

Safety Instructions

Memosens COS22E

Memosens COS51E

EAC Ex 0Ex ia IIC T6 ... T4 Ga X

Safety instructions for electrical apparatus in
explosion-hazardous areas



Memosens COS22E

Memosens COS51E

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Associated documentation

This document is an integral part of the Memosens COS22E Operating Instructions BA02145C.

This document is an integral part of the Memosens COS51E Operating Instructions BA02146C.

Supplementary documentation



Competence Brochure CP00021Z

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

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

► Compare the information on the nameplate with the order.

Ex-approval

EAC Ex

OEx ia IIC T6... T3 Ga

Notified body

ООО "НАННО ЦБЭ"

Russian Federation

Safety instructions

The Memosens COS22E and COS51E oxygen sensors are suitable for use in hazardous areas in accordance with:

EAC Ex certificate **EAЭC RU C-DE.AA87.B.00833/21**

- The product has been certified in accordance with Directive TR CU 012/2011 valid within the Eurasian Economic Area (EAEU). The EAC conformity mark has been affixed to the product.
- A maximum ambient temperature of 90 °C (194 °F) must not be exceeded at the sensor head.
- Oxygen sensors for use in hazardous areas have a special conductive O-ring. The electrical connection of the metallic sensor shaft to the conductive mounting location (such as a metallic assembly) is via the O-ring.
- Appropriate measures must be taken to connect the assembly or the mounting location to ground in accordance with the Ex guidelines.

- The plastic housing may only be cleaned with a damp cloth.
- Hazardous area versions of digital sensors with Memosens technology are marked by an orange/red ring on the plug-in head.
- The maximum permitted cable length between the sensor and transmitter is 100 m (330 ft).
- When using devices and sensors, observe the regulations for electrical systems in hazardous areas (EN/ IEC 60079-14).

Only Memosens COS22E:

- Oxygen sensors for use in hazardous areas have a special conductive O-ring. The electrical connection of the metallic sensor shaft to the conductive mounting location (such as a metallic assembly) is via the O-ring.
- Sensors containing parts made of titanium or other light metals must be protected against impact.
- The sensors must not be operated under electrostatically critical process conditions. Avoid strong steam or dust currents that act directly on the connection system.

Only Memosens COS51E:

- The sensors may not be operated under electrostatically critical process conditions in which electrostatic charging of the sensor and the connection system is likely to occur.
- Use of the sensor for its intended purpose in liquids with a conductivity of at least 10 nS/cm can be classified as electrostatically safe.


Type code

Memosens	COS22E-aabbccdde+g	
	aa	Approval (no ex-relevance) GA 0Ex ia IIC T6 ... T4 Ga X
	bb	Measuring range (no ex-relevance)
	cc	Cap characteristics AA = Stainless steel BA = Titanium CA = Alloy C22 YY = Special version
	dd	Sensor length (no ex-relevance) max. 600 mm
	e	Material of O-ring (in the cap) (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance), e.g. test or other certificates/declarations

Memosens	COS51E-aabbcc+g	
	aa	Approval (no ex-relevance) GA OEx ia IIC T6 ... T4 Ga X
	bb	Measuring range (no ex-relevance)
	cc	Cap characteristics TF = Response time T90, 0,5 minutes TN = Response time T90, 3 minutes YY = Special version
	g	Optional = one or more characters determining optional features (no ex-relevance), e.g. test or other certificates/declarations

Temperature tables

Sensor	Process temperature T_p	Ambient temperature T_a
COS22E	$-5 \leq T_p \leq 70 \text{ }^\circ\text{C}$ (T6) $-5 \leq T_p \leq 100 \text{ }^\circ\text{C}$ (T4)	$-25 \leq T_a \leq 70 \text{ }^\circ\text{C}$ (T6) $-25 \leq T_a \leq 70 \text{ }^\circ\text{C}$ (T4)
COS51E	$-5 \leq T_p \leq 60 \text{ }^\circ\text{C}$ (T6)	$-5 \leq T_a \leq 60 \text{ }^\circ\text{C}$ (T6)

The above temperature table applies only under the following installation conditions, which are described in the following graphic →  7. If the installation conditions cannot be met, the maximum process temperature T_p must not exceed the maximum ambient temperature T_a .

Connection

Ex specification

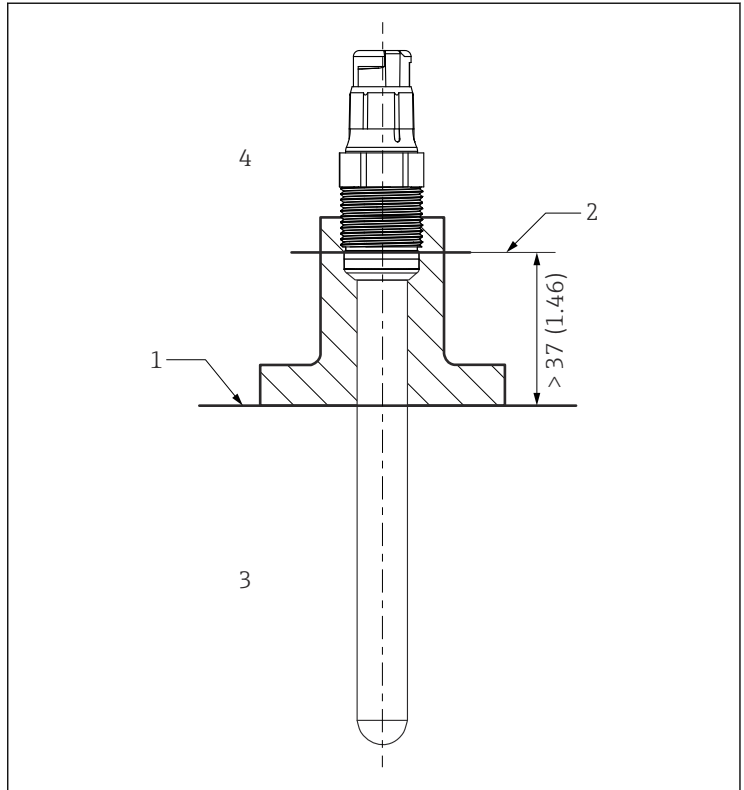
- The Memosens COS22E and Memosens COS51E oxygen sensors are approved EAC Ex certificate EA9C RU C-DE.AA87.B.00833/21 and suitable for use in hazardous environments.
- The approved Memosens COS22E and Memosens COS51E digital oxygen sensors have an intrinsically safe input with the following parameter set:

Parameter	Value
P_i	180 mW

The approved Memosens COS22E and Memosens COS51E digital oxygen sensors must be connected to a Memosens cable or cable transmitter with intrinsically safe output with the following parameter:

Parameter	Value
P_o	max. 180 mW

Installation conditions



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1 Installation conditions

- 1 Limit
- 2 Distance between plug-in head (lower edge) and process medium, without ring and thrust collar
- 3 Process temperature range T_p
- 4 Ambient temperature range T_a



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