



## EC-Type Examination Certificate

- (1)  
(2) **Equipment or Protective Systems Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC**

- (3) EC-Type Examination Certificate Number:

**FTZÚ 08 ATEX 0153X**

- (4) Equipment or protective system: **Temperature sensors series XI - ..... -.**

- (5) Manufacturer: **Termoaparatura Wrocław**

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

- (7) This equipment or protective system and any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

- (8) The Physical Technical Testing Institute, notified body number 1026 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 Report N°

**08/0153 dated 25 November 2008**

- (9) Compliance with Essential Health and safety requirements has been assured by compliance with:

**EN 60079-0:2006; EN 60079-11:2007; EN 60079-26:2004;  
EN 61241-0:2006; EN 61241-1:2004; EN 50303 : 2000**

- (10) If the sign „X” is placed after the certificate number, it indicates that the equipment or protective system 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 testing of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

- (12) The marking of the equipment or protective system shall include following:


 **II 1/2G Ex ia IIC T6-T1 resp. Ts (450°C ≤ Ts ≤ 1200°C)**

 **II 1D Ex ia tD A20 IP 65 Ts (85°C ≤ Ts ≤ 1200°C)**

 **I M1 Ex ia I**

This EC-Type Examination Certificate is valid till **26.11.2013**

Responsible person:

  
Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 26 of November 2008

Number of pages: 4  
Page: 1/4

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Physical Technical Testing Institute  
Ostrava-Radvanice

(13)

Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 08 ATEX 0153X**

(15) Description of Equipment or Protective System:

The temperature sensor consists of a measuring probe, which contain (at its end) an one or two sensing resistors and/or an one or two thermocouples. The second end of the measuring probe is provided with electric terminals protected by a sensor head type XE-DANA... or type XE-DAND... or XE-BE.... . The measuring probe can be protected by additional measure resistant at certain process conditions.

The sensor heads were approved by separate certificate FTZÚ 03 ATEX 0073U (XE-DANA), 04 ATEX 0264U (XE-DAND) and FTZÚ 06 ATEX 0254U (XE-BE).

Inside of sensor head could be a ceramic terminal board and/or a measuring transducer, which must be separately certified according to Directive 94/9/EC. If the temperature measurement are applied in pressure vessel, the pressure tests must be carried out with built-in sensor well.

Technical parameters:

1. Range of temperature measurement:  
-200 °C to +550 °C for resistor sensor  
-40 °C to +1200 °C for thermocouples
2. Sensors without transducer  
Ambient temperature:  $T_a - 40^{\circ}\text{C}$  to  $+ 75^{\circ}\text{C}$  (for temperature class T6 and process fluid temperature  $T_p \leq 75^{\circ}\text{C}$ )
3. Maximum input parameters  
 $U_i = 3 \text{ V}$  for resistor sensors  
 $U_i = 10 \text{ V}; I_i = 200 \text{ mA}$  for thermocouples
4. Sensors with transducer  
The ambient temperature and temperature class and surface temperature depend on used transducer type and process fluid temperature.

(16) Report No.: 08/0153 (34 pages)

Responsible person:

  
Dipl. Ing. Sindler Jaroslav  
Head of certification body



Date of issue: 26 of November 2008

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(14) **EC-Type Examination Certificate N° FTZÚ 08 ATEX 0153X**


(17) Special conditions for safe use: -

- 17.1 For sensor without transducers or application of transducer without galvanic separation, the equalisation of ground potential between sensor and earth point of Zener barrier must be carried out.
- 17.2 If transducer with galvanic separation is used, the equalisation of potential is not necessary.
- 17.3 The sensing part of the sensor has a surface temperature equal to process fluid temperature and so this fact is decisive for temperature class (for T6 to T1) or maximum surface temperature  $T_s$ .
- 17.4 When process temperature is above 450°C it is necessary to indicate the maximum surface temperature  $T_s$  equal to maximum measuring range of the sensor (maximum measuring range mustn't be exceeded).
- 17.5 The surface temperature of sensor head depends on sensor type, installation method, process temperature, ambient temperature and power dissipation of applied transducer. It must be determined individually after its installation and mustn't exceed permitted sensor head  $T_{serv}$ , the transducer and also ignition temperature of explosive gas atmosphere and/or exceed  $2/3 T_{el}$  – ignition temperature of dispersed dust.
- 17.6 The temperature of the others sensor surfaces, that are in contact with explosive atmosphere must be determined individually after installation on site and mustn't exceed ignition temperature of explosive gas atmosphere and/or exceed  $2/3 T_{el}$  – ignition temperature of dispersed dust.
- 17.7 Surface temperature of the sensor covered by excessive dust layer mustn't exceed ignition temperature  $T_{max}$  determined in accordance with Annex B of EN 61241-10 in dependence on a thickness of the layer

(18) Essential Health and Safety Requirements:

Essential health and safety requirement of Directive 94/9/EC are covered by standards mentioned in (9), according which the product was verified and in manufacturer's instruction for use.

