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

Certificate No.: **IECEx TUN 11.0035X**

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Certificate history:
Issue 1 (2017-03-14)
Issue 0 (2011-10-27)

Status: **Current**

Issue No: 2

Date of Issue: 2025-01-30

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

Equipment: **Bus interface 16 digital out Ex i type 17-6583-*10*/**** and 17-6583-*11*/****

Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: [Ex ib Gb] IIB

[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:
(for printed version)

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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 or use of this QR Code.

Certificate issued by:

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

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Certificate No.: **IECEx TUN 11.0035X** Page 2 of 4

Date of issue: 2025-01-30 Issue No: 2

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

Manufacturing locations: **BARTEC GmbH**
Max-Eyth-Str. 16
97980 Bad Mergentheim
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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

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 Reports:

DE/TUN/ExTR11.0035/01 DE/TUN/ExTR11.0035/02

Quality Assessment Report:

DE/TUN/QAR06.0017/15

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

The Bus Interface 16 digital out Ex i type 17-6583-*10*/**** and 17-6583-*11*/**** is used for the safe electrical separation of intrinsically safe output circuits and non-intrinsically safe supply, interface- and indicating circuits, which are located outside of the hazardous explosive area.

The devices include the printed boards without housing and without user terminals and are designed to be mounted in a housing outside the explosive atmosphere.

The non-intrinsically safe circuits are qalvanically connected with intrinsically safe output circuits.

For electrical and technical data see attachment.

SPECIFIC CONDITIONS OF USE: YES as shown below:
The equipment has to be erected in such a way, that a degree of protection of at least IP20 according to IEC 60529 is reached. The installation into enclosure shall be carried out in such a way that the ambient temperature during the use is not exceeded.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
See Attachment to IECEx TUN 11.0035X issue No.2 for details.

Annex:

Attachment IECEx TUN 11.0035X issue Nr. 2.pdf

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Product:

The Bus Interface 16 digital out Ex i type 17-6583-*10*/**** and 17-6583-*11*/**** is used for the safe electrical separation of intrinsically safe output circuits and non-intrinsically safe supply, interface- and indicating circuits, which are located outside of the hazardous explosive area.

The devices include the printed boards without housing and without user terminals and are designed to be mounted in a housing outside the explosive atmosphere.

The non-intrinsically safe circuits are galvanically connected with intrinsically safe output circuits.

Type code:

Type no.	**1**	**7**	**-**	**6**	**5**	**8**	**3**	**-**	*****	**1**	*****	*****	**/**	*****	*****	*****	*****
Code no.	**A**	**B**		**C**	**D**	**E**	**F**		**G**	**H**	**I**	**J**		**K**	**L**	**M**	**N**

Code	***Code for***	***Variations***	***Description***
A, B	Product sector	17	Electronical device
C	Product group	6	Transmitter / Bus module
D	Operating place	5	Location outside the hazardous area, Associated equipment
E	Type of device	8	Euro board / board module
F	Design	3	Bus module / board device
G	Number or letter for characteristics without influence on the explosion protection		
H	Device version	1	16 digital out
I	Indicator for version	0	Output current I_o = 111.6 mA, U_o = 21 V
		1	Output current I_o = 139.2 mA, U_o = 21 V
J - N	Number or letter for characteristics without influence on the explosion protection		

Thermal Data:
Ambient temperature range: -25 °C ≤ T_a ≤ +85 °C

Electrical data:

Supply circuit 1
(Connection X4.23 (L-; 0V),
X4.24 (L+; 24V)

Only for the connection to a non-intrinsically safe circuit with following maximum values:

U = 20 to 30 VDC, ca 2.5 W
U_m = 253 V

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Supply circuit 2 (Connection X4.19 (U-; 0V), X4.20 (U2+; 24V))	Only for the connection to a non-intrinsically safe circuit with following maximum values: U = 20 to 30 VDC, ca 15 W U_m = 253 V
PA (Connection X4.19, X4.21, X4.22, X1.17 to X1.24)	For connection to the potential equalization
Interface circuit (Connection X4.1 (B) and X4.2 (A) or X4.5 (B) and X4.6 (A) or X4.8 (B) and X4.9 (A))	Only for the connection to a non-intrinsically safe circuit with following maximum values: U ≤ 30 VDC U_m = 253 V

The shield of the bus line is connected to X4.3 and X4.4.

