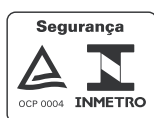


# Safety Instructions

## Memosens COS81E

Supplement to BA02066C

Safety instructions for electrical apparatus in explosion-hazardous areas



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# Memosens COS81E

Supplement to BA02066C

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**Associated documentation** This document is an integral part of Operating Instructions BA02066C.

**Supplementary documentation**



- Competence Brochure CP00021Z
  - Explosion Protection: Guidelines and General Principles
  - [www.endress.com](http://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](http://www.endress.com/download)

**INMETRO**

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.

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

**Safety instructions**

- 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 sensors must not be operated under electrostatically critical process conditions. Avoid strong steam or dust currents that act directly on the connection system.
- 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.
- Sensors containing parts made of titanium or other light metals must be protected against impact.


**Type code**

Memosens	COS81E-aabbccdde+g	
	aa	Approval (no ex-relevance) <b>MG:</b> INMETRO Ex ia op is IIC T6 ... T3 Ga <b>M5:</b> <ul style="list-style-type: none"> <li>▪ INMETRO Ex ia op is IIC T6 ... T3 Ga</li> <li>▪ INMETRO Ex ia op is IIC T90°C... T200°C Da</li> </ul>
	bb	Measuring range (no ex-relevance)

Memosens	COS81E-aabbccdde+g	
	cc	Cap characteristics AC = Stainless steel C-shape AU = Stainless steel U-shape BC = Titanium C-shape BU = Titanium U-shape CC = Alloy C22 C-shape CU = Alloy C22 U-shape 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

**Temperature table**

Sensor	Process temperature $T_p$	Ambient temperature $T_a$
COS81E	-15 ≤ $T_p$ ≤ 130 °C (T3 rep. T200 °C) -15 ≤ $T_p$ ≤ 120 °C (T4 rep. T135 °C) -15 ≤ $T_p$ ≤ 70 °C (T6 rep. T90 °C)	-25 ≤ $T_a$ ≤ 70 °C (T3 rep. T200 °C) -25 ≤ $T_a$ ≤ 90 °C (T4 rep. T135 °C) -25 ≤ $T_a$ ≤ 70 °C (T6 rep. T90 °C)

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 COS81E oxygen sensor is approved and suitable for use in hazardous environments.
- The approved Memosens COS81E digital oxygen sensor has an intrinsically safe input with the following parameter set:

Parameter	Value
$P_i$	180 mW

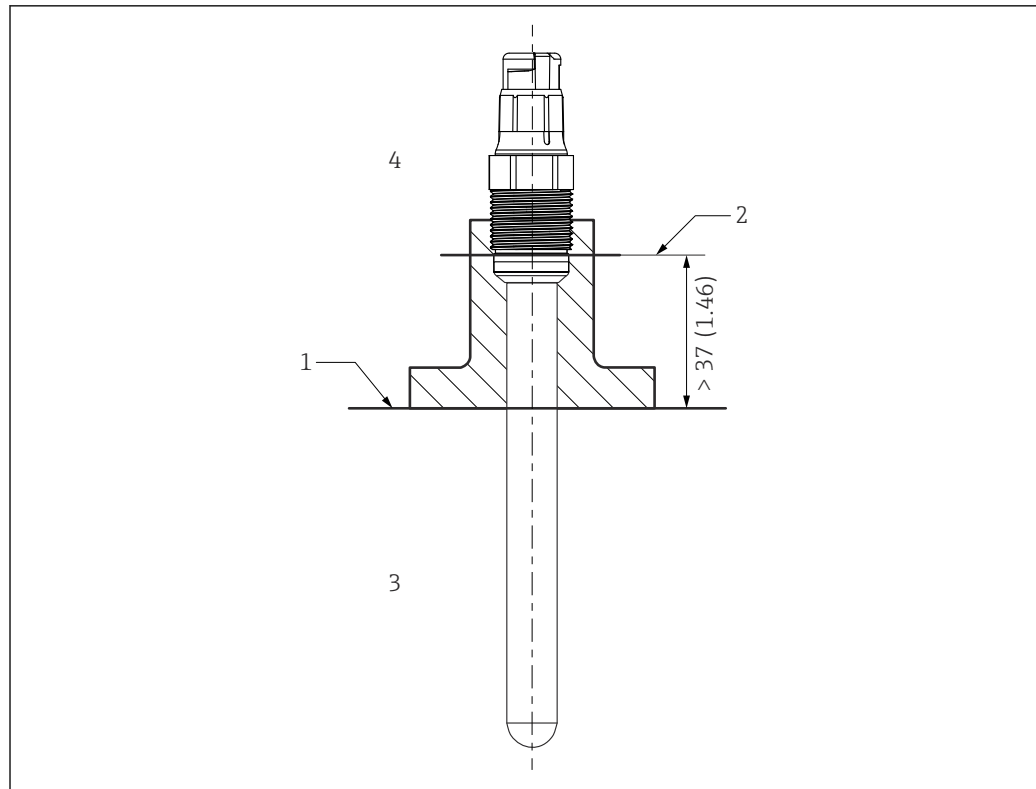
The approved Memosens COS81E digital oxygen sensor uses inherently safe optical radiation:

Parameter	Value
$P_{opt}$ (sensor signal)	≤15 mW

The approved Memosens COS81E digital oxygen sensor 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



A0041281

## 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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