



PHYSICAL TECHNICAL TESTING INSTITUTE

Ostrava-Radvanice



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 07 ATEX 0002U

(4) Component: **Model XD-SI, universal instrument housing**

(5) Manufacturer: **Limatherm, S.A.**

(6) Address: **ul. Tarnowska 1, 34-600 Limanowa, Poland**

(7) This Component 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°

07/0002 dated January 2007

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

EN 60079-0:2006; EN 60079-1:2004; EN 61241-0:2006; EN 61241-1:2004

(10) The sign „U” placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

(11) This EC-TYPE EXAMINATION CERTIFICATE relates only to design, examination and testing of the specified component in accordance to the directive 94/9/EC. If applicable, further requirements of the Directive apply to the manufacture and supply of this component.

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



**I M 2 Ex d I
II 2G Ex d IIC
II 2D Ex tD**

This EC-Type Examination Certificate is valid till: **31 March 2012**

Responsible person:

Šindler
Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 07 March 2007

Number of pages: 4
Number of pages: 1/4

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PHYSICAL TECHNICAL TESTING INSTITUTE

Ostrava-Radvanice

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(14) **EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U**

(15) Description of Component:

XD-SI universal instrument housing is designed to accommodate different electronics instruments or devices for working in hazardous areas with flammable gases, vapours and dusts. The housing and cover are made as stainless steel investment casting.

There are three flameproof joints in XD-SI instrument body:

- On the cover is used thread M100x2/6H;
- D₂, D₃ on the conduit openings for cable gland (various type of threaded holes);
- D₁ on process opening for thermowell (D₁ - various type of threaded holes).

The cover is locked by screw with hex socket using hex spanner. Each cover is sealed with "O" ring. The unused holes can be blinded with a certified stopping plug.

(16) Report No. : 07/0002

(17) Schedule of Limitations:

17.1 -50°C < T_{serv} > 150°C for connection head with "O" ring made from VQM rubber (silicone)

17.2 IP protection 66 ÷ 68 – is depend on applied cable gland. (IP 68 – deep 1 m).

17.3 Max. dissipation power for temperature class are as follow:

T _{amb}	Temperature class T6 85°C	Max. power dissipation (W)		
		Pztr (W)	Temperature class T5 100°C	Pztr (W)
		For all variety of enclosures position horizontally/vertically		For all variety of enclosures position horizontally/vertically
40°C	Δ θ ≤ 40 K	14,7 / 14,3	Δ θ ≤ 55 K	21,8 / 21,4
55°C	Δ θ ≤ 25 K	8,3 / 8,1	Δ θ ≤ 40 K	14,7 / 14,3
70°C	Δ θ ≤ 10 K	2,3 / 2,3	Δ θ ≤ 25 K	8,3 / 8,1
85°C	N.A.	- / -	Δ θ ≤ 10 K	2,3 / 2,3

(18) Essential Health and Safety Requirements:

Covered by standards mentioned in (9) of this certificate.

Responsible person: _____

Dipl. Ing. Sindler Jaroslav
Head of certification body



Date of issue: 07 March 2007

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Ostrava-Radvanice

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(14) **EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U**

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LIST OF DOCUMENTATION

- Application manual N-L3625 dated 18.12.2006
- Catalogue sheets for model: XD-SI dated 03.2007
- Drawings N°: 2-Z-L3586 dated 03.01.2007
- Stainless Steel Specification: 1.4301 AISI 304
1.4541 AISI 321
1.4401 AISI 316
- Silicone rubber specification ELASTOSIL R701/40-R701/80

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 07 March 2007

Page: 3/4

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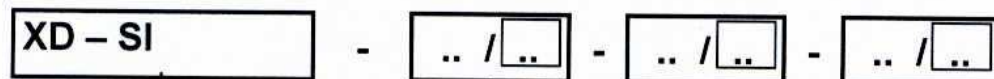
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(14) EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U

(20)

TYPE KEY



TYPE OF INSTRUMENT
HOUSING

SYMBOL OF CONDUIT THREAD $D_3 - D_2$

M2 = M20x1,5 6H

M24 = M24x1.5 6H

M25 = M25x1.5 6H

G2 = G 1/2, BSP 1/2

G3 = G 3/4, BSP 3/4

N2 = 1/2 NPTmod – modified ac. to OIT-17/03

N3 = 3/4 NPTmod – modified ac. to OIT-17/03

PD = plugged

Notice:

Type: "size of thread / PD" if thread is plugged ex.

M2/PD, etc.

SYMBOL OF PROCESS THREAD D_1

M2 = M20x1,5 6H

M24 = M24x1.5 6H

M25 = M25x1.5 6H

M27 = M27x2 6H

G2 = G 1/2, BSP 1/2

G3 = G 3/4, BSP 3/4

N2 = 1/2 NPTmod – modified ac. to OIT-17/03

N3 = 3/4 NPTmod – modified ac. to OIT-17/03

PD = plugged

Notice:

Type: "size of thread / PD" if thread is plugged ex.

M2/PD, etc.





Physical Technical Testing Institute
Ostrava-Radvanice



Supplement No. 1 to EC-Type Examination Certificate

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

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0002U

(4) Component: **Model XD-SI, universal instrument housing**

(5) Manufacturer: **Limatherm, S.A.**

(6) Address: **ul. Tarnowska 1, 34-600 Limanowa, Poland**

(7) This supplement of certificate is valid for: - new model **XD-SIwin** (variant) – extension of series
- extension of Tserv for XD-SI serie


(8) Modification of certified component 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 relates only to design, examination and testing of the specified component in accordance to the directive 94/9/EC. If applicable, further requirements of the Directive apply to the manufacture and supply of this component.

