IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

[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: **IBExU13ATEX1017 X**

[4] Equipment: **Temperature Measuring Insert**
Type GAxxx1

[5] Manufacturer: LABOM Mess- und Regeltechnik GmbH

[6] Address: Im Gewerbepark 13
27798 Hude
GERMANY

[7] The design of the equipment mentioned in [4] and any acceptable variations thereto 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 Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that the equipment mentioned in [4] has been found to comply with the essential health and safety requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The test results are recorded in the Test Report IB-13-3-038 of 13 March 2013.

[9] Compliance with the essential health and safety requirements has been assured by compliance with EN 60079-0:2009 and EN 60079-11:2007.

[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 in [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 in [4] shall include the following:

Ex II 2G Ex ia IIC T6 - T1 Gb

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7 - 09599 Freiberg, Germany
☎ +49 (0)3731 3805-0 - 🖷 +49 (0)3731 23650

Authorised for certifications
- Explosion protection -

By order

(Dr. Wagner)

Zertifizierungsstelle Explosionsschutz IBExU Institut für Sicherheitstechnik GmbH Kenn-Nr. 0637

- Seal -
(ID no. 0637)

Freiberg, 13 March 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 the EC-Type Examination Certificate IBExU13ATEX1017 X**

[15] **Description of the equipment**

The temperature measuring inserts are used for the temperature measuring in the plant and machine engineering. The sensors and electrical components are insulated by the installation into metallic protection sleeves. They are connected to an intrinsically safe supply circuit or they are supplied by a transmitter.

Technical data

Measuring element	Resistance thermometer according to EN 60751 Pt100/Pt1000, 2-, 3- and 4-conductor
Thermal data	
Permissible medium temperature range	-40 °C to 436 °C (peak 600 °C)
Temperature at the connection head	-40 °C to 100 °C

The manufacturer specifies in the operating instruction a definite procedure for the determination of the maximum permissible media temperatures in dependency on the temperature class and the available power.

Measuring current circuit:	in type of protection intrinsic safety with the limit values: $U_i \leq 30$ V $P_i \leq 750$ mW
Effective inner inductance	max. 10 µH/m
Effective inner capacitance	max. 500 pF/m

If transmitters are used, then the safety-technical values have to be considered.
Double measuring circuits at sensors count as interconnected.
Additional details are specified in the test documents.

[16] **Test report**

The proof of the explosion protection is explained in the Test Report IB-13-3-038. The test documents are part of the test report and are listed there.

Summary of the test results:
The temperature measuring inserts fulfil the requirements of the explosion protection on electrical equipment of group II and category 2G with type of protection intrinsic safety.

[17] **Special conditions for safe use**

The specifications in the operating instruction have to be adhered to for the installation and operation of the temperature sensors. The maximum permissible media temperatures depend on the temperature class and the power supply in case of failure. The maximum permissible ambient temperature at the connection shall be maintained by the adherence of the neck tube clearance.

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

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

By order

Freiberg, 13 March 2013

(Dr. Wagner)