

Portavo

The first portables with Memosens technology for measuring pH, ORP, conductivity and oxygen.





The Future is Now.

Introducing Portavo from Knick, the first mobile analyzers for pH, ORP, conductivity and oxygen with digital Memosens technology.



Functionality

Analog and optical oxygen sensors can also be used in addition to digital Memosens sensors. The transfective color display can be read easily, even in direct sunlight.

Communication

The data logger records up to 10,000 values. Data logger entries can be shown on the display using an extensive recorder function. The standard micro USB port enables

- connection to a PC
- software updates
- charging the Li-ion battery

Design

Ergonomically optimized for on-site and laboratory use. The robust and chemical-resistant housing has a range of ingenious features: The integrated but removable quiver protects the sensor. The multi-functional hook together with the reversible protective cover ensures freedom of movement by allowing the devices to be hung up or positioned upright.

Ex Versions

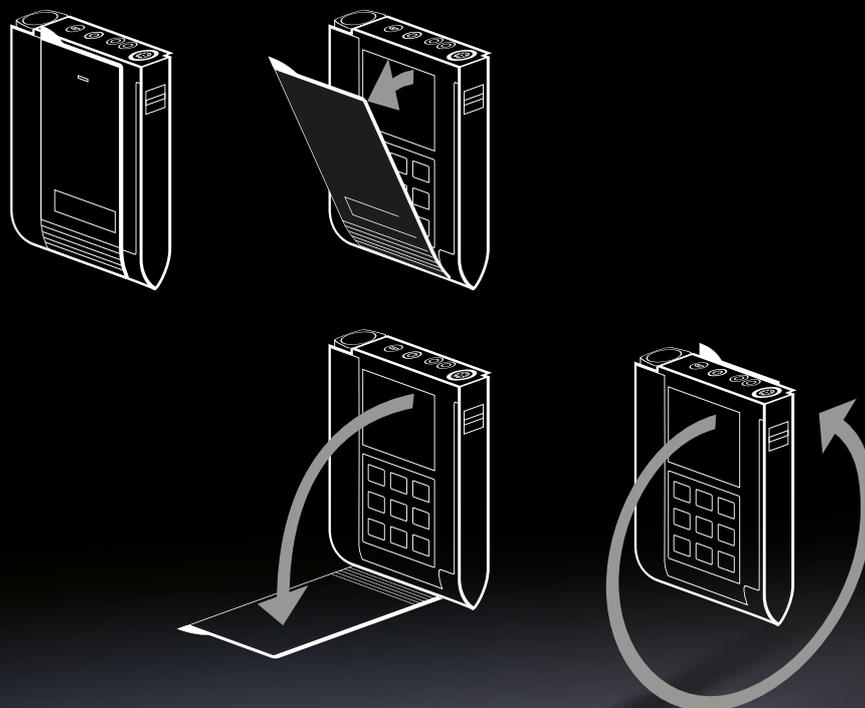
The world's only portable Memosens analyzer for use in hazardous locations. Ideal for applications in the process industry in Zone 0/1 and Cl1, Div 1.



Portavo

The Benefits at a Glance:

- Portable multiparameter analyzer for Memosens sensors
- Also suitable for analog sensors
- Multiparameter versions for pH, ORP, conductivity, and oxygen
- Multi-functional housing for process and laboratory
- Integrated protective cover, also acts as benchtop stand
- Integrated hook for positioning upright or hanging up
- Integrated sensor quiver, protects the sensor from drying out
- Indestructible
1 m drop height onto concrete
- The mineral glass display is perfectly readable even after years





Reliability Has a Name.



Memosens. The contactless connector system transfers both energy and data between sensors and Portavo.

Contactless System

Only Memosens is unaffected by dirt or moisture. Even if the system is connected under water.

Smart Diagnostics

Smart integrated diagnostic functions guarantee optimum process management.

Availability is increased by monitoring the sensor operating time, sensor wear, remaining lifetime, maximum temperature, adaptive calibration timer, and calibration and adjustment data.