Responsible person:

  
Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 26 of November 2008

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(14) EC-Type Examination Certificate N° FTZÚ 08 ATEX 0153X

(19)

LIST OF DOCUMENTATION

*Documentation:*

1. Instruction of use M-0801			24.11.2008
2. Catalogue of the temperature sensors for hazardous areas C-0801			24.11.2008
3. Drawings No.:	<i>Date of verification:</i>	3. Drawings No.:	<i>Date of verification:</i>
PR-026-08	25.11.2008	PR-046-08	25.11.2008
PR-027-08	25.11.2008	PR-047-08	25.11.2008
PR-028-08	25.11.2008	PR-048-08	25.11.2008
PR-029-08	25.11.2008	PR-049-08	25.11.2008
PR-030-08	25.11.2008	PR-050-08	25.11.2008
PR-031-08	25.11.2008	PR-051-08	25.11.2008
PR-032-08	25.11.2008	PR-052-08	25.11.2008
PR-033-08	25.11.2008	PR-053-08	25.11.2008
PR-034-08	25.11.2008	PR-058-08	25.11.2008
PR-035-08	25.11.2008	PR-059-08	25.11.2008
PR-036-08	25.11.2008	PR-060-08	25.11.2008
PR-037-08	25.11.2008	PR-061-08	25.11.2008
PR-038-08	25.11.2008	PR-062-08	25.11.2008
PR-039-08	25.11.2008	PR-063-08	25.11.2008
PR-040-08	25.11.2008	PR-064-08	25.11.2008
PR-041-08	25.11.2008	PR-065-08	25.11.2008
PR-042-08	25.11.2008	PR-066-08	25.11.2008
PR-043-08	25.11.2008	PR-067-08	25.11.2008
PR-044-08	25.11.2008	PR-068-08	25.11.2008
PR-045-08	25.11.2008	PR-069-08	25.11.2008
		PR-070-08	25.11.2008
4. Certificate FTZÚ 03 ATEX 0073U (3 pages)			on 27.06.2003
5. Supplement No. 1 to Certificate FTZÚ 03 ATEX 0073U (2 pages)			on 29.10.2004
6. Supplement No. 2 to Certificate FTZÚ 03 ATEX 0073U (3 pages)			on 08.11.2007
7. Certificate FTZÚ 04 ATEX 0264U (3 pages)			on 29.10.2004
8. Supplement No. 1 to Certificate FTZÚ 04 ATEX 0264U (2 pages)			on 12.07.2006
9. Supplement No. 2 to Certificate FTZÚ 04 ATEX 0264U (3 pages)			on 08.11.2007
10. Certificate FTZÚ 06 ATEX 0254U (3 pages)			on 29.10.2007

Responsible person:

  
Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 26 of November 2008

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(1) **Supplement No. 1 to  
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

**FTZÚ 08 ATEX 0153X**

(4) Equipment or protective system: **Temperature sensors series XI - ..... -.**

(5) Manufacturer: **Termoaparatura Wrocław**

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

(7) This supplement of certificate is valid for: - new model (variant) – extension of series

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirements, which manufacturer shall fulfil before products are place on market or introduce in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

**EN 60079-0:2006; EN 60079-11:2007; EN 60079-26:2004;  
EN 61241-0:2006; EN 61241-1:2004; EN 50303 : 2000**

(11) Marking of equipment shall contain symbols:

 **II 2G Ex ia IIC Tx**

 **II 1D Ex ia tD A20 IP 65 Tx**

(12) This type examination certificate is valid till: **26. 11. 2013**

Responsible person:

Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: **13.10.2009**



Number of pages: **3**  
Page: **1/3**

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Physical Technical Testing Institute  
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(13)

Schedule

(14)

Supplement No. 1 to  
EC-Type Examination Certificate N° FTZÚ 08 ATEX 0153X

(17) Special conditions for safe use:

17.1 For sensors XI-T..GS, XI-APT..GS are valid condition mentioned in item (17) of certificate FTZÚ 08 ATEX 0153X.

17.2 Conditions for ambient temperature sensors XI-TOPZ and XI-APTOPZ:

1. For sensors transmitter or sensors equipped with transmitter without galvanic separation, the equalization of ground potential between sensor and earth of Zener barrier must be carried out.
2. If transmitter with galvanic separation is used, the equalization of potential is not necessary.
3. None surface sensor, that are in contact with explosive gas atmosphere and/or exceed  $2/3 T_{cl}$  - ignition temperature of dispersed dust.
4. The temperature of the sensor covered by excessive dust layer mustn't exceed ignition temperature max. determined in accordance with Annex B of EN 61241-10 in dependence on thickness layer.

(18) Essential Health and Safety Requirements:

Covered by standards mentioned in (10).

