Technical Information
Memobase Plus CYZ71D

Multichannel multiparameter software for liquid analysis with digital Memosens sensors

Measure - Calibrate - Document - Improve Quality

Application

- Multiparameter desk-top measuring device for pH/ORP, conductivity, dissolved oxygen and chlorine
- Simultaneous measurement and calibration of up to four sensors
- Central laboratory calibration, condition diagnostics and sensor management of Memosens process sensors
- Possible to connect any digital sensor with inductive Memosens technology

Your benefits

- Any combination of measuring parameters allows complete flexibility
- Smart functions help users work faster and avoid errors
- Measurement and calibration reports created automatically
- Documented full traceability of test solutions, sensors, calibrations and measurements
- Compliant with FDA 21 CFR Part 11 (e.g. audit trail, user administration etc.)
- "As found - as left" measurements for appraising the measuring uncertainty before the adjustment
- Possible to export database entries to .csv format for further processing in other programs (e.g. Excel, LIMS)
- Sensor condition analysis for optimizing and predicting service life
- Touchscreen or keyboard operation

Endress+Hauser
People for Process Automation

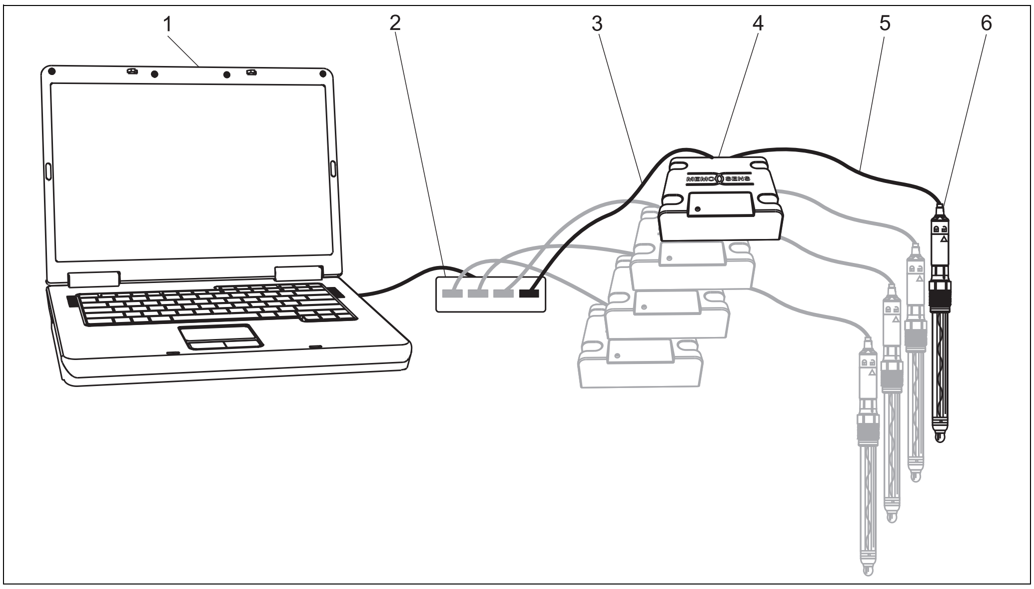
Function and system design

Measuring system

A complete measuring system consists of:

- PC with Memobase Plus software installed
- 1 to 4 MemoLink sensor terminal boxes (connection to PC and Ex barrier)
- 1 to 4 thin, flexible CYK20 Memosens laboratory cables or CYK10 Memosens process cables
- 1 to 4 USB cables to connect MemoLink and PC
- 1 to 4 Memosens sensors

A PC is not included in the delivery.
Memosens sensors must be ordered separately.
Information on this is available at: http://www.de.endress.com/#products/analysis



Measuring system for Memobase Plus CYZ71D

1 *PC (not supplied)*
2 *USB hub (optional, not supplied)*
3 *1 to 4 USB cables*
4 *1 to 4 MemoLink boxes*
5 *1 to 4 CYK20 Memosens cables or CYK10 Memosens process cables*
6 *1 to 4 Memosens sensors*

Connection

- USB -> MemoLink to PC
- Memosens data cable -> sensor to MemoLink

System requirements

The following system requirements must be met to install and use Memobase Plus.

