



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

Certificate No.: IECEx TUN 18.0025X

Issue No: 0

Certificate history:

Issue No. 0 (2019-01-22)

Status: **Current**

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Date of Issue: **2019-01-22**

Applicant: **Gönnheimer Elektronik GmbH**  
Dr.-Julius-Leber-Straße 2  
67433 Neustadt an der Weinstraße  
Germany

Equipment: **Keyboard Interface type KI153.0.x to KI153.4.x**

Optional accessory:

Type of Protection: **Intrinsic Safety "i"**

Marking:

**[Ex ib Gb] IIC**

**[Ex ib Db] IIIC**

Approved for issue on behalf of the IECEx  
Certification Body:


Christian Roder

Position:

Head of IECEx Certification Body

Signature:  
(for printed version)

Date:

  
**2019-01-22**

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

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Manufacturer: **Gönnheimer Elektronik GmbH**  
Dr.-Julius-Leber-Straße 2  
67433 Neustadt an der Weinstraße  
Germany

Additional Manufacturing location(s):

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:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*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/ExTR18.0036/00](#)

Quality Assessment Report:

[DE/TUN/QAR10.0006/08](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The keyboard interface type KI153.x.x is used for the connection of intrinsically safe input devices (e. g. keyboard, mouse, trackball) to a non intrinsically safe PC.

It converts non intrinsically safe USB interfaces to intrinsically safe circuits .

The permissible ambient temperature range is -20 °C ... +50 °C.

See attachment for further details.

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

1. The terminal for earth connection has to be connected with the potential equalization in the explosion hazardous area.
2. It has to be ensured, that potential equalization exists in the complete course of the erection of the intrinsically safe circuits.
3. The keyboard interface type KI153.x.3 has to be erected in such a way, that a degree of protection of min IP20 is fulfilled.

### Annex:

[\\_P17-F-610\\_Attachment KI153.pdf](#)

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Product:

The keyboard interface type KI153.x.x is used for the connection of intrinsically safe input devices (e. g. keyboard, mouse, trackball) to a non intrinsically safe PC.

It converts non intrinsically safe USB interfaces to intrinsically safe circuits.

The permissible ambient temperature range is -20 °C ... +50 °C.

Type key:

KI153		.x	.x
Number of USB channels:			
One USB1.1 channel for the connection to KB153 and TB153.....		.0	
Two USB1.1 channels for the connection to KB153 and TB153.....		.1	
One USB2.0 channel for the connection to FD153.....		.2	
One USB1.1 channel and one USB2.0 channel.....		.3	
Two USB2.0 channels for the connection to FD153.....		.4	
Installation:			
Mounting on 35mm rail according to DIN EN 50022.....		.0	
Wall installation.....		.1	
Tabletop housing.....		.2	
Without housing for integration into PC100.....		.3	

Electrical data

Non intrinsically safe circuits:  
(Connector 1 - pin 1...4,  
Connector 3 - pin 1...4  
for execution with 2 channels)

$U_m = 50 \text{ V a. c. resp. } 70 \text{ V d. c. for both channels}$

**Keyboard interface type KI153.0.x and KI153.1.x:**

Intrinsically safe circuits:  
IIIC

in type of protection intrinsic safety Ex ib IIC resp. Ex ib

(Connector 2 - pin 1...4,  
Connector 4 - pin 1...4  
for execution with 2 channels)

Max. values per circuit:

$U_o = 5.4 \text{ V}$

$I_o = 202 \text{ mA}$

$P_o = 380 \text{ mW}$

Characteristic line: angular

Max. permissible external capacitance:  $25 \mu\text{F}$

Max. permissible external inductance:  $3 \mu\text{H}$



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**Keyboard interface type KI153.2.x and KI153.4.x:**

Intrinsically safe circuits: in type of protection intrinsic safety Ex ib IIC resp. Ex ib IIC

(Connector 2 - pin 1...4,  
Connector 4 - pin 1...4  
for execution with 2 channels)

Max. values per circuit:

$U_o = 5.4 \text{ V}$

$I_o = 952 \text{ mA}$

$P_o = 1.6 \text{ W}$

Characteristic line: angular

Max. permissible external capacitance:  $25 \mu\text{F}$

Max. permissible external inductance:  $3 \mu\text{H}$

**Keyboard interface type KI153.3.x:**

Intrinsically safe circuits: in type of protection intrinsic safety Ex ib IIC resp. Ex ib IIC

(Connector 2 - pin 1...4)

Max. values:

$U_o = 5.4 \text{ V}$

$I_o = 202 \text{ mA}$

$P_o = 380 \text{ mW}$

Characteristic line: angular

Max. permissible external capacitance:  $25 \mu\text{F}$

Max. permissible external inductance:  $3 \mu\text{H}$

(Connector 4 - pin 1...4)

Max. values:

$U_o = 5.4 \text{ V}$

$I_o = 952 \text{ mA}$

$P_o = 1.6 \text{ W}$

Characteristic line: angular

Max. permissible external capacitance:  $25 \mu\text{F}$

Max. permissible external inductance:  $3 \mu\text{H}$

**Special Conditions for Safe Use / Notes for Erection:**

1. The terminal for earth connection has to be connected with the potential equalization in the explosion hazardous area.
2. It has to be ensured, that potential equalization exists in the complete course of the erection of the intrinsically safe circuits.
3. The keyboard interface type KI153.x.3 has to be erected in such a way, that a degree of protection of min IP20 is fulfilled.