

Safety Instructions

Memosens pH/ORP sensors

pH/ORP measurement

Supplement to BA01572C, BA01109C
Safety instructions for electrical apparatus in
explosion-hazardous areas
UK Ex II 1 G Ex ia IIC T3/T4/T6 Ga
UK Ex II 1 G Ex ia IIC T4/T6 Ga



**UK
CA**



Memosens pH/ORP sensors

pH/ORP measurement

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Associated documentation

This document is an integral part of Operating Instructions BA01572C and BA01109C.

Additional documentation

Competence Brochure CP00021Z

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

Certificates

The certificates and declarations of conformity are available in the Downloads area of the Endress+Hauser website:

www.endress.com/download

UK Declaration of Conformity

UK_00321

EU type examination certificate

CML 21UKEX2902X

Identification

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

- Manufacturer identification
- Order code
- Extended order code
- Serial number
- Safety information and warnings
- Ex marking on hazardous area versions
- Certificate information

- ▶ Compare the information on the nameplate with the order.

Type code

Sensor	Ex marking
CPS11D-7***U	II 1G Ex ia IIC T6/T4/T3 Ga
CPS12D-7***U	
CPS16D-7***U	
CPS71D-7***U	
CPS72D-7***U	
CPS76D-7***U	
CPS41D-7***U	

Sensor	Ex marking
CPS42D-7***U	
CPS91D-7***U	II 1G Ex ia IIC T6/T4/T3 Ga
CPS92D-7***U	
CPS96D-7***U	

Certificates and approvals

Declaration of Conformity

With this declaration of conformity, the manufacturer guarantees that the product conforms to UK statutory requirements:

- The Electromagnetic Compatibility Regulations SI 2016 No. 1091
- The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations SI 2016 No. 1107
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations SI 2012 No. 3032

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 Memosens inductive sensor-cable connector system, comprising certified pH/ORP sensors CPS11D, CPS12D, CPS16D, CPS41D, CPS42D, CPS71D, CPS72D, CPS76D, CPS91D, CPS92D, CPS96D and measuring cable CYK10 or CYK20 is suitable for use in hazardous areas in accordance with:
 - UK type-examination certificate CML 21UKEX2902X
- The above sensors in conjunction with measuring cable CYK10 or a Memosens measuring cable that is structurally identical and has the same hardware and function may be connected to the certified intrinsically safe sensor inputs of the Liquiline M CM42 measuring device.
- Alternatively all of the listed sensors can be connected with a measuring cable to a certified, intrinsically safe output circuit with the maximum values specified below. In particular the maximum internal inductance and capacitance of the intrinsically safe output circuit must not exceed the specified maximum values; see the "Connection data" table → 6.

Temperature tables

Sensor	Process temperature T_a for temperature class		
	T3	T4	T6
CPS11D-7***U	$-15\text{ °C (5 °F)} \leq T_a \leq 135\text{ °C (275 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 120\text{ °C (248 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$
CPS12D-7***U			
CPS16D-7***U			
CPS41D-7***U			
CPS42D-7***U			
CPS72D-7***U			
CPS71D-7***U CPS76D-7***U	$0\text{ °C (32 °F)} \leq T_a \leq 135\text{ °C (275 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 120\text{ °C (248 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$
CPS91D-7***U CPS92D-7***U CPS96D-7***U	n.a.	$0\text{ °C (32 °F)} \leq T_a \leq 110\text{ °C (230 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$

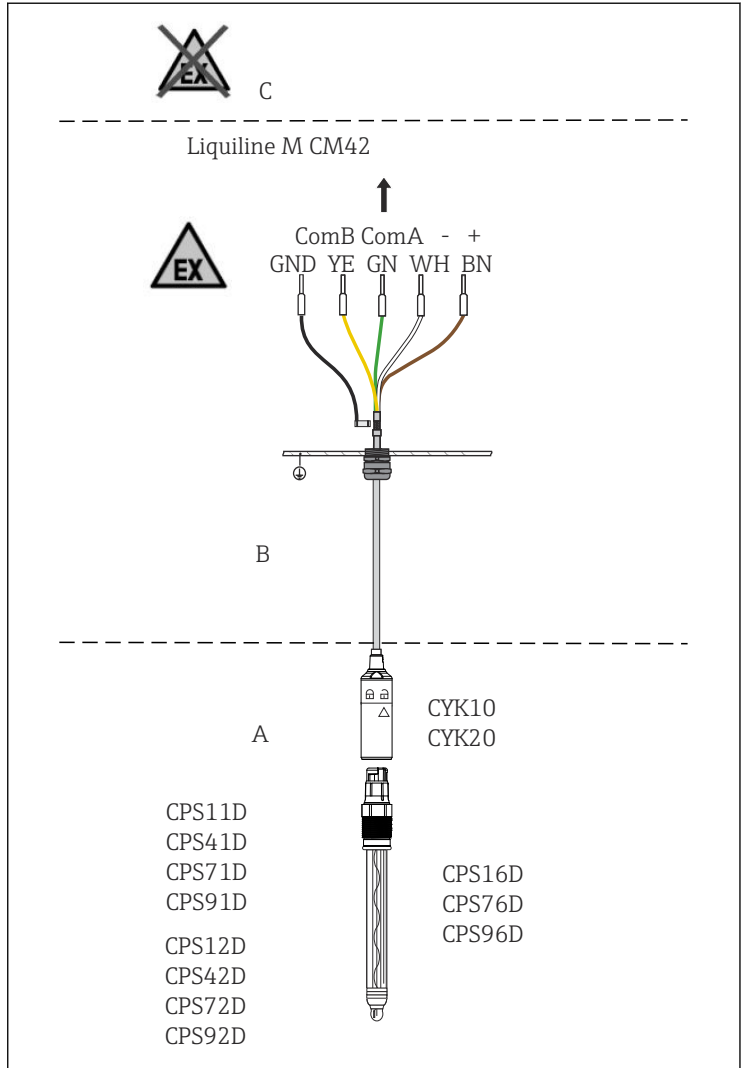
If the specified process temperatures are complied with, temperatures that are not permitted for the respective temperature class will not occur on the equipment.

Connection data

UKCA Ex certified, intrinsically safe output circuits

	Parameter set 1	Parameter set 2
Maximum output voltage U_o	5.1 V	5.04 V
Maximum output current I_o	130 mA	80 mA
Maximum output power P_o	166 mW (linear characteristic)	112 mW (trapezoidal characteristic)
Maximum internal conductivity C_i	15 μF	14.1 μF
Maximum internal inductance L_i	95 μH	237.2 μH

Installation conditions



1 Electrical connection

- A Hazardous area Zone 0
- B Hazardous area Zone 1
- C Non-hazardous area



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