

UK Type Examination Certificate CML 21UKEX2963X Issue 0**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 **Transmitter type Liquiline CM44**-*** for digital sensor supply with communication module type 2DS Ex-I**
- 3 Manufacturer **Endress+Hauser Conducta GmbH+Co.KG**
- 4 Address **Dieselstrasse 24
70839 Gerlingen
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 43 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 20 ATEX 8597X, Issue 0 for specific marking of explosion protection symbols.

Refer to attached certificate TÜV 20 ATEX 8597X, Issue 0 for marked code and ambient temperature range.



CML 21UKEX2963X
Issue 0

11 Description

For product description refer to attached certificate TÜV 20 ATEX 8597X, Issue 0.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	16 th Mar 2022	R14492A/00	Issue of the prime certificate. TÜV 20 ATEX 8597X, Issue 0 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 20 ATEX 8597X, Issue 0.

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 20 ATEX 8597X, Issue 0.

Certificate Annex

Certificate Number CML 21UKEX2963X
Equipment Transmitter type Liquiline CM44**-*** for digital sensor supply with communication module type 2DS Ex-I
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 20 ATEX 8597X. In addition to the drawings listed on TÜV 20 ATEX 8597X, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
71544930	1 to 3	AB	16 th Mar 2022	Nameplate Liquiline CM44x Ex-I MES Typenschild Liquiline CM44x Ex-I MES

(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 20 ATEX 8597 X

Issue: 00

- (4) **Equipment:** Transmitter type Liquiline CM44**-*** for digital sensor supply with communication module type 2DS Ex-i
- (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 / Ex 8597.00 / 20.
- (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 Ga] IIC

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 19.02.2021

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

www.tuv.com

(13) Annex

(14) **EU Type Examination Certificate**
TÜV 20 ATEX 8597 X Issue: 00

(15) Description of equipment

15.1 Equipment and type:

Transmitter type Liquiline CM44^{**}-^{***} for digital sensor supply with communication module type 2DS Ex-i

The first asterisk in the type designation will be replaced by the digits 2 or 4 or 8 and indicates the housing size and the maximum number of available non-intrinsically safe sensor connections; Optionally, the letter P can be used instead of the number 2 or 4 or 8 - there are no differences between the two variants.

The second asterisk in the type designation can either be omitted or replaced by the letter R; the letter R means that the device does not have an additional protective enclosure. This additional protective enclosure itself is not part of this EU type-examination certificate.

The third asterisk in the type designation will be replaced by the letter combination BM or IE and is not safety-relevant.

The fourth asterisk in the type designation will be replaced by four-digit character combinations and is safety-relevant (ambient temperature).

The fifth asterisk in the type designation has a function-relevant meaning.

15.2 Description / Details of Change

The communication module type 2DS Ex-i is an associated equipment with a degree of protection of at least IP20 if they are plugged into the base board of the transmitter type Liquiline CM44^{**}-^{***} for digital sensor supply.

The transmitter type Liquiline CM44^{**}-^{***} can be equipped with up to three communication modules type 2DS Ex-i and is mounted outside of the potentially explosive area.

Each communication module type 2DS Ex-i provides two intrinsically safe output circuits (digital sensor inputs) for the connection of passive sensors.

The intrinsically safe output circuits of these devices may be routed into areas with gas that require equipment of category 1.

The color light blue is used for the intrinsically safe communication modules type 2DS Ex-i (cover, terminals) and for the non-intrinsically safe modules the color is gray or black.

The electrical connection of the non-intrinsically safe circuits of the communication module type 2DS Ex-i with the digital sensor supply type Liquiline CM44^{**}-^{***} is made via the connector X100.

This EU Type Examination Certificate without signature and official stamp shall not be valid.
This certificate may be circulated without alteration. Extracts or alterations are subject to approval by:
Zertifizierungsstelle of TÜV Rheinland Industrie Service GmbH

Technical Data

Electrical Data:

1. Non-intrinsically safe circuits
(Connector X100)

Maximum voltage U_m	250 V
Signal circuits Low Voltage TTL (X100 No.: A1 to A16) Voltage range	DC 0 ... 3.63 V
DC Supply +12.5V (X100 No.: B5 to B8) Nominal voltage U_n	DC 12.5 V
DC Supply +3.3V (X100 No.: B1 to B4) Nominal voltage U_n	DC 3.3 V
DC Supply +24V_Ext (X100 No.: B5 to B8) Voltage range	DC 18 V ... 31.5 V
AC Supply 6V AC (X100 No.: B9 to B14) Voltage	± 6 V ± 20 %, 30 kHz ... 35 kHz
Functional Ground (X100 No.: AB24 and AB25)	

2. Intrinsically safe digital inputs (sensor 1 and sensor 2)
(light blue connection terminals respectively no.: 87i, 88i, 97i, 98i)
per terminal connection

Trapezoidal output characteristic	
Maximum voltage U_{tr}	5.88 V
Maximum output voltage U_o	5 V
Maximum output current I_o	112 mA
Maximum output power P_o	165 mW
Maximum internal inductance L_i	0 μ H
Maximum internal capacitance C_i	5.2 μ F

These circuits can be connected to the following sensors:

xYK10 and xYK20	BVS 04 ATEX E121X / IECEx BVS 11.0052X
xYP03D	BVS 12 ATEX E008 / IECEx BVS 12.0007
xLS50D	BVS 12 ATEX E048X / IECEx BVS 14.0004X

The used cable may be up to 100 m in length.

The intrinsically safe circuits are safely separated from the non-intrinsically safe circuits up to a voltage of 1500 Veff.

This EU Type Examination Certificate without signature and official stamp shall not be valid.
 This certificate may be circulated without alteration. Extracts or alterations are subject to approval by:
 Zertifizierungsstelle of TÜV Rheinland Industrie Service GmbH

The intrinsically safe circuits are safely separated from the earthed circuits up to a voltage of 500 Veff.

The intrinsically safe circuits sensor 1 and sensor 2 are connected to each other.

Environmental data

-20 °C ≤ Ta ≤ +85 °C for the 2DS Ex-i modules (without installation in additional enclosure)

The permissible temperature range of the Liquiline CM44**-* transmitter can be found in the manufacturer's operating instructions.

(16) Test-Report No. 557/Ex8597.00/20

(17) Special Conditions for safe use

1. The communication modules type 2DS Ex-i may only be connected to circuits with safety extra-low voltage (SELV) or protective extra-low voltage (PELV).
2. The environmental data must be taken into account – see the operating instructions of the manufacturer.

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2021-02-19

Dipl.-Ing. Christian Mehrhoff



This EU Type Examination Certificate without signature and official stamp shall not be valid.
This certificate may be circulated without alteration. Extracts or alterations are subject to approval by:
Zertifizierungsstelle of TÜV Rheinland Industrie Service GmbH