XA02837C/07/EN/04.26-00
71790560
2026-10-12

Safety Instructions
Indumax CLS50D, CLS50

Inductive conductivity sensor for standard, Ex and high-temperature applications

ATEX / NEPSI Ex ic IIC T4/T6 Gc



Endress+Hauser
People for Process Automation

Indumax CLS50D, CLS50

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Associated documentation

Operating Instructions for Indumax CLS50D/CLS50, BA00182C

Supplementary documentation

Competence Brochure CP00021Z
- Explosion Protection: Guidelines and General Principles
- 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

The number of the NEPSI certificate that applies to the product can be found on the nameplate.

CLS50D
EU Declaration of Conformity EC_00367

CLS50
EU Declaration of Conformity: EC_00440

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	-	BV	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 to 50 m, 8: 1 to 164 ft
4) Cable connection (no Ex relevance), 1: Fixed cable, crimp sleeves, 2: Fixed cable with M12 connector
5) Additional options (no Ex relevance), calibration, service, other approvals, measuring point identification

Type		Version					
CLS50	-	V	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 to 55 m (125 °C), 5: 5 m (180 °C), 6: 10 m (180 °C)
4) Optional measuring point identification (no Ex relevance)

Certificates and approvals

Ex approvals

ATEX / NEPSI Ex ic IIC T4/T6 Gc

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

These products meet the following standards:
- GB 3836.1 Explosive atmospheres - Part 1: Equipment - General requirements
- GB 3836.4 Explosive atmospheres - Part 4: Equipment protection by intrinsic safety 'i'

Please refer to the certificate for the currently applied versions of these standards.

Safety instructions

- The sensor may be operated in an environment specified as Ex Zone 2 (3G).
- Compliance with the specified ambient and medium temperature ranges is a requirement for safe use.
- 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.
- The sensors may only be used in liquid media with a conductivity >10 nS/cm.
- Avoid electrostatic charge. Metallic process connection parts have to be mounted electrostatically conductive at the mounting location (R ≤ 1 MΩ).
- 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 explosive atmospheres (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 IP68 degree of protection is only applicable with mounted flange.
- When installing, using and maintaining the sensor, the operator must observe the following standards in addition to the Operating Instructions:
  - GB 3836.13 "Explosive atmospheres - Part 13: Equipment repair, overhaul, reclamation and modification"
  - GB/T 3836.15 "Explosive atmospheres - Part 15: Electrical installations design, selection and erection"
  - GB/ T 3836.16 "Explosive atmospheres - Part 16: Electrical installations inspection and maintenance"
  - GB/T 3836.18 "Explosive atmospheres - Part 18: Intrinsically safe electrical systems"
  - GB 50257 "Code for construction and acceptance of electric equipment on fire and explosion hazard electrical equipment installation engineering"
- The current standards are listed on the NEPSI certificate and the EU Declaration of Conformity
- To ensure that the explosion protection of the device is maintained, the operator must not change the configuration. Any change could compromise the safety of the product.
- Pay attention to the information on the NEPSI certificates. You can download this from the product page: www.endress.com/cls50d or www.endress.com/cls50.

Temperature tables

	Temperature class	
Type	**T4**	**T6**
CLS50D-BV*B** CLS50D-BV*C**	-20 °C ≤ T_a ≤ 120 °C	-20 °C ≤ T_a ≤ 70 °C
CLS50D-BV*D** CLS50D-BV*E** CLS50D-BV*G**	-20 °C ≤ T_a ≤ 110 °C	-20 °C ≤ T_a ≤ 70 °C
CLS50-V***	-20 °C ≤ T_a ≤ 125 °C	-20 °C ≤ T_a ≤ 75 °C

The temperature tables apply only under the installation conditions 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

The sensor may only be connected to the following transmitter:
- Liquiline type CM42-LV (CLS50D) or CM42-IV (CLS50)
- Corresponding CM42B
- Only CLS50-V***: The maximum permitted length of the measuring cable is 55 m (180 ft) here.
- Only CLS50D: Certified CM44x

Installation conditions

Operating Instructions for Indumax CLS50D/CLS50, BA00182C



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