



[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 **IBExU20ATEX1011 X** | Issue 1

[4] Product: **Temperature sensor**
Type: RE4, RE5, RE6, RE7.1, RE7.2, RE8.1 and RE8.2 as well as
TE4, TE5, TE8.1 and TE8.2

[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-23-3-0038.

[9] Compliance with the essential health and safety requirements has been assured by compliance with: EN IEC 60079-0:2018, EN IEC 60079-7:2015/A1:2018 and EN 60079-31:2014 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:

II 2G Ex eb IIC T6...T1 Gb
 II 2D Ex tb IIC T80 °C...T440 °C 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, 2023-11-06

[13]

Schedule

[14]

Certificate number IBExU20ATEX1011 X | Issue 1

[15]

Description of product

The temperature sensors serve for transmitting a temperature at the measuring point into an electrical value. The measurement is carried out either by thermal resistors or thermo couples.

The temperature sensors are provided in different versions. There are types consisting of a separately certified connection head and connection socket. These types may be equipped with different process connection facilities or protection tubes. Alternately there are cable sensors which includes the measuring device in a metal tube. They are connected with a permanently connected cable to it.

Technical data

- | | |
|--------------------------------|--|
| - Degree of protection: | minimum IP64 |
| - Ambient temperature range: | -40 °C ... +60 °C, valid for connection sleeve -40 °C ... +100 °C, valid for connection head |
| - Measuring temperature range: | -40 °C...+400 °C, valid for resistance temperature sensors -40 °C...+1000 °C, valid for thermocouples |

Electrical data

- | | |
|-------------------------------|--------------------------|
| - Maximum voltage U_{max} : | 30 V |
| - nominal current I_n : | 2 mA |
| - Maximum power P_{max} : | 102 mW (limited by fuse) |

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 |

Variations compared to issue 0 of this certificate:

Variation 1

The measuring temperature range has been extended.

[16]

Test report

The test results are recorded in the confidential test report IB-23-3-0038 of 2023-10-25.
The test documents are part of the test report and they are listed there.

Summary of the test results

The temperature sensors mentioned under [4] further comply with the requirements of type of protection increased safety "eb" for electrical equipment of group II, category 2G as well as 2D in type of protection protection by enclosure "tb".

[17]

Specific conditions of use

- The assignment of the temperature class and the maximum surface temperature is to be determined according to the design and the maximum supplied power on the basis of the thermal resistances or can be taken from the operating instructions.
- The permissible media temperature depends on the maximum permissible input power, the assigned temperature class and the ambient temperature range. The permissible ambient temperature range at the connection device must be observed.

- The permissible ambient temperature range at the connection head is $-40\text{ °C} \dots +100\text{ °C}$. A maximum ambient temperature of $+60\text{ °C}$ is permissible at the transition sleeve of the cable sensor. The permitted ambient temperature range of cable sensors is mentioned in the instructions.
- Due to the process, higher or lower operating temperatures may occur at the measuring inserts. However the temperature at the sensor tube of mineral-insulated versions shall not exceed the permissible surface temperature of the indicated temperature class. The influence of the process temperature on the temperature of the neck tube must be taken into account separately when operating the temperature sensors. Suitable measures must be taken to ensure that the process temperature is decoupled from the permissible surface temperature. Further information are mentioned in the instructions.
- To maintain the temperature class/maximum surface temperature at the connection head, suitable measures (e.g. by connecting a fuse) must be taken to ensure that the maximum power loss P_{\max} is not exceeded also under fault conditions.
- The temperature sensors without protection tube must be installed protected against mechanical hazards.
- The temperature sensors must be connected to the user's equipotential bonding system during installation.
- The external cables must be suitable for the assigned operating temperature range.

[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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