(19) Documentation:

	Date:
1. Instruction manual M-0801 (35 pages)	08.07.2009
2. Instruction manual M-0906 (16 pages)	08.07.2009
3. Drawings No.: PR-110-09	05.06.2009
PR-111-09	05.06.2009
PR-112-09	05.06.2009
4. Data sheets: XI-.TOPZ	
XI-.TOPGS	
XI-.TT..GS	
5. Certificates: SIRA 99 ATEX 3174U (4 sheets)	15.01.2000
DMT 03 ATEX E 051X (3 sheets)	25.02.2003
1. Annex for DMT 03 ATEX E 051X (2 sheets)	25.08.2004

Responsible person:

Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 13.10.2009

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(1) **Supplement No. 2 to  
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for Use  
in Potentially Explosive Atmospheres  
(Directive 94/9/EC)**

(3) EC-Type Examination Certificate Number:

**FTZÚ 08 ATEX 0153X**

(4) Equipment: **Temperature sensors series XI - .....-**

(5) Manufacturer: **TERMOAPARATURA WROCLAW**

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

(7) This supplement of certificate is valid for: - verification according to new standard  
- prolongation of certificate validity

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, a list of which is mentioned in the schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on the market or introduce in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

**EN 60079-0:2012; EN 60079-11:2012; EN 60079-26:2007;  
EN 50303:2000**

(11) Marking of equipment shall contain symbols:

 **II 1/2G Ex ia IIC T6-T1 resp. Ts (450°C ≤ Ts ≤ 1200°C) Ga/Gb**

 **II 1/2D Ex ia IIIC Ts (85°C ≤ Ts ≤ 1200°C) Da/Db**

 **I M1 Ex ia I Ma**

 **II 2D Ex ia IIIC Tx Db**

 **II 2G Ex ia IIC Tx Gb for types XI-TOPZ a XI-APTOPZ**

(12) This type examination certificate is valid till: **10.12.2018**

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 10.12.2013

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Physical Technical Testing Institute  
Ostrava – Radvanice

(13)

Schedule

(14)

Supplement No. 2 to  
EC-Type Examination Certificate N° FTZÚ 08 ATEX 0153X

(15) Description of Equipment:

The object of this supplement is as follow:

- Recertification according to the new standards.
- Prolongation of certificate validity.

Technical parameters and construction parameters remain unchanged.

(16) Report No.: 08/0153-2

dated 10.12.2013

(17) Special conditions for safe use: Remain unchanged

(18) Essential Health and Safety Requirements:

They are included in standards, which are mentioned in clause (10) of this certificate according which was equipment certified and in the documentation elaborated by manufacturer.

(19) List of Documentation:

<i>Document.:</i>	<i>Date:</i>
M-0906	16.08.2013
M-0801	08.11.2011
PR-066-08	16.08.2013
Catalogue	08.11.2011

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 10.12.2013

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This supplement to certificate is granted subject to the general conditions of the FTZÚ, s.p.  
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(1) **Supplementary EU - Type Examination Certificate No.3**

(2) **Equipment or Protective Systems Intended for Use  
in Potentially Explosive Atmospheres  
(Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

**FTZÚ 08 ATEX 0153X**

(4) Product: **Temperature Sensors series XI - .....-**

(5) Manufacturer: **TERMOAPARATURA WROCLAW**

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

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 08 ATEX 0153X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, 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.

(9) In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20.04.2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20.04.2016.

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

**EN 60079-0:2012+A11:2013; EN 60079-11:2012; EN 50303:2000**

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

	<b>II 1/2G</b>	<b>Ex ia IIC T6-T1 resp. Ts (450°C ≤ Ts ≤ 1200°C) Ga/Gb</b>
	<b>II 1/2D</b>	<b>Ex ia IIIC Ts (85°C ≤ Ts ≤ 1200°C) Da/Db</b>
	<b>I M1</b>	<b>Ex ia I Ma</b>
	<b>II 2D</b>	<b>Ex ia IIIC Tx Db (XI-TOPZ and XI-APT0PZ)</b>
	<b>II 2G</b>	<b>Ex ia IIC Tx Gb (XI-TOPZ and XI-APT0PZ)</b>

(12) This certificate is valid till: **10.12.2023**

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 24.10.2018

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Physical-Technical Testing Institute  
Ostrava - Radvanice

(13) **Schedule**

(14) **Supplementary EU - Type Examination Certificate No. 3  
to FTZÚ 08 ATEX 0153X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Prolongation of certificate validity.

This supplementary certificate prolongs certificate validity.

The construction and intrinsically safe parameters of temperature sensors series XI - .....- remain without changes.

(16) Report Number.: 08/0153/3

(17) Specific Conditions of Use:

None additional to those listed previously.


(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (10) of this supplementary certificate.

(19) List of Documentation:

<i>Document / Drawing:</i>	<i>Revision:</i>	<i>Date:</i>	<i>Nr. of Pages:</i>
PR-066-08	C	04.10.2018	1
PR-116-09	C	04.10.2018	1
Application Manual	Edition 2018	16.10.2018	79
Catalogue	Edition 2016	16.10.2018	109

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 24.10.2018

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