

Translation

EU-Type Examination Certificate

Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014

EU-Type Examination Certificate Number: **BVS 07 ATEX E 001 X** Issue: **01**

Equipment: **Electrical Thermometer type ALEXI-***-***-*** / type LEXI-***-***-*****

Manufacturer: **Herth elektrische Temperaturgeber GmbH**

Address: **Landwehrstraße 86-88, 59368 Werne, Germany**

This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 07.2065 EU. This issue of the EU-Type Examination Certificate replaces the previous issue of the EU-Type Examination Certificate BVS 07 ATEX E 001 X including supplement 1.

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

EN IEC 60079-0:2018
EN 60079-11:2012
EN 60079-26:2015

General requirements
Intrinsic Safety "i"

Betriebsmittel mit Geräte-
schutzniveau (EPL) Ga *Equipment with equipment*
protection level (EPL) Ga

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance with the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following

I M1 Ex ia I Ma
I M2 Ex ia I Mb
 II 1G Ex ia IIC T3...T6 Ga
II 1/2G Ex ia IIC T3...T6 Ga/Gb
II 1D Ex ia IIC T135 °C Da

DEKRA Testing and Certification GmbH
Bochum, 2026-05-04

Signed: Oliver Brumm

Managing Director

13 **Appendix**

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15 **Product description**

15.1 **Subject and type**

Electric thermometer type ALEXI-**-***-**-**
 Electric thermometer type LEXI-**-***-**-**

Instead of the *** in the complete denomination letters or numerals will be inserted which characterize the different modifications:

	type ALEXI-	*	*	*	*	*	*	*	*
	type LEXI-								
Number of measuring points									
Sensor type:									
Pt, Ni, PTC, NTC									
B, E, J, K, L, N, R, S, T, U									
Resistor / Semiconductor									
Thermocouple									
Sheath material									
A Stainless steel									
B Inconel									
C Special metallic materials									
D Ceramic material									
Sensor diameter in mm									
Sensor length in mm									
Connecting cable									
Number of connection wires									
Length of the connection wires in m									

15.2 **Description**

Reason for this issue

- Change to Directive 2014/34/EU
- Examination according to the current standard
- The special conditions have been changed.
- Update of Parameters

Description of the product:

The electrical thermometer type ALEXI-**-***-**-** consists of a metallic protective fitting of different dimensions, which contains temperature-dependent resistors / semiconductors or thermocouples embedded in heat-resistant insulating material (mineral insulated inner conductors).

The electrical thermometer type LEXI-**-***-**-** consists of a metallic protective fitting of different dimensions which contains temperature-dependent resistors / semiconductors or thermocouples embedded in heat-resistant insulating material.

The connecting cable for the intrinsically safe measuring circuit in 2-wire, 3-wire or 4-wire arrangement is inseparably connected to the metal protective fitting.

The electrical thermometers type ALEXI-**-***-**-** / type LEXI-**-***-**-** only contain components that cannot impair the intrinsic safety of the connected measuring circuit. (Accessories for intrinsically safe electrical systems of group I or simple equipment of group II).

Listing of all components used referring to older standards

None

15.3 Parameters

15.3.1 Versions for use in areas with category M1 and 1/2G requirements

with one to three resistors / semiconductors

2-wire, 3- wire, 4- wire resp. 2x2- wire, 2x3- wire, 2x4- wire measuring circuit

Maximum input voltage	U_i	AC/DC	30	V
Maximum input current	I_i		100	mA
Maximum input power	P_i	in accordance with the following table		
Ambient temperature range	T_a	in accordance with the following table		

Temperature - class	Ambient temperature range as a function of power P_i for resistance thermometers			
	T_a at 100 mW*)	T_a at 200 mW *)	T_a at 400 mW*)	T_a at 600 mW *)
T6	-20 °C ... +65 °C	-20 °C...+ 60 °C	-20 °C... +45 °C	-
T5	-20 °C... +85 °C	-20 °C...+ 80 °C	-20 °C... +65 °C	-20 °C ... +50 °C
Group I / T3 / T4	-20 °C...+100 °C	-20 °C...+100 °C	-20 °C...+100 °C	-20 °C ...+100 °C

*) Sum value in case of multiple resistors“

Maximum recommended measuring current	I_n	3	mA
Internal effective capacitance	C_i	capacitance of the permanently connected cable	
Internal effective inductance	L_i	inductance of the permanently connected cable	
For the permanently connected cable, the following values apply:			
Cable capacitance	C_c	200	pF/m
Cable inductance	L_c	1	μH/m

