



Prüf- und Zertifizierungsstelle

ZELM Ex



(1) **EC-TYPE-EXAMINATION CERTIFICATE**

- (2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - Directive 94/9/EC
(3) EC-TYPE-EXAMINATION CERTIFICATE Number:

ZELM 03 ATEX 0171

- (4) Equipment: **Temperature limiter Type Ex TBK.../.. KA and Temperature controller Type Ex TRK.../.. KA**
(5) Manufacturer: **Erich Ott**
(6) Address: **D-65189 Wiesbaden**
(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
(8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0820 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 Nr. ZELM Ex 0850315235.

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

EN 50 014: 1997+A1+A2

EN 50 018: 2000

EN 50 019: 2000


- (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 or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this Certificate.
(12) The marking of the equipment shall include the following:



II 2 G EEx de IIC T6 resp. T5

Zertifizierungsstelle ZELM Ex

Braunschweig, September 23, 2003


Dipl.-Ing. Harald Zelm



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EC-type-examination Certificates without signature and stamp are not valid. The certificates may only be circulated without alteration. Extracts or alterations are subject to approval by the Prüf- und Zertifizierungsstelle ZELM Ex. This English version is based on the German text. In the case of dispute, the German text shall prevail.



(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE ZELM 03 ATEX 0171

(15) Description of equipment

The temperature limiting module type Ex TBK.../.. KA and temperature controller type Ex TRK.../.. KA with capillary tube sensor which consist of one pressure-resistant control element, mounted in an "increased safety" housing and are used for temperature-sensitiv monitoring and controlling of connected load.

Functional safety is not subject of this EC-type-examination certificate.

The maximum allowable ambient temperature range for standard design is:

-20°C to +40°C for temperature class T6

The following ambient temperature ranges are achieved with special designs:

-40°C to +40°C for temperature class T6 respectively

-20°C to +60°C for temperature class T5 respectively

-40°C to +60°C for temperature class T5.

The assignment is carried out by the specifications given on the type plate.

Electrical Data

| | |
|-----------------|---|
| Contact circuit | per circuit |
| | operating switch contact (switch) |
| AC voltage: | $U_N \leq 400 \text{ V}$ |
| | $I_N \leq 16 \text{ A}$ |
| | $P_N \leq 4000 \text{ VA}$ and respectively |
| DC voltage: | $U_N \leq 250 \text{ V}$ |
| | $I_N \leq 0,25 \text{ A}$ |

Note:

The operating instructions have to be observed.

(16) Report No.

ZELM Ex 0850315235

(17) Special conditions for safe use


not applicable

(18) Essential Health and Safety Requirements

met by standards

Zertifizierungsstelle ZELM Ex

Braunschweig, September 23, 2003


Dipl.-Ing. Harald Zelm





Prüf- und Zertifizierungsstelle

ZELM Ex



1. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

to EC-type-examination Certificate

ZELM 03 ATEX 0172 X

Equipment: **Temperature limiting module type Ex TBK.../.. KAU and
Temperature controller module type Ex TRK.../.. KAU**

Manufacturer: **Erich Ott**

Address: **D-65189 Wiesbaden**

Description of supplement

The 1. Supplement to EC-type-examination Certificate considers modifications of the Temperature limiting module type Ex TBK.../.. KAU resp. Temperature controller module type Ex TRK.../.. KAU. The modifications concerns the type of protection and the marking, the sealing compound, the ambient temperature, the special conditions for safe use and the design structure.

The Temperature limiting module type Ex TBK.../.. KAU resp. Temperature controller module type Ex TRK.../.. KAU which is manufactured in consideration of this 1. Supplement may be marked as follows:

Type of protection / marking  II 2 G Ex d mb IIC T6

The maximum permissible ambient temperature range is -40°C to +60°C.

The electrical and all other data remains unchanged and are also valid further on.

In the future the Temperature limiting module type Ex TBK.../.. KAU resp. Temperature controller module type Ex TRK.../.. KAU may be manufactured and marked also in consideration of this 1. Supplement.

Report No.

ZELM Ex 1190619534

Special conditions for safe use

The special conditions for safe use are changed as follows: The 2. item is not applicable.
All other special conditions for safe use remain unchanged and are also valid for this 1. Supplement.

Essential Health and Safety Requirements

The essential health and safety requirements are still fulfilled by compliance with the following Standards:

EN 60079-0:2006

EN 60079-1:2004

EN 60079-18:2004

Zertifizierungsstelle ZELM Ex



Braunschweig, November 23, 2007


Dipl.-Ing. Harald Zelm

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Prüf- und Zertifizierungsstelle

ZELM Ex



(1) **EC-TYPE-EXAMINATION CERTIFICATE**

- (2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - Directive 94/9/EC
(3) EC-TYPE-EXAMINATION CERTIFICATE Number:

ZELM 03 ATEX 0172 X

- (4) Equipment: **Temperature limiting modul Type Ex TBK.../.. KAU and Temperature controller Type Ex TRK.../.. KAU**
(5) Manufacturer: **Erich Ott**
(6) Address: **D-65189 Wiesbaden**
(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
(8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0820 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 Nr. ZELM Ex 0860315232.

