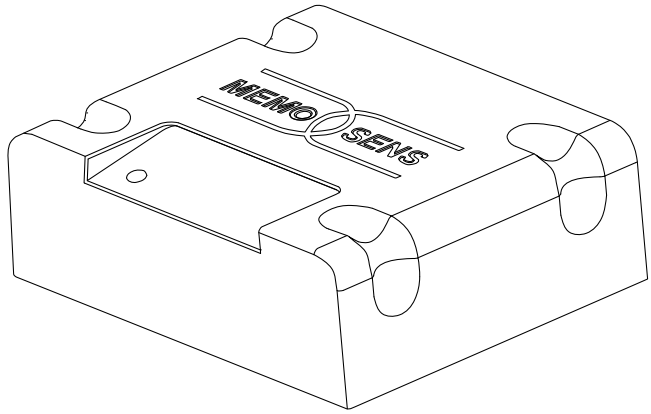


# Operating Instructions

## MemoLink

Sensor terminal box for Memobase Plus CYZ71D









# Table of contents








|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>About this document</b> .....                                | <b>4</b>  |
| 1.1      | Warnings .....  | 4         |
| 1.2      | Symbols used .....  | 4         |
| <b>2</b> | <b>Basic safety instructions</b> .....                          | <b>5</b>  |
| 2.1      | Requirements for personnel .....                                | 5         |
| 2.2      | Designated use .....  | 5         |
| 2.3      | Workplace safety .....  | 5         |
| 2.4      | Operational safety .....  | 5         |
| 2.5      | Product safety .....  | 6         |
| <b>3</b> | <b>Product description</b> .....                                | <b>7</b>  |
| 3.1      | Product design .....  | 7         |
| <b>4</b> | <b>Incoming acceptance and<br/>product identification</b> ..... | <b>8</b>  |
| 4.1      | Incoming acceptance .....                                       | 8         |
| 4.2      | Product identification .....                                    | 8         |
| 4.3      | Scope of delivery .....   | 9         |
| 4.4      | Certificates and approvals .....                                | 9         |
| <b>5</b> | <b>Installation</b> .....                                       | <b>10</b> |
| 5.1      | Installation conditions .....                                   | 10        |
| <b>6</b> | <b>Electrical connection</b> .....                              | <b>10</b> |
| 6.1      | Connecting MemoLink .....                                       | 10        |
| <b>7</b> | <b>Repair</b> .....   | <b>11</b> |
| 7.1      | Return .....  | 11        |
| 7.2      | Disposal .....  | 11        |
| <b>8</b> | <b>Technical data</b> .....                                     | <b>12</b> |
| 8.1      | Input .....   | 12        |
| 8.2      | Output .....  | 12        |
| 8.3      | Cable specification .....                                       | 12        |
| 8.4      | Power supply .....  | 12        |
| 8.5      | Performance characteristics .....                               | 13        |
| 8.6      | Environment .....   | 13        |
| 8.7      | Mechanical construction .....                                   | 13        |

# 1 About this document

## 1.1 Warnings

| Structure of information   | Meaning   |
|--|---|
|  <p><b>Causes (/consequences)</b><br/>If necessary, Consequences of non-compliance (if applicable)<br/>▶ Corrective action</p> | <p>This symbol alerts you to a dangerous situation.<br/>Failure to avoid the dangerous situation <b>will</b> result in a fatal or serious injury.</p> |
|  <p><b>Causes (/consequences)</b><br/>If necessary, Consequences of non-compliance (if applicable)<br/>▶ Corrective action</p> | <p>This symbol alerts you to a dangerous situation.<br/>Failure to avoid the dangerous situation <b>can</b> result in a fatal or serious injury.</p>  |
|  <p><b>Causes (/consequences)</b><br/>If necessary, Consequences of non-compliance (if applicable)<br/>▶ Corrective action</p> | <p>This symbol alerts you to a dangerous situation.<br/>Failure to avoid this situation can result in minor or more serious injuries.</p>             |
|  <p><b>Cause/situation</b><br/>If necessary, Consequences of non-compliance (if applicable)<br/>▶ Action/note</p>              | <p>This symbol alerts you to situations which may result in damage to property.</p>   |

## 1.2 Symbols used

| Symbol  | Meaning                           |
|---|-----------------------------------|
|  | Additional information, tips      |
|  | Permitted or recommended          |
|  | Not permitted or not recommended  |
|  | Reference to device documentation |
|  | Reference to page                 |
|  | Reference to graphic              |
|  | Result of a step                  |

## 2 Basic safety instructions

### 2.1 Requirements for personnel

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to carry out the specified activities.
- The electrical connection may be performed only by an electrical technician.
- The technical personnel must have read and understood these Operating Instructions and must follow the instructions contained therein.
- Faults at the measuring point may only be rectified by authorized and specially trained personnel.



