PCA
Polskie Centrum Akredytacji
Certyfikacja Wyrobów
AC 149

J.S. Hamilton Poland Sp. z o.o.
Notified Body No. 2057
ul. Wyzwolenia 14
41-103 Siemianowice Śląskie

EU–TYPE EXAMINATION CERTIFICATE

(1)

(2) Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

(3) EU-Type Examination Certificate Number: **JSHP 23 ATEX 0003X** ***issue 0***

(4) Product: **Temperature sensors type:**
XI-TTP..., XI-TRP..., XI-TTE..., XI-TOPE...

(5) Manufacturer: **Termoaparatura Wrocław**

(6) Address: **55-010 Święta Katarzyna,**
Zębice ul. Rzemieślnicza 4, Poland

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

(8) J.S. Hamilton Poland Sp. z o.o., Notified Body no. 2057, 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 Report No. JSHP/RW/56/22/GP.

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

EN IEC 60079-0:2018 *(PN-EN IEC 60079-0:2018-09)*
EN 60079-11:2012 *(PN-EN 60079-11:2012)*
EN 60079-26:2015 *(PN-EN 60079-26:2015-04)*
EN 50303:2000 *(PN-EN 50303:2004)*

(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.

This certificate is valid in its entirety, schedule(s) included.

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

I M1 Ex ia I Ma
II 1/2G Ex ia IIC T6...T1 Ga/Gb *for Tp≤430°C*
II 1/2G Ex ia IIC 430°C...1200°C Ga/Gb *for Tp≥ 430°C*
II 1/2D Ex ia IIIC T...°C Da/Db *for Tp≤ 1200°C*

Damian Wróbel
Kierownik
Jednostki Certyfikującej

JEDNOSTKA NOTYFIKOWANA HAMILTON POLAND NB 2057 J.S. Hamilton Poland Sp. z o.o. JEDNOSTKA NOTYFIKOWANA

HAMILTON

Siemianowice Śl., 28th February 2023

(13) **SCHEDULE**

(14) **CERTIFICATE No. JSHP 23 ATEX 0003X**

(15) Description of product:
Temperature sensors type XI-TTP..., XI-TRP..., XI-TTE..., XI-TOPE... are simple apparatus in the sense of intrinsic safety. The sensors are designed to measure temperature in industrial installations with explosive gas or dust atmospheres. They can be used in the chemical industry and in underground mines.
The device consist of a measuring part with a single or double measuring resistor or a single or double termocouple at one end. The other end of the measuring part is equipped with plug or connection cable.
In order to protect sensor against the influence of the proces medium, the device is equipped with a cover.
If the sensor is used to measure the temperaturę in pressure vessel, the enclosure connected to it's shall must pass pressure tests.

Technical parameters:

Intrinsically save parameters:

Resistance sensors:
U_i= 30 V
I_i= 20 mA
I_i= 6 mA
P_i= 100 mW
L_i= 0,2 mH/1m przewodu
C_i = 0,25 nF/1m przewodu

Thermocouples:
Uo≤ 3V
Io≤ 10A
Po≤ 30mW
Li= 0,3 mH/1m of cable length
Ci= 0,25 nF/ 1m of calbe length

Measurement range:

-200°C ÷ +550°C for resistance sensors
-40°C ÷ +1200°C for thermocouples

Ambient temperature range:
T_{amb}= -40°C ÷ 70°C (for temperature class T6 and proces temperature Tp≤ 70°C)

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The relation between the process temperature and the temperature class or maximum service temperature is as follows:

Maximum proces temperature Tp (°C)	Temperature class
70°C	T6
85°C	T5
120°C	T4
185°C	T3
280°C	T2
430	T1
>430°C	Tp+15°C

(16) Report number:

– JSHP/RW/56/22/GP

(17) Specific conditions of use:

- The measuring part of the sensor has a temperature equal to the process temperature, which determines the temperature class of the sensor (from T1 to T6), or the maximum surface temperature Ts.
- For the process temperature above 450°C, determine the maximum surface temperature Ts corresponding to the maximum temperature of the sensor's measuring range (the maximum measuring range shall not be exceeded).
- The temperature of the other sensor surfaces in contact with the explosive atmosphere must be determined individually after installation on the object during operation and must not be higher than the auto-ignition temperature of the explosive gas atmosphere, or must be lower than 2/3 Tcl - the auto-ignition temperature of the dust cloud
- Surface temperature of the sensor covered by excessive dust layer mustn't exceed ignition temperature Tmax determined in accordance with EN 60079-10-2:2015 in dependence on a thickness of the layer.
- The maximum surface temperature and/or temperature class of the sensor must be specified in the place of its installation in accordance with the manufacturer's operating instruction.
- The sensor enclosure must be grounded at the installation site.

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(13) **SCHEDULE**

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(18) Essential Health and Safety Requirements:

These requirements (EHSRs) are covered by the standards listed at item 9

(19) Drawings and documents:

– Application manual. Safety instruction. „ Cable and plug temperature sensors for Hazardous Areas". M-0911 Edition 2023.

Detailed list of documents required for certified type identification is included in Report mentioned in Clause (16).

(20) Document history:

- EU type examination certificate No. JSHP 23ATEX 0003X of 28th February 2023 - issue 0

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