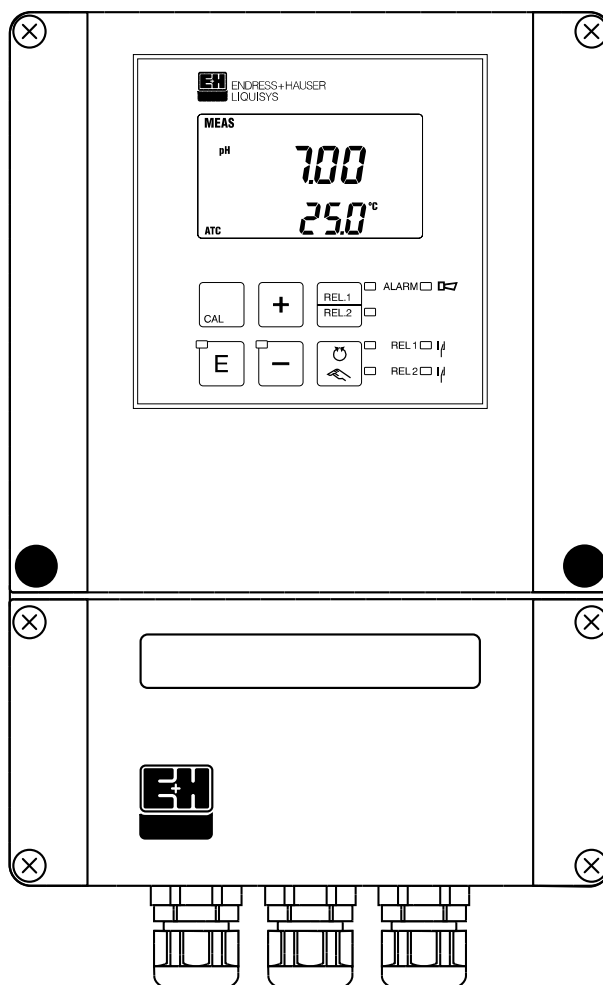
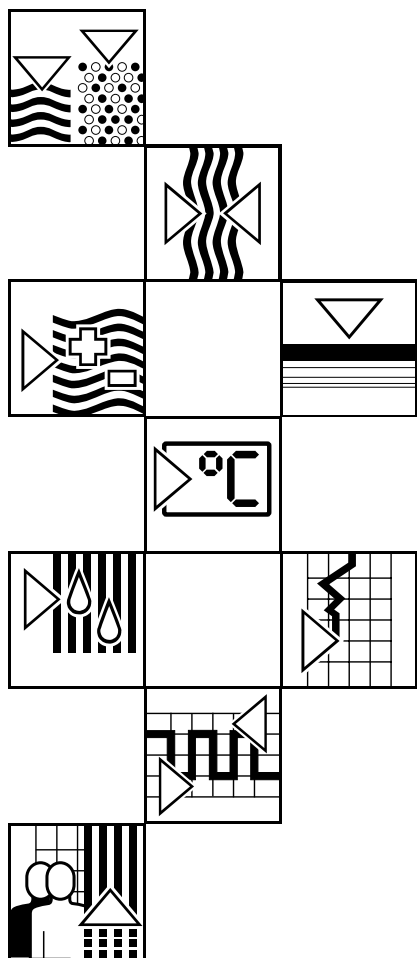


BA 169C/07/en/04.98
No. 50087273
Software version 1.01 or later

liquisys CPM 252 Transmitter/Controller for pH and Redox

Operating Instructions



Quality made by
Endress+Hauser



ISO 9001

Endress + Hauser

Nothing beats know-how



Please familiarise yourself with the instrument before you take any other steps:



1

General information



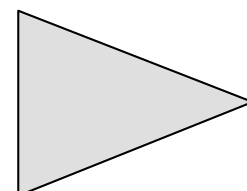
2

Safety



3

Description

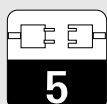


You wish to install and start up the instrument. The required steps are described in these chapters:



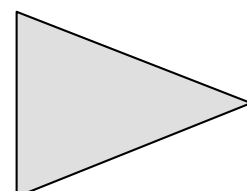
4

Installation



5

First start-up



You wish to operate or reconfigure the instrument. The operating concept is explained in these chapters:



6

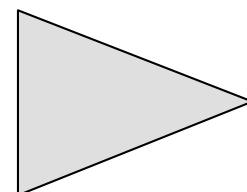
Operation



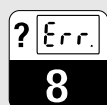
7

Instrument configuration

See the back cover for a fold-out overview of the menu structure.



When you encounter problems or when the instrument requires maintenance, refer to these chapters for help:



8

Diagnostics



9

Maintenance and service

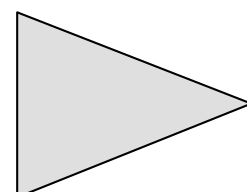


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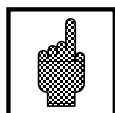
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1 General information

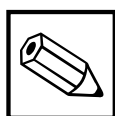
1.1 Symbols used

**Warning:**

This symbol alerts to hazards which may cause serious injuries as well as damage to the instrument, measuring system or other equipment if ignored.