Repairs not described in the Operating Instructions provided must be carried out only directly at the manufacturer's site or by the service organization.

### 2.2 Designated use

Memobase Plus is a measurement and calibration software offering central database management for sensors incorporating Memosens technology. It can be used to calibrate, adjust and manage sensors in a laboratory.

Memobase Plus is designed for use in the following applications:

- Laboratories
- Process-oriented workbench applications in non-hazardous areas



Memobase Plus cannot be used to replace a process transmitter, as communication with the control system is not supported.

MemoLink acts as the Memosens/USB interface converter for the Memobase Plus software. MemoLink supports Memosens sensors with Ex approval and without Ex approval.

Recommended areas of application are preferably laboratory applications for calibrations and functional testing.

Use of the device for any purpose other than that described poses a threat to the safety of people and of the entire measuring system, and is therefore not permitted. The manufacturer is not liable for damage caused by improper or non-designated use.

### 2.3 Workplace safety

As the user, you are responsible for complying with the following safety conditions:

- Installation guidelines
- Local standards and regulations
- Regulations for explosion protection

### 2.4 Operational safety

**Before commissioning the entire measuring point:**

1. Verify that all connections are correct.

2. Ensure that electrical cables and hose connections are undamaged.
3. Do not operate damaged products, and protect them against unintentional operation.
4. Label damaged products as defective.

### **During operation:**

- ▶ If faults cannot be rectified:  
products must be taken out of service and protected against unintentional operation.


## **2.5 Product safety**

### **2.5.1 State-of-the-art technology**

The product is designed to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate. The relevant regulations and European standards have been observed.

### **2.5.2 Electrical equipment in hazardous areas**

- The MemoLink must never be used in hazardous areas! The MemoLink is not designed as a field device for installation in industrial environments.
- The MemoLink, which is approved in accordance with EC type-examination certificate BVS 12 ATEX 079 X, ensures that the "intrinsic safety" type of protection of the Memosens measuring cable and the Memosens sensor is not compromised during calibration and functional testing.
- The computer, USB cable, MemoLink, Memosens measuring cable and Memosens sensor must be located outside the hazardous area during calibration and functional testing.
- Memosens cables with Memosens sensors may be connected to the Memosens interface of the Memolink.
- The internal electronics of the Ex-approved Memosens/USB interface converter MemoLink makes it possible to connect Ex-approved and non-Ex-approved, passive Memosens measuring cables with Memosens sensors. The connection of non-Ex-approved Memosens sensors does not interfere with the intrinsic safety of Ex-approved Memosens sensors connected at a later stage.
- Information on the applicable standards, directives and other regulations can be found in the EU Declaration of Conformity and the relevant certificates.
- MemoLink may only be connected to the USB interface of a commercially available computer.

 If cables with Ex approval are used in combination with sensors without Ex approval, it is possible to continue using the cables in combination with Ex-approved sensors on Memobase Plus. The sensors do not lose their Ex approval. The cables may not be used subsequently in a hazardous zone.

### **2.5.3 IT security**

We only provide a warranty if the device is installed and used as described in the Operating Instructions. The device is equipped with security mechanisms to protect it against any inadvertent changes to the device settings.

IT security measures in line with operators' security standards and designed to provide additional protection for the device and device data transfer must be implemented by the operators themselves.

## 3 Product description

### 3.1 Product design

1 to 4 MemoLink sensor terminal boxes, with the same number of Memosens sensors (1 to 4), can be connected per license.

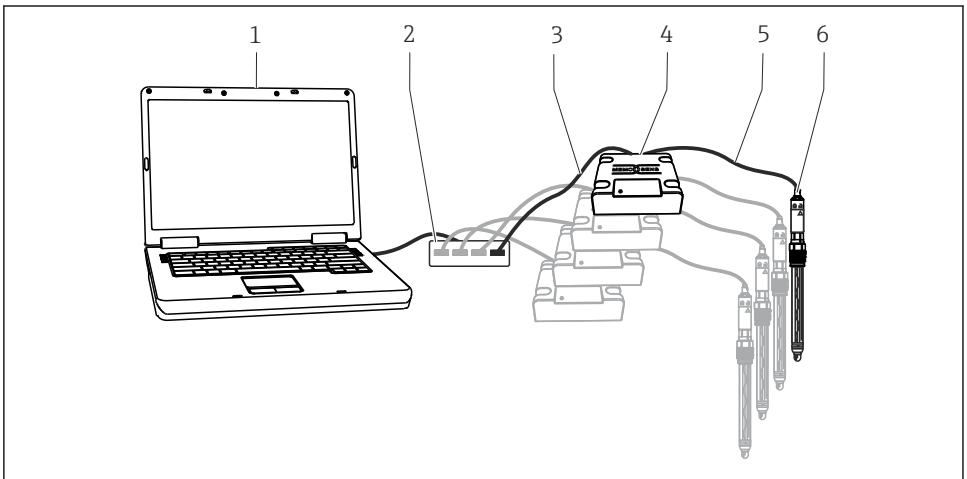
The following components are required in each case:

- Computer with the Memobase Plus software installed (not supplied)
- 1 USB cable
- 1 MemoLink
- 1 Memosens cable
- 1 sensor with Memosens technology



If the computer does not have enough USB ports, there is the option of using a USB hub.