Operating system	Windows XP[1)] Service Pack 3(32-bit) Windows 7[1)] Service Pack 1(32- and 64-bit)
Monitor	Min. 1024x768 pixels, also suitable for touchscreen
Processor	Minimum clock speed of 1 GHz
Free hard disk memory	At least 3 GB for the program and database
Free space for data	1 GB per 500,000 data records approximately
USB	At least 1 Type A USB port At least USB 2.0
Other	▪ CD/DVD drive for program installation ▪ Adobe Reader[1)]

1) The products referred to are trademarks of their respective companies.

Software functions

Memobase Plus has four main functionalities, which are listed in the navigation bar on the left:
- Measure: measurement including graph and description of sample
- Calibrate: several calibration methods and reference solution management
- Sensors: settings, administration, status and information
- Reports: database view, report creation and export to .csv

A separate tab (top) containing the parameters, sensor type and root is displayed for every connected MemoLink.

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Start screen with three connected sensors

1 Tab
2 Main menu

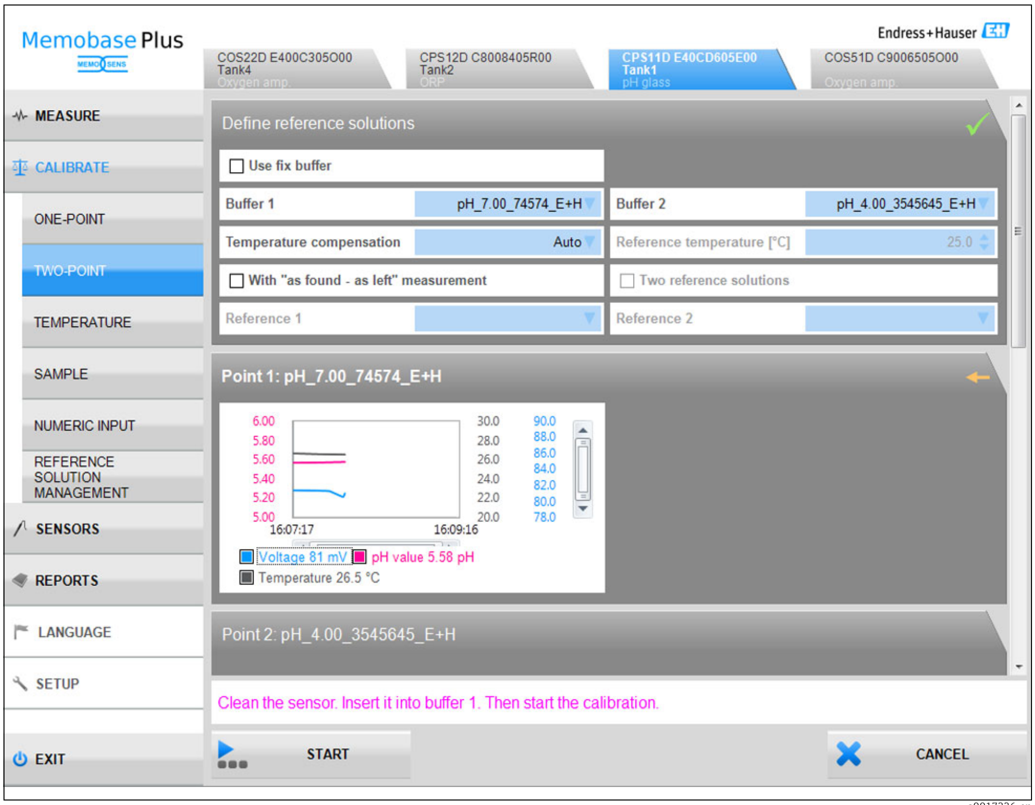
Measure

- Numerical and graphical display of primary and secondary measured values (with zoom function and time bar)
- Sample description for the verifiable assignment of a measurement
- Information on measurement settings is displayed in order to avoid interpretation errors

