



(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 1133 U



(4) Component: Heater and switchgear enclosure, type DH.C -...

(5) Manufacturer: ELMESS Thermosystemtechnik GmbH & Co.

(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 03-12029.

(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

(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 IIB or EEx d IIB

Zertifizierungsstelle Explosionsschutz

Braunschweig, August 11, 2003

By order:

Dr.-Ing. M. Thedens



sheet 1/3

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.

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1133 U**

(15) Description of component

Heater and switchgear enclosure, type DH.C.-..., for complete heating installations and switchgear, such as level control systems.

Type group 'C' covers the enclosure sizes 4, 5 and 7.

Technical data

Rated voltage, max.	690 V
Rated current, max.	160 A
Rated cross section, max.	95 mm ²
Maximum temperature in the adapter box	60 °C

(16) Test report PTB Ex 03-12029

(17) Special conditions for safe use

None

Additional notes for manufacturing and operation

1. The temperature class may be defined on the basis of:
 - Thermal type testing in which due regard is given to the local and operating conditions, and acceptance by an expert for Ex-equipment or an approved inspection agency.
 - Type testing, e.g. together with other operators, in connection with resubmission to an approved testing agency.
2. Thermal type testing includes testing for compliance with the maximum permissible operating temperatures of the components used. Due consideration shall in this context be given to ambient temperature, self-heating rate, and any possible thermal conduction.
3. In potentially explosive atmospheres the surface temperature of the heated systems must not exceed the limiting temperature of the relevant temperature class (thermal conduction to be accounted for).
4. The sensors of the thermal cutouts shall be positioned so as to account for phase failure in three-phase systems.

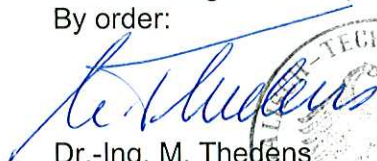
5. When monitoring systems (e.g. for level, flow, temperature) are used as safety devices in compliance with Directive 94/9/EC, annex II, clause 1.5, these must have been function-tested in compliance with the relevant regulations.
6. The safety measures when heating closed systems shall be subjected to separate examination.
7. The operating instructions provided by the manufacturer shall be considered.

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. M. Thedens

Braunschweig, August 11, 2003

1st SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1133 U
(Translation)

Component: Enclosure, type DH.C...-...

Marking:  **II 2G Ex d (de) IIB + H2 and II 2D Ex tD A21 IP66**

Manufacturer: ELMESS Thermosystemtechnik GmbH & Co. KG

Address: Nordallee 1, 29525 Uelzen, Germany

Description of supplements and modifications

The enclosure, type DH.C...-..., is to be subjected to the following modifications:

1. Extended operating range
The enclosures can in the future also be used under group IIB + H2 conditions.
2. Application for zone 21
The enclosure is optionally also manufactured for use in zone 21.
3. Modifications of the 'd' enclosure
The modifications concern (amongst others) the type of construction, the materials and components, the dimensions/wall thicknesses, the production processes used for the enclosure and the cartridge and sensor protection tubes.
4. Modifications of the "e" enclosure
The modifications concern (amongst others) the number and design of the "e" enclosure, of the cable glands and cable bushings.
5. Adaptation of the type code
The type code has been adapted to the modifications.
6. Extension of the ambient temperature range
The ambient temperature that is permitted as a minimum is extended down to -60 °C. The versions are marked as required for the specific temperature range.

7. Anti-condensation heater

The enclosures can be equipped with an anti-condensation heater.

8. Certification in accordance with EN 60079 et seqq. and EN 61241-0 et seqq.

With this modification, the enclosure of type DH.C...-.. is certified with a view to the current series of standards EN 60079-0 et seqq. and EN 61241-0 et seqq. .

9. Adaptation of marking

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

Gas-Ex II 2G Ex d (de) IIB + H2

Dust-Ex II 2D Ex tD A21 IP66

10. Transfer of supplement

The modifications specified in this Supplement of PTB 03 ATEX 1133 U also apply to

Equipment	EC Type Examination Certificate
Heater, type DHF...	PTB 08 ATEX 1017 X
Heater, type DHG...	PTB 08 ATEX 1040 X
Heater, type DHK...	PTB 08 ATEX 1047 X

The marking for the equipment is adapted as required.

Applied standards

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

Assessment and test report: PTB Ex 09-16155

Zertifizierungssektor Explosionsschutz

By order:

Dr.-Ing. U. Klausmeyer
Direktor und Professor



Braunschweig, November 27, 2009