



Translation

EC-Type Examination Certificate

(1)

- Directive 94/9/EC -

(2)

**Equipment and protective systems intended for use
in potentially explosive atmospheres**

(3)

DMT 02 ATEX E 271 X

(4)

Equipment: Temperature Sensor Type . Pt100... or Typ . TE...

(5)

Manufacturer: Klöpper-Therm GmbH & Co.KG

(6)

Address: 44143 Dortmund

(7)

The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8)

The certification body of Deutsche Montan Technologie GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council 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 test and assessment report BVS PP 02.2143 EG.

(9)

The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997 + A1 – A2 General requirements
EN 50018: 2000 Flameproof enclosure 'd'
EN 50019: 2000 Increased safety 'e'

(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 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 2G EEx d IIC T6 bzw. EEx de IIC T6

Deutsche Montan Technologie GmbH

Essen, dated 20. December 2002

Signed: Jockers

Signed: Wittler

DMT-Certification body

Head of special services unit

(13)

Appendix to

(14)

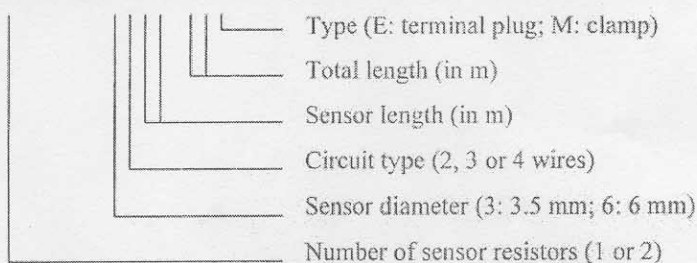
EC-Type Examination Certificate

DMT 02 ATEX E 271 X

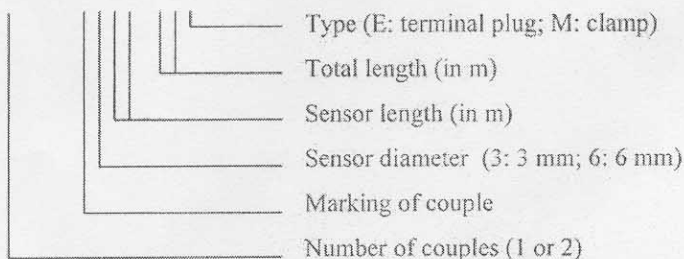
(15) 15.1 Subject and type

Temperature Sensor of type Pt100... or type ...TE...

Resistance thermometer Type ...Pt100/ -



Resistance thermometer Type ...TE/ -



15.2 Description

The temperature sensor are manufactured based on either sensing resistors (type ...PT 100...) or on several thermoelements (type ...TE...). Their purpose is to detect temperature in gaseous and liquid media.

The...E...type (marked EEx d IIC T6) is designed to be connected to approved terminal boxes in type of protection Increased Safety. The ...M... type (marked EEx de IIC T6) is equipped with a hard-wired connecting lead.

15.3 Parameters

15.3.1 Electrical Parameters

design voltage up to 60 V
 design amperage up to 10 mA

15.3.2 Thermal Parameters

Permissible ambient temperature range - 30 °C ≤ T_a ≤ 55 °C
 Permissible medium temperature range
 Type ...PT 100... -196 °C up to 600 °C
 Type ...TE... (according to material) maximum - 40 °C up to 1100 °C



(16) Test and assessment report
BVS PP 02.2143 EG as of 20.12.2002

(17) Special conditions for safe use

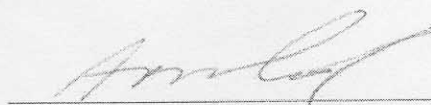
- 17.1 It has to be secured that under any thermal impact by the medium to be measured the temperature range of -30°C up to $+70^{\circ}\text{C}$ at the casting resin terminal plug is not exceeded.
- 17.2 Temperature sensors type...E... shall be used together with terminal boxes suitable and approved in type of protection Increased Safety.
- 17.3 The connecting lead of temperature sensors type...M... has to be fixed securely.
- 17.4 The permissible ambient temperature range of the temperature sensors is -30°C to 55°C .

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

45307 Essen, 08.05.2003
BVS-Eick/Mi E 0813/03

Deutsche Montan Technologie GmbH


DMT-Certification body


Head of special services unit