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 11.0024X issue No.:0	Certificate history:
Status:	Current	
Date of Issue:	2011-09-30	Page 1 of 3

Applicant: **BARTEC GmbH**
Max-Eyth-Str. 16
97980 Bad Mergentheim
Germany

Electrical Apparatus: **Profibus Interface 16 NAMUR and Bus-Interface 4do 8di type 17-6583-33**/**** and 17-6583-*5**/******

Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **[Ex ia Ga] IIC**
[Ex ia Ga] IIB
[Ex ia Da] IIIC
[Ex ia Da] IIIB

Approved for issue on behalf of the IECEx Certification Body: Karl-Heinz Schwedt

Position: Head of the IECEx certification body

Signature: (for printed version)

Date: 2011-09-30

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

TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 11.0024X

Date of Issue: **2011-09-30** Issue No.: **0**

Manufacturer: **BARTEC GmbH**
Max-Eyth-Str. 16
97980 Bad Mergentheim
Germany

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:

IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the pressence of combustible dusts - Part 11: Protection by intrinsic safety 'iD'

*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/ExTR11.0024/00

Quality Assessment Report:

DE/TUN/QAR06.0017/02

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Schedule

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

The device is an associated apparatus which provides a safe galvanically separation of intrinsically safe and non-intrinsically safe circuits.

For technical data see attachment.

CONDITIONS OF CERTIFICATION: YES as shown below:

The device has to be erected in such a way, that a degree of protection of at least IP20 according to IEC 60529 is reached.

Annexe: Attachment to CoC IECEx TUN 11.0024X issue 0.pdf

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Technical data

For Bus-Interface 4do 8di:
The permissible temperature range is -25 °C to + 85 °C.

For Profibus Interface 16 NAMUR:
The permissible temperature range is -25 °C to + 75 °C.

Profibus Interface 16 NAMUR in Type 17-6583-33*/****

Supply circuit (connections X4.23, X4.24)	U = 20 … 30 V d.c. P = 5.1 W Um = 253 V
PA (connection X4.22)	For the connection to the potential equalisation
Signal circuit, values per circuit (connections X1.1 to X1.8, X1.17 to X1.24, X1.9 to X1.16)	In type of protection [Ex ia] IIC / IIB resp. [Ex iaD] IIIC / IIIB Uo = 12.3 V Io = 31.8 mA Po = 97.8 mW Characteristic line: linear
Maximum permissible external inductance for IIC resp. IIIC	L_o = 31 mH
Maximum permissible external inductance for IIB resp. IIIB	L_o = 115 mH
Maximum permissible external capacitance for IIC resp. IIIC	C_o = 1.28 µF
Maximum permissible external capacitance for IIB resp. IIIB	C_o = 8.1 µF
Interface circuit (connections X4.1, X4.5, X4.2, X4.6, X4.7, X4.9, X4.8, X4.3, X4.4, X4.16, X4.17)	U ≤ 5 V d.c. Um = 253 V
Output circuit (connections X4.19, X4.18, X4.20)	U = 230 V a.c. I = 3 A S =100 VA

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Bus-Interface 4do 8di Type 17-6583-*50*/****

Supply circuit 1 (connections X4.23, X4.24)	U = 20 … 30 V d.c. P = 2.1 W Um = 253 V
PA (connection X4.22)	For the connection to the potential equalisation
Supply circuit 2 (connections X4.19, X4.20)	U = 20 … 30 V d.c. P = 60 W Um = 253 V
Signal circuit 1, values per circuit (connections X1.1 to X1.9 and 8 times “external”)	In type of protection [Ex ia] IIC / IIB resp. [Ex iaD] IIIC / IIIB Uo = 11.8 V Io = 31 mA Po = 90 mW Characteristic line: linear
Maximum permissible external inductance for IIC resp. IIIC	L_o = 34 mH
Maximum permissible external inductance for IIB resp. IIIB	L_o = 130 mH
Maximum permissible external capacitance for IIC resp. IIIC	C_o = 1.5 µF
Maximum permissible external capacitance for IIB resp. IIIB	C_o = 9.9 µF
Effective internal inductance and capacitance	C_i = negligibly small L_i = negligibly small
Signal circuit 2 Output, per channel (connections X1.17 to X1.24)	U = 24 V d.c. I = 0.5 A Um = 253 V
Interface circuit (connections X4.1 to X4.14, X4.16, X4.17)	U ≤ 30 V d.c. Um = 253 V
Indication circuit (connections X2.1 to X2.16)	U ≤ 5 V d.c.

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Bus-Interface 4do 8di Type 17-6583-*51*/****

Supply circuit 1 (connections X4.23, X4.24)	U 20 … 30 V d.c. P = 2.1 W Um = 253 V
PA (connection X4.22)	For the connection to the potential equalisation
Supply circuit 2 (connections X4.19, X4.20)	U 20 … 30 V d.c. P = 6.5 W Um = 253 V
Signal circuit 1, values per circuit (connections X1.1 to X1.16)	In type of protection [Ex ia] IIC / IIB resp. [Ex iaD] IIIC / IIIB Uo = 11.8 V Io = 31 mA Po = 90 mW Characteristic line: linear
Maximum permissible external inductance for IIC resp. IIIC	Lo = 34 mH
Maximum permissible external inductance for IIB resp. IIIB	Lo = 130 mH
Maximum permissible external capacitance for IIC resp. IIIC	Co = 1.5 µF
Maximum permissible external capacitance for IIB resp. IIIB	Co = 9.9 µF
Effective internal inductance and capacitance	Ci = negligibly small Li = negligibly small

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Signal circuit 2, values per circuit (connections X1.17 to X1.24)	In type of protection [Ex ia] IIC / IIB resp. [Ex iaD] IIIC / IIIB Uo = 26.8 V Io = 97 mA Po = 650 mW (linear) Characteristic line: linear
Maximum permissible external inductance for IIC resp. IIIC	Lo = 3.9 mH
Maximum permissible external inductance for IIB resp. IIIB	Lo = 15 mH
Maximum permissible external capacitance for IIC resp. IIIC	Co = 92 nF
Maximum permissible external capacitance for IIB resp. IIIB	Co = 720 nF
Effective internal inductance and capacitance	Ci = negligibly small Li = negligibly small
respectively	In type of protection [Ex ia] IIC / IIB resp. [Ex iaD] IIIC / IIIB Uo = 7.9 V Io = 145 mA Po = 287 mW Characteristic line: linear
Maximum permissible external inductance for IIC resp. IIIC	Lo = 1.9 mH
Maximum permissible external inductance for IIB resp. IIIB	Lo = 8 mH
Maximum permissible external capacitance for IIC resp. IIIC	Co = 8.8 µF
Maximum permissible external capacitance for IIB resp. IIIB	Co = 115 µF

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Effective internal inductance and capacitance	Ci = negligibly small Li = negligibly small
Interface circuit (connections X4.1 to X4.14, X4.16, X4.17)	U ≤ 30 V d.c. Um = 253 V
Indication circuit (connections X2.1 to X2.16)	U ≤ 5 V d.c.