If an active USB hub is used, make sure an external power supply (power unit) is provided. The external power supply supplies energy to the sensors.



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#### 1 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 sensor terminal boxes
- 5 1 to 4 CYK20 Memosens laboratory cables or CYK10 Memosens process cables
- 6 1 to 4 Memosens sensors

## 4 Incoming acceptance and product identification

### 4.1 Incoming acceptance

1. Verify that the packaging is undamaged.
  - ↳ Notify the supplier of any damage to the packaging.  
Keep the damaged packaging until the issue has been resolved.
2. Verify that the contents are undamaged.
  - ↳ Notify the supplier of any damage to the delivery contents.  
Keep the damaged goods until the issue has been resolved.
3. Check that the delivery is complete and nothing is missing.
  - ↳ Compare the shipping documents with your order.
4. Pack the product for storage and transportation in such a way that it is protected against impact and moisture.
  - ↳ The original packaging offers the best protection.  
Make sure to comply with the permitted ambient conditions.

If you have any questions, please contact your supplier or your local Sales Center.

### 4.2 Product identification

#### 4.2.1 Nameplate

The nameplate provides you with the following information on your device:

- Manufacturer identification
  - Serial number
  - Ambient and process conditions
  - Input and output values
  - Safety information and warnings
  - Ex labeling on hazardous area versions
- ▶ Compare the information on the nameplate with the order.

#### 4.2.2 Product identification

##### Interpreting the order code

The order code and serial number of your product can be found in the following locations:

- On the nameplate
- In the delivery papers
- On the packaging

##### Obtaining information on the product

1. Open the product website.
2. At the top of the page, select the link **Product tools**.
  - ↳ An additional sidebar opens up.



3. Select **Online Tools** followed by **Access device specific information**.
  - ↳ An additional window opens.
4. Enter the order code from the nameplate into the search field. Then select **Show details**.
  - ↳ Details of each feature (selected option) of the order code are displayed.

### 4.3 Scope of delivery

The scope of delivery comprises:

- Installation DVD with "Memobase Plus" setup, Operating Instructions and video clips
- Serial number and license key
- Quick installation guide
- Operating Instructions for MemoLink
- Depending on the version ordered:
  - License
  - 0 to 4 MemoLink sensor terminal boxes
  - 0 to 4 Memosens cable CYK20
  - 0 to 4 USB cables
- ▶ If you have any queries:  
Please contact your supplier or local sales center.

### 4.4 Certificates and approvals

#### 4.4.1 CE mark

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

#### 4.4.2 Ex approval

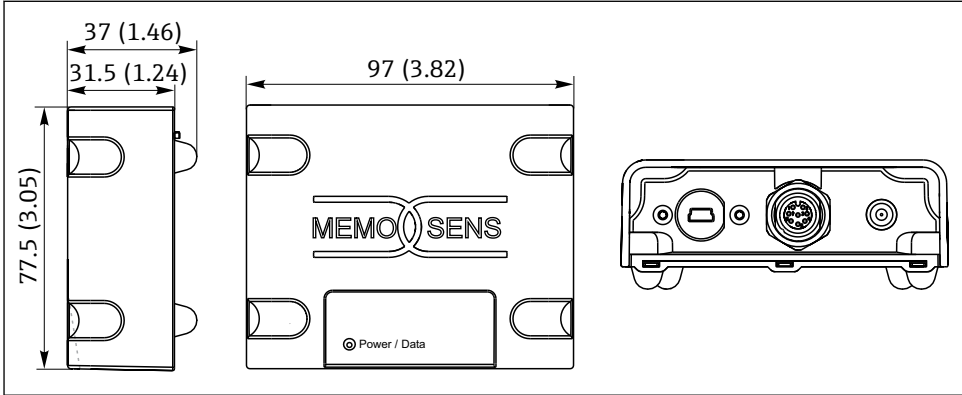
ATEX

- Ex marking:  
<Ex> II (2)G [Ex ia Gb] IIC
- Type-examination certificate:  
BVS 12 ATEX E 079 X
- Ambient temperature range:  
 $-10^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

