



# 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 13.0026X Issue No: 0 Certificate history:  
Issue No. 0 (2014-02-24)

Status: **Current** Page 1 of 3

Date of Issue: **2014-02-24**

Applicant: **Gönnheimer Elektronik GmbH**  
Dr.-Julius-Leber-Straße 2  
61433 Neustadt an der Weinstraße  
**Germany**

Electrical Apparatus: **Explosion proof PC component Type PC100...**  
*Optional accessory:*

Type of Protection: **Powder filling, increased safety, intrinsic safety, protection of equipment and transmission systems using optical radiation**

Marking: Ex eb qb ib [ib] IIC T4 resp. Ex eb qb ib op is [ib] IIC T4

*Approved for issue on behalf of the IECEx  
Certification Body:*

Karl-Heinz Schwedt

*Position:*

Head of IECEx CB

*Signature:  
(for printed version)*

*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](#).

Certificate issued by:

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





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Manufacturer: **Gönnheimer Elektronik GmbH**  
Dr.-Julius-Leber-Straße 2  
61433 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 electrical 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"
<b>IEC 60079-28 : 2006-08</b> Edition:1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
<b>IEC 60079-5 : 2007-03</b> Edition:3	Explosive atmospheres - Part 5: Equipment protection by powder filling "q"
<b>IEC 60079-7 : 2006-07</b> Edition:4	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/ExTR13.0030/00](#)

Quality Assessment Report:

[DE/TUN/QAR10.0006/02](#)



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## Schedule

### EQUIPMENT:

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

The explosion proof PC Component type PC100... is used as visual display unit for an industrial PC to be mounted outside of the explosion hazardous area and it enables the connection of operation components for this PC.

The data communication is also permissible by an optic fibre in type of protection "op is".  
The permissible ambient temperature range is -20 °C ... 50 °C.

### CONDITIONS OF CERTIFICATION: YES as shown below:

See annexe

### Annex:

[Annexe\\_IEC\\_PC100\\_TUN13.0026X.pdf](#)

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Attachment to IECEx TUN 13.0026 X issue 0

IECEX ExTR:	File reference:
DE/TUN/ExTR13.0030/00	13 217 120399
IECEX QAR:	
DE/TUN/QAR10.0006/02	

The explosion proof PC Component type PC100... is used as visual display unit for an industrial PC to be mounted outside of the explosion hazardous area and it enables the connection of operation components for this PC.

The data communication is also permissible by an optic fibre in type of protection "op is".

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

Electrical data

Non intrinsically safe circuits

Terminal no.	Description
30, 31	Supply voltage $U_n$
	24 V d. c. 120 V a. c. 230 V a. c.
	Supply voltage $U_m$
	120 V d. c. / 50 V a. c. 132 V a. c. 253 V a. c.
	P ca. 30 W up to ca. 70 W according to size of display
32	PE
Terminals 41...92: $U_m = 50$ V a. c. / 120 V d. c.	
41-48	KVM/Ethernet
50	USB +5V
51	USB D-
52	USB D+
53	Gnd
54	RS232 TxD (vom PC100)
55	RS232 RxD (vom PC100)
56	RS232 Gnd
57	RS485 / 422 D+
58	RS485 / 422 D-
60	Audio out
61	Audio in
62	Gnd
65-76 80-92	Universal input/output

Intrinsically safe circuits

<p>USB 1.1 connections for external keyboard/trackball .....  (Jack sockets 1/2; pins 1 to 4)</p>	<p>in type of protection intrinsic safety Ex ib IIC  Maximum values per circuit:  <math>U_0 = 5.4 \text{ V}</math>  <math>I_0 = 202 \text{ mA}</math>  <math>P_0 = 380 \text{ mW}</math>  Characteristic line: angular  Max. permissible external capacitance: 25 <math>\mu\text{F}</math>  Max. permissible external inductance: 3 <math>\mu\text{H}</math></p>									
<p>Display control for external switches ...  (Jack socket 3;  pins 2, 1; 3, 1; 4, 1; 5, 1; 6, 1; 7, 1; 8, 1  Jack socket 4; pins 3, 1)</p>	<p>in type of protection intrinsic safety Ex ib IIC  Maximum values per circuit:  <math>U_0 = 27.4 \text{ V}</math>  <math>I_0 = 4 \text{ mA}</math>  <math>R_0 = 97 \text{ k}\Omega</math>  <math>P_0 = 72 \text{ mW}</math>  Characteristic line: trapezoidal</p> <table border="1" data-bbox="740 1039 1386 1214"> <thead> <tr> <th></th> <th>Ex ib</th> <th>IIC</th> </tr> </thead> <tbody> <tr> <td>Max. permissible external inductance</td> <td>1 mH</td> <td>0.5 mH</td> </tr> <tr> <td>Max. permissible external capacitance</td> <td>75 nF</td> <td>86 nF</td> </tr> </tbody> </table>		Ex ib	IIC	Max. permissible external inductance	1 mH	0.5 mH	Max. permissible external capacitance	75 nF	86 nF
	Ex ib	IIC								
Max. permissible external inductance	1 mH	0.5 mH								
Max. permissible external capacitance	75 nF	86 nF								
<p>Display control for external LED`s .....  (Jack socket 4;  pins 4, 1; 5, 1)</p>	<p>in type of protection intrinsic safety Ex ib IIC  Maximum values per circuit:  <math>U_0 = 5.4 \text{ V}</math>  <math>I_0 = 12 \text{ mA}</math>  <math>P_0 = 16 \text{ mW}</math>  Characteristic line: linear</p> <table border="1" data-bbox="740 1487 1386 1662"> <thead> <tr> <th></th> <th>Ex ib</th> <th>IIC</th> </tr> </thead> <tbody> <tr> <td>Max. permissible external inductance</td> <td>1 mH</td> <td>0.1 mH</td> </tr> <tr> <td>Max. permissible external capacitance</td> <td>3.3 <math>\mu\text{F}</math></td> <td>5.9 <math>\mu\text{F}</math></td> </tr> </tbody> </table>		Ex ib	IIC	Max. permissible external inductance	1 mH	0.1 mH	Max. permissible external capacitance	3.3 $\mu\text{F}$	5.9 $\mu\text{F}$
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Max. permissible external inductance	1 mH	0.1 mH								
Max. permissible external capacitance	3.3 $\mu\text{F}$	5.9 $\mu\text{F}$								
<p>USB 2.0 connections for external keyboard/trackball .....  (Jack sockets 5/6; pins 1 to 4)</p>	<p>in type of protection intrinsic safety Ex ib IIC  Maximum values per circuit:  <math>U_0 = 5.4 \text{ V}</math>  <math>I_0 = 952 \text{ mA}</math>  <math>P_0 = 1.6 \text{ W}</math>  Characteristic line: angular  Max. permissible external capacitance: 25 <math>\mu\text{F}</math>  Max. permissible external inductance: 3 <math>\mu\text{H}</math></p>									

Conditions of use:

1. The apparatus has to be mounted in a housing tested according to IEC 60079-0, that meets the requirements of degree of protection IP54. According to IEC 60079-5, a breathing device is required for this housing, if the degree of protection is IP55 or higher.
2. The terminal for earth connection has to be connected with the potential equalization in the explosion hazardous area.
3. It has to be ensured, that potential equalization exists in the complete course of the erection of the intrinsically safe circuits.
4. The mounted cable entries shall only be used for fixed installations.
5. The permissible ambient temperature range at the point of installation is -20 °C .... +50 °C.