8-channel transmitter
Liquiline CM448

Flexible multiparameter field device for all industries

Benefits:

- **Clever simplicity:**
  One controller for all parameters and applications, intuitive user interface, automatic sensor recognition, hot plug & play with pre-calibrated Memosens sensors.

- **Complete package:**
  8 channels in one device provide the highest flexibility for every measuring task.

- **Seamless system integration:**
  Unique portfolio of communication standards suits every distributed control system (DCS).

- **Simple and safe commissioning:**
  Saving configuration on SD card enables fast set-up on duplicate installations.

- **Process control from a distance:**
  Integrated web server that allows the operator to remotely view diagnostic data, perform configurations, or access device parameters in any web browser - even via Smartphone.

- **Higher availability, lower costs:**
  Heartbeat Technology enables status-oriented maintenance and easy verification of the entire measuring point and helps to carry out optimization measures.

Specs at a glance

- **Input** 1 to 8x Memosens digital input 2x 0/4 to 20mA Input optional 2 to 4x Digital input optional
Field of application: The Liquiline CM448 transmitter allows you to connect up to 8 Memosens sensors of your choice from over 12 measurement parameters. It offers automatic sensor recognition, simple operation, and standardized spare parts with all other devices of the Liquiline platform. With its inputs, outputs, controllers, and math modules, you can even control cleaning systems or dosing pumps. Heartbeat Technology helps you find the ideal balance between measuring point availability and maintenance costs.

Features and specifications

pH

Measuring principle
Potentiometric

Application
Modular 4 wire controller
Multichannel: 1 to 8 digital channels for Memosens protocol
Multiparameter: pH, redox, ISFET, conductivity inductive and conductive, dissolved oxygen, nitrate and turbidity
8 sensors connectable in any combination
Functionality modular extendable at any time
Plug and play for modules and sensors

Characteristic
Robust plastic housing
All non-ex applications

Design
8x Memosens input, 2 to 8x current output,
Alarmrelay, 2x relay, SD card for software update and copy & paste of setup
**pH**

**Material**
Housing base: PC-FR
Housing seal EPDM

**Dimension**
237 x 194 x 162 mm
9.33 x 7.64 x 6.38 inch

**Process temperature**
-20 to 55 °C (0 to 130 °F)

**Ingress protection**
IP66 / IP67

**Input**
1 to 8x Memosens digital input
2x 0/4 to 20mA Input optional
2 to 4x Digital input optional

**Output / communication**
2 to 8x 0/4 to 20 mA current outputs, alarmrelay
4x relay, ProfibusDP, Modbus RS485, Modbus TCP, Ethernet

**Additional certifications**
EAC, cCSAus

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**ORP / Redox**

**Measuring principle**
Sensor ORP / Redox

**Application**
Modular 4 wire controller
Multichannel: 1 to 8 digital channels for Memosens protocol
Multiparameter: pH, redox, ISFET, conductivity inductive and conductive, dissolved oxygen, nitrate and turbidity
8 sensors connectable in any combination
Functionality modular extendable at any time
Plug and play for modules and sensors
ORP / Redox

**Characteristic**
Robust plastic housing
All non-ex applications

**Design**
8x Memosens input, 2 to 8x current output,
Alarmrelay, 2x relay, SD card for software update and copy & paste of setup

**Material**
Housing base: PC-FR
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2x 0/4 to 20mA Input optional
2 to 4x Digital input optional

**Output / communication**
2 to 8x 0/4 to 20 mA current outputs, alarmrelay
4x relay, ProfibusDP, Modbus RS485, Modbus TCP, Ethernet

**Additional certifications**
EAC, cCSAus

Conductivity

**Measuring principle**
Conductive
## Conductivity

### Application
- Modular 4 wire controller
- Multichannel: 1 to 8 digital channels for Memosens protocol
- Multiparameter: pH, redox, ISFET, conductivity inductive and conductive, dissolved oxygen, nitrate and turbidity
- 8 sensors connectable in any combination
- Functionality modular extendable at any time
- Plug and play for modules and sensors

### Characteristic
- Robust plastic housing
- All non-ex applications

### Design
- 8x Memosens input, 2 to 8x current output,
- Alarmrelay, 2x relay, SD card for software update and copy & paste of setup

