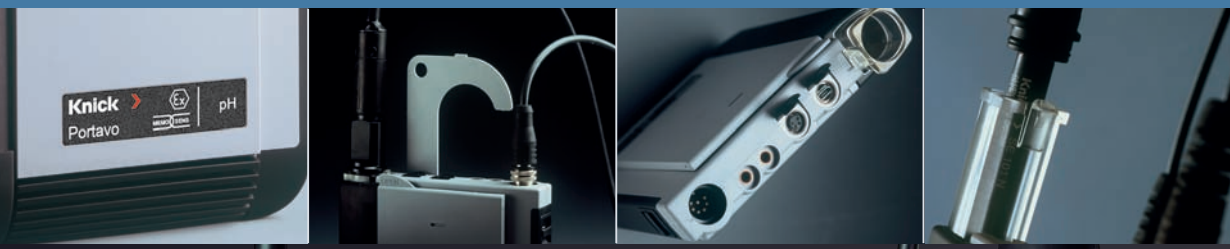# Portavo 904 pH

Robust, intuitive portable pH meter with data logger, USB port and lithium-ion batteries.

Up to 5,000 values can be recorded using the integrated data logger. These data can be easily transferred to a computer for analysis using the USB interface and the included Paraly SW 112 software.

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)

– Li-ion battery

– Data logger with 5,000 values

– Micro USB port and Paraly SW 112 software

– Memosens sensors and analog pH sensors can be used on one device (e.g flat-membrane sensors)

– The mineral glass display is perfectly readable even after years

Knick › (Ex) | pH
Portavo

A122604
061

pH **4.00**
25.7 °C   Pt 1000

MEMO SENS

meas	cal	set
▲	STO	clock
▼	RCL	on/off

LITHIUM TECHNOLOGY

MEMO SENS

3 years warranty!

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)
	Input current	1×10^{-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/K	
	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
		Pt 1000	-40 … +250 °C
	Measuring cycle	Approx. 1 s	
	Measurement error[1,2,3]	< 0.2 K (Tamb = 23 °C); TC < 25 ppm/K	
Memosens pH input (also ISFET)	M8 socket, 4 pins, for Memosens lab cable		
	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		
	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	
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 pH socket, to DIN 19262		
Display	LCD STN 7-segment display with 3 lines and icons		
	Status indicators	for battery power level, logger	
	Notices	Hourglass	
Keypad	[on/off], [cal], [meas], [set], [▲], [▼], [STO], [RCL], [clock]		

Specifications

Data logger	5,000 memory locations	
	Manual, interval- and/or event-controlled recording	
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
	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	
	4x rechargeable NiMH batteries	
	1x Li-ion battery, USB chargeable	
	Operating time	Approx. 1000 h (alkaline)
Nominal operating conditions	Ambient temperature	-10 … +55 °C
	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 Memosens sensor