



(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 01 ATEX 1008 U



(4) Component: Heater enclosure, type DH.B.-...

(5) Manufacturer: ELMESS Thermosystemtechnik GmbH & Co. KG

(6) Address: Nordallee 1, 29525 Uelzen, Germany

(7) This component 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 component 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 01-10200.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997 + A1 + A2 EN 50018:1994 EN 50019:1994

(10) The sign "U" placed behind the certificate number indicates that this certificate should not be confounded with certificates issued for equipment or protective systems. This Component Certificate only serves as a basis for the issuing of certificates for equipment or protective systems.

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

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

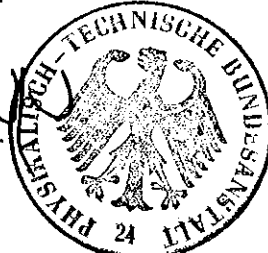
II 2 G EEx de IIC

Zertifizierungsstelle Explosionsschutz

Braunschweig, June 11, 2001

By order:

Dr.-Ing. U. Klausmeyer
Regierungsdirektor



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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

(13) **SCHEDULE**

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1008 U**

(15) Description of component

Heater enclosure, type DH.B.-..., with attached heater for setting up complete heating installations for zone 1 atmospheres. Type group 'B' comprises enclosure sizes 1, 2 and 3. The enclosures will optionally be provided with a thermal protective system.

Technical data

	Main circuit	Control circuit
Rated voltage, max.	690 V	400 V
Rated current, max.	63 A	16 A
Rated cross section, max.	25 mm ²	1.5 mm ²
Max. permissible temperature in the terminal box	60 °C	

Field of application and type of protection

Equipment group II, category 2 G, EEx de IIC

(16) Test report PTB Ex 01-10200

(17) Special conditions for safe use

None;

Additional notes for installation and use

1. The temperature class can be determined on the basis of:
 - a) Thermal routine testing, due regard being given to local and operational conditions, and acceptance testing by an expert for explosion-proof equipment
 - b) Type test, e.g. in conjunction with other items of equipment, for re-submission to an approved testing agency.
2. Thermal routine testing shall also include testing for compliance with the max. permissible operating temperatures of the components/elements used. Due regard shall in this context be given to the ambient temperature, the self-heating rate, and any thermal conduction.
3. Within the potentially explosive atmosphere, the surface temperature of the heated systems must not exceed the temperature limit of the relevant temperature class (thermal conduction to be duly observed).

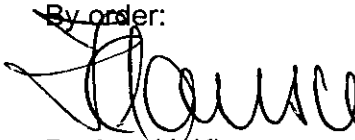
4. The sensors of the temperature limiters shall be positioned so as to account for phase failure in three-phase systems.
5. Liquids may be heated only if adequate cover is guaranteed. This requirement can be accounted for by providing level switches or similar safety measures.
6. Flowing media may have to be additionally monitored by means of a flow controller, which will maintain minimum throughput.
7. The safety related measures when closed systems are heated shall be inspected by an expert for explosion-proof equipment.
8. Due regard shall be given to the operating instructions provided by the manufacturer.

(18) Essential health and safety requirements

Covered by compliance with the above standards.

Zertifizierungsstelle Explosionsschutz

By order:



Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Braunschweig, June 11, 2001

1st SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1008 U

(Translation)

Equipment: Heater enclosure, type DH.B.-...

Marking:  II 2 G EEx de IIC and EEx d IIC

Manufacturer: ELMESS Thermosystemtechnik GmbH & Co. KG

Address: Nordallee 1, D-29525 Uelzen, Germany

Description of supplements and modifications

1. The size 3 enclosure will also be made from stainless steel and will optionally be provided with a terminal box or direct flameproof cable entry.
2. The flameproof steel enclosure, type DH.B3ST.-..., will instead of the grey cast iron terminal box optionally be provided with a welded steel cover and direct flameproof cable entry.
3. Type designation and type of protection marking will be adapted as required.

Test report: PTB Ex 01-11198

Special conditions

None;

Additional notes for installation and use

1. Only designs covered by a separate EC type-examination certificate (ATEX generation) will be accepted as direct flameproof cable entry.
2. All the other specifications/notes will remain unaffected.

Zertifizierungsstelle Explosionsschutz

By order:



Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Braunschweig, January 10, 2002

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2nd SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1008 U
(Translation)

Equipment: Heater housing, type DH.B.-...

Marking:  **II 2 G EEx d IIC bzw. EEx de IIC**
II 2 D IP 66

Manufacturer: ELMESS Thermosystemtechnik GmbH & Co. KG

Address: Nordallee 1, 29525 Uelzen, Germany

Description of supplements and modifications

1. Use in explosive dust atmospheres (zone 21) (optional)
2. Housing, types DH.B3St.-... and DH.B3V.-..., may also be manufactured with various collar bushing variants (optional)
3. Extension of ambient temperature range (optional) for
Type DH.B3.-... up to max. -40°C
Type DH.B3St.-... up to max. -50°C
Type DH.B3V.-... up to max. -60°C
4. Modified cover design for housing DH.B3V.-...
5. Use of an anti-condensation heater (optional)

Applied standards

EN 50014:1997 + A1 + A2 EN 50019:2000 EN 50018:2000 + A1 EN 50281-1-1:1998

Test report: PTB Ex 07-16256

Notes for manufacturing and operation

1. For the options designed for use in zone 21, the surface temperature must also be considered in respect of flammable dust in the thermal routine test.
2. When using anti-condensation heaters, installation and limit temperature have to be included in the re-certification assessment (certification of the complete housing).
3. All other notes in the EC-Type-Examination Certificate remain unchanged.

Zertifizierungsstelle Explosionsschutz

Braunschweig, April 2, 2007

By order:

Dr.-Ing.
Direktor



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