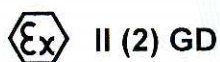


## Translation

# (1) EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) No. of EC-Type Examination Certificate: **BVS 11 ATEX F 002 X**
- (4) Equipment: **Safety temperature limiter type STB of the heating controller UNIPLEX III**
- (5) Manufacturer: **Klöpfer-Therm GmbH & Co. KG**
- (6) Address: **44143 Dortmund-Wambel**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 11.2029 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- |                    |   |
|--------------------|---|
| EN 60079-30-1:2007 | Electrical resistance trace heating   |
| EN 60079-7: 2007   | Electrical apparatus for explosive gas atmosphere: Increased safety "e"                       |
| EN 50495: 2010     | Safety devices required for the safe functioning of equipment with respect to explosion risks |
| EN 61508-1: 2010   | Functional safety, General requirements   |
| EN 61508-2: 2010   | Functional safety, Requirements   |
| EN 61508-3: 2010   | Functional safety, Software requirements  |
| EN 61508-6: 2010   | Functional safety, Guidelines   |
- (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 appendix to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to 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:



DEKRA EXAM GmbH  
Bochum, dated 05.10.2011

gezeichnet: Simanski

Certification body

gezeichnet: Dr. Wittler

Special services unit



(13) Appendix to

(14) **EC-Type Examination Certificate**  
**BVS 11 ATEX F 002 X**

(15) 15.1 Subject and type

Safety temperature limiter type STB of the heating controller UNIPLEX III

15.2 Description

The Safety temperature limiter type STB of the heating controller UNIPLEX III is a protection device for the direct temperature control of electrical resistance trace heating. The safety system is in charge to detect over temperature by means of a Pt100 sensor.

In case of over temperature the temperature limiter switches off the heating via output relay respectively contactors. The demand on this is safety relevant. According to Table 1 of EN 50495/2010 the requirements of a safety integrity level SIL = 1 and a hardware failure tolerance HFT = 0 for the safety functions do apply. The Safety temperature limiter type STB fulfils the requirements according a safety integrity level SIL = 2.

15.3 Parameters

|   |                                       |         |
|---|---------------------------------------|---------|
| Architecture  | 1oo1 + 1oo2                           |         |
| Technology  | Measuring input part                  | type A  |
|   | Digital system part + switch off part | type B  |
| Single systems: Hardware Failure Tolerance HFT  | Measuring input part                  | 0       |
|   | Digital system part + switch off part | 1       |
| Overall system: Hardware Failure Tolerance HFT  | 0                                     |         |
| Safe Failure Fraction SFF   | Measuring input part                  | 82,18 % |
|   | Digital system part + switch off part | 61,42 % |
| Probability of dangerous Failure per Hour PFH [ $1 \cdot 10^{-9}/h$ ]                               | 56                                    |         |
| Probability of dangerous Failure on Demand PFD <sub>AV/3a</sub><br>(Proof test interval of 3 years) | $6,95 \cdot 10^{-4}$                  |         |
| Safety Integrity Level SIL  | 2                                     |         |

(16) Test and Assessment Report

BVS PP 11.2029 EG as of 05.10.2011

(17) Special conditions for safe use

The adjustment of the safety temperature limiter type STB is password protected against misuse and must not changed under operating conditions later.

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH  
44809 Bochum, 05.10.2011  
BVS-Alh/Sch A 20090896

  
\_\_\_\_\_  
Certification body

  
\_\_\_\_\_  
Special services unit