Portavo 904 X Multi

The world's only portable device for liquid analysis with ATEX approval for measurements up to zone 0/1. Ideal for applications in the process industry.

For the first time, Portavo enables direct on-site testing of process measuring points. It is compatible with almost all analog and Memosens process sensors. Memosens sensors with different parameters can be checked without changing the sensor cable.

The new MemoLog function allows the user to log calibration data from various Memosens measuring points, which can then be easily transferred to a computer via the standard USB connection. The Paraly SW 112 software enables user-friendly management of all recorded data.

Facts

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

– The high-performance polymer housing ensures low water consumption and high impact resistance

– Over 1,000 hours of measurement with a single set of batteries (4x AA)

– Data logger with 5,000 values

– Micro USB port and Paraly SW 112 software

– The mineral glass display is perfectly readable even after years

– Application in hazardous locations for measurements up to Zone 0/1 (cCSAus planned)

– The world's only portable device for liquid analysis in hazardous locations

– Ideal for applications in the process industry

meas

cal

set

▲

STO

clock

▼

RCL

on/off

MEMO SENS

3 years
warranty!

Specifications

Memosens pH input (also ISFET)	M8 socket, 4 pins, for Memosens lab cable or M12 socket for Memosens sensors		
	Display ranges[4]	pH	-2.000 … +16.000
		mV	-2000 … +2000 mV
		Temperature	-50 … +250 °C
Memosens ORP input	M8 socket, 4 pins, for Memosens lab cable or M12 socket for Memosens sensors		
	Display ranges[4]	mV	-2000 … +2000 mV
		Temperature	-50 … +250 °C
	Sensor standardization[*]	ORP calibration (zero adjustment)	
	Permissible calibration range	ΔmV (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		
Conductivity input, Memosens	M8 socket, 4 pins, for Memosens lab cable or M12 socket for Memosens sensors		
	Measuring range	SE 215 MS sensor	10 µS/cm … 20 mS/cm
	Measuring cycle	Approx. 1 s	
	Temperature compensation	Linear 0 … 20 %/K, reference temp. adjustable nLF: 0 … 120 °C NaCl HCl (ultrapure water with traces) NH3 (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)
	TDS	0 … 1999 mg/l	(10 … 40 °C)
	Concentration	0.00 … 9.99 % by wt	
Concentration determination	NaCl	0.00 ... 9.99 % by wt	(0 ... 60 °C)
	HCl	0.00 ... 9.99 % by wt	(-20 ... 50 °C)
	NaOH	0.00 ... 9.99 % by wt	(0 ... 100 °C)
	H2SO4	0.00 ... 9.99 % by wt	(-17 ... 110 °C)
	HNO3	0.00 ... 9.99 % by wt	(-17 ... 50 °C)

Specifications

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	
Memosens input, oxygen	M8 socket, 4 pins, for Memosens lab 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 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 dia., for separate temp. detector		
	1x M8 socket, 4 pins, for Memosens lab cable		
	1x micro USB-B for data transmission to PC		
	1x M12, 8 pins, for Memosens sensors		
Display	LCD STN 7-segment display with 3 lines and icons		
	Sensoface	Status indication (friendly, neutral, sad)	
	Status indicators	for battery power level, logger	
	Notices	Hourglass	
Keypad	[on/off], [cal], [meas], [set], [▲], [▼], [STO], [RCL], [clock]		
Data logger	5,000 memory locations		
	Recording	Manual, interval- and/or event-controlled	
MemoLog calibration data logger (Memosens only)	Up to 100 Memosens calibration records can be saved – directly retrievable via MemoSuite (USB)		
	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	
Diagnostics functions	Sensor data (only Memosens)	Manufacturer, sensor type, serial number, operating time	
	Calibration data	Calibration date; zero and 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)		
Explosion protection	Global	IECEx Ex ia IIC T4/T3 Ga	
	Europe	ATEX II 1 G Ex ia IIC T4/T3 Ga	
	USA, Canada	IS Class I, Division 1, Groups A,B,C,D, T4/T3, Ta = 40 °C / 50 °C; Entity; Type 4X	
		IS Class I, Zone 0, AEx ia IIC T4 / T3, Ta = 40 °C / 50 °C; Entity; Type 4X	
RoHS conformity	According to directive 2011/65/EU		

Specifications

Power supply	4x AA batteries	
	Operating time	Approx. 1000 h (alkaline)
Nominal operating conditions	Ambient temperature	−10 °C ≤ Ta ≤ +40 °C T4
		−10 °C ≤ Ta ≤ +50 °C T3
	Transport/Storage temp.	-25 … +70 °C
	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 sensor

5) c = cell constant

Portables and Sensors for Hazardous Areas – Product Range

Portavo 904 X Multi		Order No.
	Portavo 904 X for measurement with digital Memosens sensors for pH, conductivity or oxygen in hazardous areas, incl. Paraly SW 112 configuration software with USB connector cable.	904 X Multi

SE 554 Memosens pH sensor		
	Low-maintenance sensor for demanding process application in the chemical industry, digital, with Memosens technology, length 120 mm	SE 554X/1-NMSN

SE 604 Memosens conductivity sensor		
	Robust 2-electrode sensor, for precise and reliable measurement of low and very low conductivities, particularly in ultrapure water, digital, with Memosens technology.	SE 604X-MS

SE 706 Memosens oxygen sensor		
	Sensor in robust and hygienic stainless steel design, high accuracy and low detection limit, simple and fast maintenance due to special membrane, digital, with Memosens technology.	SE 706X/1-NMSN

Memosens cable		
	Measuring cable for digital sensors with Memosens connector, 1.5 m	CA/MS-001XFA

Electrode quivers		
	5 quivers, as replacement, for leak-proof storage of sensors	ZU 0929

Robust field case		
	For meter and sensor	ZU 0934