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 1221 X

(4) Equipment: Heater, type 27-2...-7...-..../....

(5) Manufacturer: BARTEC GmbH

(6) Address: Max-Eyth-Straße 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 04-13411.

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

EN 50014:1997+A1+A2 **EN 50018:2000** **EN 50281-1-1:1998**

(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:

II 2 G EEx d IIC T4 or T3
II 2 D IP 65 T135°C or T200°C

Zertifizierungsstelle Explosionsschutz
By order:

Dipl.-Phys. U. Volker

Braunschweig, June 08, 2004

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1221 X

(15) Description of equipment

The heater, type 27-2...-7...-..../...., is used in zone 1 for direct heating (e.g. of valves) and for indirect heating of switch and control boxes by convection. It may be used in areas in which potentially explosive atmospheres as a mixture of gas and air or dust and air can occasionally occur.

Technical data

Rated voltage	max. 250 V
Admissible operating voltage	max. 265 V
Rated current	max. 1 A
Ambient temperature range	-50 ... +60 °C
Operating temperatures (rated service)	-50 ... +180 °C
Mounting position	optional (ribs vertical)

(16) Test report PTB Ex 04-13411

(17) Special conditions for safe use

1. The heater may only be installed and operated in enclosures whose absolute coefficient of heat transmission is not smaller (not better) than 0.5 W/K.
2. The connecting lead shall be installed to provide for permanent wiring and adequate protection against mechanical damage.
3. If connection is in the potentially explosive area, the connecting lead shall be connected by means of an enclosure that meets the requirements of a type of protection specified in EN 50014, section 1.2.
4. Installation shall be made such that due regard is given to the maximum permissible temperatures of adjacent components, the minimum clearance as well as the mounting position (if specified).
5. The instructions shall accompany each heater in a suitable form.

(18) Essential health and safety requirements

Met by compliance with the standards mentioned above.

Zertifizierungsstelle Explosionsschutz
By order:
Dipl.-Phys. U. Volk

Braunschweig, June 08, 2004

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 1221 X

(Translation)

Equipment: Heater, type 27-2...-7...-...HS./.....

Marking: **II 2G Ex d or dm IIC T4, T3**

II 2D Ex tD or tDmD A21 IP65 T135°C, T200°C

Manufacturer: BARTEC GmbH

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

Description of supplements and modifications

1. Technical data
   Rated current max. 10 A
2. Optional thermostats
   External thermostats with a separate EC-Type-Examination Certificate, which meet the requirements set forth in the specified standards, may optionally be used.
3. Certification in accordance with EN 60079-0 et seq. and EN 61241-0 et seq.
   With this supplement, the heater is certified with a view to the series of standards EN 60079-0 et seq. and EN 61241-0 et seq.

Applied standards

EN 60079-0:2006	**EN 60079-1:2004**	**EN 60079-18:2004**
EN 61241-0:2006	**EN 61241-1:2004**	**EN 61241-18:2004**

Assessment and Test Report: PTB Ex 10-19278

Special conditions for safe use

The instructions for installation / the Special Conditions for Safe Use in the relevant EC-Type-Examination Certificate (heater and possibly thermostats) must be followed.

Zertifizierungssektor Explosionsschutz
By order:

Dr.-Ing. U. Klausmeyer
Direktor und Professor

Braunschweig, April 29, 2010

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Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

2nd 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 1221 X

(Translation)

Equipment:	Heater HS., type 27-2...-7...-..../.....
Marking:	⟨Ex⟩ **II 2G Ex d resp. dm IIC T4, T3** ⟨Ex⟩ **II 2D Ex tD resp. tDmD A21 IP65 T135°C, T200°C**
Manufacturer:	BARTEC GmbH
Address:	Max-Eyth-Straße 16, 97980 Bad Mergentheim, Germany

Description of supplements and modifications

- Extension of temperature ranges

Ambient temperatures:	-60 °C to +60 °C
Working temperatures (operation at rating)	-60 °C to +180 °C

1. Extension of the temperature classes

   The heater is, in addition, also manufactured for use in temperature classes T5 and T6.

2. Cable gland screw locking element

   The screw locking element for the cable gland is no longer required.

3. Certification in compliance with the latest version of standards

   With this supplement, the heater is certified with reference to the below mentioned standards.

4. Adaptation of marking

   The marking for the equipment and the documentation is adapted as required.

   ⟨Ex⟩ **II 2 G Ex db IIC T6, T5, T4, T3**

   ⟨Ex⟩ **II 2 D Ex tb IIIC T85 °C, T100 °C, T135 °C, T200 °C**

   Degree of protection: IP68

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Physikalisch-Technische Bundesanstalt

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2nd SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1221 X

Special conditions for safe use

1. External thermostats with a separate EC-Type Examination Certificate that meet the requirements set forth in the applied standards may optionally be used.
1. Regarding connection cable: The operating instructions shall inform the user of any special conditions for installation and operation, and the user shall comply with these conditions.
2. For use in explosive dust atmospheres, the relevant requirements of EN 60079-14, EN 60079-17 and EN 60079-19 shall be complied with.

Applied standards

EN 60079-0:2012, EN 60079-1:2007, EN 60079-31:2009

Test report: PTB Ex 14-13041

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, March 21, 2014

Dr.-Ing. U. Klausmeyer
Direktor und Professor