

**[1] EU-TYPE EXAMINATION CERTIFICATE - Translation**



- [2] Equipment or protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU
- [3] EU-type examination certificate number **IBExU13ATEX1079 X** | Issue 1
- [4] Product: **Resistance thermometer and thermocouples element**  
Series: R0-R8 and T0-T8
- [5] Manufacturer: **Günther GmbH Temperaturmesstechnik**
- [6] Address: **Bauhofstraße 12**  
**90571 Schwaig**  
**GERMANY**
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 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 test report IB-18-3-0185.
- [9] Compliance with the essential health and safety requirements has been assured by compliance with: EN 60079-0:2012+A11:2013, EN 60079-11:2012 and EN 60079-26:2015 except in respect of those requirements listed at item [18] of the schedule.
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.
- [11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

- [12] The marking of the product shall include the following:

Type R0, R5, R6, T0, T5, T6

Type R1, R2, R3, T1, T2, T3

Type R4 T4

 II 2G Ex ia IIC T6...T1 Gb

 II 1/2G Ex ia IIC T6...T1 Ga/Gb



 II 1/2D Ex ia IIIC TX Da/Db

 II 2G Ex ia IIC T6...T1 Gb

 II 2D Ex ia IIIC TX Db

**IBExU Institut für Sicherheitstechnik GmbH**  
An-Institut der TU Bergakademie Freiberg

Type R7, R8 and T7, T8

-  II 1G Ex ia IIC T6...T1 Ga
-  II 1/2G Ex ia IIC T6...T1 Ga/Gb
-  II 1D Ex ia IIIC TX Da
-  II 1/2D Ex ia IIIC TX Da/Db

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Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2019-08-16

**[13] Schedule**

**[14] Certificate number IBExU13ATEX1079 X | Issue 1**

**[15] Description of product**

The resistance thermometers and thermocouple elements are used for translating a temperature into an electrical value at the point of measuring. The temperature sensors consist of a protective fitting, a connecting head or connecting cable and additional an exchangeable gauge, depending on type.

**Technical data**

Degree of protection:	IP65
Ambient temperature range:	-40 °C ... +60 °C, valid for connection head -40 °C ... 300 °C, valid for connecton cable (depends on insulation)
Temperature measurement range:	-40 °C ... +438 °C

**Electrical data**

- Maximum voltage $U_i$ :	30 V
- Maximum current $I_i$ :	maximum 101 mA
- Maximum power P:	maximum 750 mW
- Measuring sensor:	PT/Ni temperature measuring resistor Thermocouple element

Generally the capacitances and inductances are negligible. Pay attention of capacitance by using long cables (see instructions).

**Thermal resistance**

- cladding diameter 3 mm:	165 K/W
- cladding diameter 4.5 mm:	110 K/W
- cladding diameter 6 mm	90 K/W
- protection pipe (6, 8 and 9 mm):	85 K/W
- protection pipe (10, 11, 12 and 15 mm):	55 K/W
- sensor pipe with connection cable:	300 K/W

**Transmitter**

The construction of temperature sensors allows the mounting of an intrinsically safe transmitter which fulfills the requirements of group II, Category 1G or 2G in accordance to directive 2014/34/EU (see also [17]).

***Variations compared to EC-Type Examination Certificate and its 1. amendment:***

***Variation 1***

The Resistance thermometer and thermocouples elements also comply with the requirements of EN 60079-26:2014.

***Variation 2***

New types with ceramic measuring insert and protection tube have been added.

**[16] Test report**

The test results are recorded in the confidential test report IB-18-3-0185 of 2019-08-13.

The test documents are part of the test report and they are listed there.

*Summary of the test results*

The Resistance thermometer and thermocouple elements mentioned under [4] further fulfil the requirements of type of protection intrinsic Safety "i" for electrical equipment of Equipment Group II, Category 1G, 1/2G, 2G, 1D, 1/2D and 2D, Temperature Class T6...T1 or maximum surface temperature 85 °C...450 °C.

**[17] Specific conditions of use**

- The definition of class of temperature and the maximum temperature at surface is appointed by design and maximum electrical power of input on the basis of thermal resistance respectively by using the manual.
- The resistance thermometer and thermocouple elements of series R0-R6 and T0-T6 can be fitted with special transmitters. These have to fulfil the requirements of group II, Category 1G or 2G in accordance with directive 2014/34/EU.
- It is possible to choose the transmitter individually as long as the limit of output voltage, output power and output current do not exceed the input limit values  $U_i = 30 \text{ V}$ ,  $I_i = 101 \text{ mA}$ ,  $P_i = 750 \text{ mW}$  of temperature sensors (in all three dimensions). The input parameters of transmitter are valid for the comparison with the output limit values of connected disconnecter, in the case of integrated transmitter
- The capacity of cable has to be less than  $0,066 \mu\text{F}$  according to table A.2, EN 60079-11.
- The temperature sensors may only be operated in explosive atmospheres which require category 1 equipment when atmospheric conditions are present (ambient temperature  $-20 \text{ °C}$  up to  $60 \text{ °C}$ , pressure between 0.8 bar to 1.1 bar).

**[18] Essential health and safety requirements**

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:

None

**[19] Drawings and Documents**

The documents are listed in the test report.

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