15.3.2 Versions for use in areas with category M1 and 1/2G requirements

with one to three thermocouples

Maximum input voltage	U_i	AC/DC	30	V
Maximum input current	I_i		100	mA
Maximum input power	P_i		600	mW
Ambient temperature range	T_a	in accordance with the following table		

Temperature- class	Ambient temperature range as a function of the temperature class for thermocouples
T6	-
T5	-20 °C...+50 °C
Gruppe I / T3 / T4	-20 °C...+100 °C

Internal effective capacitance	C_i	capacitance of the permanently connected cable	
Internal effective inductance	L_i	inductance of the permanently connected cable	
For the permanently connected cable, the following values apply:			
Cable capacitance	C_c	200	pF/m
Cable inductance	L_c	1	μH/m

15.3.3 Versions for use in areas with category 1D requirements

with one to three resistors / semiconductors

2-wire, 3- wire, 4- wire resp. 2x2- wire, 2x3- wire, 2x4- wire measuring circuit

Maximum input voltage	U_i	AC/DC	30	V
Maximum input current	I_i		100	mA
Maximum input power	P_i	in accordance with the following table		
Ambient temperature range	T_a	in accordance with the following table		

Ambient temperature range as a function of the power P_i for resistance thermometers		
T_a bei 550 mW*)	T_a bei 650 mW*)	T_a bei 750 mW*)

-20 °C ... 100 °C	-20 °C ... 70 °C	-20 °C ... 40 °C
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*) Sum value in case of multiple resistors"

Maximum recommended
measuring current

I_n 3 mA

Internal effective capacitance

C_i capacitance of the permanently connected cable

Internal effective inductance

L_i inductance of the permanently connected cable

For the permanently connected cable, the following values apply:

Cable capacitance

C_c 200 pF/m

Cable inductance

L_c 1 μ H/m

15.3.4 Versions for use in areas with category 1D requirements with one to three thermocouples

Maximum input voltage

U_i AC/DC 30 V

Maximum input current

I_i 100 mA

Maximum input power

P_i in accordance with the following table

Ambient temperature range

T_a in accordance with the following table

Ambient temperature range as a function of the power P_i for thermocouples		
T_a bei 550 mW	T_a bei 650 mW	T_a bei 750 mW
-40 °C ... 100 °C	-40 °C ... 70 °C	-40 °C ... 40 °C

Internal effective capacitance

C_i capacitance of the permanently connected cable

Internal effective inductance

L_i inductance of the permanently connected cable

For the permanently connected cable, the following values apply:

Cable capacitance

C_c 200 pF/m

Cable inductance

L_c 1 μ H/m

Note:

The ambient temperature ranges have to be respected in areas where an explosive atmosphere may be present.

In areas, where no explosive atmospheres are present, higher ambient temperatures are permissible.

A sufficient thermal decoupling to explosive areas has to be ensured.

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17 Specific Conditions of Use

17.1 For EPL Ga/Gb

The installation into a separation wall between areas with Ga/Gb-requirements has to be done in such a way, that all metallic parts are conductively connected to the metal container wall; or, if the container is made of plastic, that all insulated metal parts are connected to equipotential bonding.

The temperature sensors have to be installed into the separation wall with standardized connections. At the place of installation, technical tightness has to be ensured.

The separation wall (Stainless steel or ceramic measuring tube) has a wall thickness < 1 mm. It has to be installed in such a way that it cannot be damaged by mechanical impact.

17.2 For group IIIC

The intrinsically safe circuit is not safely separated from earth.

Along the intrinsically safe circuit, potential equalization must exist.

17.3 For group II:

To avoid the risk of ignition due to brush discharges, devices should not be installed in areas with intense electrostatic charges.

- 17.4 For all types
If metallic cable shields are used, they shall be permanently connected to the equipotential bonding system to prevent capacitive charging and thus eliminate a potential ignition source.
- 17.5 For all types
The permissible ambient temperature range of the device depends on the sensor type used, the electrical power and the specific application. The applicable temperature limits shall be taken from the operating instructions and observed.
- 17.6 Additional conditions
None

18 Essential Health and Safety Requirements

Met by compliance with the requirements mentioned in item 9.

19 Remarks and additional information

Drawings and documents are listed in the confidential report.

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 Testing and Certification GmbH
Bochum, 2026-05-04
BVS-Hil/HWa A 20210735 / 3423772


Managing Director