



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 11.0054 issue No.:0 Certificate history:

Status: Current

Date of Issue: 2012-01-25 Page 1 of 3

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

Electrical Apparatus: Remote I/O-Module ANTARES 8DO type 17-6143-1001/00**, 17-6143-1001/01**, 8DO SCL
type 17-6143-1010/00**, 17-6143-1010/01**
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:

2012-02-13

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/ExTR11.0063/00](#)

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 8DO type 17-6143-1001/00** and ANTARES 8DO SCL type 17-6143-1010/00** serves to supply power to intrinsically safe control elements and actuators and it is operated as a piece of Zone 1 operating equipment in explosive gas atmospheres or as associated apparatus for explosive dust areas to be installed outside the explosive dust areas. 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) type 17-6143-1001/01** or type 17-6143-1010/01** 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 details see annex.

CONDITIONS OF CERTIFICATION: NO

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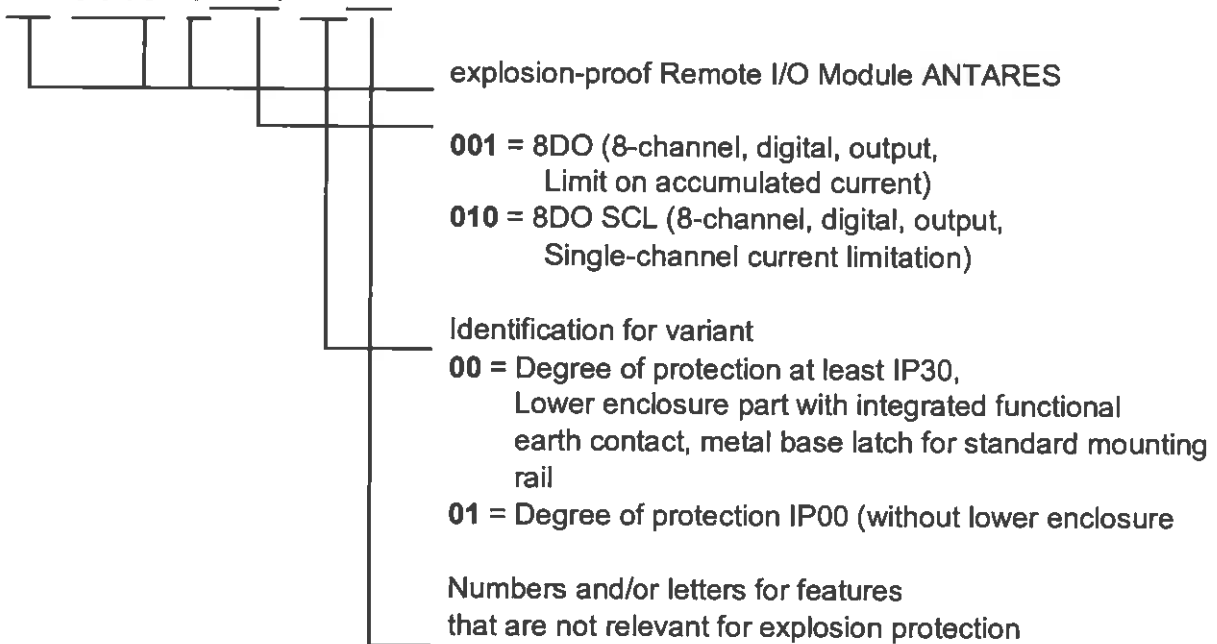
Electrical Apparatus: Remote I/O Module ANTARES 8DO Type 17-6143-1001/00** and ANTARES 8DO SCL Type 17-6143-1010/00**

The Remote I/O Module ANTARES 8DO type 17-6143-1001/00** and ANTARES 8DO SCL type 17-6143-1010/00** serves to supply power to intrinsically safe control elements and actuators and it is operated as a piece of Zone 1 operating equipment in explosive gas atmospheres or as associated apparatus for explosive dust areas outside the explosive dust areas.

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) type 17-6143-1001/01** or type 17-6143-1010/01** 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 - 6 1 4 3 - 1 * * * / * * * *



Permissible ambient temperature range T_a : -20 °C to +60 °C (+50 °C).

At an ambient temperature of +60°C the Remote I/O Module ANTARES 8DO / 8DO SCL will be used together with spacer module, order no. 05-0078-0106, while at an ambient temperature of +50°C this spacer module, order no. 05-0078-0106, is not applicable.

This Remote I/O Module ANTARES 8DO / 8DO SCL that is positioned between a Remote I/O Module or a RCU ANTARES and a Remote I/O Module, needs on both sides a spacer

module. In case this Remote I/O Module ANTARES 8DO / 8DO SCL is positioned at the rail -begin / -end one spacer module is required at right / left side.

Electrical Data

ANTARES 8DO type 17-6143-1001/** and ANTARES 8DO SCL type 17-6143-1010/******

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

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 accessory parts (IECEX
PTB 11.0051X) and other Remote I/O Modules
ANTARES with a separate certificate.

Equipotential bonding

Through the mounting rail connected to the local
equipotential bonding conductor

ANTARES 8DO type 17-6143-1001/** and ANTARES 8DO SCL type 17-6143-1010/******

Supply and output circuits
(terminal points 1+ and 1-; 2+ and 2-; 3+
and 3-; 4+ and 4-; 5+ and 5-; 6+ and 6-;
7+ and 7-; 8+ and 8-)

Type of protection Intrinsic Safety Ex ia IIC/ IIB

Maximum values per circuit:

$$U_o = 27.5 \text{ V}$$
$$I_o = 104 \text{ mA}$$
$$P_o = 715 \text{ mW}$$

linear characteristic

effective internal capacitance: 6 nF
effective internal inductance: negligible

Ex ia IIC: $C_o = 80 \text{ nF}$, $L_o = 0.2 \text{ mH}$ or
 $C_o = 60 \text{ nF}$, $L_o = 0.53 \text{ mH}$

Ex ia IIB: $C_o = 666 \text{ nF}$, $L_o = 0.1 \text{ mH}$ or
 $C_o = 244 \text{ nF}$, $L_o = 11 \text{ mH}$

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

Rated data: DC 24 V, 8 x 20 mA (individually
limited in the 8DO SCL, total current 160 mA
limited in 8DO), up to about 8 x 0.5 W

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