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# Safety Instructions
# **Indumax CLS50D, CLS50**

NEPSI Ex ia IIC T4/T6 Ga

Safety instructions for electrical apparatus in explosion-hazardous areas


Endress+Hauser
People for Process Automation

# Indumax CLS50D, CLS50

NEPSI Ex ia IIC T4/T6 Ga

## Table of contents

**Associated documentation**

These Safety Instructions are integral part of the following manuals, which can be found on the product pages on the Internet:

Operating Instructions for Indumax CLS50D/CLS50, BA00182C

**Supplementary documentation**

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

**Certificate**

The number of the Nepsi certificate valid for the product can be found on its nameplate.

**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 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CLS50D | - | NA | a [1] | b [2] | c [3] | d [4] | + | e … e [5] |

1) Process connection (no ex-relevance)
2) Sensor-, Seal-, Adapter material: B = PEEK, VITON, PEEK; C = PEEK, Chemraz, PEEK; D = PFA, CHEMRAZ, 1.4571
3) Cable length (no ex-relevance): 1 = 3 m; 2 = 7 m; 3 = 15 m; 7 = 1 up to 50 m; 8 = 1 up to 164 ft
4) Cable connection (no ex-relevance): 1 = Fixed cable, crimp sleeves; 2 = Fixed cable, M12 plug
5) Optional = one or more characters determining optional features (no ex-relevance), e.g. test or other certificates or declarations

| Type | | Version | | | | | |
|---|---|---|---|---|---|---|---|
| CLS50 | - | H | a [1] | b [2] | c [3] | + | d [4] |

1) Process connection (no ex-relevance)
2) Sensor-, Seal-, Adapter material: A = PFA, CHEMRAZ, 1.4571; B = PEEK, VITON, PEEK; C = PEEK, Chemraz, PEEK
3) Cable connection (no ex-relevance): 1 = 5 m (125 °C); 2 = 10 m (125 °C); 3 = 20 m (125 °C); 4 = 10 up to 55 m (125 °C); 5 = 5 m (180 °C); 6 = 10 m (180 °C)
4) Optional tagging (no ex-relevance)

### Certificates and approvals

**Ex approval**

The CLS50D and CLS50 type conductivity sensors, have been certified by the National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI).

Ex ia IIC T4/T6 Ga

**Safety instructions**

- The sensor must be connected and operated in accordance with the Operating Instructions of the sensor and of the transmitter to be connected. All sensor operating data must be observed.
- Metallic process connection parts have to be mounted electrostatically conductive at the mounting location (< 1 MΩ).
- The sensor may only be used in liquid media with a conductivity of a least 10 nS/cm.
- Non-metal process connections must be protected against electrostatic charge.

- In order to avoid electrostatic charge clean the sensor with a damp cloth only.
- Full compliance with regulations for electrical systems in hazardous locations (EN/IEC 60079-14) is mandatory when using the devices and sensors.
- Ensure correct installation to maintain the housing protection type. (Use original seal. Fit cable entry properly. Tighten nut).
- The degree of protection only applies when the flange is mounted.
- The end user must adhere to the Operating Instructions and the following standards for the installation, operation and maintenance of the product:
  - GB 50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".
  - GB 3836.13-2013 "Explosive atmospheres - Part 13: Equipment repair, overhaul and reclamation"
  - GB/T 3836.15-2017 "Explosive atmospheres - Part 15: Electrical installations design, selection and erection"
  - GB/T 3836.16-2017 "Explosive atmospheres - Part 16: Electrical installations inspection and maintenance"
  - GB/T 3836.18-2017 "Explosive atmospheres - Part 18: Intrinsically safe electrical systems"
- To ensure that the explosion protection of thedevice is maintained, the operator must not change the configuration. Any modification may affect safety.
- Observe the instructions of the NEPSI certificate, available via the website of the product: endress.com/cls50d or endress.com/cls50.

## Temperature tables

| | Temperature class | |
|---|---|---|
| **Typ** | **T4** | **T6** |
| CLS50D-NA*B**<br>CLS50D-NA*C** | -20 °C ≤ $T_a$ ≤ 120 °C | -20 °C ≤ $T_a$ ≤ 70 °C |
| CLS50D-NA*D** | -20 °C ≤ $T_a$ ≤ 110 °C | -20 °C ≤ $T_a$ ≤ 70 °C |
| CLS50-H*** | -20 °C ≤ $T_a$ ≤ 125 °C | -20 °C ≤ $T_a$ ≤ 75 °C |

The above temperature table applies only under the installation conditions, which are described in the Operating Instructions. 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 conductivity sensors are approved according to NEPSI certificate GYJ19.1374X and are suitable for use in explosion-hazardous environments.

- The sensor may only be connected to the following transmitter: Liquiline type CM42-LJ (CLS50D) or CM42-IJ (CLS50)
- CLS50 only
  The maximum permissible length of the measuring cable is as follows: 55 m (180 ft).

## Installation conditions

Operating Instructions for Indumax CLS50D/CLS50, BA00182C


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