Memobase Plus in the measuring mode

Calibrate

- Guided step-by-step calibration with instructions for correct calibration procedure
- Testing equipment management for full traceability
- Optionally, "as found - as left" measurements can be performed to assess the measuring uncertainty before the adjustment
- Live-graph for visual control during the calibration enables sensor condition appraisal



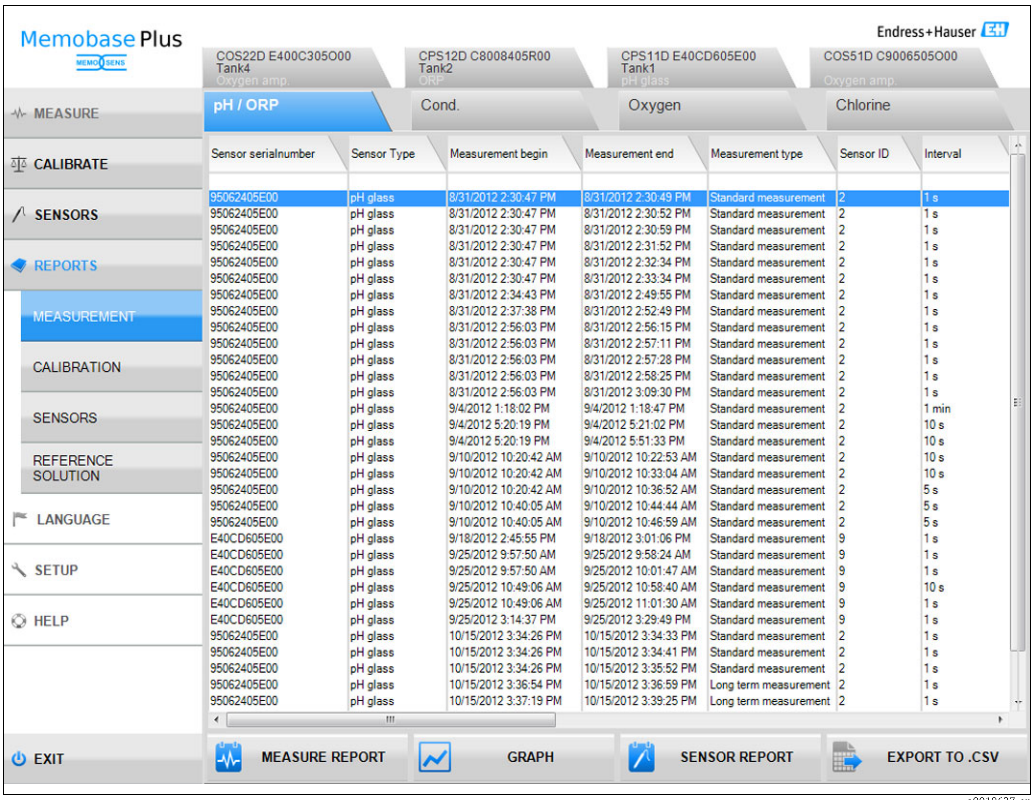
Memobase Plus with two-point calibration

Sensors

- Time stamps for sensor activation and deactivation (with reason) document the entire sensor life
- Possible to assign sensor to measuring point in the lab
- Calibration timer and specification of calibration method for fast, schedulable work
- Operating hours counter to analyze the sensor condition

Reports

- Subdivision into Measure / Calibrate / Sensors / Test equipment categories and categorization by measuring parameter for the fast retrieval of specific data
- Sorting and filter function helps users find data more quickly in every column
- Reports at the touch of a button, optionally with company's own logo
- The report contains all the information required, including a table with old and new calibration values, delta values and calibration history charts (slope and zero point)
- Export to .csv for further processing and analysis, e.g. in Excel
- Any manipulation of data is detected and indicated



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Memobase Plus - Report creation