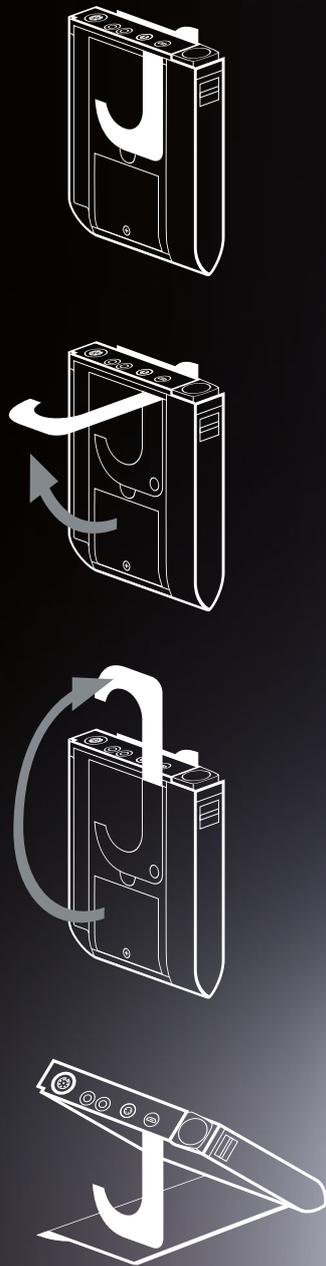


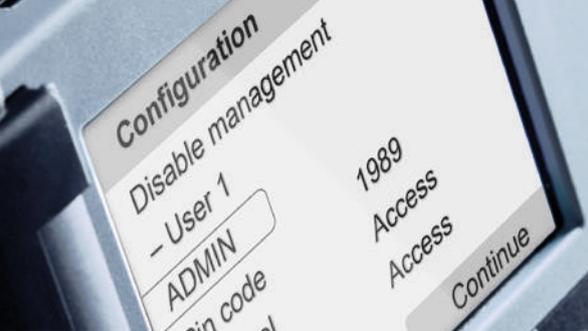
The Benefits at a Glance:

- Plug & Measure
Sensor replacement in seconds with pre-calibrated sensors
- Just one cable for all sensors
- Simple and safe connection with bayonet coupling
- Contactless, digital data transfer
- All key data available in the sensor
- Reliable measurements, even in the toughest conditions
- Multiparameter operation



Portavo





Portable Multiparameter Analyzer



Portavo 908 Multi. Portable Memosens-based measuring device for the analysis of liquids with direct printer control.

Many features distinguish the Portavo 908 Multi for use in the pharmaceutical and biotech field. These include

- a new pH calibration procedure with a fixed process cycle
- multi-level user management with access control
- direct assignment of Memosens sensors to the device, which increases safety in operation.

Great Flexibility Thanks to Multiparameter Technology

Portavo 908 Multi enables versatile and flexible use. As soon as the sensor is connected, the Portavo 908 Multi automatically adjusts to the selected parameter. All relevant sensor data can be seen at a glance.

GLP Compliant

The USB port allows a local printer to be connected for direct printout of the sensor calibration record.

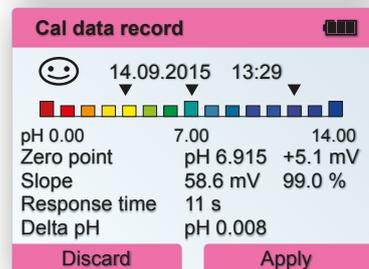
- The record contains
- date and time stamp
 - device information
 - sensor information
 - calibration data

Complete documentation of calibration and test data guarantees that SOP guidelines are met.

Portavo 908 Multi fulfills the GLP documentation requirement and thus improves quality management according to ISO 9001.

An Inspection Certificate 3.1 according to EN 10204 rounds out the package.

Calibration record	
Date	10/11/2019 11:41
Device information	
Manufacturer	Knick
Serial no.	0003792
Model	908 Multi
SW version	1.5.0.Build 10904
Sensor information	
Sensor type	pH
Manufacturer	Knick
Order no.	SE 555X/1-NMSN
Serial no.	2180694
Software ver.	1.0.6
Hardware ver.	1.5.2
TAG	ABC 11-13-12_wo
Temp. offset	0.0 K
Operating time	50 h
Wear	0 %
SIP	0
Calibration data	
Date	06/14/2015 09:48
Zero	pH 7.201 11.8 mV
Slope	99.154 % 58.7 mV
Buffer 1	pH 4.005
Buffer 2	pH 6.996



Portavo 908 Multi



Tailor-Made pH Calibration

pH sensors can be tested using the new SOP calibration procedure with up to 3 calibration points. The third buffer is used as a verification buffer. You can pick and choose the buffer set for each calibration point and also set the sequence.

Temperature Calibration

Temperature probe adjustment in the Memosens sensor (offset correction)

Security Package Included

The Portavo 908 Multi's professional user management regulates access to the device and the sensor.

- Increased security for configuration, calibration and measurement data
- No unauthorized interventions during the operating cycle
- Up to 4 user profiles can be entered
- Different access rights can be established

More Safety During Operation

Memosens sensors can be assigned directly to the Portavo 908 Multi using the data stored in the sensor, such as

- Sensor Type
- TAG
- Group

Unique sensor-to-device assignment reduces potential errors.



