



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 IBE 21.0004X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2021-02-12

Applicant: **BARTEC GmbH**
Max Eyth Straße 16
97980 Bad Mergentheim
Germany

Equipment: **Visual Unit POLARIS II Type: 17-72V*-****/******

Optional accessory: Smart Device, B7-72VZ-A0**/****, USB Barriere Exi, B7-72VZ-D0**/****

Type of Protection: **intrinsic safety "i" in combination with increased safety "e" or protection by enclosure "t"**

Marking: Visual Unit 17-72V*-****/****

Ex ec ib [ib IIC or IIB Gb] IIC T4 Gc
Ex ec ib IIC T4 Gc
Ex ib tb [ib IIC or IIB Gb] IIIC T120 °C Db

-25 °C ≤ T_{amb} ≤ +50 °C

accessories:

Type Smart Device, B7-72VZ-A0**/****

Ex ec IIC T4 Gc
Ex tc IIIC T120 °C Dc

-25 °C ≤ T_{amb} ≤ +50 °C

Type USB Barriere Exi, B7-72VZ-D0**/****

Ex ec [ib IIC or IIB Gb] IIC T4 Gc
[Ex ib IIC or IIB]
[Ex ib IIIC]

-25 °C ≤ T_{amb} ≤ +50 °C

Approved for issue on behalf of the IECEx
Certification Body:

Alexander Henker

Position:

Deputy Head of department Certification Body

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 www.iecex.com or use of this QR Code.



Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg
Germany





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Manufacturer: **BARTEC GmbH**
Max Eyth Straße 16
97980 Bad Mergentheim
Germany

Additional
manufacturing
locations:

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

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 Report:

[DE/IBE/ExTR21.0004/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0017/12](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The visual unit POLARIS II is a panel PC intended for the use of random software application in potentially explosive atmospheres of Zone 2, 21 and 22. The device may also be used as remote computer. It is provided in several sizes.

The visual unit POLARIS II consists of a housing made of stainless steel with a cemented glass, LCD display and further electronic components. Optionally, the device is equipped with a touch panel. It is operated by means of keyboard with trackball or touchpad. For the connection of accessories, the terminal provides four intrinsically safe ports. The intrinsically safe accessories of BARTEC, e.g. USB-Sticks 17-A1Z0-0007, 17-71VZ-5100/**** and keyboard, mouse, Trackball, 17-71VZ-****/****, can be connected at these ports, optionally.

Additional separately certified and suitable components may be assembled in the wall of enclosure if they meet degree of protection of at least IP6X.

The technical data are mentioned in the Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- High charging processes at the surface of the keyboard and the touch panel have to be excluded.
- The intrinsically safe circuits and the enclosure are galvanically connected. In the whole course of the formation of intrinsically safe circuits equipotential bonding must be guaranteed.
- The intrinsically safe parameter are mentioned in the instructions.
- The USB Barriere Exi, B7-72VZ-D0**/**** may be used as associated apparatus also in Zone 2 when it is assembled in a suitable and separately certified enclosure. This enclosure has to fulfil the requirements of standard IEC 60079-7 or another recognized type of protection.
- The Smart Device, B7-72VZ-A0**/**** may be installed separately in Zone 2 when it is assembled in a suitable and separately certified enclosure. This enclosure has to fulfil the requirements of standard IEC 60079-7 or another recognized type of protection.

Annex:

[Annex_IBE21.0004X.pdf](#)



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Technical data:

Ambient temperature range: T_{amb} -25 °C ... +50 °C

Visual unit

POLARIS II

Supply circuit U_n +24V DC \pm 10 %, max. 120 W (Type 17-72Vx-x2xx/xxxx)
+110 V AC...230 V AC, max. 90 W
(Type 17-72Vx-x1xx/xxxx)

Intrinsically safe USB Ex-i interface:

maximum voltage	U_m	253 V AC
maximum output voltage	U_o	5.88 V DC
maximum output current	$I_{o\ max}$	1786 mA
steady output current	I	380.8 mA
maximum output power	P_o^*	1519 mW (* consideration for thermal ignition)
characteristic		rectangular
max. external capacitance	C_o	< 43 μ F (L = 0.9 μ H); applies for ib and IIC < 670 μ F (L = 0.9 μ H); applies for ic and IIC
max. external inductance	L_o	< 20.889 μ H (C_o = 2.4 μ F); applies for ib and IIC < 31.889 μ H (C_o = 3.6 μ F); applies for ic and IIC
max. internal inductance	L_i	0.111 μ H
max. internal capacitance	C_i	negligible

Intrinsically safe USB Ex-i for mouse and keyboard:

maximum voltage	U_m	253 V AC
maximum output voltage	U_o	5.88 V DC
maximum output current	$I_{o\ max}$	1277 mA
steady output current	I	317.9 mA
maximum output power	P_o^*	1341 mW (* consideration for thermal ignition)
characteristic		rectangular
max. external capacitance	C_o	< 43 μ F (L = 0.9 μ H); applies for ib and IIC < 670 μ F (L = 0.9 μ H); applies for ic and IIC
max. external inductance	L_o	< 35.889 μ H (C_o = 2.0 μ F); applies for ib and IIC < 55.889 μ H (C_o = 2.8 μ F); applies for ic and IIC
max. internal inductance	L_i	0.111 μ H
max. internal capacitance	C_i	negligible



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Intrinsically safe USB Ex-i for Stick:

maximum voltage	U_m	253 V AC
maximum output voltage	U_o	5.88 V DC
maximum output current	$I_{o\ max}$	2866 mA
steady output current	I	482.8 mA
maximum output power	P_o^*	1934 mW (* consideration for thermal ignition)
characteristic		rectangular
max. external capacitance	C_o	< 43 μ F (L = 0.1 μ H); applies for ib and IIC < 670 μ F (L = 0.9 μ H); applies for ic and IIC
max. external inductance	L_o	< 9.789 μ H (C_o = 3.4 μ F); applies for ib and IIC < 14.889 μ H (C_o = 4.9 μ F); applies for ic and IIC
max. internal inductance	L_i	0.111 μ H
max. internal capacitance	C_i	negligible

Smart Device, B7-72VZ-A0/******

Supply circuit	U_n	+5 V DC (USB standard)
	I_{max}	500 mA
	P_{max}	1.25 W
Output		Bluetooth or wireless network