

UK Type Examination Certificate CML 21UKEX2967X Issue 1**United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Sensor type CLS**-***** and CLS16B-*******
- 3 Manufacturer **Endress+Hauser Conducta GmbH+Co.KG**
- 4 Address **Dieselstraße 24,
70839 Gernlingen,
Germany**
- 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 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 specific conditions of 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:
EN IEC 60079-0:2018 EN 60079-11:2012
- 10 The equipment shall be marked with the following:



Refer to attached certificate TÜV 15 ATEX 7778 X, Issue 2 for specific marking of explosion protection symbols.

Refer to attached certificate TÜV 15 ATEX 7778 X, Issue 2 for marked code and ambient temperature range.



CML 21UKEX2967X
Issue 1

11 Description

For product description refer to attached certificate TÜV 15 ATEX 7778 X, Issue 02.

Variation 1

This variation introduced the following modification:

- i. Introduction of special version variant for the cable length.
- ii. Introduction of sensor CLS16B.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	03 Aug 2021	R14521A/00	Issue of the prime certificate. TÜV 15 ATEX 7778 X, Issue 01 is attached and shall be referred to in conjunction with this certificate.
1	29 Jan 2024	R17318A/00	Issue of the variation certificate. TÜV 15 ATEX 7778 X, Issue 02 is attached and shall be referred to in conjunction with this certificate.

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

13 Conditions of Manufacture

For conditions of manufacture, refer to attached certificate TÜV 15 ATEX 7778 X, Issue 2.

Any routine tests/verifications required by the ATEX certification shall be conducted.

14 Specific Conditions of Use

For specific conditions of use, refer to attached certificate TÜV 15 ATEX 7778 X, Issue 2.

Certificate Annex

Certificate Number CML 21UKEX2967X
Equipment Sensor type CLS**-***** and CLS16B-*****
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 TÜV 15 ATEX 7778 X. In addition to the drawings listed on TÜV 15 ATEX 7778 X, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
136598-0002	1 of 1	I	03 Aug 2021	Nameplate CLS13 UKEX,ATEX,FM,CSA, EAC

Issue 1

For drawings describing the equipment, refer to attached certificate TÜV 15 ATEX 7778 X. In addition to the drawings listed on TÜV 15 ATEX 7778 X, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
961007456	1 of 1	A	29/01/2024	CLS16B
71489233	1 to 3	D	29/01/2024	Nameplate CLS16E Variv.+ Biocontr.

(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 15 ATEX 7778 X

Issue: 02

- (4) Equipment: **Sensor type CLS**-***** and CLS16B-*******
- (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/Ex7778.02/15

- (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 1G Ex ia IIC T6...T2 Ga (Sensor type CLS13-*****)

II 1G Ex ia IIC T6...T3 Ga (All other types)

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2023-12-13

Dipl.-Ing. Christian Mehrhoff



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
Tel. +49 (0) 221 806-0 Fax. +49 (0) 221 806 114

(13)

Annex

(14)

EU Type Examination Certificate

TÜV 15 ATEX 7778 X

Issue: 02

(15)

Description of equipment

15.1 Equipment and type:

Sensor type CLS**-*****

Name	Type								Process Temperature Range	Cat.
Condumax	CLS	12	–	A B	**	*	A	(***)	-20°C ≤ Ta ≤ +75°C(T6) -20°C ≤ Ta ≤ +125°C(T4) -20°C ≤ Ta ≤ +160°C(T3)	II 1G
Condumax	CLS	13	–	A B	**	*	A	(***)	-20°C ≤ Ta ≤ +75°C(T6) -20°C ≤ Ta ≤ +125°C(T4) -20°C ≤ Ta ≤ +190°C(T3) -20°C ≤ Ta ≤ +250°C(T2)	II 1G
Condumax	CLS	15	–	A B L	**	*	A	(***)	-20°C ≤ Ta ≤ +65°C(T6) -20°C ≤ Ta ≤ +115°C(T4) -20°C ≤ Ta ≤ +140°C(T3)	II 1G
Condumax	CLS	16	–	X	**	*	A B	(***)	-5°C ≤ Ta ≤ +65°C(T6) -5°C ≤ Ta ≤ +115°C(T4) -5°C ≤ Ta ≤ +150°C(T3)	II 1G
Condumax	CLS	21	–	C L	**	*	A	(***)	-20°C ≤ Ta ≤ +65°C(T6) -20°C ≤ Ta ≤ +115°C(T4) -20°C ≤ Ta ≤ +135°C(T3)	II 1G
Condumax	CLS	21	–	C L	**	*	D	(***)	-20°C ≤ Ta ≤ +80°C(T6) -20°C ≤ Ta ≤ +130°C(T4) -20°C ≤ Ta ≤ +135°C(T3)	II 1G

(xxx) = three characters determining
OEM / label partner (no Ex relevance)
+ one or more characters determining
optional features (no Ex relevance)

xx = two characters determining additional option
(no Ex relevance)