Setup

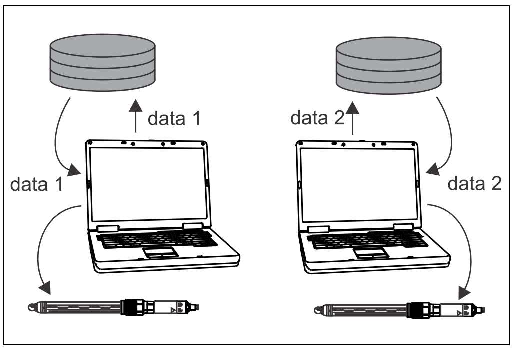
- Audit trail compliant with the requirements of the pharmaceutical industry, and user administration with three roles for full traceability
- Languages: English, Chinese, Czech, French, German, Italian, Japanese, Polish, Portuguese, Russian, Spanish
- Database settings incl. test function

Diagnostic messages

- Diagnostic messages are characterized as per Namur NE 107, including the corresponding symbols
- A window with instructions on how to proceed appears when quality- and safety-related messages are displayed
- All other messages are displayed in the diagnostic list

Network architecture

- The database can be saved on a local PC or centrally on a server.
- If two licenses or more are used, it is advisable to save the database on a central server so that all the data can be accessed with each license.



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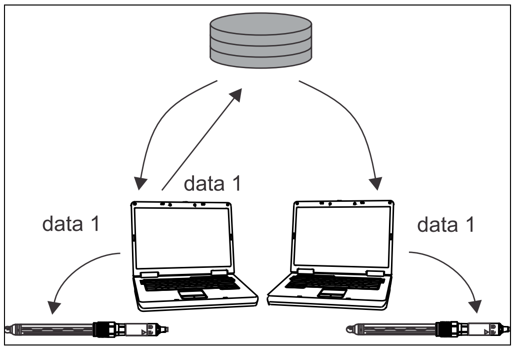

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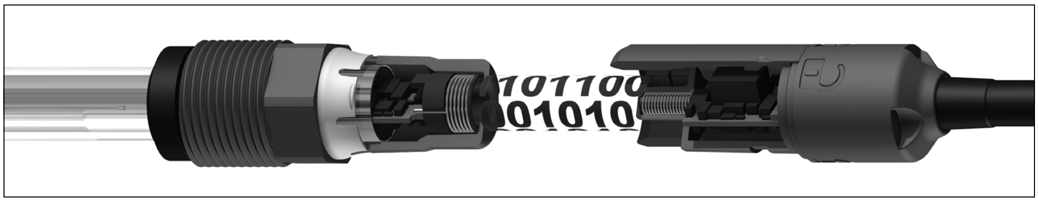
Memosens technology

Your measuring point is safer with Memosens:
- Non-contact, digital signal transmission enables optimum galvanic isolation
- No corrosion of contacts
- Completely waterproof
- Possible to calibrate the sensor in the laboratory, increasing the availability of measured values
- Predictive maintenance based on the sensor data recorded, including:
  - Total operating hours
  - Operating hours with very high and very low measured values
  - Operating hours at high temperatures
  - Number of steam sterilizations
  - Sensor condition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MemoLink input

Input type

Memosens port : M12 socket

Measured variables

All sensors with an inductive Memosens plug-in head are suitable for connection (pH/ORP, conductive conductivity, dissolved oxygen and chlorine) as well as inductive conductivity with fixed cable and M12 connector.
All sensors have a Pt100, Pt1000 or NTC temperature sensor.
-> More information is provided in the documentation of the connected sensor.

