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# Safety Instructions
# **Memosens CLS15E, CLS16E, CLS21E, CLS82E**

Supplement to: BA02018C, BA02019C, BA02020C and BA02027C

Safety instructions for electrical apparatus in explosion-hazardous areas
JPN Ex ia IIC T3/T4/T6 Ga


Endress+Hauser
People for Process Automation

# Memosens CLS15E, CLS16E, CLS21E, CLS82E

Supplement to: BA02018C, BA02019C, BA02020C and BA02027C

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**Associated documentation**

This document is an integral part of

Operating Instructions Memosens CLS21E, BA02020C

Operating Instructions Memosens CLS15E, BA02018C

Operating Instructions Memosens CLS16E, BA02019C

Operating Instructions Memosens CLS82E, BA02027C

**Supplementary documentation**

Competence Brochure CP00021Z
- Explosion Protection: Guidelines and General Principles
- www.endress.com

**Certificate**

JPN type-examination certificate, certificate number: CML 20JPN2010X

**Identification**

The nameplate provides you with the following information on your device:
- Manufacturer identification
- Extended order code
- Serial number
- Safety information and warnings
- Ex marking on hazardous area versions

► Compare the information on the nameplate with the order.

### Type code

| Type | | Version | | | | | |
|---|---|---|---|---|---|---|---|
| CLS15E | - | JA | ** | ** | a [1)] | *** | +* |
| CLS16E | - | JA | ** | ** | *** | +* | |
| CLS21E | - | JA | ** | ** | *** | +* | |
| CLS82E | - | JA | ** | ** | *** | +* | |
| | | JPN Ex ia IIC T3/T4/T6 Ga | No Ex relevance | | | | |

1) a = A, B

### Certificates and approvals

The product meets the requirements of the Regulation on the Testing of Machinery and other Instruments set down by the Ministry of Health, Labor and Welfare in Japan.
CLS15E / CLS16E / CLS21E / CLS82E
JPN Ex ia IIC T3/T4/T6 Ga

**Safety instructions**

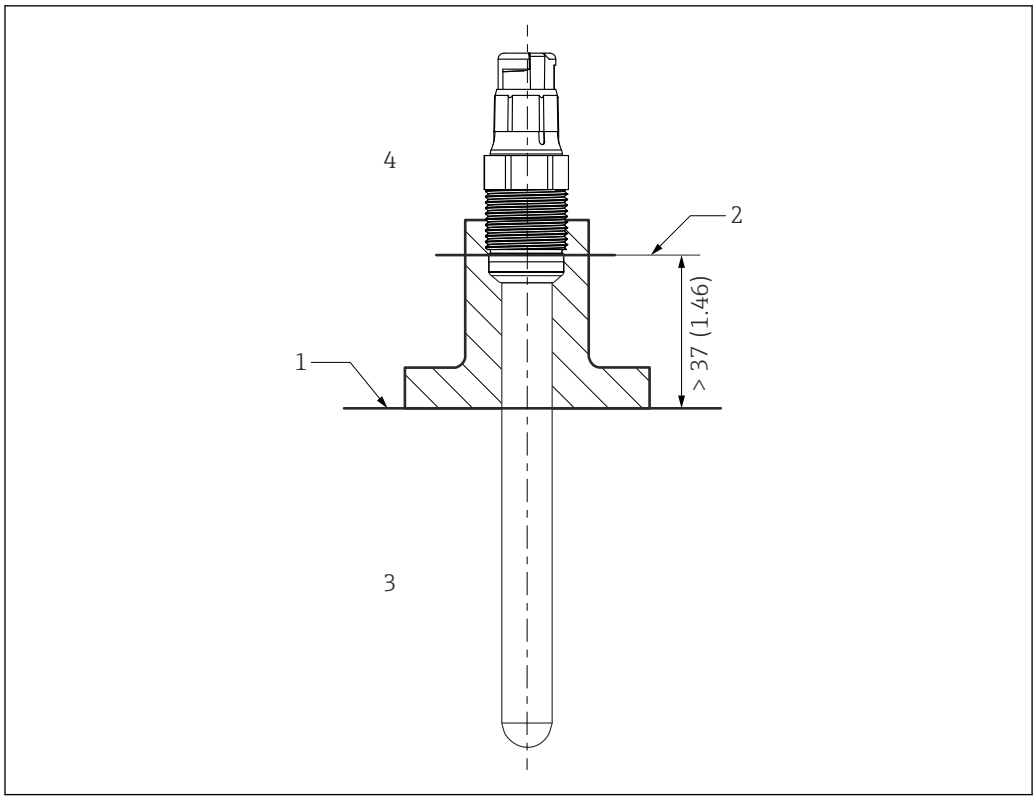
The CLSxxE-type conductivity sensors are suitable for use in explosion-hazardous areas according to JPN type-examination certificate CML 20JPN2010X including appendices.
- CLS15E, CLS16E, CLS21E: Metallic process connection parts have to be mounted electrostatically conductive at the mounting location (< 1 MΩ).
- CLS15E and CLS21E with non-metallic process connection may only be used in liquid media with a conductivity of at least 10 nS/cm.
- CLS15E with non-metallic process connection may not be operated on processing conditions, in which an electrostatic loading of the sensor and in particular of the electrically separated outer electrode, could be expected to occur.