The Flagship.



Portavo 907 Multi. The flagship in the Portavo series with multiparameter functionality and a high-resolution color display.

Mobile multiparameter analyzer for all Memosens parameters. Also for conventional analog sensors. The powerful Li-ion battery can be charged in the device via USB. The clear sensor 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 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-sensitive help.

Tailor-Made pH Calibration

pH sensors can be tested using the new SOP calibration procedure with up to 3 calibration points. The third buffer is used as a verification buffer. You can pick and choose the buffer set for each calibration point and also set the sequence. Standard or user-specific buffer solutions can be used. For the verification buffer, a maximum permitted deviation (delta pH) is entered.

Security Package Including User Management

The Portavo 907 Multi's professional user management regulates access to the device and the sensor.

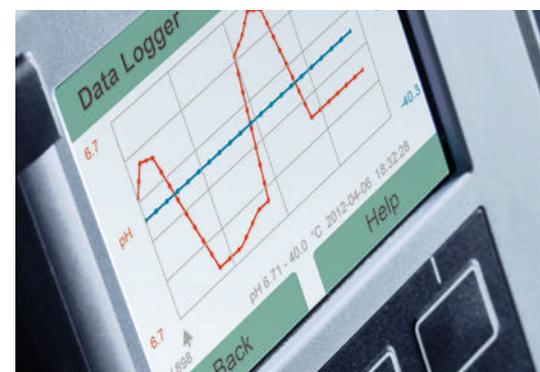
- Increased security for configuration, calibration and measurement data
- No unauthorized interventions during the operating cycle
- Up to 4 user profiles can be entered
- Different access rights can be established

Depending on user experience, the role profile can be selectively defined for configuring the device and sensor

as well as for calibrating the sensor. This clearly minimizes the risk of inadvertently changing settings.

Temperature Calibration

Temperature probe adjustment in the Memosens sensor (offset correction)



Portavo 907 Multi



More Safety During Operation

Memosens sensors can be assigned directly to the Portavo 907 Multi using the data stored in the sensor, such as

- Sensor Type
- TAG
- Group

Unique sensor-to-device assignment reduces potential errors. This ensures that only the right sensors are used for the selected measuring point.

Portavo 907 Multi pH

Multiparameter portable device for the following Memosens sensors.

pH, ORP, conductivity, oxygen
In addition: analog pH sensors with DIN connector

Portavo 907 Multi Cond

Multiparameter portable device for the following Memosens sensors.

pH, ORP, conductivity, oxygen
In addition: SE 202 and SE 204 analog conductivity sensors

Portavo 907 Multi Oxy

Multiparameter portable device for the following Memosens sensors.

pH, ORP, conductivity, oxygen
In addition: digital SE 340 optical oxygen sensor



The One and Only.



Portavo 904 X. The world's only portable multiparameter analyzer for liquid analysis in hazardous locations 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 suitable for all Memosens pH, ORP, conductivity and amperometric oxygen sensors and, if required, also for analog pH or conductivity sensors.

The MemoLog function allows the user to save calibration data from various Memosens measuring points directly in the device. They can then be easily transferred to a PC via the USB port. Paraly SW112 software enables user-friendly management of all recorded data.

Tailor-Made pH Calibration

pH sensors can be tested using the SOP calibration procedure with up to 3 calibration points. The third buffer is used as a verification buffer.

Security Package Including User Management

The Portavo 904's professional user management regulates access to the device and the sensor.

- Increased security for configuration, calibration and measurement data
- No unauthorized interventions during the operating cycle
- Up to 4 user profiles can be entered
- Different access rights can be established

Depending on user experience, the role profile can be selectively defined for configuring the device and sensor as well as for calibrating the sensor. This clearly minimizes the risk of inadvertently changing settings.

Temperature Calibration

Temperature probe adjustment in the Memosens sensor (offset correction)

Portavo 904 X Multi

Multiparameter analyzer for pH, ORP, oxygen, and conductivity with Memosens sensors.

Portavo 904 X pH

Portable analyzer for pH measurement using Memosens sensors and DIN pH sensors.

Portavo 904 X Cond

Portable analyzer for measurement using Memosens sensors and analog conductivity sensors.

You can pick and choose the buffer set for each calibration point and also set the sequence.

You can use your own buffer solutions or choose from a list of commercially available buffer sets, e.g., CaliMat, NIST and DIN. For the verification buffer, a maximum permitted deviation (delta pH) is entered.