**Caution:**

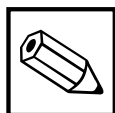
This symbol alerts to possible malfunction due to operator error.

**Note:**

This symbol indicates important items of information.

1.2 Conformity statement

The pH and redox measuring instrument / controller Liquisys CPM 252 has been developed and manufactured in accordance with the applicable European standards and directives.

**Note:**

The corresponding certificate of conformity may be requested from Endress+Hauser.

2 Safety

2.1 Intended use

The measuring transmitter Liquisys CPM 252 is a field-tested and reliable measurement and control device for determining pH values and redox potentials. It is equipped with two current outputs and two switched outputs for connection to automated process controllers.

2.2 General safety notes



Warning:

- Operation of the device in a manner other than as described in these operating instructions may lead to unsafe and improper functioning of the measuring system.

Installation, start-up, operation

The Liquisys CPM 252 instrument has been designed for safe operation according to the state of the art in engineering and in keeping with the applicable regulations and EC directives; see “Technical data”. However, if used improperly or other than for the intended purpose, it may pose a hazard, e.g. due to improper connection.

Installation, electrical connection, start-up, operation and maintenance of the measuring system must therefore be performed exclusively by trained specialists authorised by the system operator. This personnel must have read and understood these operating instructions and must adhere to them.

2.3 Safety devices

- **Access code:**

Unauthorised access to the calibration and configuration data of the measuring transmitter is effectively prevented by access codes. The instrument settings can be read at any time without entry of an access code.

- **Alarm function:**

Continuous violation of the limit settings or temperature sensor failure will activate an alarm. This condition is indicated by an LED on the control panel and via a switched output. The alarm contact has been designed as a fail-safe switch, i.e. the alarm condition will be immediately signalled in case of a power failure. The alarm contact is also activated by internal system errors (see 8.2).

- **Data protection:**

The instrument configuration is retained even after a power failure.

- **Immunity to interference:**

This instrument is protected against interference, such as pulse-shaped transients, high frequency and electrostatic discharges, according to the applicable European standards. This is only valid, however, for an instrument connected according to the notes in these installation and operating instructions.

3 Description

3.1 Areas of application

The measuring transmitter Liquisys CPM 252 is suitable for measuring and control tasks in the following areas of application:

- Water treatment and water monitoring
- Effluent treatment
- Neutralisation
- Detoxification in the electroplating industry

