UK Type Examination Certificate CML 21UKEX2130X Issue 0

United Kingdom Conformity Assessment

1 Product or Protective System Indented for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1

2 Equipment **Conductivity Sensors Memosens, Type CLS15E/CLS16E/CLS21E/CLS82E**

3 Manufacturer **Endress+Hauser Conducta GmbH+Co. KG**

4 Address **Dieselstr. 24, 70839 Gerlingen, Deutschland**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

BS EN IEC 60079-0:2018 BS EN 60079-11:2012

10 The equipment shall be marked with the following:

Refer to attached certificate TÜV 19 ATEX 8377 X Issue 01 for specific marking of explosion protection symbols.

Refer to attached certificate TÜV 19 ATEX 8377 X Issue 01 for marked code and ambient temperature range.

R. C. Marshall
Operations Manager

11 Description

For product description refer to attached certificate TUV 19 ATEX 8377 X Issue 01.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	09 June 2021	R13831B/00	The issue of prime certificate. TUV 19 ATEX 8377 X Issue 01 is attached and shall be referred to in conjunction with this certificate.

Note: Drawings that describe the equipment are listed in the Annex.

13 Conditions of Manufacture

For Condition of Manufacture refer to attached certificate TUV 19 ATEX 8377 X Issue 01.

14 Specific Conditions of Use

For Specific Condition of Use refer to attached certificate TUV 19 ATEX 8377 X Issue 01.

Certificate Annex

Certificate Number	**CML 21UKEX2130X**
Equipment	**MEMOSENS Sensoren**
Manufacturer	**Endress+Hauser Conducta GmbH+Co. KG**

The following documents describe the equipment defined in this certificate:

Issue 0

For drawings describing the equipment, refer to attached certificate TUV 19 ATEX 8377 X. In addition to the drawings listed on TUV 19 ATEX 8377 X, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
201622	1 of 1	B	09 Jun 2021	Nameplate master data for UKCA

(1) EU-TYPE EXAMINATION CERTIFICATE

(2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number

TÜV 19 ATEX 8377 X

Issue: 01

(4) Equipment: **Conductivity Sensors Memosens, Type CLS15E/CLS16E/CLS21E/CLS82E**

(5) Manufacturer: **Endress+Hauser Conducta GmbH+Co. KG**

(6) Address: **Dieselstrasse 24**
70839 Gerlingen, Germany

(7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26th February 2014, certifies this product which has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex8377.02/19

(9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN IEC 60079-0: 2018 **EN 60079-11: 2012**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.

(12) The marking of the equipment shall include the following:

II 1 G Ex ia IIC T3/T4/T6 Ga

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2020-09-09

Dipl.-Ing. Klauspeter Graffi

ATEX Notified body 0035 TÜV Rheinland Industrie Service GmbH

This EU-Type Examination Certificate without signature and stamp shall not be valid.
This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln
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Precisely Right.

(13) Annex

(14) # EU Type Examination Certificate

TÜV 19 ATEX 8377 X Issue: 01

(15) Description of equipment

15.1 Equipment and type:

Conductivity Sensors Memosens
CLS15E/CLS16E/CLS21E/CLS82E

15.2 Description

General product information:

The Memosens sensors are used together with a certified Memosens cable and Memosens transmitter. The electronic circuits of the sensor are completely encapsulated and the connection between sensor and measuring cable/transmitter is galvanically isolated via a completely isolated connection system (inductive coupling). It is suitable to be operated in hazardous gas atmospheres of up to zone 0.

Details of Change:

Some changes in the Ex-relevant part of the circuit: They were evaluated in such a way that they do not impair the intrinsic safety of the product and have no influence on the technical data.
Not Ex relevant changes in the circuit diagram described in Notification of Change 557/Ex 8377.01/19.

