



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 TUR 21.0004X** Page 1 of 5 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2021-09-10\)](#)
[Issue 0 \(2021-02-19\)](#)
Date of Issue: 2023-06-20
Applicant: **Endress+Hauser Conducta GmbH+Co. KG**
Dieselstrasse 24
Gerlingen 70839
Germany
Equipment: **Transmitter type Liquiline CM44**-*** for digital sensor supply with communication module type 2DS Ex-i**
Optional accessory:
Type of Protection: **Ex ia**
Marking: **[Ex ia Ga] IIC**

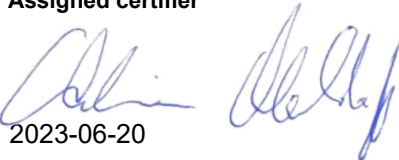
Approved for issue on behalf of the IECEx
Certification Body:

Christian Mehrhoff

Position:

Assigned certifier

Signature:
(for printed version)



2023-06-20

Date:
(for printed version)

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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:

TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany





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Manufacturer: **Endress+Hauser Conducta GmbH+Co. KG**
Dieselstrasse 24
Gerlingen 70839
Germany

Manufacturing locations: **Endress+Hauser Conducta GmbH+Co. KG**
Dieselstr. 24
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Endress+Hauser Conducta Ltd.,
4123 East La Palma Avenue, Suite 200
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United States of America

Endress+Hauser Analytical Instruments(Suzhou) Co.,LTD.
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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

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 Report:

[DE/TUR/ExTR21.0004/02](#)

Quality Assessment Reports:

[DE/BVS/QAR06.0005/13](#)

[DE/TUR/QAR13.0004/04](#)

[DE/TUR/QAR14.0002/05](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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.

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 for Zone 0.

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.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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.



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Equipment (continued):

Electrical data

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)

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 IECEX BVS 11.0052X

xYP03D IECEX BVS 12.0007

xLS50D 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.

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.

Ambient temperature range:

-20 °C $\leq T_a \leq +85$ °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.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- minor hardware changes
- change of one manufacturers adress
- update of nameplates
- minor formal corrections of the documentation