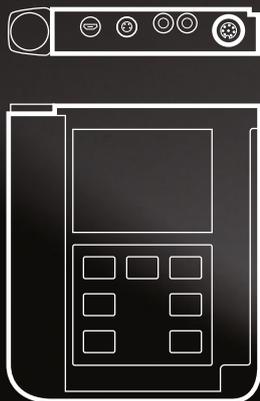
More Safety During Operation

Memosens sensors can be assigned directly to the Portavo 904 using the data stored in the sensor, such as

- Sensor Type
- TAG
- Group

Unique sensor-to-device assignment reduces potential errors. This ensures that only the right sensors are used for the selected measuring point.

Portavo 904 (X)



Portavo 904.
Portable device with
high-contrast segment
display.

The integrated data logger can record up to 5,000 values. Using the USB port and Paraly SW112 software, the logger data can be easily transferred to a PC for evaluation.

Portavo 904 pH

Portable analyzer for pH measurement using Memosens sensors and DIN pH sensors.

Portavo 904 Cond

Portable analyzer for measurement using Memosens sensors and analog conductivity sensors.

Portavo 904 Oxy

Portable analyzer for measuring dissolved oxygen using amperometric Memosens oxygen sensors.



The Basis.

Portavo 902. The basic version for measuring pH, ORP or conductivity.



Smart

Ergonomically optimized for on-site and laboratory use.

The integrated but removable quiver protects the sensor. The multi-functional hook together with the reversible protective cover ensures freedom of movement by allowing the devices to be hung up or positioned upright.

Robust

The robust and chemically resistant housing with IP66/67 is also suitable for outdoor use. The high-contrast LC display with scratch-proof mineral glass screen can still be read perfectly after many years.

Temperature Calibration

Temperature probe adjustment in the Memosens sensor (offset correction)

Facts and Features

- A sensor quiver protects the sensor from drying out or being damaged in daily use.
- Robust housing with IP66/67, also for outdoor use
- Memosens sensors and analog sensors can be used on the same device
- The mineral glass display is perfectly readable even after years
- Temperature calibration. Temperature probe adjustment in the Memosens sensor (offset correction)



Portavo 902



Portavo 902 pH

Portable pH meter for digital Memosens sensors or analog DIN pH sensors.

Portavo 902 Cond

Portable conductivity meter for connection to Memosens or analog sensors.



The Portavo Series.



Device

Sensors

Connections/Software

Calibration

Data storage

Ex approval

Cal SOP calibration

Temperature calibration

Overview



	902	904	904 X	907	908
High-resolution, daylight-readable color TFT display				•	•
High-contrast static segment display	•	•	•		
Open, easy-to-clean quiver	•	•	•	•	•
Carrying strap	•	•	•	•	•
Real-time clock	•	•	•	•	•
Replaceable Li-ion battery, USB-chargeable in the device		•		•	•
MemoLog – Logger for Memosens calibration and sensor data		•	•	•	•
Multilingual				•	•
Multiparameter for pH, ORP, conductivity, oxygen			•	•	•
SE 340 optical oxygen sensor				•	•
Analog pH sensors with DIN plug	•	•	•	•	
Analog conductivity sensors	•	•	•	•	
Memosens sensors	•	•	•	•	•
USB port for connecting a printer					•
Paraly SW 112 PC software for communication with PC		•	•	•	•
Calibration with automatic buffer recognition (Calimatic)	•	•	•	•	•
Calibration by data entry	•	•	•	•	•
Manual calibration by entering individual buffer values	•	•	•	•	•
Calibration timer (can be switched off)	•	•	•	•	•
Data logger for automatic recording of measured values		•	•	•	•
Data memory (number of storable values)		5,000	5,000	10,000	10,000
Ex Zone 0/1			•		
User management, sensor verification, temperature probe adjustment in the Memosens sensor (offset correction) SW-P001		•	•	•	•
Temperature probe adjustment in the Memosens sensor (offset correction) SW-P002	•	•	•	•	•

Everything else you want
to know about interference-
free pH, ORP, conductivity
and oxygen measurement ...

Knick 



Interface Technology

Indicators

Industrial Transmitters

Portables

Laboratory Meters

Sensors

Fittings

... is available from the Knick Memosens Academy.
With clear practical examples and suggested solutions.
Now. Free. Online.

www.memosens-academy.com



Knick

**Elektronische Messgeräte
GmbH & Co. KG**

Beuckestraße 22, 14163 Berlin,
Germany

Phone: +49 30 80191 - 0

Fax: +49 30 80191 - 200

info@knick.de · www.knick.de