Type key:

Name	Type								
Memosens	xLS15E	-	**	**	**	a	***	+*	

- +* = optional; + one or more characters determining optional features (no ex-relevance)
- *** = only if x = O, OC; three characters determining OEM/label partner (no ex-relevance)
- a = one character determining cell constant k
  - a=A = type A (cell constant k= 0.01cm^{-1})
  - a=B = type B (cell constant k= 0.1 cm^{-1})
- ** = two characters determining sensor material, (no ex-relevance)
- ** = two characters determining process connection, (no ex-relevance)
- ** = two characters determining order option approval certification, no Ex relevance, see chapter 3.3
- x = C: E+H-labeled version (no Ex relevance)
- x = O: OEM/label partner-labeled version (no Ex relevance)
- x = OC: OEM/label partner-labeled version (no Ex relevance)

Name	Type							
Memosens	xLS16E xLS21E xLS82E	-	**	**	**	***	+*	

- +* = optional; + one or more characters determining optional features (no ex-relevance)
- *** = only if x = O, OC; three characters determining OEM/label partner (no ex-relevance)
- ** = two characters determining sensor material, metallic sensor shaft material according to requirements of standard IEC 60079-0:2017 chapter 8
- ** = two characters determining process connection (no ex-relevance)
- ** = two characters determining order option approval certification, no Ex relevance, see chapter 3.3
- x = C: E+H-labeled version (no Ex relevance)
- x = O: OEM/label partner-labeled version (no Ex relevance)
- x = OC: OEM/label partner-labeled version (no Ex relevance)

Technical Data:

Electrical data:
Input power limitation of the Memosens inductive interface:
Maximum input power: Pi = 180mW

Environmental data:

Sensor type	T class	T_p (process)		T_a (ambient)
		min.	max.	max.
xLS15E-******A***+*	T3	-20 °C	135 °C	60 °C
	T4	-20 °C	120 °C	60 °C
	T6	-20 °C	70 °C	60 °C

Sensor type	T class	T_p (process)		T_a (ambient)
		min.	max.	
xLS15E-******B***+*	T3	-20 °C	135 °C	60 °C
	T4	-20 °C	100 °C	60 °C
	T6	-20 °C	50 °C	60 °C

Sensor type	T class	T_p (process)		T_a (ambient)
		min.	max.	max.
xLS16E-*********+*	T3	-5 °C	135 °C	60 °C
	T4	-5 °C	115 °C	60 °C
	T6	-5 °C	65 °C	60 °C

Sensor type	T class	T_p (process)		T_a (ambient)
		min.	max.	max.
xLS21E-*********+*	T3	-20 °C	135 °C	60 °C
	T4	-20 °C	115 °C	60 °C
	T6	-20 °C	65 °C	60 °C

Sensor type	T class	T_p (process)		T_a (ambient)
		min.	max.	max.
xLS82E-*********+*	T3	-20 °C	140 °C	60 °C
	T4	-20 °C	120 °C	60 °C
	T6	-20 °C	70 °C	60 °C

(16) Test-Report No. 557/Ex8377.02/19

(17) Special Conditions for safe use

1. **CLS15E, CLS16E, CLS21E:** Metallic process connection parts have to be mounted electrostatically conductive at the mounting location (< 1 MΩ).

   CLS15E and CLS21E with non-metallic process connection may only be used in liquid media with a conductivity of at least 10 nS/cm.

   CLS15E with non-metallic process connection may not be operated on processing conditions, in which an electrostatic loading of the sensor and in particular of the electrically separated outer electrode, could be expected to occur.

   CLS82E: The sensor may not be operated in electrostatically critical processing conditions. Intense vapour or dust flows directly impacting on the connection system must be avoided. The metallic parts of the sensor have to be mounted at the mounting location electrostatically conductive (< 1 MΩ).

2. The maximum ambient and process temperatures for the temperature classes T3, T4 or T6 are limited according to the tables of this certificate (see "Environmental data").

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz — Cologne, 2020-09-09

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Dipl.-Ing. Klauspeter Graff