### Material
- Housing base: PC-FR
- Housing seal EPDM

### Dimension
- 237 x 194 x 162 mm
- 9.33 x 7.64 x 6.38 inch

### Ingress protection
- IP66 / IP67

### Input
- 1 to 8x Memosens digital input
- 2x 0/4 to 20mA Input optional
- 2 to 4x Digital input optional

### Output / communication
- 2 to 8x 0/4 to 20 mA current outputs, alarmrelay
- 4x relay, ProfibusDP, Modbus RS485, Modbus TCP, Ethernet
Conductivity

**Additional certifications**
EAC, cCSAus

Oxygen

**Measuring principle**
Amperometric oxygen measurement

**Application**
Modular 4 wire controller
Multichannel: 1 to 8 digital channels for Memosens protocol
Multiparameter: pH, redox, ISFET, conductivity inductive and conductive, dissolved oxygen, nitrate and turbidity
8 sensors connectable in any combination
Functionality modular extendable at any time
Plug and play for modules and sensors

**Characteristic**
Robust plastic housing
All non-ex applications

**Design**
8x Memosens input, 2 to 8x current output,
Alarmrelay, 2x relay, SD card for software update and copy & paste of setup

**Material**
Housing base: PC-FR
Housing seal EPDM

**Dimension**
237 x 194 x 162 mm
9.33 x 7.64 x 6.38 inch

**Process temperature**
-20 to 55 °C (0 to 130 °F)
Oxygen

Input
1 to 8x Memosens digital input
2x 0/4 to 20mA Input optional
2 to 4x Digital input optional

Output / communication
2 to 8x 0/4 to 20 mA current outputs, alarm relay
4x relay, ProfibusDP, Modbus RS485, Modbus TCP, Ethernet

Additional certifications
EAC, cCSAus

Disinfection

Measuring principle
Free chlorine

Application
Modular 4 wire controller
Multichannel: 1 to 8 digital channels for Memosens protocol
Multiparameter: pH, redox, ISFET, conductivity inductive and conductive, dissolved oxygen, nitrate and turbidity
8 sensors connectable in any combination
Functionality modular extendable at any time
Plug and play for modules and sensors

Characteristic
Robust plastic housing
All non-ex applications

Design
8x Memosens input, 2 to 8x current output,
Alarm relay, 2x relay, SD card for software update and copy & paste of setup

Material
Housing base: PC-FR
Housing seal EPDM
**Disinfection**

**Dimension**
237 x 194 x 162 mm
9.33 x 7.64 x 6.38 inch

**Process temperature**
-20 to 55 °C (0 to 130 °F)

**Input**
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**Turbidity**

**Measuring principle**
Single beam scattered light

**Application**
Modular 4 wire controller
Multichannel: 1 to 8 digital channels for Memosens protocol
Multiparameter: pH, redox, ISFET, conductivity inductive and conductive, dissolved oxygen, nitrate and turbidity
8 sensors connectable in any combination
Functionality modular extendable at any time
Plug and play for modules and sensors

**Characteristic**
Robust plastic housing
All non-ex applications
Turbidity

Design
8x Memosens input, 2 to 8x current output, Alarmrelay, 2x relay, SD card for software update and copy & paste of setup

Material
Housing base: PC-FR
Housing seal EPDM

Dimension
237 x 194 x 162 mm
9.33 x 7.64 x 6.38 inch

Process temperature
-20 to 55 °C (0 to 130 °F)

Ingress protection
IP66 / IP67

Input
1 to 8x Memosens digital input
2x 0/4 to 20mA Input optional
2 to 4x Digital input optional

Output / communication
2 to 8x 0/4 to 20 mA current outputs, alarmrelay
4x relay, ProfibusDP, Modbus RS485, Modbus TCP, Ethernet

Additional certifications
EAC, cCSAus

Analyser

Measuring principle
Potentiometric / ISE

Characteristic
Robust plastic housing
All non-ex applications
**Process temperature**
-20 to 55 °C (0 to 130 °F)

**Application**
- Modular 4 wire controller
- Multichannel: 1 to 8 digital channels for Memosens protocol
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**Output / communication**
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More information [www.endress.com/CM448](http://www.endress.com/CM448)