

Safety Instructions

Liquiline CM82 and CM72

UK Ex II 1G Ex ia IIC T6/T4 Ga



Liquiline CM82 and CM72

UK Ex II 1G Ex ia IIC T6/T4 Ga

Table of contents

| | |
|------------------------------------|---|
| Associated documentation | 4 |
| Additional documentation | 4 |
| Identification | 4 |
| Certificates | 4 |
| Safety instructions | 4 |
| Temperature tables | 5 |
| Connection | 5 |

Associated documentation This document is an integral part of Operating Instructions BA01797C and BA01845C

Additional documentation  Competence Brochure CP00021Z

- Explosion Protection: Guidelines and General Principles
- www.endress.com

Identification

Nameplate

The device is labeled on the exterior housing. The nameplate contains the following information:

- Name and address of manufacturer and manufacturer's logo
- Device type/order code
- Explosion protection (Ex) marking according to the required standards
- Reference number of third-party provider for QA testing - serial number, coded year of production
- Approval No.
- Ambient temperature range
- UKCA mark (UK versions)

Only the approvals indicated on the nameplate apply for the CM82 or CM72 transmitters.

Type code

| Type | Version | | |
|-------|--------------------------------|-----------------|------|
| CM72- | UA | * | (+*) |
| | UK Ex II 1G Ex ia IIC T6/T4 Ga | No Ex relevance | |
| CM82- | UA | * | (+*) |
| | UK Ex II 1G Ex ia IIC T6/T4 Ga | No Ex relevance | |

Certificates

Certification

CML 21UKEX2870X

Declaration of conformity

With this declaration of conformity, Endress+Hauser guarantees that the product complies with the provisions of UK statutory requirements. Compliance is verified by adherence to the standards listed in the Declaration of Conformity.

Approved body

Eurofins E&E CML Limited (UK)

Safety instructions

- The transmitter meets the requirements of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations SI 2016 No. 1107 and is suitable for use in hazardous areas.
- The transmitter is an intrinsically safe electrical device which is suitable for:
 - Equipment group II, equipment category 1G for use in Zone 0, which offers equipment protection level Ga.
 - Equipment group II, equipment category 2D for use in Zone 21, which offers equipment protection level Db. An intrinsically safe power supply as per Ex ia requirements is absolutely essential. Intrinsically safe Memosens sensors can be connected and are located in Zone 0.
- If installing in Zone 0/Zone 21, the CM82 and CM72 transmitters and their plugs must be protected against electrostatic charge.
- The process temperature of the sensor depends on the sensor's temperature class and can deviate from the ambient temperature range of the CM82/CM72. Suitable measures must be taken to guarantee the decoupling of the CM82/CM72 temperature and the process temperature.
- Installation, connection to the power supply, commissioning, inspection, maintenance and repair of the devices must be performed by qualified and skilled staff who are appropriately trained to perform work on Ex-devices according to applicable regulations, e.g. (BS) EN 60079-14, -17, -19 and according to these Operating Instructions.

- Certified CM82/CM72 transmitters have a red ring.
- Only sensors that are designed for the use as specified in the Operating Instructions may be connected.
- Suitable Memosens sensors that can be located in Zone 0 have a red ring.
- The nominal values of the input and output circuits must be observed.

Temperature tables

The CM82 and CM72 transmitters are suitable for operation in the following ambient temperature ranges:

For EPL Ga:

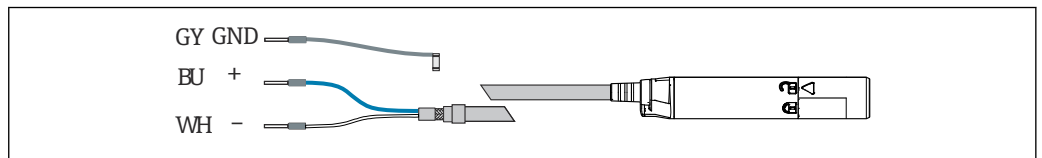
- Temperature class T6: $-20\text{ °C} \leq T_a \leq 55\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 131\text{ °F}$)
- Temperature class T4: $-20\text{ °C} \leq T_a \leq 80\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 176\text{ °F}$)

For EPL Db:

- Temperature class T85°C: $-20\text{ °C} \leq T_a \leq 55\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 131\text{ °F}$)
- Temperature class T135°C: $-20\text{ °C} \leq T_a \leq 80\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 176\text{ °F}$)