## 5 Installation

### 5.1 Installation conditions

#### 5.1.1 Dimensions



2 Dimensions of MemoLink in mm (in)

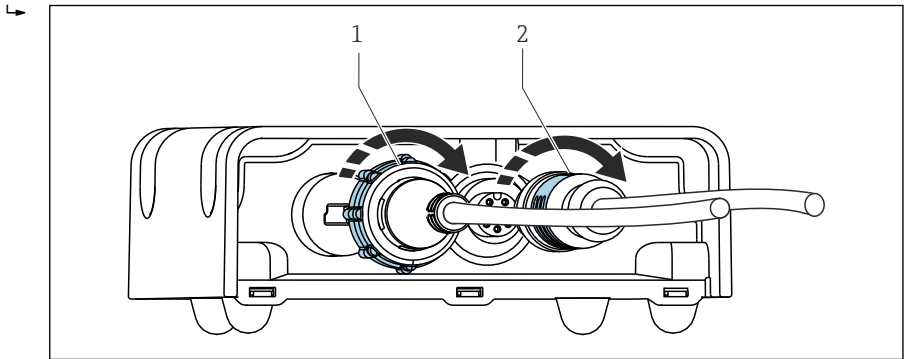
**i** The MemoLink sensor terminal boxes can be stacked on top of one another. In such situations, the "Power / Data" LED is still easily visible.

## 6 Electrical connection

### 6.1 Connecting MemoLink

1. Connect the mini USB connector to the mini USB jack on the MemoLink.

2. Connect the M12 connector to the M12 jack on the MemoLink. Use the flexible Memosens laboratory cable CYK20 or the Memosens process cable CYK10.



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- 1 Cable with mini USB connector
- 2 Cable with M12 connector

3. Connect the USB connector to the USB jack on your computer.
4. Connect the sensor with Memosens protocol to the Memosens plug-in head of process cable CYK10 or laboratory cable CYK20. Ex sensors can also be connected without losing their approval.



Electrical equipment in hazardous areas → 6

## 7 Repair

### 7.1 Return

The product must be returned if repairs or a factory calibration are required, or if the wrong product was ordered or delivered. As an ISO-certified company and also due to legal regulations, Endress+Hauser is obliged to follow certain procedures when handling any returned products that have been in contact with medium.

To ensure the swift, safe and professional return of the device:

- ▶ Refer to the website [www.endress.com/support/return-material](http://www.endress.com/support/return-material) for information on the procedure and conditions for returning devices.

### 7.2 Disposal

The device contains electronic components, and must therefore be disposed of in accordance with regulations on the disposal of electronic waste.

- ▶ Observe the local regulations.

## 8 Technical data

### 8.1 Input

#### 8.1.1 Type of input

Memosens port: M12 socket

#### 8.1.2 Measured variables

All sensors with an inductive Memosens plug-in head are suitable for connection (pH/ORP, conductive conductivity, dissolved oxygen and chlorine) and inductive conductivity with a fixed cable and M12 connector. All sensors contain a Pt100, Pt1000 or NTC temperature sensor.



For more information on "Measured variables", see the Operating Instructions for the connected sensor

### 8.2 Output

#### 8.2.1 Output type

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

#### 8.2.2 Output voltage

2.8 to 3.3 V

#### 8.2.3 Output current

10 mA

### 8.3 Cable specification

#### 8.3.1 Cable length

|                 |                   |
|-----------------|-------------------|
| USB cable:      | Max. 5 m (16 ft)  |
| Memosens cable: | Max. 30 m (98 ft) |

### 8.4 Power supply

#### 8.4.1 Supply voltage

The PC supplies power to the sensor(s) and MemoLink(s) via the USB cable and enables bidirectional transfer of Memosens data. An active USB hub must have a power unit.

#### 8.4.2 Power supply

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

## 8.5 Performance characteristics

### 8.5.1 Measured error



For detailed information on "Measured error", see the 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 the measured values are not affected by MemoLink, the cable or the software.

## 8.6 Environment

### 8.6.1 Ambient temperature

-10 to 50 °C (14 to 122 °F)

### 8.6.2 Storage temperature

-25 to 85 °C (-13 to 185 °F)

### 8.6.3 Humidity

max. 85%, non-condensing

### 8.6.4 Degree of protection

IP 65 (mated, i.e. when cables are connected) in accordance with EN 60529

### 8.6.5 Electromagnetic compatibility

Interference emission in accordance with EN 61326-1, Class B (residential environments)

Interference immunity in accordance with EN 61326-1, Class A (industrial environments)

## 8.7 Mechanical construction

### 8.7.1 Dimensions



Installation → 10

### 8.7.2 Weight

0.24 kg (0.53 lb.) not including cable

### 8.7.3 Materials

- Housing: PBT
- Housing feet: EPDM







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[www.addresses.endress.com](http://www.addresses.endress.com)

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