



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 24.0004X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2025-01-06

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

Equipment: **POLARIS Smart HMI Type: 17-71V*-****/******

Optional accessory: type 17-71VZ-****/**** ****

Type of Protection: **Powder filling "q"; Increased safety "e"; Intrinsic safety "i"; Encapsulation "m"; Protection by enclosure "t"**

Marking: POLARIS Smart HMI: Type 17-71V9-****/**** ****

Ex eb q [ib] IIC T4 Gb
Ex tb IIIC T120 °C Db
-20 °C ≤ T_{amb} ≤ +60 °C

Smart AC Power Supply Type 17-71VY-E0**/****

Ex eb mb IIC T4 Gb
Ex mb tb IIIC T120 °C Db
-20 °C ≤ T_{amb} ≤ +60 °C

Approved for issue on behalf of the IECEx
Certification Body:

Kai Willamowski

Position:

Head of department Certification Body

Signature:
(for printed version)

Date:
(for printed version)

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.
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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

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 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

[IEC 60079-31:2022](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

[IEC 60079-5:2015](#) Explosive atmospheres –Part 5: Equipment protection by powder filling "q"
Edition:4.0

[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 Reports:

[DE/IBE/ExTR24.0004/00](#)

[DE/IBE/ExTR24.0036/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0017/15](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The POLARIS Smart HMI is a panel PC for use in potentially explosive atmospheres and it serves for visualisation and operation via a screen. It is operated via the built-in touch display. The device includes connection options for USB and Ethernet. Here, the accessories type 17-71VZ-****/***** may be connected.

The devices are provided in various dimensions. It consist of metal housings filled with glass spheres, a safety glass pane and contain the display with touch, power supplies, CPU, storage medium as well as electronic control units and associated equipment.

The POLARIS Smart HMI can be supplied by means of Smart AC Power Supply or directly with 24 V DC.

The Smart Power Supply is a power supply unit consisting of the encapsulated electronic part and a connection compartment with increased safety.

The technical data are mentioned in Annex to this certificate.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The intrinsically safe circuits and the enclosure are galvanically connected. Equipotential bonding shall be maintained in the intrinsically safe circuit.
- The devices have to installed protected against electrostatic charges. Cleaning is permitted only with a damp cloth. Further information are mentioned in the instructions.
- The specific conditions of use of accessories have to be met. The USB flash drive (Stick) type 17-A1Z0-0007 may only be operated in an ambient temperature range between -20 °C and +50 °C.

Annex:

[Annex_IBE24.0004X.pdf](#)



IECEX Certificate of Conformity - Annex



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Technical data:

Type designation:	POLARIS SMART HMI Type 17-71V9-****/*****	Smart AC Power Supply Type 17-71VY-E0**/*****
ambient temperature range:	-20 °C ... +60 °C	-20 °C ... +60 °C
degree of protection of enclosure:	≥ IP64	≥ IP64

Electrical data

POLARIS SMART HMI

Supply voltage (terminals X1...X3)

Rated voltage 24 V DC
Nominal current Max. 3 A

Maximum Voltage U_m 253 V

Ethernet (10/100 Base T), (terminals X4...X7) up to 5 V AC/DC

USB (terminals X8...X15) up to 5.5 V AC/DC

Intrinsically safe data- and supply circuits in type of protection Ex ib IIC

USB1 Ex-i and USB2 Ex-i

U_o	5.89 V
I_o	2.845 A
$I_{stationary}$	483 mA
P_o^*	1.94 W
C_o	40 μ F
L_o	5 μ H

* consideration for thermal ignition

Linear characteristic

Polaris Smart AC Power Supply

- supply voltage 100...240 V AC
- output voltage 12 V or 24 V DC
- output power 100 W



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Type designation:

The visualization device POLARIS Smart HMI 17-71V9-****/**** **** is a combination of the POLARIS Smart Monitor 17-71V7-****/**** **** and the POLARIS Smart electrical unit 17-71V8-****/**** ****. The POLARIS Smart Monitor is available in various display sizes and with a resistive or capacitive touch display. The POLARIS Smart electronic units differ only in the processor type and the mainboard version.

The device can optionally be powered by the Smart AC Power Supply type 17-71VY-E01*/****. It has an output of 100 W and the output voltage is 12 V DC or 24 V DC.

Intrinsically safe accessories type 17-71VZ-****/**** can also be connected to the visualization device, which were assessed as part of the predecessor device. These are input devices such as a keyboard or mouse or storage media (USB, type 17-A1Z0-0007).