3.2 Measuring system

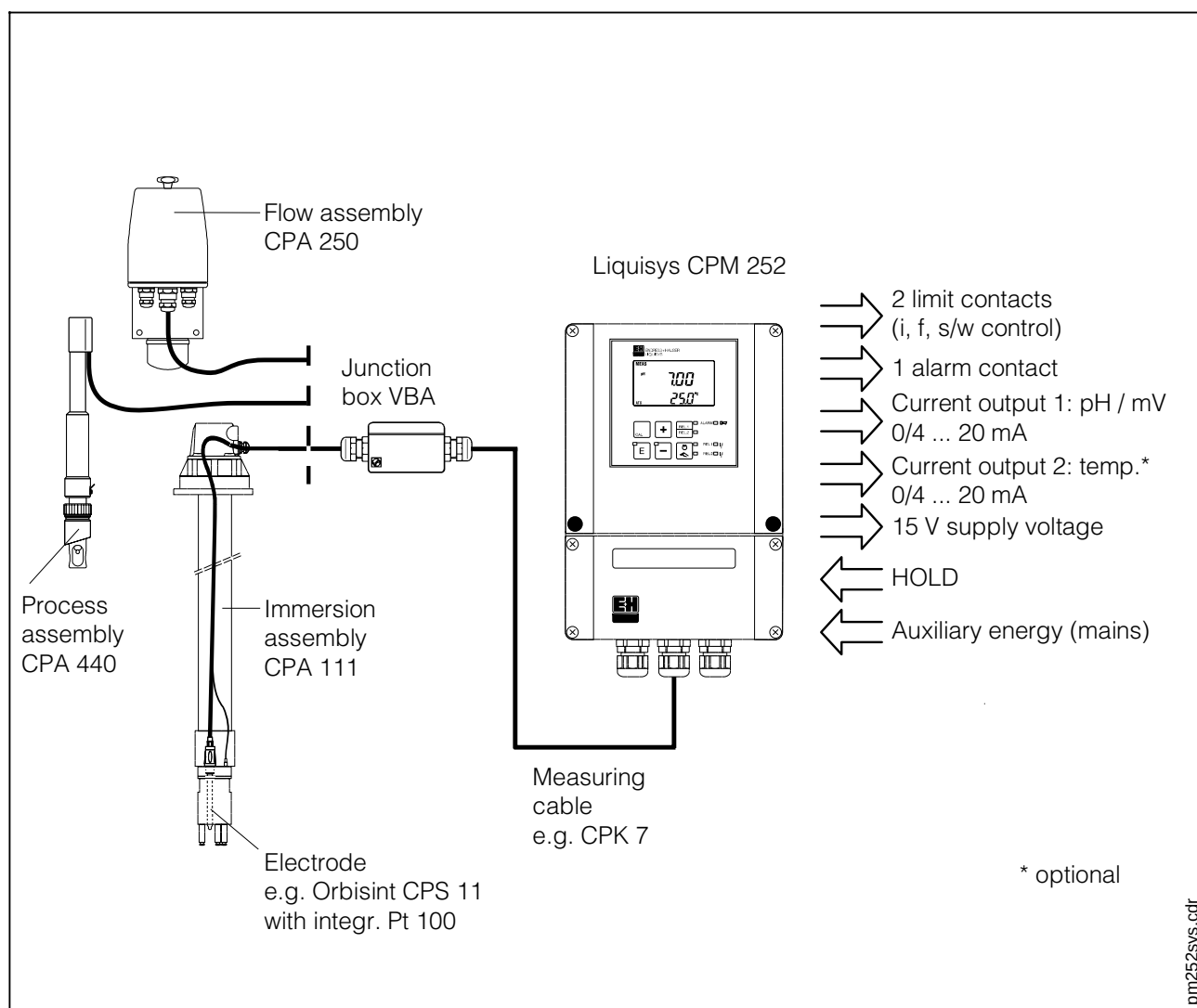


Fig. 3.1 Example of a complete measuring system

A typical measuring system comprises:

- a pH combination electrode with or without integrated temperature sensor Pt 100 or a redox combination electrode
- an additional temperature sensor Pt 100 if used with electrodes without an integrated temperature sensor
- an appropriate immersion, flow or retractable assembly with or without potential matching pin
- an appropriate pH or redox measuring cable
- the Liquisys CPM 252 measuring transmitter

3.3 Important features

- Field housing with protection type IP 65
- Measuring range pH 0 ... 14 / ± 1000 mV
- Switching between pH and redox potential measurements
- Temperature measurement -9.9 ... +125 °C
- Easy to read, two-line display
- Simple configuration with only three keys
- Configuration protected by access code
- Quick calibration using the "CAL" key
- Two switched outputs which can be configured as a pulse length controller, pulse frequency controller or limit contactor
- One switched output for alarm signalling in cases of limit violation or temperature sensor failure
- Two current outputs with selectable measurement range, switchable between 0 ... 20 or 4 ... 20 mA (switching affects both outputs)
- Automatic "hold" function to "freeze" the current output and switched outputs during calibration and configuration
- "Hold" function via a galvanically separated input, can be controlled using an external or internal auxiliary voltage

3.4 Instrument variants

Composition of order code

Version / measuring range

PR

Field housing, 247 x 170 x 115 mm, protection type IP 65

Switchable to pH or redox measurement

Power supply

0

Power supply: 230 V AC

1

Power supply: 115 V AC

2

Power supply: 200 V AC

3

Power supply: 24 V AC

5

Power supply: 100 V AC

8

Power supply: 24 V DC

9

Special version to customer specifications

Measurement output

0

Meas. output: pH/redox

1

Meas. output: pH/redox and temperature

9

Special version to customer specifications

Additional features

10

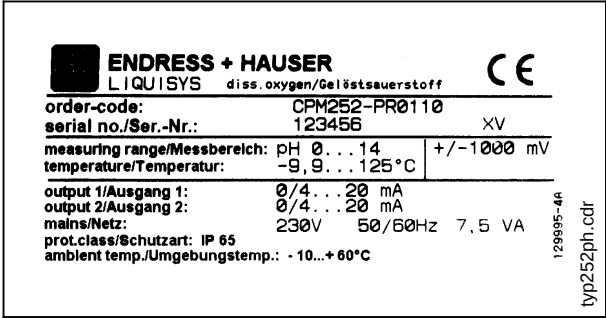
Base version

20

Moisture protection lacquering

CPM 252-

← complete order code



You can identify the device variant and the mains supply type by the order code on the nameplate of the instrument.

Fig. 3.2 Nameplate of Liquisys CPM 252

3.5 Accessories

Endress+Hauser offer a wide selection of matching electrodes and assemblies for the Liquisys measuring instrument which are designed for special applications. An overview of these appears below.

Electrodes

Type	Features	Areas of application
Orbisint CPS 11/12/13	Universally applicable, easily cleanable and soiling-resistant thanks to PTFE diaphragm, pressures of up to 6 bar, conductivity > 50 µS/cm	General process engineering
		Industrial waste water
		Detoxification (cyanogen, chromium)
		Neutralisation
Ceratex CPS 31/32/33	Inexpensive electrodes with ceramic diaphragm, long life	Drinking water
		Swimming pools
Ceraliquid CPS 41/42/43	Electrodes with ceramic diaphragm and KCl liquid electrolyte, for use with counterpressure, resistant to pressures of up to 8 bar	Ultrapure water
		Boiler feed water

Please refer to the electrode catalogue (order no. 50071679) for further information on electrodes and measuring cables.

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/888124106044006076>