



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 PTB 11.0061 issue No.:0 Certificate history: _____

Status: **Current**

Date of Issue: **2012-02-23** Page 1 of 3

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

Electrical Apparatus: **Remote I/O-Module ANTARES 4AIO type 17-6143-1006/00**, 17-6143-1006/01**, 4AIOH type 17-6143-1007/00**, 17-6143-1007/01****
Optional accessory:

Type of Protection: **Equipment for explosive atmospheres - General Requirements, Intrinsic Safety, Electrical apparatus for use in the presence of combustible dust - General Requirements, Intrinsic Safety**

Marking: Ex ib [ia Ga] IIC/IIB T4 Gb resp.
Ex ib [ia IIC/IIB Ga] IIC T4 Gb
[Ex ia Da] IIIC

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

Dr.-Ing. Ulrich Johannsmeyer

Position:

Department Head "Intrinsic Safety and Safety of Systems"

*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](http://www.iecex.com).

Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany





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Manufacturer: **BARTEC GmbH**
Max-Eyth-Straße 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 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence 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/PTB/ExTR11.0067/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0017/03](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Remote I/O Module ANTARES 4AIO type 17-6143-1006/00** and ANTARES 4AIOH type 17-6143-1007/00** serves to supply power and acquire data for 8 intrinsically safe transmitters in a 2-, 3- or 4-wire circuit or alternative analog actuators and control elements and it is operated as a piece of zone 1 operating equipment in explosive gas atmospheres or as associated apparatus for the dust hazardous area outside the dust hazardous area. The Remote I/O Module is designed for attachment onto a metal DIN mounting rail and through this it is electrostatically connected to the local equipotential bonding. The electronic unit (Remote I/O Module without lower enclosure part) 17-6143-1006/01** or type 17-6143-1007/01** and the lower enclosure part can be either separated from each other or connected to each other during the operation of the Remote I/O Module.
For further information see annex.

CONDITIONS OF CERTIFICATION: NO



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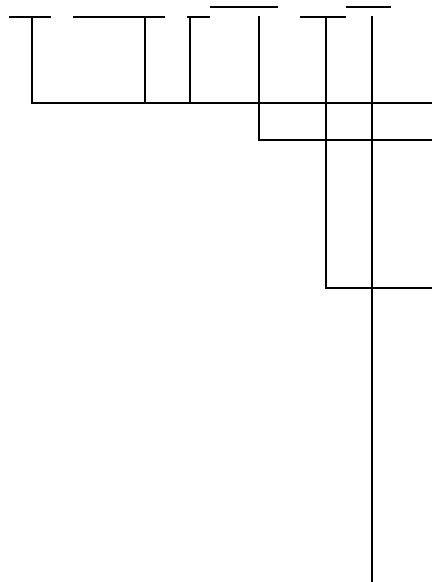
Electrical Apparatus: Remote- I/O Module ANTARES 4AIO type 17-6143-1006/00** and ANTARES 4AIOH type 17-6143-1007/00**

The Remote I/O Module ANTARES 4AIO type 17-6143-1006/00** and ANTARES 4AIOH type 17-6143-1007/00** serves to supply power and acquire data for 8 intrinsically safe transmitters in a 2-, 3- or 4-wire circuit or alternative analog actuators and control elements and it is operated as a piece of zone 1 operating equipment in explosive gas atmospheres or as associated apparatus for the dust hazardous area outside the dust hazardous area.

The Remote I/O Module is designed for attachment onto a metal DIN mounting rail and through this it is electrostatically connected to the local equipotential bonding. The electronic unit (Remote I/O Module without lower enclosure part) 17-6143-1006/01** or type 17-6143-1007/01** and the lower enclosure part can be either separated from each other or connected to each other during the operation of the Remote I/O Module.

Type code

17 - 6143 - 1 * * * / * * * *



explosion-proof Remote I/O Module ANTARES

006 = 4AIO (4-channel. analog. input/output)

007 = 4AIOH (4-channel, analog, input/output, HART)

Identification for variant

00 = Degree of protection at least IP30.

Lower enclosure part with integrated functional earth contact, metal base latch for standard mounting rail

01 = Degree of protection IP00 (without lower enclosure

Numbers and/or letters for features

that are not relevant for explosion protection

Permissible ambient temperature range T_a: -20 °C to +60 °C



Electrical Data

Supply and signal circuit
(10+2 pole plug connectors)

ANTARES 4AIO type 17-6143-1006/** and ANTARES 4AIOH type 17-6143-1007/******

Type of protection Intrinsic Safety Ex ib IIC
Only for connection to the corresponding 10+2
pole plug connectors in Rail Control Unit
(RCU) ANTARES or the Remote I/O System
ANTARES or the Remote I/O System
ANTARES type 17-5184-****, each with acces-
sory parts (IECEX PTB 11.0051 X) and other
Remote I/O Modules ANTARES with a sepa-
rate certificate.

Equipotential bonding

Through the mounting rail connected to the
local equipotential bonding conductor

Supply and output circuits
(terminal points 1P+ and 1P-; 1S+ and 1S-;
2P+ and 2P-; 2S+ and 2S-; 3P+ and 3P-;
3S+ and 3S-; 4P+ and 4P-; 4S+ and 4S-)

ANTARES 4AIO type 17-6143-1006/** and ANTARES 4AIOH type 17-6143-1007/******

Type of protection Intrinsic Safety Ex ia IIC/ IIB

Maximum values per circuit:

$$U_o = 27.5 \text{ V}$$

$$8 \times I_o = 87 \text{ mA}$$

$$8 \times P_o = 598 \text{ mW}$$

linear characteristic

effective internal capacitance: 6 nF

effective internal inductance: negligible

$$\text{Ex ia IIC: } C_o = 79 \text{ nF, } L_o = 0.2 \text{ mH or}$$

$$C_o = 37 \text{ nF, } L_o = 1.7 \text{ mH}$$

$$\text{Ex ia IIB: } C_o = 666 \text{ nF, } L_o = 0.1 \text{ mH or}$$

$$C_o = 264 \text{ nF, } L_o = 16 \text{ mH}$$

(The effective internal capacitance is taken into
account in the C_o specification)

Rated data: DC 24 V, 8 x 20 mA,
up to about 8 x 0.5 W

The supply and signal circuit is galvanically isolated from the supply and output circuits.