IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx IBE 20.0011X**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2020-10-05)
Date of Issue:	2021-03-30		
Applicant:	**Endress+Hauser Conducta GmbH+Co. KG** Dieselstr. 24 70839 Gerlingen **Germany**		
Equipment:	**Memosens xOS81E, xOS22E and xOS51E**		
Optional accessory:			
Type of Protection:	**intrinsic safety**		
Marking:	xOS81E: Ex ia op is IIC T6...T3 Ga Ex ia op is IIIC T90 °C...T200 °C Da xOS22E: Ex ia IIC T6...T4 Ga xOS51E: Ex ia IIC T6 Ga		

Approved for issue on behalf of the IECEx Certification Body: **Alexander Henker**

Position: **Deputy Head of department Certification Body**

Signature: (for printed version)

Date: 2021-03-30

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg
Germany

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Manufacturer:
Endress+Hauser Conducta GmbH+Co. KG
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70839 Gerlingen
Germany

Additional manufacturing locations:

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Anaheim, CA 92807, USA
United States of America

Endress+Hauser Analytical Instruments(Suzhou) Co.,LTD.
No.31 JiangTianLiLu
Suzhou Industrial Park 215126
China

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DE/IBE/ExTR20.0020/00 DE/IBE/ExTR20.0020/01

Quality Assessment Reports:

DE/BVS/QAR06.0005/11 DE/TUR/QAR13.0004/02 DE/TUR/QAR14.0002/03

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Type xOS81E:
The sensor type xOS81E is designed for continuous measurement of dissolved oxygen in water and aqueous solutions, and also for continuous measurement of oxygen in gases.
The sensor type can be used in Zone 0 (EPL Ga) and Zone 20 (EPL Da).

Types xOS22E and xOS51E:
The sensor types xOS22E and xOS51E are designed for continuous measurement of dissolved oxygen in water and aqueous solutions.
The sensor types can be used in Zone 0 (EPL Ga).

All types:
The sensor's and measuring cable's electronic circuits are completely encapsulated.
All sensors are connected galvanically isolated via a completely insulated connection system (inductive coupling, MEMOSENS compatible supply with $P_o \leq 180$ mW).

Type Code:

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:
For all types:

- The maximum ambient and process temperatures for the temperature classes T3, T4 or T6 are limited according to the table (see also in manual).
- The plastic housing may only be cleaned with a damp cloth.
- The sensor may not be operated in electrostatically critical processing conditions, in which an electrostatic loading of the sensor and the connecting system is to be counted. Significant steam and dust clouds acting directly on the Memosens sensor head must be strictly avoided.

For types xOS22E and xOS81E:

- Metallic process connection parts have to be mounted electrostatically conductive at the mounting location (< 1 MΩ).
- If sensor parts are consisting of light metal e.g. Titan, then these parts have to protected against hits.

For type xOS51E:

- Operation in product application intended fluid media providing conductivity of at least 10 nS/cm can be assumed as electrostatic uncritical.

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Equipment (continued):

Technical Data

Sensor	Ambient temperature	Process temperature
xOS81E	-25 °C ≤ T_a ≤ 70 °C (T3 resp. T200 °C) -25 °C ≤ T_a ≤ 90 °C (T4 resp. T135 °C) -25 °C ≤ T_a ≤ 70 °C (T6 resp. T90 °C)	-15 °C ≤ T_p ≤ 130 °C (T3 resp. T200 °C) -15 °C ≤ T_p ≤ 120 °C (T4 resp. T135 °C) -15 °C ≤ T_p ≤ 70 °C (T6 resp. T90 °C)
xOS22E	-25 °C ≤ T_a ≤ 70 °C (T6) -25 °C ≤ T_a ≤ 70 °C (T4)	-5 °C ≤ T_p ≤ 70 °C (T6) -5 °C ≤ T_p ≤ 100 °C (T4)
xOS51E	-5 °C ≤ T_a ≤ 60 °C (T6)	-5 °C ≤ T_p ≤ 60 °C (T6)

Electrical Data

Supply and signal circuit in type of protection Intrinsic Safety Ex ia IIC

Inductive coupling (at **all** types)	P_i	180 mW
Optical radiation (sensor signal, **only** type **xOS81E**)	P_{opt}	≤15 mW

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- New sensor types xOS22E and xOS51E have been added.
- For type COS81E drawing 438018 has been replaced by manufacturing drawing 961004851 (no changes in content, only drawing no. has changed).

Annex:

IBE20.0011X_01-AnnexCoC.pdf

IECEx Certificate of Conformity - Annex

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Type Code:

Type xOS81E:

Memosens	xOS81E-aabbccddefff+g	
	x	C, O or OC -> (no ex-relevance)
	aa	Order option ex certification (no ex-relevance)
	bb	Measuring range (no ex-relevance)
	cc	Cap characteristics AC = Stainless steel C-shape AU = Stainless steel U-shape BC = Titan C-shape BU = Titan U-shape CC = Alloy C22 C-shape CU = Alloy C22 U-shape YY = Special version
	dd	Sensor length (no ex-relevance) max 600 mm
	e	O-ring material (in the cap) (no ex-relevance)
	fff	Optional (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Type xOS22E:

Memosens	xOS22E-aabbccddefff+g	
	x	C, O or OC -> (no ex-relevance)
	aa	Order option ex certification (no ex-relevance)
	bb	Measuring range (no ex-relevance)
	cc	Cap characteristics AA = Stainless steel BA = Titan CA = Alloy C22 YY = Special version
	dd	Sensor length (no ex-relevance) max 600 mm
	e	O-ring material (in the cap) (no ex-relevance)
	fff	Optional (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Type xOS51E:

Memosens	xOS51E-aabbccfff+g	
	x	C, O or OC -> (no ex-relevance)
	aa	Order option ex certification (no ex-relevance)
	bb	Measuring range (no ex-relevance)
	cc	Cap characteristics (no ex-relevance) TF = Response time T90, 0.5 minutes steel TN = Response time T90, 3 minutes YY = Special version
	fff	Optional (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations