OBAC

Ośrodek Badań, Atestacji i Certyfikacji Sp. z o.o.
44-121 Gliwice, ul. Łabędzka 21

(1) EU-TYPE EXAMINATION CERTIFICATE

(2) Equipment, components and protective systems intended for use in potentially explosive atmospheres. Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014.

(3) EU type examination certificate No: **OBAC 19 ATEX 0161U**

(4) Product: **Temperature sensors type XE-TOPE600, XE-TOPE601, XE-TOPE610 and XE-TTE610**

(5) Manufacturer: **TERMOAPARATURA WROCŁAW**

(6) Address: Zębice, Rzemieślnicza 4, 55-010 Święta Katarzyna

(7) This equipment, component or protective system and any of its approved version is specified in this certificate and in documents listed in p. 19.

(8) The Institute for Research and Certification „OBAC" Ltd., notified body No.1461 in accordance with Article 17 of the European Council Directive 2014/34/EU of February 26, 2014, certifies that this equipment, component or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment, component or 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 No. OBAC/19/ATEX/0161.

(9) Compliance with the Safety Requirements has been assured by conformity with:

EN 60079-0:2012 **EN 60079-7:2015**

(10) If the sign „U" is placed after the certificate number, it indicates that the certificate concerns Ex part or component. This certificate may be used as the basis for obtaining certificate for equipment or protective system.

(11) This EU-type examination certificate relates only to the design, evaluation and tests of the specified equipment, component or protective system according to the Directive 2014/34/EU. The certificate does not apply to further requirements of the Directive relating to the manufacture and placing on the market of this equipment, component or protective system.

(12) The marking of the equipment, component or protective system must include the following:

II 2G Ex eb IIC Gb

NOTYFIKOWANY ORGAN CERTYFIKUJĄCY WYROBY Ośrodek Badań, Atestacji i Certyfikacji OBAC Sp. z o.o. 1461

Certification Body Manager

Piotr Tarnawski M.Com.

Gliwice, 7 June 2019.

(13)
(14)

SCHEDULE

to the EU-Type Examination Certificate No. OBAC 19 ATEX 0161U

(15) Ex Product description:

Temperature sensors are Ex components intended for temperature measurement in the stator slot (XE-TOPE600, XE-TOPE601) or coils of electric motors and generators (XE-TOPE610, XE-TTE610). The resistance temperature detector (RTD) or thermocouple is placed in an impregnated fiberglass insulation plate filled with epoxy resin or in a PTFE heat shrink tube. The insulated wires coming out of the sensor are to be connected to the measuring circuit.

Rated data:

Sensing element	XE-TOPE600, XE-TOPE601, XE-TOPE610: RTD (Pt100 or other)	XE-TTE610: thermocouple (type K, J or other)
Measurement circuit parameters	I max = 10mA P max = 1,5W	I max = 100mA U max = 1,5V P max = 25mW
Service temperature range	$-60° \leq T_s \leq +180°C$	

Marking:

Temperature sensor type **XE - TOPE600 -** ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___

- sensing element
- housing width S [mm]
- housing length L [mm]
- housing thickness G [mm]
- cable length Lp [mm]
- RTD class
- connection line
- connection cable

(13)
(14)

SCHEDULE

to the EU-Type Examination Certificate No. OBAC 19 ATEX 0161U

Temperature sensor type **XE - TOPE601 -** ___ - ___ - ___ - ___ - ___ - ___ - ___ - ___

- sensing element
- housing width S [mm]
- housing length L [mm]
- housing thickness G [mm]
- cable length Lp [mm]
- RTD class
- connection line
- connection cable

Temperature sensor type **XE - TOPE610 -** ___ - ___ - ___ - ___ - ___

- sensing element
- cable length Lp [mm]
- RTD class
- connection line
- connection cable

Temperature sensor type **XE - TTE610 -** ___ - ___ - ___ - ___

- sensing element
- cable length Lp [mm]
- TC class
- connection cable

NOTYFIKOWANY ORGAN CERTYFIKUJĄCY WYROBY Ośrodek Badań Atestacji i Certyfikacji OBAC Sp. z o.o. 1461

(13)

SCHEDULE

(14)

to the EU-Type Examination Certificate
No. OBAC 19 ATEX 0161U

(16) **Temperature sensors type XE-TOPE600, XE-TOPE601 XE-TOPE610 and XE-TTE610** meets the requirements for devices with explosion proof design and may be used as a device of group II, category 2G.

(17) Schedule of Limitations:

- Temperature sensor is to be installed in an enclosure which is complying with requirements of the IEC 60079-7.
- Service temperature range: $-60°C \leq T_s \leq +180°C$.

(18) The compliance with Safety Requirements (EHSRs) has been assured by compliance with standards shown in p.9 of this certificate.

(19) List of agreed documentation:

- "Application manual. Safety instructions. Stator slot temperature sensors for Hazardous Areas. Models: XE-TOPE600, XE-TOPE601", 01.2019.
- "Application manual. Safety instructions. Temperature sensors for coils of electric motors/generators. Models: XE-TOPE610, XE-TTE610", 01.2019.
- Drawing no. PR-1832-19 "XE-TOPE601", 03.2019.
- Drawing no. PR-1833-19 "XE-TOPE600", 03.2019.
- Drawing no. PR-1834-19 "XE-TOPE610", 03.2019.
- Drawing no. PR-1835-19 "XE-TTE610", 03.2019.

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44-121 Gliwice, ul. Łabędzka 21

(1)

Schedule No. 1
to
the certificate no. OBAC 19 ATEX 0161U

(2) Component intended for use in Potentially Explosive Atmospheres. Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014.

(3) Component: **Temperature sensors type XE-TOPE600, XE-TOPE601, XE-TOPE610 and XE-TTE610**

(4) Manufacturer: **TERMOAPARATURA WROCŁAW**

(5) Address: Zębice, Rzemieślnicza 4, 55-010 Święta Katarzyna POLAND

(6) Compliance with the Essential Health and Safety Requirements has been assured by conformity with:

EN IEC 60079-0:2018
EN 60079-7:2015+A1:2018
EN 60079-11:2012

(7) Description of changes:
- The use of intrinsic safety as an alternative type of protection
- Standards update

Rated data:

Type and sort of the measuring element	Maximum and intrinsically safe parameters	
	Ex e	Ex i
XE-TOPE600 (chip), class A	U_{max} = 17V	U_i = 17V
	I_{max} = 55mA	I_i = 55mA
	P_{max} = 1W	P_i = 1W
	-	L_i, C_i - negligible
XE-TOPE600 (chip), class B	U_{max} = 25V	U_i = 25V
	I_{max} = 80mA	I_i = 80mA
	P_{max} = 2W	P_i = 2W
	-	L_i, C_i - negligible
XE-TOPE601 (bifilar)	U_{max} = 65V	U_i = 30V
	I_{max} = 250mA	I_i = 65mA
	P_{max} = 16W	P_i = 2,08W
	-	L_i, C_i - negligible

NOTIFIED BODY Ośrodek Badań, Atestacji i Certyfikacji OBAC Sp. z o.o. 1461

Certification Body Manager

Piotr Tarnawski M.Com.

Gliwice, 29th November 2021

(1)

Schedule No. 1
to
the certificate no. OBAC 19 ATEX 0161U

Type and sort of the measuring element	Maximum and intrinsically safe parameters	
	Ex e	Ex i
XE-TOPE610 (chip), class A	U_{max} = 17V	U_i = 17V
	I_{max} = 55mA	I_i = 55mA
	P_{max} = 1W	P_i = 1W
	-	L_i, C_i - negligible
XE-TOPE610 (chip), class B	U_{max} = 25V	U_i = 25V
	I_{max} = 80mA	I_i = 80mA
	P_{max} = 2W	P_i = 2W
	-	L_i, C_i - negligible
XE-TTE610	U_{max} = 1,5V	U_i = 1,5V
	I_{max} = 100mA	I_i = 100mA
	P_{max} = 25mW	P_i = 25mW
	-	L_i, C_i - negligible

Remaining rated data did not change and are the same as in the certificate no. OBAC 19 ATEX 0161U.

Marking: Remain unchanged.

(8) Result of the tests carried out:

Explosion-proof execution was confirmed in the confidential product evaluation report: OBAC/21/ATEX/0324.
The introduced versions of execution meet the requirements for devices of group II, category 1G, 1D and 2G, 2D.
The explosion-proof design marking shall be as follows:

II 1G Ex ia IIC Ga or **II 2G Ex ia IIC Gb**

II 1D Ex ia IIIC Da or **II 2D Ex ia IIIC Db**

II 2G Ex eb IIC Gb

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(1)

Schedule No. 1
to
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(9) Restrictions on use:

- Applies to "Ex e" version: the component should be installed in an enclosure which complies with the requirements of EN 60079-7.
- Applies to "Ex i" version: the component should be protected by a housing ensuring degree of protection min. IP20, in accordance with EN 60079-11, 6.1.2 and 6.1.3. Additionally, the housing must meet the requirements for enclosures in accordance with EN IEC 60079-0, as applicable for intrinsically safe or associated apparatus.
- Service temperature range: $-60°C \leq Ts \leq +180°C$
- max. temperature rise of the measuring element: $\Delta Tmax = 10K$ (not applicable to the version with EPL Da)
- When using the sensor as a component with EPL Da, it may be necessary to determine the max. temperature of the sensor surface with a layer of dust after installation in final equipment, in accordance with EN IEC 60079-0, 5.3.2.3.1.

Notes for manufacture, installation and operation:

- Applies to "Ex e" version: each piece of temperature sensor shall be subjected to dielectric test in accordance with 7.1 of the EN 60079-7.
- Applies to "Ex i" version: the temperature sensor should be tested according to EN 60079-11, F.3.1

(10) Technical documentation:
The technical documentation is specified in the confidential report no. OBAC/21/ATEX/0324.

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