctuations
- 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
- IP66/67 protection
- Mineral glass screen can still be read perfectly after many years
- Multichannel function
- New add-on functions, such as user management, sensor verification, and calibration of the temperature detector are available as options

MEMOSENS

3-year warranty

Original size

Specifications

Oxygen input	M8 socket, 4-pin, for Memosens laboratory cable, alternatively M12 socket for Memosens laboratory cable or SE 340		
	OXY measuring ranges at 20 °C / +68 °F	Saturation	0.000 … 200.0 %
		Concentration	000 µg/l … 20.00 mg/l
		Partial pressure	0.0… 1000 mbar
		Volume concentration in gas	0.00 … 99.99 Vol%
	Response time	t90 < 30 s	t99 < 60 s
	Measurement error[1,2,3)]	Zero signal < 0.1 % of final saturation value	
	Measuring cycle	Approx. 1 s	
	Measurement error[1,2,3)]	< 0.1 % of measured value	
	Temperature range[4)]	0 … +50 °C / +32 … +122 °F	
	Measurement error[1,2,3)]	Temperature ± 0.2 K	
Sensor adjustment	Automatic calibration in air, adjustable relative humidity Zero calibration		
Storage	Quiver		
Temperature input	2 x Ø 4 mm 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 input (also ISFET)	M8 socket, 4-pin, for Memosens laboratory cable, and M12 socket, 8-pin		
	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, and M12 socket, 8-pin		
	Display ranges[4)]	mV	–2000 … +2000 mV
		Temperature	–50 … +250 °C –58 … +482 °F
	Sensor adjustment*[)]	ORP calibration (zero offset)	
	Permissible calibration range	ΔmV (offset)	–700 … +700 mV
Sensor adjustment*[)]	pH calibration		
Operating modes*[)]	Calimatic	Calibration with automatic buffer recognition	
	Cal SOP	Cal SOP calibration method (TAN option 001)	
	Temperature	(TAN option 001/002)	
	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 condition of the sensor		
	Evaluation of	Zero point/slope, response time, calibration interval	

Oxygen Measurement

Specifications

Conductivity input, Memosens	M8 socket, 4-pin, for Memosens laboratory cable, or Measuring cable for digital CONDI sensors with Memosens protocol M12 coupling, 4-pin M8 connector, 4-pin		
	Measuring range	Sensor SE 615/1-MS	10 µS/cm ... 20 mS/cm
	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 µS/cm	($c < 0.05\ cm^{-1}$)
		0.01 µS/cm	($c = 0.05 … 0.2\ cm^{-1}$)
		0.1 µS/cm	($c > 0.2\ cm^{-1}$)
	Resistivity	00.00 … 99.99 MΩ • cm	
	Salinity	0.0 … 45.0 g/kg	(0 … +30 °C)
			(+32 … +86 °F)
	TDS	0 … 5000 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 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	
	Temperature	(TAN option 001/002)	

Specifications

Memosens input, oxygen	M8 socket, 4-pin, for Memosens laboratory cable, or M12 socket for Memosens sensors	
	Display ranges[4)]	Saturation 0.000 … 200.0 % Concentration 000 µg/l … 20.00 mg/l Partial pressure 0.0… 1000 mbar Volume concentration in gas 0.00 … 99.99 Vol%
	Temperature range[4)]	–20 … +150 °C / -4 … +302 °F
Sensor adjustment	Automatic calibration in air, adjustable relative humidity, automatic ambient pressure compensation Zero calibration, temperature (TAN option 001/002)	
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 M12, 8-pin, for Memosens laboratory cable or SE 340 (optical oxygen)	
Air pressure measurement	700 … 1100 hPa	
Device operation	Easy-to-use menu navigation with graphic symbols and detailed user hints in plain text	
Languages	German, English, French, Spanish, Italian, Portuguese, Chinese	
Sensoface	Status display (friendly, neutral, sad)	
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	

Oxygen Measurement

Specifications

EMC	EN 61326-1 (General requirements)	
	Emitted interference	Class B (residential)
	Immunity to interference	Industrial applications
	EN 61326-2-3 (Particular requirements for transducers)	
RoHS conformity	According to Directive 2011/65/EU	
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 temp.	–25 … +70 °C / -13 … +158 °F
	Relative humidity	0 … 95 %, brief condensation permissible
Housing	Material	PA12 GF30 + TPE
	Ingress 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 sensor