A = temperature sensor Pt100
B = temperature sensor Pt1000
D = without temperature sensor

one character determining cable connection (no Ex relevance)**

1,4,5 = without fixed cable

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2	= with 5m fixed cable
3	= with 10 m fixed cable
9	= Special version (in accordance to ex regulatory)
xx	= two characters determining process connection, materials and additional option (no Ex relevance**)
A	= Measuring Range, Cell Constant k=0.01/cm
B	= Measuring Range, Cell Constant k=0.1/cm
C	= Measuring Range, Cell Constant k=1/cm
L	= Cleaning Procedure PWIS free: xLS15-L* = PWIS free version of xLS15-B*, xLS21-L* = PWIS free version of xLS21-C* (no Ex relevance)
CLS	= Alternative product designation (no Ex relevance)
OLS	= Alternative product designation (no Ex relevance)
OCLS	= Alternative product designation (no Ex relevance)

Sensor type CLS16B-*****

Name	Type									
Condumax	xLS16B	-	**	**	**	*	*	***	+	*
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)										
* = one character determining temperature sensor A = Pt100 B = Pt1000										
* = one character determining cable connection (no Ex relevance)										
** = two characters determining materials (no Ex relevance)										
** = two characters determining process connection (no Ex relevance)										
** = two characters determining order option Approval (no Ex relevance)										
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)										

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15.2 Description / Details of Change

General product information

The sensor type CLS**_***** and CLS16B_***** measures the conductivity of liquids with a measuring system that has 2 coaxially arranged electrodes like a capacitor. The electric resistance or its reciprocal value, the conductance G, is measured according to Ohm's law. The sensors have large coaxial or face-to-face measuring electrodes which allow high flow rates and high accuracy.

In addition, a Pt 100 or Pt1000 temperature sensor is installed inside the inner electrode or inside a thermal conductivity socket to measure the medium temperature.

Technical Data

1 Electrical data

CLS12 or CLS13: Terminals

CLS15, CLS16, CLS16B or CLS21: Connector or permanent connected cable

Maximum input voltage	U_i	15 V DC
Maximum input current	I_i	30 mA
Maximum input power	P_i	130 mW
Maximum internal capacitance	C_i	1 nF/m
Maximum internal inductance	L_i	6 µH/m

The input circuit has to be considered to be grounded when connected to the sensor.

2 Cable data

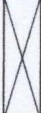
Maximum internal capacitance	C_i	1 nF/m
Maximum internal inductance	L_i	6 µH/m

3 Thermal data

3.1 Ambient temperature range of the sensor head

$$-20\text{ °C} \leq T_a \leq +60\text{ °C}$$

3.2 Ambient temperature range of the sensor tip (Process temperature range)

Name	Type								Process Temperature Range	Cat.
Condumax	CLS	12	–	A	**	*	A	(***)	-20°C ≤ Ta ≤ +75°C(T6)	II 1G
				B					-20°C ≤ Ta ≤ +125°C(T4)	
									-20°C ≤ Ta ≤ +160°C(T3)	
Condumax	CLS	13	–	A	**	*	A	(***)	-20°C ≤ Ta ≤ +75°C(T6)	II 1G
				B					-20°C ≤ Ta ≤ +125°C(T4)	
									-20°C ≤ Ta ≤ +190°C(T3)	
Condumax	CLS	15	–	A	**	*	A	(***)	-20°C ≤ Ta ≤ +65°C(T6)	II 1G
				B					-20°C ≤ Ta ≤ +115°C(T4)	
				L					-20°C ≤ Ta ≤ +140°C(T3)	
Condumax	CLS	16	–		**	*	A	**	(***)	II 1G
		16B					B		-5°C ≤ Ta ≤ +65°C(T6)	
									-5°C ≤ Ta ≤ +115°C(T4)	
									-5°C ≤ Ta ≤ +150°C(T3)	

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Condumax	CLS	21	–	C L	**	*	A	(***)	-20°C ≤ Ta ≤ +65°C(T6) -20°C ≤ Ta ≤ +115°C(T4) -20°C ≤ Ta ≤ +135°C(T3)	II 1G
Condumax	CLS	21	–	C L	**	*	D	(***)	-20°C ≤ Ta ≤ +80°C(T6) -20°C ≤ Ta ≤ +130°C(T4) -20°C ≤ Ta ≤ +135°C(T3)	II 1G

Details of Change:

- Introduction of special version variant for the cable length
- Introduction of sensor CLS16B

(16) Test-Report No. 557/Ex7778.02/15

(17) Special Conditions for safe use

The sensor heads of types CLS12-***** and CLS13-***** have to be protectively installed against impacts and friction.

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland ExNB for explosion protected equipment

Cologne, 2023-12-13

Dipl.-Ing. Christian Mehrhoff



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