

CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **KEMA 03ATEX2243 X** Issue Number: **4**

(4) Product: **Temperature Sensor Assembly, Type XPS3**

(5) Manufacturer: **Thermo Electric Instrumentation B.V.**

(6) Address: **Coenecoop 71-73, 2741PH Waddinxveen, The Netherlands**

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

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 number NL/DEK/ExTR11.0008/03.

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

EN 60079-0 : 2012 + A11 : 2013

EN 60079-1 : 2014

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



II 2 G Ex db IIC T6...T1 Gb

Date of certification: 13 September 2019

DEKRA Certification B.V.

L.G. van Schie
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 03ATEX2243 X**

Issue No. 4

(15) **Description**

The Temperature Sensor Assembly, Type XPS3 for temperature measurement, in different versions, consists of one or more inserts, optional extension parts, a junction box or a connection head provided with terminals or one or more temperature transmitters.

The insert consists of a metal sheathed mineral insulated cable available in various diameters and lengths, provided with one or two thermocouple or RTD temperature sensing elements.

The tip of the mineral insulated cable is closed by welding.

The other side of the mineral insulated cable is provided with a potted end, lead wires and optionally a terminal block.

Thermal data

The maximum ambient temperature (T_{max}) is +80 °C except for T6

The maximum ambient temperature (T_{max}) is +70 °C for T6

The ambient temperature range, the service temperature range of cables and the connection head and connection box depend on the material of the cable insulation as listed in the table below.

Cable insulation	Service temperature range of the cables	Service temperature range of the connection head and the connection box	Ambient temperature range
Silicon	-25 °C to 160 °C	-25 °C to T_{max}	-25 °C to T_{max}
Teflon	-40 °C to 180 °C	-40 °C to T_{max}	-40 °C to T_{max}

The maximum surface temperature due to process conditions (T_p) is the maximum surface temperature of any part of the assembly in contact with the explosive atmosphere.

The temperature class and the maximum surface temperature of the assembly depend on T_p , as listed in the table below.

T_p [°C]	Temperature class of the assembly	Max. surface temperature of the assembly [°C]
80	T6	85
95	T5	100
130	T4	135
195	T3	200
295	T2	300
445	T1	450
> 445	-	$T_p + 5$

(13) **SCHEDULE**

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Issue No. 4

Electrical data

Thermocouple sensing element	5 Vdc, 10 mA
RTD sensing element	5 Vdc, 10 mA
Transmitter data	max. 45 Vdc, max 50 mA, max 1,9 W

The parameters of the sensor connection at the transmitters shall comply with the parameters of the sensing elements.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/DEK/ExTR11.0008/03.

(17) **Specific conditions of use**

The electrical parameters and ambient temperature range are as listed at description (15).

When the process temperature range exceeds the service temperature range of the connection head, the connection box and the cable as listed above, it shall be verified by on-site temperature measurements, taking the worst case conditions into account, that the service temperature of these parts does not exceed the range as listed above.

The measurement report with the conclusions shall be filed together with the certificate to prove that this condition is met.

Inserts with a diameter smaller than 3 mm shall be protected against mechanical danger.

For information about the dimensions of the flameproof joints contact the manufacturer.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR11.0008/03.

(20) **Certificate history**

Issue 1 - 202924200	Initial certificate.
A01 - 206164700	Extended temp. range.
Issue 2 - 211811900	Assessment against 60079 series standards, Name change of manufacturer.
Issue 3 - 216887400	Assessment against latest standard editions, Name change of manufacturer.
Issue 4 - 223712100	Assessment against latest edition of EN 60079-1, Addition of extension nipple, Addition of potting materials.