



[1] **EC-TYPE EXAMINATION CERTIFICATE**
according to Directive 94/9/EC, Annex III
(Translation)

[2] Equipment and Protective Systems intended for use
in Potentially Explosive Atmospheres, Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **IBExU13ATEX1079 X**

[4] Equipment: **Resistance thermometer and thermocouple element**
Series R0-R6 and T0-T6

[5] Manufacturer: **GÜNTHER GmbH**
Temperaturmesstechnik

[6] Address: **Bauhofstraße 12**
90571 Schwaig
GERMANY

[7] The equipment mentioned under [4] and any acceptable variation there to are specified in the
schedule to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with
article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that the under [4] mentioned
equipment has been found to comply with the Essential Health and Safety Requirements relating to
the design and construction of the equipment intended for use in potentially explosive atmospheres
given in Annex II to the Directive.
The examination and test results are recorded in test report IB-12-3-216 of 14 October 2013.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance
with EN 60079-0:2012, EN 60079-11:2007 and EN 60079-26:2007.

[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 under [17] in the schedule to this EC-Type Examination
Certificate.

[11] This EC-Type Examination Certificate relates only to the design and construction of the specified
equipment. If applicable, further requirements of this Directive apply to the manufacture and supply
of this equipment.

[12] The marking of the equipment mentioned under [4] shall include one of the following:

Serie R5, R6, R0, T0, T5, T6

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

Serie R1, R2, R3, T1, T2, T3

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

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

Serie R4, T4

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

II 2D Ex ia IIIC TX Db

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Authorised for certifications
- Explosion protection -

By order

(Dr. Wagner)



Freiberg, 14 October 2013

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.

Schedule

[13]

Schedule

[14]

to EC-TYPE EXAMINATION CERTIFICATE IBExU13ATEX1079 X

[15]

Description of the equipment

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

Technical data

Degree of protection:	IP 65
Ambient temperature range:	
- Connection head	-40 °C to +60 °C
- Connection cable	-40 °C to +300 °C (depends on the insulation)
Temperature measurement range:	-40 °C to +438 °C

Electrical data

- Measuring voltage U_i :	30 V
- Max. Current input I_i :	101 mA
- Max. total output P:	max 750 mW
- Measuring sensor:	Pt / Ni temperature measuring resistor Thermocouple element

Generally the capacities and inductances are negligible. Pay attention of capacity by using long cables (see manual).

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 und 9 mm):	85 K/W
- Protection pipe (10, 11, 12 und 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 94/9/EG (see also [17]).

[16]

Test Report

The proof of the explosion protection is recorded in detail in the Test Report IB-12-3-216. The test documents are part of the test Report and are listed there.

Summary of test results:

The Resistance thermometer and thermocouple element of series R0-R6 and T0-T6 fulfil the requirements of type of protection intrinsic Safety "i" for electrical equipment of Equipment Group II, Category 1/2G, 2G and 1/2D, Temperature Class T6...T1 or maximum surface temperature 85 °C...450 °C.

[17]

Special conditions

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 of series R0-R6 and T0-T6 can be fitted with special transmitters. These have to fulfill the requirements of group II, Category 1G or 2G in accordance to directive 94/9/EG.

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.

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

Confirmed by compliance of standards (see [9]).

By order

Freiberg, 14 October 2013



(Dr. Wagner)