



(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 04 ATEX 2022 X**

(4) Equipment: Temperature regulator, type TC ATEX . . . . .

(5) Manufacturer: Intertec-Hess GmbH

(6) Address: Raffineriestrasse 8, 93333 Neustadt/Donau, 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 04-22401.

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

**EN 50014:1997 +A1 +A2**

**EN 50018:2000**

**EN 50020:2002**

**EN 50028:1987**

**EN 50281-1-1:1999**

(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 m II T4 or EEx em II T4 or EEx emd IIC T4 or EEx emib IIC T4 and  
II 2 D IP 66 T130 °C**

Zertifizierungsstelle Explosionsschutz

Braunschweig, 5 April 2004

By order:

Dr.-Ing. U. Gerlach



(13)

## SCHEDULE

(14)

### EC-TYPE-EXAMINATION CERTIFICATE PTB 04 ATEX 2022 X

(15) Description of equipment

The electronic temperature regulators are used for room temperature control inside enclosures, such as protective casings or protective cubicles installed in potentially explosive areas. The temperature regulators come complete either with connection lead or with a terminal element. They may be actuated at the customer's end with the heating source they are to regulate. Depending on the type used, the temperature regulators are provided with an internal or external sensor, and they may be equipped with an additional sensor connection for heating source control.

#### Electrical data

Rated voltage, max.	250 V AC
Operating voltage, max.	275 V AC
Rated current, max.	10 A
Ambient temperature range	-50 °C ... +80 °C
Sensor circuit (non-detachable temperature sensor)	EEx ib IIC type of protection

(16) Test report PTB Ex 04-22401

(17) Special conditions for safe use

1. Each temperature regulator shall be provided on the line side with a short-circuit protection in the form of a fuse designed to meet the regulator current rating (max.  $3xI_B$  in compliance with IEC 60127-2-1) or a motor overload trip with instantaneous short-circuit and thermal release (adjusted to match the current rating). For very low rated currents of the temperature regulator, the fuse with the lowest current rating according to the above referenced IEC standard will suffice. The fuse may be accommodated in the corresponding power supply unit or it shall be connected separately on the line side. The fuse voltage rating shall be the same or greater than the temperature regulator voltage rating specified. The breaking capacity of the fuse link shall be the same or greater than the maximum short-circuit current expected at the place of installation (normally 1500 A).
2. Should the temperatures at the cable entry of temperature regulators with terminal box be higher than 70 °C, or higher than 80 °C at the wire junction, this equipment shall carry an additional mark showing the higher temperatures (label at the cable entry). In that case only a heat-resistant connecting cable may be used.
3. If the cable used is not scratch resistant, it shall be protected against mechanical damage (e.g. interrupted conduit system with edge protection moulding).

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4. When installed in the dust explosion protection area, only components with the required certification may be used.
5. If connection is made in the potentially explosive area, equipment with an open-ended line shall have the connecting lead connected in an enclosure that meets the requirements of an approved type of protection in compliance with EN 50014, section 1.2.
6. When using components, due care shall be taken that they may only be employed within the temperature range they have been certified for.

(18) Essential health and safety requirements

Met by compliance with the aforementioned Standards.

Zertifizierungsstelle Explosionsschutz  
By order:

Braunschweig, 5 April 2004

  
Dr.-Ing. U. Gerlach





## 1. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 04 ATEX 2022 X

(Translation)

Equipment: Temperature controller, type TC ATEX . . . . .

Marking:  II 2 G EEx m II T4 or EEx em II T4 or EEx emd IIC T4 or  
EEx emib IIC T4 and  
 II 2 D IP 66 T130 °C

Manufacturer: INTERTEC-Hess GmbH

Address: Raffineriestraße 8, 93333 Neustadt/Donau, Germany

### Description of supplements and modifications

The intrinsically safe sensor cable may also be led through using the silicone-rubber grommet of type WDD 6/16 with internal strain relief instead of the M16 cable gland stated in drawing STH 3316 E.

The cover plate may be omitted for all variants. At this location the casting compound is filled as such that the minimum height above all components is 3 mm.

A highly flexible silicone cable having 5 x 1.0 mm<sup>2</sup> and an increased mechanical and thermal rating may be used alternatively as an open ended cable which juts out of the encapsulation.

All other specifications of the EC-type examination certificate as well as the "Special Conditions" apply without changes.

In the future the marking will be as follows:

or  II 2 G Ex mb II T4  
or  II 2 G Ex e mb II T4  
or  II 2 G Ex e mb d IIC T4  
or  II 2 G Ex e mb [ib] IIC T4  
and  II 2 D Ex tD A21 IP66 T130 °C

## 1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 04 ATEX 2022 X

The requirements of the standards listed below are fulfilled by this supplement.

### Applied standards

EN 60079-0:2006

EN 60079-7:2007

EN 60079-11:2007

EN 60079-18:2004

EN 61241-0:2006

EN 61241-1:2004

Test report: PTB Ex 08-27264

Zertifizierungsstelle Explosionsschutz

Braunschweig, March 12, 2008

By order:

  
Dr.-Ing. U. Gerlach  
Oberregierungsrat



## 2. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 04 ATEX 2022 X

(Translation)

Equipment: Temperature controller, type TC ATEX . . . . .

Marking:  $\text{\textcircled{E}x}$  II 2 G Ex mb II T4 or  $\text{\textcircled{E}x}$  II 2 G Ex e mb II T4 or  
 $\text{\textcircled{E}x}$  II 2 G Ex e mb d IIC T4 or  $\text{\textcircled{E}x}$  II 2 G Ex e mb [ib] IIC T4 and  
 $\text{\textcircled{E}x}$  II 2 D Ex tD A21 IP66 T130 °C

Manufacturer: INTERTEC-Hess GmbH

Address: Raffineriestraße 8, 93333 Neustadt/Donau, Germany

### Description of supplements and modifications

The temperature controller of type TC ATEX ... is alternatively equipped with an LED display. The layout of the p.c.b. has been modified.

The "Special Conditions" of the EC-type examination certificate PTB 04 ATEX 2022 X are changed or supplemented as follows:

5. The connecting cable of variants designed with open-ended cable shall be connected inside of an enclosure which complies with the requirements of an acknowledged type of protection according to EN 60079-0:2006, if the connection is carried out in the hazardous area.
8. Only the separately shielded and demonstrably electrically isolated strands of a temperature sensor shall be connected to terminals 7 and 8 of the TC ATEX D... (e.g. in the heating element INTERTEC CP ...therm ... HI according to PTB 02 ATEX 1041 X).

All further specifications of the EC-type examination certificate apply without changes.

### Applied standards

EN 60079-0:2006, EN 60079-1:2007, EN 60079-7:2007, EN 60079-11:2007, EN 60079-18:2004, EN 61241-0:2006, EN 61241-1:2004

Assessment and test report: PTB Ex 09-28240

Zertifizierungssektor Explosionsschutz

Braunschweig, August 20, 2009

By order:

Dr.-Ing. U. Johannsmeyer  
Direktor und Professor



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