MemoLink output

Output type

- USB port: mini USB 2.0 Type B
- Data rate: 12 MBit/s
- USB class: HID

Output voltage

2.8 to 3.3 V

Output current

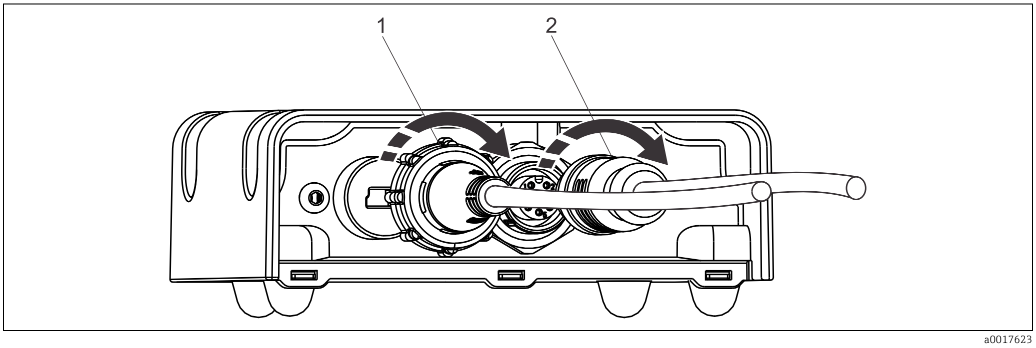
10 mA

Power supply

Supply voltage

The PC powers the sensor(s) and MemoLink(s) via the USB cable and enables the bidirectional transmission of Memosens data.

Connection



1 Cable with mini USB plug
2 Cable with M12 plug

Power supply

- 5 V DC via USB
- Low power mode: max. 100 mA as per USB specification 2.0

Cable length

- USB cable: 2.0 m (6.6 ft)
- CYK20 Memosens laboratory cable: 1.5 m/3.0 m (4.9 ft/9.8 ft)
- CYK10 Memosens process cable: 3 to 100 m (9.8 to 328.1 ft)

Performance characteristics

Maximum measured error

--> Documentation for the connected sensor

MemoLink only transmits data digitally so no measured data can be corrupted. The measuring signal is converted to digital data in the sensor, which means that MemoLink, the cable or PC software do not affect the measured values.

Environment

Ambient temperature range

- MemoLink: -10 to 50 °C (14 to 122 °F)
- CYK20 Memosens laboratory cable: -10 to 50 °C (14 to 122 °F)
- CYK10 Memosens process cable: -25 to 135 °C (-13 to 277 °F)

Storage temperature

- MemoLink: -25 to 85 °C (-13 to 185 °F)
- CYK20 Memosens laboratory cable: -10 to 50 °C (14 to 122 °F)
- CYK10 Memosens process cable: -25 to 135 °C (-13 to 277 °F)

Degree of protection

- MemoLink: IP 65 (mated, i.e. when cables are connected) in accordance with EN 60529 and Type 2 in accordance with UL
- CYK20 Memosens laboratory cable: IP 68
- CYK10 Memosens process cable: IP 68

Electromagnetic compatibility

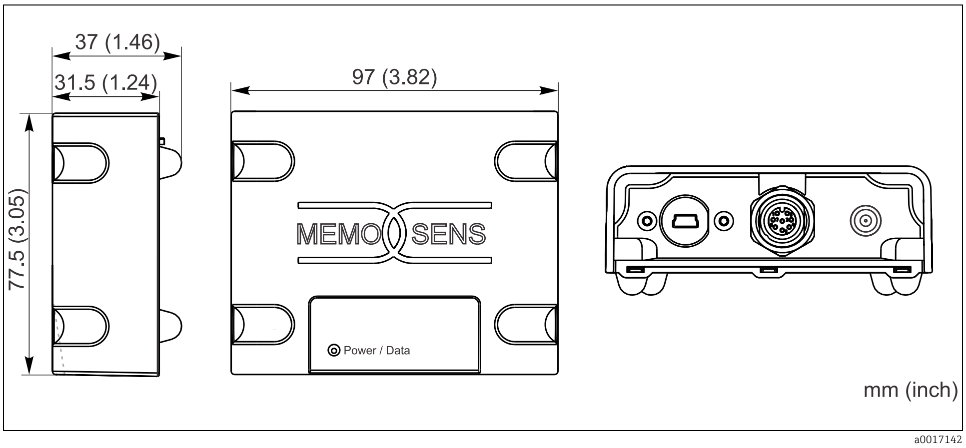
Interference emission and interference immunity as per EN 61326-1:2006, Class B (Industrial)

Humidity

MemoLink: 85%, not condensating

Mechanical construction

Dimensions



Dimensions of MemoLink

The MemoLink boxes can be stacked on top of one another. In such situations, the "Power / Data" LED is still easily visible.

