



Translation

(1) Certificate of Conformity

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 94/9/EC**

(3) **Certificate Number** TÜV 08 ATEX 554093 X

(4) for the equipment: Explosion protected
Pt100 temperature Sensor
type Pt1-xx, Pt2-xx and Pt3-xx

(5) of the manufacturer: LABOM Mess- und Regeltechnik GmbH

(6) Address: Im Gewerbepark 13
27795 Hude

Order number: 8000554093

Date of issue: 2008-05-19

- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems 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. 08 203 554093.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2006
EN 61241-0:2006

EN 60079-11:2007
EN 61241-11:2006

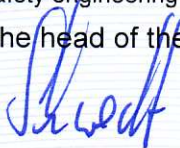
EN 60079-26:2007

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This certificate of conformity relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment or protective system must include the following:

 II 1 G Ex ia IIC T6/T5/T4 resp. II 2 G Ex ib IIC T6/T5/T4 resp.
II 1 D Ex iaD 20 T89°C resp. II 2 D Ex ibD 21 T129°C

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body



Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Fon +49 (0)511 986 1455, Fax +49 (0)511 986 1590

(13) **SCHEDULE**

(14) **Certificate of Conformity No. TÜV 08 ATEX 54093 X**

(15) Description of equipment

The explosion protected Pt100 temperature sensor type Pt1-xx, Pt2-xx and Pt3-xx is used for temperature measurement in explosion hazardous areas.

The marking of the temperature sensor is located on the apparatus housing; the housing is not part of this certificate.

Electrical data

Measuring circuit in type of protection Intrinsic Safety Ex ia IIC resp. Ex ib IIC
 (Plug connection) only for connection to a certified intrinsically safe circuit
 Maximum values:
 $U_i = 30 \text{ V}$
 $P_i = 200 \text{ mW}$
 The effective internal inductances and capacitances are negligibly small.

At use of the temperature sensor in explosion hazardous areas for category 1D-apparatus resp. 2D-apparatus, the measuring circuit may also be executed in type of protection intrinsic safety Ex ia IIB resp. Ex ib IIB.

The marking as well as the permissible ambient and medium temperature range have to be taken from the following tables:

Table 1

Use in explosion hazardous areas for category 1G-apparatus

Marking	Ambient and medium temperature range
II 1 G Ex ia IIC T6	-20°C ... 35 °C
II 1 G Ex ia IIC T5	-20°C ... 60 °C
II 1 G Ex ia IIC T4	-20°C ... 60 °C

Table 2

Use in explosion hazardous areas for category 2G-apparatus

Marking	Ambient and medium temperature range
II 2 G Ex ib IIC T6	-20°C ... 51 °C
II 2 G Ex ib IIC T5	-20°C ... 95 °C
II 2 G Ex ib IIC T4	-20°C ... 130 °C

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Table 3

Use in explosion hazardous areas for category 1D-apparatus

Marking	Ambient and medium temperature range
II 1 D Ex iaD 20 T89 °C	-20°C ... 60 °C

Table 4

Use in explosion hazardous areas for category 2D-apparatus

Marking	Ambient and medium temperature range
II 2 D Ex ibD 21 T129 °C	-20°C ... 100 °C

Tables 3 and 4:

At use in explosion hazardous areas for category 1D-apparatus or 2D-apparatus, the dusts must have a minimum smouldering temperature of not less than 210 °C for a 5 mm layer.

(16) The test documents are listed in the test report No. 08 203 554093.

(17) Special conditions for safe use

1. The explosion protected Pt100 temperature sensor type Pt1-xx, Pt2-xx and Pt3-xx is allowed to be operated in explosion hazardous areas, which require apparatus of category 1, only if atmospheric conditions exist (Temperatures: see Tables 1 and 3, pressure from 0.8 bar to 1.1 bar).
At use in explosion hazardous areas, which require apparatus of category 2, the permissible ambient temperatures may be taken from tables 2 and 4.
Then, the measuring circuit may be connected to an intrinsically safe circuit of protection level ib.
The permissible operating-pressures and -temperatures have to be taken from the regarding data of the manufacturer (manual), if no explosion hazardous gas mixtures exist.
2. At use in explosion hazardous areas for category 1D-apparatus or 2D-apparatus, the dusts must have a minimum smouldering temperature of not less than 210 °C for a 5 mm layer.
3. The measuring circuit is only allowed to be connected to separately certified intrinsically safe circuits with safe galvanic separation.

(18) Essential Health and Safety Requirements

no additional ones