



# 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](http://www.iecex.com)

Certificate No.: **IECEX TUN 20.0008X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-05-07

Applicant: **Hans Turck GmbH & CO KG**  
Witzlebenstraße 7  
D-45472 Mülheim an der Ruhr  
Germany

Equipment: **Strain gauge transmitter type IMX12-SG10-1U-1UI-0/\*\*\*\*\*/\*\***

Optional accessory: --

Type of Protection: **Intrinsic Safety, Increased Safety**

Marking: [Ex ia Ga] IIC, [Ex ia Da] IIIC  
Ex ec [ia Ga] IIC T4 Gc  
Ex ec [ia IIIC Da] IIC T4 Gc

Approved for issue on behalf of the IECEX  
Certification Body:

**Christian Roder**

Position:

**Head of IECEX Certification Body**

Signature:  
(for printed version)

*C. Roder*

Date:

*2020-05-07*

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](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**TÜV NORD CERT GmbH**  
Hanover Office  
Am TÜV 1, 30519 Hannover  
Germany





# IECEX Certificate of Conformity

Certificate No.: **IECEX TUN 20.0008X**

Page 2 of 3

Date of issue: 2020-05-07

Issue No: 0

Manufacturer: **Hans Turck GmbH & CO KG**  
Witzlebenstraße 7  
D-45472 Mülheim an der Ruhr  
**Germany**

Additional manufacturing locations: **Werner Turck GmbH & Co. KG**  
Goethestr. 7  
58553 Halver  
**Germany**

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 60079-7:2017** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

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/TUN/EXTR20.0010/00](#)

Quality Assessment Reports:

[DE/PTB/QAR06.0012/04](#)

[DE/PTB/QAR06.0013/05](#)



# IECEX Certificate of Conformity

Certificate No.: **IECEX TUN 20.0008X**

Page 3 of 3

Date of issue: 2020-05-07

Issue No: 0

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Strain gauge transmitter type IMX12-SG10-1U-1UI-0/\*\*\*\*/\*\* is used for the supply of an intrinsically safe strain gauge in the hazardous area, for the evaluation of the analogue signal of the strain gauge and for the transmission of the non-intrinsically safe signals into the non-hazardous area.

It is also used for the safe galvanic separation between the intrinsically safe circuit and all non-intrinsically safe circuits.

The permissible ambient temperature range is -25°C ... 70°C.

For further details see attachment.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

Special conditions for safe use" (only for zone 2 applications)

1. According to IEC 60079-7:2015, section 4.10.1, the following is valid for this apparatus: The apparatus may be installed in an area of not more than pollution degree 2. The apparatus has to be mounted in a housing tested according to IEC 60079-0, that meets the requirements of degree of protection IP54.
2. The connecting and disconnecting of energized non intrinsically safe circuits and the operation of the switches for parametrizing is only permitted, if no explosion hazardous atmosphere is available.

## **Annex:**

[attachment\\_TUN 20.0008 X\\_IMX12\\_SG.pdf](#)

Product:

The Strain gauge transmitter type IMX12-SG10-1U-1UI-0/\*\*\*\*\*/\*\* is used for the supply of an intrinsically safe strain gauge in the hazardous area, for the evaluation of the analogue signal of the strain gauge and for the transmission of the non-intrinsically safe signals into the non-hazardous area.

It is also used for the safe galvanic separation between the intrinsically safe circuit and all non-intrinsically safe circuits.

The permissible ambient temperature range is -25°C ... 70°C.

Electrical data

Supply circuit ..... U = 10 ... 30 V d. c., ≤3 W  
(X11-contacts 15[+], 16[-]) U<sub>m</sub> = 253 V a. c. / d. c.

Analogue output 1, parametrizable ..... 0/4 ... 20 mA current interface  
(X14-contacts 9, 10) Passive mode control of connected voltage source  
0 ... 5 V voltage interface  
U<sub>m</sub> = 253 V a. c. / d. c.

Analogue output 2  
(X13-contacts 11[+], 12[-] ..... Supply voltage 5 ... 15 V  
X12-contacts 13[+], 14[-]) Voltage of strain gauge  
U<sub>m</sub> = 253 V a. c. / d. c.

Measuring circuit ..... in type of protection  
(Measuring input: Intrinsic Safety Ex ia IIC/IIB resp. Ex ia IIIC  
X23-contacts 5[+], 6 [-] Maximum values:  
Supply: U<sub>o</sub> = 13.7 V  
X24-contacts 7[+], 8[-]) I<sub>o</sub> = 76 mA  
P<sub>o</sub> = 261 mW  
Characteristic line: linear  
Effective internal capacitance: 36.4 nF  
Effective internal inductance: 10 μH

Table 1

Ex ia	IIC			IIB		
max. permissible external inductance	5 mH	2 mH	1 mH	10 mH	5 mH	1 mH
max. permissible external capacitance	0.27 μF	0.42 μF	0.53 μF	2.3 μF	2.9 μF	4.5 μF

The maximum values of the table 1 are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances.

Table 2

Ex ia	IIC	IIB
max. permissible external inductance	8.3 mH	47 mH
max. permissible external capacitance	0.75 $\mu$ F	4.8 $\mu$ F

The maximum values of the table 2 are only allowed to be used up to the permissible limits as cable reactances.

Tables 1 and 2:

The values for IIB and for IIC are also permissible for explosive dust atmospheres.

The intrinsically safe circuit is safely galvanically separated from the non intrinsically safe circuits up to the peak value of the voltage of 375 V.

Special conditions for safe use (only for zone 2 applications)

1. According to IEC 60079-7:2015, section 4.10.1, the following is valid for this apparatus:  
The apparatus has to be mounted in a housing tested according to IEC 60079-0, that meets the requirements of degree of protection IP54.  
The apparatus may be installed in an area of not more than pollution degree 2.
2. The connecting and disconnecting of energized non intrinsically safe circuits and the operation of the switches for parametrizing is only permitted, if no explosion hazardous atmosphere is available.