- CLS82E: The sensor may not be operated in electrostatically critical processing conditions. Intense vapour or dust flows directly impacting on the connection system must be avoided. The metallic parts of the sensor have to be mounted at the mounting location electrostatically conductive (< 1 MΩ).
- The maximum ambient and process temperatures for the temperature classes T3, T4 or T6 are limited according to the tables of this certificate (see "Temperature tables").
- When using devices and sensors, observe the guidelines for interconnecting intrinsically safe circuits (e.g. JNIOSH-TR-NO.44).
- The user shall fit the yellow/black sticker (included in the product package) next to the installed sensor (e.g. on the installed cable).
- This device was developed, manufactured and assessed in accordance with the following standards:
  - JNIOSH-TR-46-1:2015 "Equipment – General requirements"
  - JNIOSH-TR-46-6:2015 "Equipment protection by intrinsic safety “i” "

**Temperature tables**

| Sensor type | T-Class | $T_p$ (process) | | $T_a$ (ambient) |
|---|---|---|---|---|
| | | min. | max. | max. |
| CLS15E-******A***+* | T3 | -20 °C | 135 °C | 60 °C |
| | T4 | -20 °C | 120 °C | 60 °C |
| | T6 | -20 °C | 70 °C | 60 °C |
| CLS15E-******B***+* | T3 | -20 °C | 135 °C | 60 °C |
| | T4 | -20 °C | 100 °C | 60 °C |
| | T6 | -20 °C | 50 °C | 60 °C |
| CLS16E-*********+* | T3 | -5 °C | 135 °C | 60 °C |
| | T4 | -5 °C | 115 °C | 60 °C |
| | T6 | -5 °C | 65 °C | 60 °C |
| CLS21E-*********+* | T3 | -20 °C | 135 °C | 60 °C |
| | T4 | -20 °C | 115 °C | 60 °C |
| | T6 | -20 °C | 65 °C | 60 °C |
| CLS82E-*********+* | T3 | -20 °C | 140 °C | 60 °C |
| | T4 | -20 °C | 120 °C | 60 °C |
| | T6 | -20 °C | 70 °C | 60 °C |

## Installation conditions




*1 Installation conditions*

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

## Connection

### Ex specification

The CLSxxE-type conductivity sensors are approved according to JPN type-examination certificate CML 20JPN2010X and are suitable for use in hazardous environments.

- The approved CLSxxE-type digital conductivity sensors have an intrinsically safe input with the following parameter set:
  $P_i$ = 180 mW
- The approved CLSxxE-type digital conductivity sensors may only be connected to a Memosens cable or a compact transmitter with an intrinsically safe output with the following parameter set:
  $P_0$ max. 180 mW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