

Safety Instructions

Turbimax CUS50D, CUS51D, CUS52D

Turbidity sensors

Safety instructions for electrical equipment for explosion-hazardous areas

ATEX, IECEx:

Ex ec op is IIC T4 Gc (CUS50D, CUS52D)

Ex ec op is IIB T4 Gc (CUS51D)



Turbimax CUS50D, CUS51D, CUS52D

Turbidity sensors

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Related documentation

This document is an integral part of the following Operating Instructions:



Operating Instructions Turbimax CUS50D, BA01846C



Operating Instructions Turbimax CUS51D, BA00461C



Operating Instructions Turbimax CUS52D, BA01275C

Supplementary documentation

Competence Brochure CP00021Z

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

Certificates and declarations

The certificates and declarations of conformity are available in the Download area of the Endress+Hauser website:

www.endress.com/download

EU declaration of conformity

- CUS50D: EU_01197
- CUS51D: EU_01222
- CUS52D: EU_01223

EU-type examination certificate

TÜV 24 ATEX 9116 X

IECEX certificate

IECEX TUR 24.0016 X

Notified body

TÜV Rheinland Industrie Service GmbH

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
- Certificate number

► Compare the information on the nameplate with the order.

Type code

CUS50D

Type		010	020	030	040	050	060	070		≥ 500
CUS50D	-	**	*	*	*	*	*	*	+	**

Feature		Option	
010	Approval	B6	ATEX II 3G Ex ec op is IIC T4 Gc
		I6	IECEX Ex ec op is IIC T4 Gc
020	Application/measuring range	All	All options certified
030	Process connection	All	All options certified

Feature		Option	
040	Cable adaptation	A	Fixed cable, ferrules
		Y	Special version, TSP-no. to be spec.
050	Cable length	All	All options certified
060	Sensor material	A	Head PCTFE, shaft 1.4571
		Y	Special version, TSP-no. to be spec.
070	Material seal	1	EPDM
≥ 500	Optional features:		
580	Test, certificate, declaration	All	All options certified
590	Additional approval	All	All options certified
610	Accessory mounted	All	All options certified
620	Accessory enclosed	All	All options certified
895	Marking	All	All options certified

CUS51D

Type		010	020	030	040		≥ 500
CUS51D	-	**	*	*	*	+	**

Feature		Option	
010	Approval	B6	ATEX II 3G Ex ec op is IIB T4 Gc
		I6	IECEx Ex ec op is IIB T4 Gc
020	Application/measuring range	All	All options certified
030	Cable adaptation	A	Fixed cable, ferrules
		Y	Special version, TSP-no. to be spec.
040	Cable length	All	All options certified
≥ 500	Optional features:		
550	Calibration	All	All options certified
570	Service	All	All options certified
580	Accessory mounted	All	All options certified
585	Test, certificate, declaration	All	All options certified
630	Wetted material	None	No option certified
640	Seal material	None	No option certified
895	Marking	All	All options certified

CUS52D

Type		010	020	030	040	050		≥ 500
CUS52D	-	**	*	*	*	*	+	**

Feature		Option	
010	Approval	B6	ATEX II 3G Ex ec op is IIC T4 Gc
		I6	IECEx Ex ec op is IIC T4 Gc
020	Measurement method	All	All options certified
030	Process connection	All	All options certified

Feature		Option	
040	Cable adaptation	A	Fixed cable, ferrules
		Y	Special version, TSP-no. to be spec.
050	Cable length	All	All options certified
≥ 500	Optional features:	All	All options certified
550	Calibration	All	All options certified
560	Solid state reference	All	All options certified
570	Service	All	All options certified
585	Test, certificate, declaration	All	All options certified
690	Additional approval	All	All options certified
610	Accessory mounted	All	All options certified
620	Accessory enclosed	All	All options certified
630	Wetted material	None	No option certified
640	Seal material	None	No option certified
895	Marking	All	All options certified

Safety instructions

- The procedures for electrical connection, installation, operation and maintenance described in the Operating Instructions must be followed.
- Pay attention to the regulations for electrical installations in explosive atmospheres (EN/IEC 60079-14) when using the devices and sensors.
- If the sensor shows external damage, the device must be taken out of operation immediately.
- Under no circumstances should modifications be made to the sensor that could compromise the explosion protection of the equipment.
- The sensor can heat up during operation and is cooled mainly through heat dissipation on the surface of the housing. If this heat transfer is restricted, e.g. by a layer of dust or an additional cover, the maximum ambient conditions cannot be maintained and the operator must take appropriate action.
- If the device comes into contact with aggressive substances, the user must take appropriate protective measures to ensure that the confirmed level of protection of the measuring system is not compromised. Examples of aggressive substances include acidic liquids or gases that corrode metal, or solvents that can damage polymeric materials. Appropriate protective measures include regular checks as part of routine inspections, or checks to verify the resistance of materials to specific chemicals based on the material data sheet.
- Care must be taken to ensure that the stainless steel, sapphire glass, seals or cable of the sensor are not exposed to corrosive chemicals or mechanical damage.
- To avoid electrostatic charging, the sensor may only be cleaned with a damp cloth.
- Potential equalization must be established through the installation and ensured by the operator.
- Operating height: Maximum 2 000 m (6 561.7 ft)

Temperature tables

Product	Temperature class	Process temperature T_p	Ambient temperature T_a
CUS50D	T4	$-20\text{ °C } (-4\text{ °F}) \leq T_p \leq 85\text{ °C } (185\text{ °F})$	$-20\text{ °C } (-4\text{ °F}) \leq T_a \leq 60\text{ °C } (140\text{ °F})$
CUS51D		$-5\text{ °C } (23\text{ °F}) \leq T_p \leq 80\text{ °C } (176\text{ °F})$	
CUS52D		$-20\text{ °C } (-4\text{ °F}) \leq T_p \leq 85\text{ °C } (185\text{ °F})$	



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