

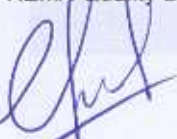
(1) TYPE EXAMINATION CERTIFICATE**(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC****(3) Type Examination Certificate Number: KEMA 07ATEX0197 X Issue Number: 1****(4) Equipment: Temperature sensors, type PT100WN, TCWN, PT100KN, TCKN, PT100RN, TCRN, PT100TN and TCTN.****(5) Manufacturer: Rodax N.V.****(6) Address: Karel van Overmeirelaan 21-23, 2100 Antwerpen, Belgium****(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.****(8) KEMA Quality B.V. 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 confidential test report no. 2111791.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:**EN 60079-0 : 2006****EN 60079-15 : 2005****(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 Type Examination Certificate relates only to the design, examination and tests of the specified equipment and not to the manufacturing process and supply of this equipment.****(12) The marking of the equipment shall include the following:****II 3 G Ex nA II T6 ... T1 or****II 3 G Ex nL IIC T6 ... T1**

This certificate is issued on December 21, 2007 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.

C. G. van Es
Certification Manager

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(13) **SCHEDULE**

(14) **to Type Examination Certificate KEMA 07ATEX0197 X**

Issue No. 1

(15) **Description**

The temperature sensors type PT100WN, TCWN, PT100KN, TCKN, PT100RN, TCRN, PT100TN and TCTN are thermocouple or resistance type sensors for connection to a temperature transmitter.

The sensors may be mounted in a PVC, in a cast iron or in an aluminium connection box and either have connection terminals for connection to a temperature transmitter, or can be used with an integrally mounted transmitter. They can also be provided with a permanently connected cable, without enclosure.

For sensors in type of protection Ex nL IIC, the maximum length of the sensor is 30 m.

Ambient temperature range - 20 °C to + 80 °C.

Electrical data

In type of protection Ex nL IIC: $U_i = 30 \text{ V}$, $C_i \leq 16 \text{ nF}$, $L_i \leq 350 \mu\text{H}$.

For temperature sensors, in type of protection Ex nL IIC, with a permanently connected cable the maximum length of the cable is 50 m.

In type of protection Ex nA: Rated voltage $\leq 30 \text{ Vdc}$.

Installation instructions

Temperature sensors without a connection head must be mounted in an enclosure, which complies with type of protection Ex n or Ex e and has a degree of protection not less than IP54. It must be suitable for the application and correctly installed.

For temperature sensors, in type of protection Ex nA, with a connection head, only cable entries and blanking elements, which comply with type of protection Ex n or Ex e and have a degree of protection of at least IP54, may be used. They must be suitable for the application and correctly installed.

For temperature sensors with a permanently connected cable, the connection must be done outside the hazardous area or in a junction box, suitable for the application.

Routine tests

The temperature sensor must be subjected to a dielectric strength test with a voltage of 500 Vac between the short circuited connection terminals or cable ends and the enclosure, during 1 minute without breakdown. As an alternative, a voltage of 600 Vac may be used, maintained at least for 100 ms.

(16) **Test Report**

KEMA No. 2111791.

(13) **SCHEDULE**

(14) **to Type Examination Certificate KEMA 07ATEX0197 X**

Issue No. 1

(17) **Special conditions for safe use**

The temperature class is dependent upon the process temperature in accordance with following table:

Temperature class	Maximum process temperature (°C)
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

If a temperature transmitter is mounted in a connection head, it must be suitable for the application. The transmitter shall be mounted in accordance with the manufacturer instructions.

If the connection head of the Temperature Sensor is made of non-conductive material, the head must be installed such, that dangerous electrostatic charging is avoided.

At an ambient temperature > 70 °C, a heat resistant cable with a temperature rating ≥ 100 °C shall be used.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 2111791.

Certificate of Conformity

Rodax N.V.

declares that the product

Device: temperature element RTD or thermocouple
with or without connection head and or transmitter

Type : PT100WN , TCWN , PT100KN , TCKN , PT100RN
TCRN , PT100TN , TCTN

Complies with the requirements of following European Directive

Directive 94/9/EC

This declaration is based on the EC-type examination Certificate KEMA07ATEX0197 X

NB: KEMA Quality BV NB n° : 0344
Utrechtseweg 310
6802 ED ARNHEM
The Netherlands

dated 1/12/2002 , and complies with following standards

EN 60079-0 : 2006 EN 60079-15 : 2005

Antwerp, date 12-08-2009

Quality Manager : L.De Coninck



Subject to technical changes without notice 052004 rev 2