



(1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

PTB 02 ATEX 2132

(4) Equipment: Measuring amplifier, type EM 5.005

(5) Manufacturer: DREHMO GmbH

(6) Address: 57482 Wenden, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 PTB Ex 02-22082 .

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 + A1 + A2

EN 50020:1994

(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 the schedule to this certificate.

(11) This EC-type-examination Certificate 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 shall include the following:

II 2 G EEx ib IIC T4 bis T6

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, October 14, 2003

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor



(13) **SCHEDULE**

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2132**

(15) Description of equipment

The electronic measuring amplifier, type EM 5.005 converts a position signal or a rotation angle signal picked-up by means of a potentiometer into a direct current signal.

For maximum permissible ambient temperature reference is made to the following table:

| Umgebungstemperatur | Temperaturklasse |
|---------------------|------------------|
| 60 °C | T6 |
| 75 °C | T5 |
| 80 °C | T4 |

Electrical data

Output circuit
(terminals 5 and 6)

type of protection Intrinsic Safety EEx ib IIC

Maximum values:

$$U_i = 23 \text{ V}$$

$$I_i = 100 \text{ mA}$$

$$P_i = 0.9 \text{ W}$$

the effective inductance L_i and capacitance C_i are negligibly low

Potentiometer circuit
(terminals 1, 2 and 3)

for connection to the associated measuring potentiometer only,
maximum line length: 100 m

The output circuit and the potentiometer circuit are electrically interconnected and isolated from ground.

(16) Test report PTB Ex 02-22082

(17) Special conditions for safe use

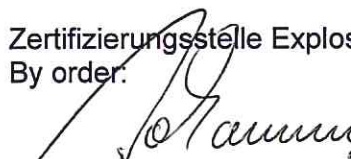
not required

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. U. Johannsmeyer
Regierungsdirektor



Braunschweig, October 14, 2003

1. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2132

(Translation)

Equipment: Measuring amplifier, type EM 5.005

Marking:  II 2 G Ex ib IIC T4 bis T6

Manufacturer: DREHMO GmbH

Address: Industriestrasse 1, 57482 Wenden, Germany

Description of supplements and modifications

In the future the measuring amplifier, type EM 5.005 will be operated in an ambient temperature range extended down to -25 °C. All other specifications apply without changes.

Applied standards

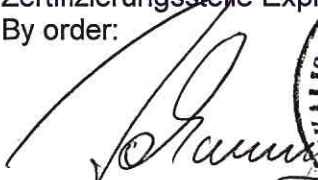
EN 60079-0:2006

EN 60079-11:2007

Test report: PTB Ex 07-27270

Zertifizierungsstelle Explosionschutz

By order:


Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Braunschweig, September 18, 2007

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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.