



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx TUN 15.0017X Issue No: 2 Certificate history:
Status: Current Page 1 of 4 Issue No. 2 (2018-06-12)
Date of Issue: 2018-06-12 Issue No. 1 (2015-07-21)
Issue No. 0 (2015-06-10)
Applicant: Hans Turck GmbH & Co. KG
Witzlebenstraße 7
45472 Mülheim
Germany
Equipment: Solenoid driver type IMX(K)12-DO**-**-** / 24VDC/**
Optional accessory:
Type of Protection: Intrinsic safety and increased safety
Marking:
[Ex ia Ga] IIC, [Ex ia Da] IIIC
Ex ec [ia Ga] IIC T4 Gc
and see annexe

Approved for issue on behalf of the IECEx
Certification Body:

Christian Roder

Position:

Head of IECEx Certification Body

Signature:

(for printed version)


2018-06-12

Date:

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

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





IECEX Certificate of Conformity

Certificate No: IECEx TUN 15.0017X

Issue No: 2

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Page 2 of 4

Manufacturer: Hans Turck GmbH & Co. KG
Witzlebenstraße 7
45472 Mülheim
Germany

Additional Manufacturing location(s):

Werner Turck GmbH & Co. KG
Goethestraße 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 apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

This Certificate does not indicate compliance with electrical 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/ExTR15.0024/00](#) [DE/TUN/ExTR15.0024/01](#)

Quality Assessment Report:

[DE/PTB/QAR06.0012/04](#) [DE/PTB/QAR06.0013/05](#)



IECEX Certificate of Conformity

Certificate No: IECEx TUN 15.0017X

Issue No: 2

Date of Issue: 2018-06-12

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The solenoid driver type IMX12-DO**_**_**_** / **** / ** is used for the supply of intrinsic safe passive two-poles (e. g. solenoid valves, illuminated circuit diagrams, light emitting diodes, two wire transmitters) as well as for the safe galvanic separation of the intrinsically safe circuits and the non intrinsically safe circuits.

The device is executed with 1 or 2 channels.

The device in the version "K" is executed with 1 channel.

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

Changes:

For the IMX12-DO**_**_**_** / 24VDC / **, 1 new pc board resp. 1 new type is available:

- IMXK12-DO**_1U-1U_** / 24VDC / **

The changes concern

- the new version with 1 channel; no changes regarding the principle of the electrical circuitries performed
- the housing construction
- the contact designation (electrical data)

For further details see annexe.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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 is only permitted, if no explosion hazardous atmosphere is available.



IECEX Certificate of Conformity

Certificate No: IECEx TUN 15.0017X

Issue No: 2

Date of Issue: 2018-06-12

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 2

The changes concern

- the new version with 1 channel; no changes regarding the principle of the electrical circuitries performed
- the housing construction
- the contact designation (electrical data)

Furthermore, the apparatus was also tested according to IEC 60079-7:2015, (5th ed.).

Annex:

[Attachment IECEx TUN 15.0017 X Issue 2 IMX12 DO.pdf](#)

Page 1 of 2
Attachment to IECEx TUN 15.0017 X issue no.: 2

The solenoid driver type IMX12-DO**-**-**/24VDC/** is used for the supply of intrinsic safe passive two-poles (e. g. solenoid valves, illuminated circuit diagrams, light emitting diodes, two wire transmitters) as well as for the safe galvanic separation of the intrinsically safe circuits and the non intrinsically safe circuits.

The device is executed with 1 or 2 channels.

The device in the version "K" is executed with 1 channel.

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

Changes:

For the IMX12-DO**-**-**/24VDC/**, 1 new pc board resp. 1 new type is available:

- IMXK12-DO**-1U-1U-**/24VDC/**

The changes concern

- the new version with 1 channel; no changes regarding the protection principle of the electrical circuitries performed
- the housing construction
- the contact designation (electrical data)

Additional permissible marking

[Ex ia] IIC

[Ex ia] IIIC

Ex ec [ia] IIC T4

Ex ec [ia IIIC Da] IIC T4 Gc

Ex ec [ia IIIC] IIC T4

Electrical data

Supply circuit U = 10 ... 30 V d. c., ≤3.5 W

(X11-contacts 15[+], 16[-] U_m = 253 V a. c. / d. c.

or X30-contacts 4[+], 5[-]

"K" version:

X11-contacts 7[+], 8[-])

Input circuits 0-signal: U = 0...5 V d. c.

(X14-contacts 9[+], 10[-] 1-signal: U = 10...30 V d. c.

X13-contacts 11[+], 12[-] U_m = 253 V a. c. / d. c.

"K" version:

X12-contacts 5[+], 6[-])

Failure signal output U = 30 V d. c., 100 mA; potential free contact

(X30-contacts 1, 2) U_m = 253 V a. c. / d. c.

Output circuits in type of protection

(X24-contacts 7[+], 8[-] Intrinsic Safety Ex ia IIC/IIB resp. Ex ia IIIC

Page 2 of 2
Attachment to IECEx TUN 15.0017 X issue no.: 2

X23-contacts 5[+], 6[-]
"K" version:
X22-contacts 3[+], 4[-])

Maximum values per channel:

$$U_o = 27.3 \text{ V}$$

$$I_o = 68.4 \text{ mA}$$

$$U_e = 26.2 \text{ V}$$

$$I_e = 15.1 \text{ mA}$$

$$P_o = 576 \text{ mW}$$

Characteristic line: angular

The effective internal capacitance and inductance is negligibly small.

Ex ia	IIC			IIB		
max. permissible external inductance	0.94 mH	0.4 mH	0.2 mH	10 mH	2 mH	0.5 mH
max. permissible external capacitance	0.057 μ F	0.078 μ F	0.088 μ F	0.26 μ F	0.31 μ F	0.45 μ F

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

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

The intrinsically safe output circuits are 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 is only permitted, if no explosion hazardous atmosphere is available.