Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 03 ATEX 1024

(4) Equipment: Switchgear and control assembly, type 07-43.0-0.../....

(5) Manufacturer: BARTEC GmbH

(6) Address: Max-Eyth-Str. 16, 97980 Bad Mergentheim, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 03-13040.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 + A1 + A2 **EN 50018:2000** **EN 50019:2000** **EN 50020:1994**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex II 2 G EEx de ia/ib [ia/ib] IIA, IIB or IIC T6, T5 or T4

Zertifizierungsstelle Explosionsschutz — Braunschweig, July 10, 2003

By order:

Dr.-Ing. M. Thedens

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 24

(13) # S C H E D U L E

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1024

(15) Description of equipment

The switchgear and control assembly, type 07-43.0-0.../...., is designed to type of protection Flameproof Enclosure and is made from sheet metal, cast aluminium or a CuNi alloy. It may be optionally fitted with actuator shafts and/or inspection windows.

Connection is by means of direct cable entry as verified by a separate examination certificate or terminal boxes of Increased Safety.

Electrical data

Rated voltage	up to	275 V	750 V	10 kV
Cable cross section	max.		300 mm²	

Where required, operators designed to type of protection Intrinsic Safety "i" as verified by a separate examination certificate may be installed.

Rated values are maximum values, the actual electrical values are determined by mounted electrical apparatus. Within these limiting values complying with the appropriate standards the manufacturer specifies the final limiting values dependent on power supply specifications, operating mode, utilization category, etc. It will be the manufacturer's responsibility to specify the characteristic values of the intrinsically safe circuits. For further technical particulars, reference is made to the test documents.

The composition of the protection symbol will be based on the types of protection of components actually used.

(16) Test report PTB Ex 03-13040

(17) Special conditions for safe use

None

Notes for installation and use

The switchgear and control assembly may also be connected by means of suitable cable entries or conduit systems, which meet the requirements of EN 50018, sections 13.1 and 13.2, and for which a separate examination certificate has been issued.

Any openings that are not used shall be closed as specified in EN 50018, section 11.

Operators designed to type of protection Intrinsic Safety "i" shall be installed in such a way that the clearance and creepage distances that are required according to EN 50020 between intrinsically safe and non-intrinsically safe circuits are duly considered.

If the distances required according to EN 50020, section 6.3 are not met, terminals and lines of quality Increased Safety "e" are to be used also for the instrinsically safe circuits.

When connecting more than one intrinsically safe circuit, the rules and regulations for interconnection shall duly be observed.

This EC type-examination certificate as well as any future supplements thereto shall at the same time be regarded as supplements for Certificate of Conformity PTB No. Ex- 86/1111.

(18) Essential health and safety requirements

Met by compliance with the above mentioned Standards.

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. M. Thedens

Braunschweig, July 10, 2003

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1st S U P P L E M E N T

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1024

(Translation)

Equipment: Switchgear and control assembly, type 07-43*0-0***/****

Marking: Ⓔx **II 2 G EEx de ia/ib [ia/ib] IIA, IIB and IIC T6, T5 or T4**

Manufacturer: BARTEC GmbH

Address: Max-Eyth-Straße 16, 97980 Bad Mergentheim, Germany

Description of supplements and modifications

The switchgear and control assembly, type 07-43*0-0***/**** , of Flameproof Enclosure type of protection, is modified with the following additions:

1) The switchgear and control assembly has been re-examined on the basis of standards EN 60079-0:2006, EN 60079-1:2007, EN 60079-7:2007, EN 60079-11:2007, EN 61241-0:2006, EN 61241-1:2004 and EN 61241-11:2006.
2) If the switchgear and control assembly is provided with seals, it can be used in potentially hazardous dust atmospheres.
3) The switchgear and control assembly, type 07-43*0-0***/****, may be equipped with protection box heaters to prevent condensation or when used at temperatures below -20 °C. Ambient temperatures between less than -20 °C to -55 °C are accepted only in connection with a protection box heater.
4) When temperature class T4 components of Intrinsic Safety type of protection are used, the entire control unit has to be marked accordingly.
5) With a reduced dissipation, the switchgear and control assembly can be used up to an ambient temperature of +55 °C.
6) The marking will now be:

Ⓔx **II 2 G Ex de ia/ib [ib] IIA, IIB, IIC T6, T5 or T4**

Ⓔx **II 2 D Ex tD [iaD/ibD] A21 IP 66 T 80 °C, T 95 °C or T 130°C**

ZSEx10101e.dot

1st SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1024

Technical data:

Rated voltage up to.....10 kV (Ex-e)*
Rated current.....max. 630 A
Conductor size.....max. 300 mm²

* The rated voltages for Ex-d enclosures are determined by the installed components and the minimum clearances and creepage distances specified in the relevant standards (e.g. EN 60664-1) for the specific voltages.

Rated values are maximum values, the actual electrical values are determined by mounted electrical apparatus. Within these limiting values complying with the appropriate standards the manufacturer specifies the final limiting values dependent on power supply specifications, operating mode, utilisation category, etc. It will be the manufacturer's responsibility to specify the characteristic values of the intrinsically safe circuits.

If required, equipment designed to Intrinsic Safety "i" type of protection with a separate examination certificate will be installed.

The composition of the protection symbol depends on the types of protection of the components actually used.

Enclosure type	Dissipation		
	T_{amp} up to 40 °C		T_{amp} up to 55 °C
	T5	T6	T5
07-4311-0.6./...., 07-4311-0.5./....	120 W	80 W	80 W
07-4321-0.6./...., 07-4321-0.5./....	210 W	150 W	150 W
07-4341-0.6./...., 07-4341-0.5./....	280 W	210 W	210 W
07-4351-0.6./...., 07-4351-0.5./....	420 W	300 W	300 W
07-4371-0.6./....	575 W	400 W	400 W
07-4361-0.7./....	975 W	700 W	700 W
07-4381-0.7./....	1350 W	975 W	975 W

Ambient temperatures:..... -20 °C to +55 °C, gas group IIC
..... -55 °C to +55 °C, gas group IIB
Ambient temperature <-20 °C: ..... only with protection box heater in gas group IIC
Ambient temperature +55 °C: ..... only with reduced dissipation

Protection for potentially explosive gas atmospheres.....IP54 in accordance with EN 60529
Protection for potentially explosive dust atmospheres.....IP66 in accordance with EN 60529

Notes for manufacturing and operation

The lengths of flameproof joint must not remain below the specified minimum lengths. The operating instructions for the enclosure must be followed.

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Applied standards

EN 60079-0:2006, EN 60079-1:2007, EN 60079-7:2007, EN 60079-11:2007, EN 61241-0:2006, EN 61241-1:2004, EN 61241-11:2006

Assessment and test report: PTB Ex 10-10080

Zertifizierungssektor Explosionsschutz
By order:

Braunschweig, July 2, 2010

Dr.-Ing. M. Thedens
Oberregierungsrat