Output signal circuit (for type 17-6583-***10***/****) (connections X1.1 up to X1.16)	In type of protection intrinsic safety Ex ib IIC resp. IIB resp. IIIC with following maximum values per circuit: U_o = 21 V I_o = 111.6 mA P_o = 586 mW Characteristic line: linear

The maximum permissible values for the external capacitance C_o and the inductance L_o are listed in the following table and only apply for the single occurrence of the capacitance C_o or the inductance L_o:

	Ex ib IIC		**Ex ib IIB Ex ib IIIC**
L_o [mH]	3.2	L_o [mH]	12
C_o [nF]	188	C_o [µF]	1.27

For the simultaneous occurrence of external C_o and inductance L_o, the maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ib IIC	L_o [mH]	2.1	1.0	0.5	0.2	0.1	0.05	
	C_o [nF]	93	96	110	150	180	188	
Ex ib IIB Ex ib IIIC	L_o [mH]	12	10	5	0.5	0.2	0.1	0.05
	C_o [µF]	0.54	0.62	0.71	0.75	0.91	1.1	1.27

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Output signal circuit
(for type 17-6583-***11***/****)
(connections X1.1 up to X1.16)

In type of protection intrinsic safety Ex ib IIC resp. IIB resp. IIIC with following maximum values per circuit:

U_o = 21 V
I_o = 139.2 mA
P_o = 731 mW
Characteristic line: linear

The maximum permissible values for the external capacitance C_o and the inductance L_o are listed in the following table and only apply for the single occurrence of the capacitance C_o or the inductance L_o:

	Ex ib IIC		**Ex ib IIB Ex ib IIIC**
L_o [mH]	1.8	L_o [mH]	8
C_o [nF]	188	C_o [µF]	1.27

For the simultaneous occurrence of external C_o and inductance L_o, the maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ib IIC	L_o [mH]	1.2	1.0	0.5	0.2	0.1	0.05
	C_o [nF]	83	86	100	140	170	188
Ex ib IIB Ex ib IIIC	L_o [mH]	7.4	5.0	0.5	0.2	0.1	0.05
	C_o [µF]	0.63	0.68	0.73	0.9	1.1	1.27

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Details of Change:

– Proof of conformity of the Bus Interface 16 digital out Ex i type 17-6583-*10*/**** and 17-6583-*11*/**** to the current version of the IEC standard IEC 60079-0:2017. The conformity to the IEC 60079-11:2011 has been already proofed in the previous issue 01. Additionally the marking, the type code and the electrical parameters have been adjusted.

<table>
<tr><th>IECEx TUN 11.0035X Issue No: 1</th><th>IECEx TUN 11.0035X Issue No: 2</th></tr>
<tr><td>[Ex ib Gb] IIC/IIB
[Ex ib Db] IIIC/IIIB</td><td>[Ex ib Gb] IIC
[Ex ib Gb] IIB
[Ex ib Db] IIIC</td></tr>
<tr><td>
Type no. 17 - 6 5 8 3 - * 1 * * / * * * *
Code no. A B C D E F G H I J K L M
<table>
<tr><th>Code</th><th>Code for:</th><th>Variation:</th><th>Description</th></tr>
<tr><td>A</td><td>Product sector</td><td>17</td><td>Electronical device</td></tr>
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<tr><td>C</td><td>Operating place</td><td>5</td><td>Location outside the hazardous area, Associated equipment</td></tr>
<tr><td>D</td><td>Type of device</td><td>8</td><td>Euro board / board module</td></tr>
<tr><td>E</td><td>Design</td><td>3</td><td>Bus module / board device</td></tr>
<tr><td>G</td><td>Device version</td><td>1</td><td>16 digital out</td></tr>
<tr><td>H</td><td>Indicator for version</td><td>0
1</td><td>Output current I_o = 111,6 mA, U_o = 21 V
Output current I_o = 139,2 mA, U_o = 21 V</td></tr>
<tr><td>F
I - M</td><td>Number and letter for characteristics without influence to the explosion protection</td><td>-</td><td>-</td></tr>
</table>
</td><td>
Type no. 1 7 - 6 5 8 3 - * 1 * * / * * * *
Code no. A B C D E F G H I J K L M N
<table>
<tr><th>Code</th><th>Code for</th><th>Variations</th><th>Description</th></tr>
<tr><td>A, B</td><td>Product sector</td><td>17</td><td>Electronical device</td></tr>
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<tr><td>J - N</td><td colspan="3">Number or letter for characteristics without influence on the explosion protection</td></tr>
</table>
</td></tr>
<tr><td>Supply circuit 1 and 2
U_N = 24 VDC (max. 30 VDC)</td><td>Supply circuit 1 and 2
U = 20 to 30 VDC</td></tr>
</table>

Special Conditions for Safe Use:

The equipment has to be erected in such a way, that a degree of protection of at least IP20 according to IEC 60529 is reached. The installation into enclosure shall be carried out in such a way that the ambient temperature during the use is not exceeded.