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Safety Instructions
Indumax CLS50D

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

KOR Ex ia IIC T4/T6 Ga

Endress+Hauser
People for Process Automation

Indumax CLS50D

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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

Korean Certification of Compliance 17-KA4BO-0634X

Identification

The nameplate provides you with the following information on your device:
- Manufacturer identification
- Extended order code
- Serial number

▶ Compare the information on the nameplate with the order.

Type code

Type		Version						
CLS50D	-	KA	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

Certificates and approvals

Ex approval
KoreaEx Ex ia IIC T4/ T6 Ga

Notified body
KTL - Korea Testing Laboratory

Safety instructions

The sensors CLS50D are suitable for use in explosion-hazardous areas according to the mentioned certificate.
- The sensors may be operated in an environment specified as Ex Zone 0 (1G).
- The sensors may only be used in liquid media with a minimum conductivity of 10 nS/cm.
- If the connecting cable runs through Ex Zone 0 (1G), it must be protected against electrostatic charge.
- Compliance with the specified ambient and medium temperature ranges is a prerequisite 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.
- Avoid electrostatic charge. Metal process connections must be electrostatically connected at the mounting location ($R \leq 1\ M\Omega$).
- 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 applies only when the flange is mounted.

This device has been developed and manufactured according to the following standards:
- EN IEC 60079-0:2018 / IEC 60079-0:2017, Explosive Atmospheres Part 0: General Requirements
- EN 60079-11:2012 / IEC 60079-11:2011, Explosive Atmospheres Part 11: Equipment Protection by Intrinsic Safety "i"

Temperature tables

	Temperature class	
Typ	**T4**	**T6**
CLS50D-KA*B** CLS50D-KA*C**	-20 °C ≤ T_a ≤ 120 °C	-20 °C ≤ T_a ≤ 70 °C
CLS50D-KA*D**	-20 °C ≤ T_a ≤ 110 °C	-20 °C ≤ T_a ≤ 70 °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

- The sensor is a digital sensor with the Memosens protocol and its connection values are those specified below.
- The sensor may also be connected to the intrinsically safe Memosens connection of module FSDG1 of the CM42 transmitter.
- The maximum permitted length of the measuring cable is 100 m (330 ft) here.

U_i	5.1 V
I_i	130 mA
P_i	166 mW
C_i	18 µF
L_i	0.72 µH

Installation conditions

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