Weight

240 g

Materials

- Housing: PBT
- Housing feet: EPDM

Ordering information

Product structure

You can create a complete and valid order code on the Internet with the Configurator tool.

Enter the following address in your browser to get to the specific product page:
www.products.endress.com/cyz71d

1. The following options are available for selection on the right-hand side of the product page:

Product page function
:: Add to product list
:: Price & order information
:: Compare this product
:: Configure this product

2. Click "Configure this product".
3. The Configurator opens in a new window. You can now configure your device and receive the complete and valid order code.
4. Now export the order code as a PDF file or an Excel file. To do so, click the appropriate button at the top of the page.

The Memosens sensors that you want to use must be ordered separately. Product information is available at www.endress.com in the Instruments - Liquid Analysis section.

Licensing model

One license comprises:
- DVD with software
- PostgreSQL database
- Quick installation guide
- Operating Instructions including Help as part of the software and separately as a PDF file on the DVD

One license is required per workstation.
1 to 4 MemoLink boxes, with the same number of Memosens sensors (1 to 4), can be connected per license. The licenses can be used for an unlimited period of time.

ℹ The license must be activated after installation. The computer on which Memobase Plus is installed does not necessarily need an Internet connection.

Demo version

A demo version can be used for free without any obligations. Neither real sensors nor MemoLink need be connected for this purpose. The demo is a desktop film that presents and explains the software functions.

Certificates and approvals

CE mark

Declaration of Conformity
The product meets the requirements of the harmonized European standards.
As such, it complies with the legal specifications of the EC directives.
The manufacturer confirms successful testing of the product by affixing to it the CE mark.

Ex approval

- MemoLink: ATEX II (2) G [Ex ia Gb] II C
- EMC Directive 2004/108/EC

ℹ The measuring point may be operated in the non-hazardous area only. Both Memosens sensors with and without an Ex approval can be connected alternately to the Memosens interface via a Memosens measuring cable. Connecting non-Ex Memosens sensors does not affect the intrinsic safety of any Ex-rated Memosens sensors subsequently connected.
Background: ATEX-certified instruments formally lose their approval as soon as they are connected to non-certified equipment. MemoLink has been developed in a way that prevents this.

Accessories

The following are the most important accessories available at the time this documentation was issued.
For accessories not listed here, please contact your service or sales office.

Order No.	
71163002	Kit CYZ71D MemoLink for Memosens
71162980	Kit CYZ71D USB cable

Measuring cable

CYK20 Memosens laboratory cable
- For digital sensors with Memosens technology
- Order as per the product structure

Standard solutions

High-quality buffer solutions from Endress+Hauser - CPY20
- Solutions which are traced by Endress+Hauser's DAkkS-accredited buffer laboratory (DAkkS = German Accreditation Body) to a primary reference material of the PTB, and to standard reference material of the National Institute of Standards and Technology (NIST) in accordance with DIN 19266, are used as secondary reference buffer solutions.
- Order as per the product structure (--> Online Configurator, www.products.endress.com/cpy20)

Precision solutions referenced to the NIST standard reference material (SRM) for the qualified calibration of conductivity measuring systems as per ISO 9000, with temperature table
- CLY11-A,
  74.0 µS/cm (reference temperature 25 °C (77 °F)), 500 ml (16.9 fl.oz.)
  Order No. 50081902
- CLY11-B
  149.6 µS/cm (reference temperature 25 °C (77 °F)), 500 ml (16.9 fl.oz)
  Order No. 50081903
- CLY11-C
  1.406 mS/cm (reference temperature 25 °C (77 °F)), 500 ml (16.9 fl.oz)
  Order No. 50081904
- CLY11-D
  12.64 mS/cm (reference temperature 25 °C (77 °F)), 500 ml (16.9 fl.oz)
  Order No. 50081905
- CLY11-E
  107.0 mS/cm (reference temperature 25 °C (77 °F)), 500 ml (16.9 fl.oz)
  Order No. 50081906

www.addresses.endress.com