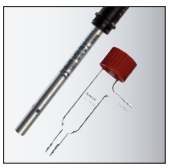
5) c = cell constant

Portavo 907 Multi Oxy Product Line

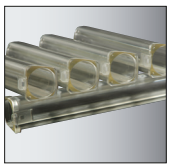
Portavo 907 Multi Oxy		Order No.
	Portavo 907 Multi Oxy for measurement using digital Memosens sensors for pH/ORP, conductivity (contacting or toroidal), and oxygen or using the SE 340 optical oxygen sensor, incl. Paraly SW 112 configuration software with USB connector cable and USB adapter (A female to B male) for printer connection.	907 MULTI OXY
Portavo 907SET-MULTI-LDO		
	Portavo 907 Multi Oxy, SE 340 optical oxygen sensor, ZU 0934 field case, incl. USB connector cable	907SET-MULTI-LDO
Oxygen sensor		
	The SE 715 oxygen sensor with Memosens plug-in system requires little maintenance and is equipped with a temperature detector. 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 (IP68), 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
Sensor protection / calibration cap		
	Sensor protector that also serves as a calibration beaker for the SE 340 optical oxygen sensor.	ZU 0911
Protective cap		
	Sensor cap, spare part for the SE 340 optical oxygen sensor.	ZU 0913

Oxygen Measurement

Portavo 907 Multi Oxy Product Line

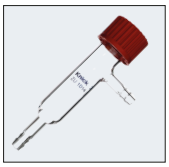
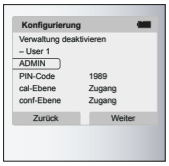
pH/Pt1000 sensor		Order No.
	Digital Memosens pH sensor Polymer body, ceramic junction, length 120 mm / 4.72 inches	SE 101 MS
pH/Pt1000 sensor		
	Digital Memosens pH sensor Glass body, ceramic junction, length 110 mm / 4.33 inches	SE 102 MS
pH/Pt1000 sensor		
	Digital Memosens pH puncture sensor Polymer body, length 90 mm / 2.36 inches	SE 104 MS
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

Portavo 907 Multi Oxy Product Line

Memosens cable		Order No.
	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
	Measuring cable with M12 connector for sensors with Memosens connector, length 1.5 m / 4.92 ft	CA/MS-001XDA-L
	Measuring cable with M12 connector for sensors with Memosens connector, length 2.9 m / 9.51 ft	CA/MS-003XDA-L
Adapter		
	Adapter for 12 mm / 0.47 inch industrial sensors with PG 13.5 thread.	ZU 0939
	Adapter for BNC pH sensors to DIN socket	ZU 1190
Base stand		
	Base stand for mounting up to 3 sensors with base plate made of stainless steel	ZU 6953
Sensor quiver		
	5 pcs., replacement, for leak-proof storage of sensors	ZU 0929
Sturdy field case		
	For device and sensor	ZU 0934
Li-ion rechargeable battery		
	Li-ion rechargeable battery	ZU 0925

Oxygen Measurement

Portavo 907 Multi Oxy Product Line

Flow cell		Order No.
	For SE 715 oxygen sensor with flexible tube connections	ZU 1014
Maintenance kit		
	Electrolyte, 3 membrane caps for amperometric oxygen sensors	ZU 0879
TAN options		
	Cal SOP* calibration method, user management, sensor verification, temperature detector adjustment in the Memosens sensor (offset correction) *Cal SOP for pH only	SW-P001
	Temperature detector adjustment in the Memosens sensor (offset correction)	SW-P002
	Multichannel function	SW-P003
Paraly SW112		
	PC software for configuration and firmware update (free download at www.knick.de)	

Conductivity standard		Order No.
	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

Portavo 907 Multi Oxy Product Line

CaliMat pH Buffer Solutions		Quantity	Order No.
	pH 2.00 (20 °C / 68 °F)	250 ml	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

Oxygen Measurement

Portavo 907 Multi Oxy 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