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

EN 50 014: 1997+A1+A2

EN 50 018: 2000

EN 50 019: 2000

- (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 or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this Certificate.
(12) The marking of the equipment shall include the following:



II 2 G

EEx de IIC T6 resp. T5 resp. T4

Zertifizierungsstelle ZELM Ex

Braunschweig, September 23, 2003

Dipl.-Ing. Harald Zelm



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(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE ZELM 03 ATEX 0172 X

(15) Description of equipment

Temperature limiting module type Ex TBK.../. KAU and temperature controller type Ex TRK.../.. KAU with capillary tube sensor which consist of one pressure-resistant control element and are used for temperature-sensitiv monitoring and controlling of connected load.

Functional safety is not subject of this EC-type-examination certificate.

The maximum allowable ambient temperature range is -40°C to $+100^{\circ}\text{C}$.

Electrical Data

Contact circuit

Operating switch contact (switch)

AC voltage:

$$U_N \leq 400 \text{ V}$$

$$I_N \leq 16 \text{ A}$$

$$P_N \leq 4000 \text{ VA and respectively}$$

DC voltage:

$$U_N \leq 250 \text{ V}$$

$$I_N \leq 0,25 \text{ A}$$

(16) Report No.

ZELM Ex 0860315232

(17) Special conditions for safe use

1. The temperature limiting module and the temperature controller are only foreseen for installation in suitable housings in the type of protection „increased safety“ with separate EC-type-examination certificate.
2. For the grommet of the connecting cable and the capillary tube suitable cables and wire insertions have to be used. Those shall have EC-type-examinations, too.
3. The determination of the temperature class and the maximum ambient temperature has to be made by the manufacturer by thermal routine tests in consideration of self heating in the appointed housing. The ambient temperature mentioned under (15) are only corresponding to the temperature limiting module and temperature control unit themselves. Therefore the maximum ambient temperature has to be determined after installation in an suitable housing and under regarding self heating. The resulting maximum values for the ambient temperature range have to be placed on the type plate.
4. The temperature limiting module and temperature controller may be used as a part of a controller with separat EC-type-examination certificate. Deviating from the special conditions mentioned in (3) the determination of the temperature class and allowable ambient temperature range has to be made by the manufacturer according to the determinations made in the associated EC-type-examination certificate. The values given in (15) for the maximum allowable ambient temperature range shall never be exceeded.



Prüf- und Zertifizierungsstelle

ZELM Ex



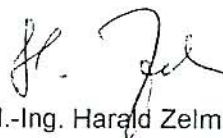
Schedule to EC-TYPE-EXAMINATION CERTIFICATE ZELM 03 ATEX 0172 X

(18) Essential Health and Safety Requirements

met by standards

Zertifizierungsstelle ZELM Ex

Braunschweig, September 23, 2003


Dipl.-Ing. Harald Zelm



1. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

ZELM ex

to EC-Type Examination Certificate

ZELM 03 ATEX 0171

Equipment: **Temperature limiter Type Ex TBK.../.. KA and
Temperature controller Type Ex TRK.../.. KA**

Manufacturer: **Erich Ott**

Address: **D-65189 Wiesbaden**

Description of the Supplement

In the 1. Supplement of the EC-Type Examination Certificate changes to the Temperature Limiter Module Type Ex TBK.../.. KAU resp. Temperature Control Module Type Ex TRK.../.. KAU and to the internal Assembly are considered. Furthermore the application in Areas with flammable Dust is considered.

The Changes pertain the Kind of Protection and Marking as well as the permissible ambient Temperature Range.

The Temperature Limiter Type Ex TBK.../.. KA and the Temperature Controller Type Ex TRK.../.. KA shall be manufactured in the future only according to this 1. Supplement and are marked as follows:

Type of Protection / Marking:  II 2 GD Ex d e mb IIC T6
Ex tD A21 IP6x T100°C

The max. permissible ambient Temperature Range is -40°C to +60°C.

The electrical Data and all other Data remain unchanged and continue to be valid.

Report No.

ZELM Ex 1180619541

Essential Health and Safety Requirements

The essential Health and Safety Requirements are furthermore adhered to in Compliance with the following Standards:

EN 60079-0:2006
EN 60079-7:2007


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

EN 60079-18:2004
EN 61241-1:2004

Braunschweig, July 9, 2008

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Zertifizierungsstelle ZELM ex
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