

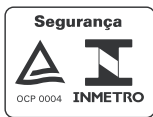
Safety Instructions

Memosens COS22E

Memosens COS51E

Supplement to BA02145C
Supplement to BA02146C

Safety instructions for electrical apparatus in explosion-hazardous areas



Memosens COS22E


Memosens COS51E

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Associated documentation	<p>This document is an integral part of the Memosens COS22E Operating Instructions BA02145C.</p> <p>This document is an integral part of the Memosens COS51E Operating Instructions BA02146C.</p>
Supplementary documentation	<p> Competence Brochure CP00021Z</p> <ul style="list-style-type: none"> ▪ Explosion Protection: Guidelines and General Principles ▪ www.endress.com
Certificates	<p>The certificates and declarations of conformity are available in the Downloads area of the Endress+Hauser website: www.endress.com/download</p>
INMETRO	<p>The number of the INMETRO certificate that applies to the product can be found on the nameplate. And the according standards can be found on the certificate.</p>
Identification	<p>The nameplate provides you with the following information on your device:</p> <ul style="list-style-type: none"> ▪ Manufacturer identification ▪ Order code ▪ Extended order code ▪ Serial number ▪ Safety information and warnings <p>► Compare the information on the nameplate with the order.</p>
Safety instructions	<ul style="list-style-type: none"> ▪ 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. ▪ Ex versions of digital sensors with Memosens technology are identified 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 (ABNT NBR IEC 60079-14). ▪ The procedures for electrical connection described in the Operating Instructions must be followed. <p>Only Memosens COS22E:</p> <ul style="list-style-type: none"> ▪ 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. <p>Only Memosens COS51E:</p> <ul style="list-style-type: none"> ▪ 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) MG: INMETRO Ex ia op is IIC T6 ... T4 Ga
	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-aabbc+g	
	aa	Approval (no ex-relevance) MG: INMETRO Ex ia op is IIC T6 Ga
	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 →  6. 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

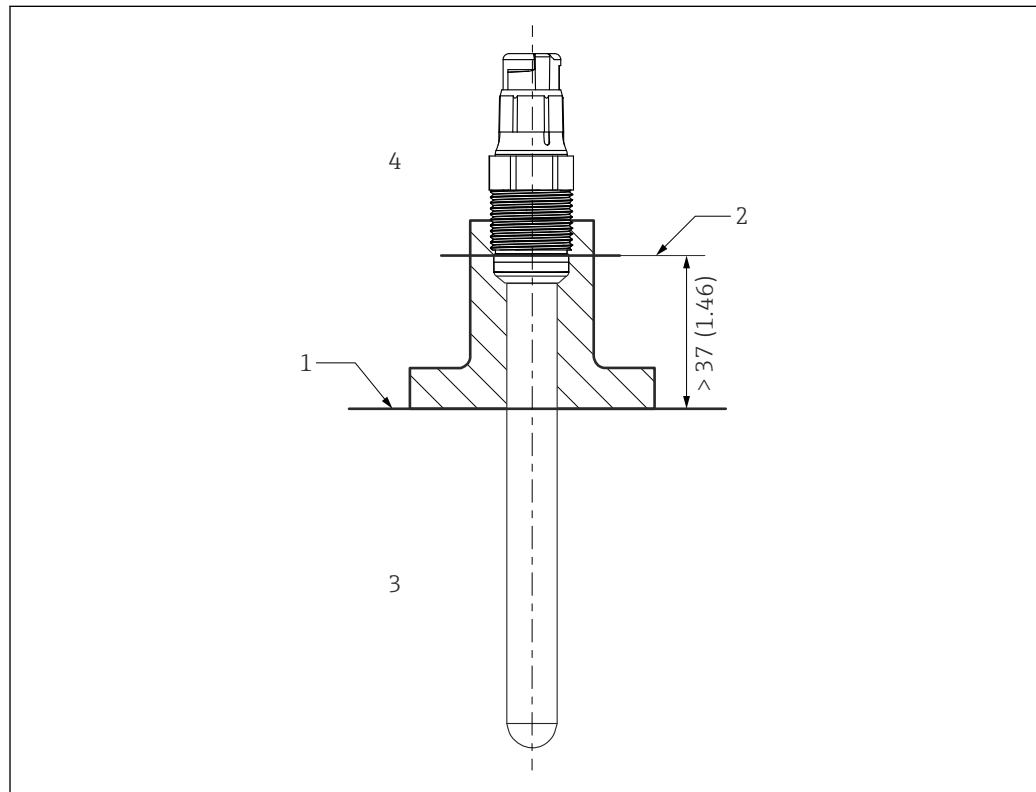
- The Memosens COS22E and Memosens COS51E oxygen sensors are approved and suitable for use in hazardous environments.
- The approved Memosens COS22E and Memosens COS51E digital oxygen sensors have an intrinsically safe input with the following parameter set:

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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