Connection

Ex-specification, current output



A0040059

Current outputs: BU+, WH- wires

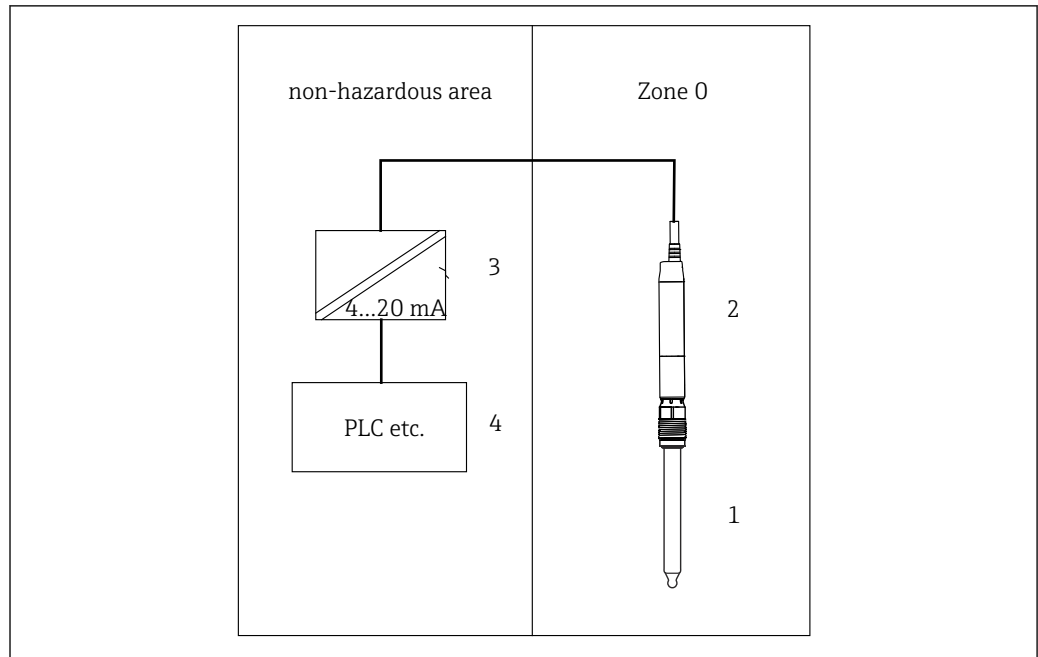
| Intrinsically safe power supply and signal circuit (ia circuit) | |
|---|---|
| Max. input voltage U_i | 30 V |
| Max. input current I_i | 100 mA |
| Max. input power P_i | 750 mW |
| Max. internal capacitance C_i | 7 nF (including 15 m (49 ft) cable) |
| Max. internal inductance L_i | 20 μ H (including 15 m (49 ft) cable) |

Connecting Memosens sensors

| Memosens interface, intrinsically safe sensor circuit with Ex ia IIC protection | |
|---|--------|
| Max. output power P_o | 105 mW |
| For connecting to certified Memosens sensors with input parameter P_i . | |

The Memosens interface makes it possible to connect to certified Memosens sensors. CM82/CM72 provides galvanic isolation in relation to Memosens sensors. The insulation voltage is 500 Vrms. The galvanic isolation corresponds to an infallible separation according to intrinsic safety requirements.

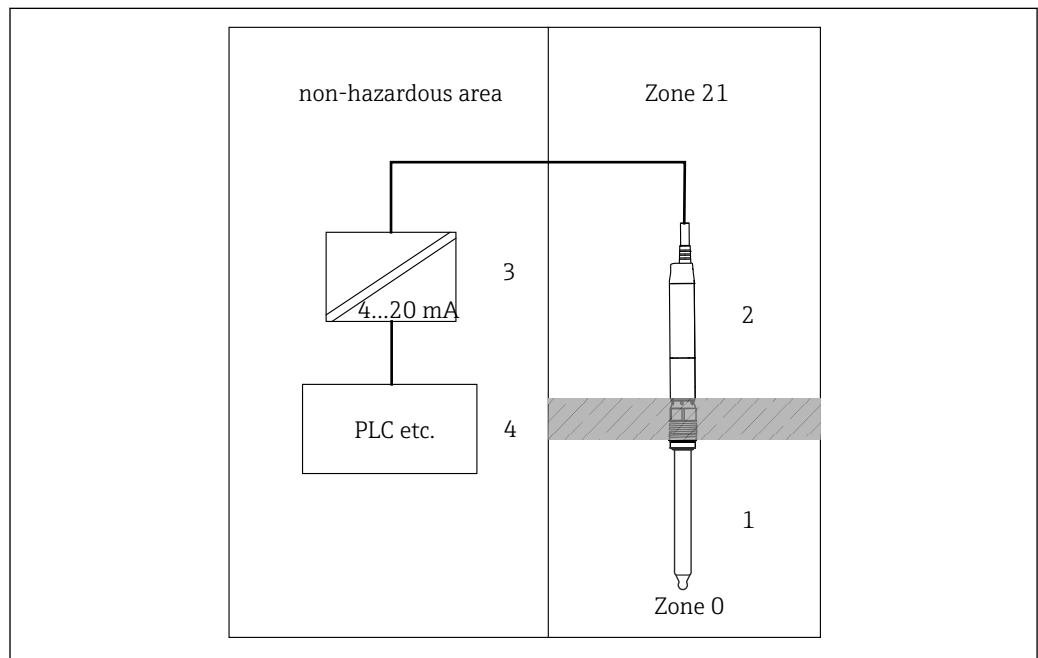
Connection diagram



A0040055

1 Installation in hazardous area: CM82/CM72 and sensor in explosive gas atmosphere

- 1 Sensor with suitable Ex protection
- 2 Transmitter Liquiline Compact CM82 or CM72
- 3 Ex ia certified power supply and signal circuit (4 to 20 mA), e.g. active barrier RN221N
- 4 Programmable logic controller etc.



A0040056

2 Installation in hazardous area: CM82/CM72 in explosive dust atmosphere (Zone 21) and sensor in explosive gas atmosphere (Zone 0)

- 1 Sensor with suitable Ex protection
- 2 Transmitter Liquiline Compact CM82 or CM72
- 3 Ex ia certified power supply and signal circuit (4 to 20 mA), e.g. active barrier RN221N
- 4 Programmable logic controller etc.





www.addresses.endress.com