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

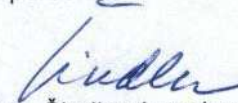
EN 60079-0:2006; EN 60079-1:2007; EN 61241-0:2006; EN 61241-1:2004

(11) Marking of component shall contain symbols:

 **I M 2 Ex d I
II 2G Ex d IIC
II 2D Ex tD A21**

(12) This type examination certificate is valid till: **31.03.2012**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 14.01.2009

Number of pages: 3
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**Supplement No. 1 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U**

(15) Description of Component:

- XD-SI win enclosure is alternatively designed with the cover with a window.
- Further is changed a lock screw from M3x6 to M4x8 on the housing XD-SI and XD-SI win.
- It is introduced additional "O" ring made from fluoroelastomer FKM, for temperature range of XD-SI housing from -20°C to +200°C.

(16) Report No. : 07/0002-D1

(17) Schedule of limitations:

17.1 T_{serv} : -20°C to +200°C for XD-SI enclosure (fluoroelastomer rubber FKM)

T_{serv} : -20°C to +85°C for XD-SIwin (fluoroelastomer rubber FKM)

T_{serv} : -50°C to +85°C for XD-SIwin (silicone rubber VQM)

17.2 The conditions, mentioned in the main document are valid in whole range.

17. Max power dissipation (W):

T_{amb}	Temperature class T6 85°C	Max. power dissipation (W)		
		Pztr (W)		Temperature class T5
		Cover with window Horizontally / Vertically		100°C
40°C	$\Delta \theta \leq 40$ K	20,0 / 15,0		$\Delta \theta \leq 55$ K
55°C	$\Delta \theta \leq 25$ K	11,0 / 8,5		$\Delta \theta \leq 40$ K
70°C	$\Delta \theta \leq 10$ K	3,6 / 3,1		$\Delta \theta \leq 25$ K
85°C	N.A.	- / -		$\Delta \theta \leq 10$ K

(18) Essential Health and Safety Requirements:

Covered by standards mentioned in (10) of this supplement.

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 14.01.2009

Number of pages: 3
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**Supplement No. 1 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U**

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LIST OF DOCUMENTATION

- Application manual No. N-L3625 dated 28.11.2008
- Data sheet-type XD-SI dated 09.09.2008
- Data sheet-type XD-SI win dated 09.09.2008
- Drawings No.: 2-Z-L3586 dated 27.08.2008
- Drawings No.: 2-Z-L4029 dated 09.09.2008
- Compound data sheet VR1-fluoroelastomer FKM
- Composition and technical information about Soda lime glass

Responsible person:


Dipl. Ing. Sindler Jaroslav
Head of certification body



Date of issue: 14.01.2009

Number of pages: 3

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Physical Technical Testing Institute
Ostrava-Radvanice



Supplement No. 2 to EC-Type Examination Certificate

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

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0002U

(4) Component: **Model XD-SI, XD-SIwin Instrument Housing**

(5) Manufacturer: **Limatherm, S.A.**

(6) Address: **ul.Tarnowska 1, 34-600 Limanowa, Poland**

(7) This supplement of certificate is valid for: - prolongation of certificate validity


(8) Modification of certified component 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 relates only to design, examination and testing of the specified component in accordance to the directive 94/9/EC. If applicable, further requirements of the Directive apply to the manufacture and supply of this component.


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

EN 60079-0:2009 EN 60079-1:2007 EN 60079-31:2009

(11) Marking of component shall contain symbols:

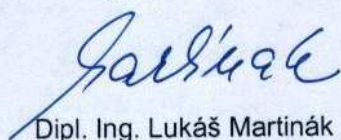
 **I M2 Ex d I Mb**

 **II 2G Ex d IIC Gb**

 **II 2D Ex t IIC Db**

(12) This type examination certificate is valid till: **05.09.2017**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 05.09.2012

Number of pages: 2
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**Physical Technical Testing Institute
Ostrava-Radvanice**

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**Supplement No. 2 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U**

(15) Description of Component:

Subject of this supplement is prolongation of certificate validity of newest standards.
Flameproof housing without changes.

(16) Report No. : 07/0002-D2 (2 pages)

(17) Schedule of limitations:

- 17.1 The special conditions described in main document and the supplement No.1 are valid in all whole range.
- 17.2 Equipment tested for lower mechanical strength for mines area (I M2 Ex d I Mb) 4J.
- 17.3 Maximum design gaps of flameproof joints are smaller than maximum permitted gaps according to standard. Verified values of design gaps are mentioned in documentation.

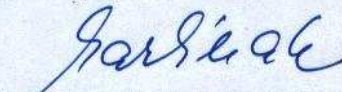
(18) Essential Health and Safety Requirements:

- 18.1 Covered by standards mentioned in (10) of this supplement
- 18.2 The additional test with sealing material were made according to the standard EN 60079-0 and related.

(19) LIST OF DOCUMENTATION

Title:	Drawing No.:	Date:
Application Manual	N-L3625	15.11.2011
XD-SI Data sheet	--	15.11.2011
XD-SI	2-Z-L3586	09.02.2012 - rev. c
XD-SIwin	2-Z-L4029	09.02.2012 - rev. b

Responsible person:


Dipl. Ing. Martinák Lukáš
Head of certification body



Date of issue: 05.09.2012

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Physical Technical Testing Institute
Ostrava – Radvanice



Supplement No. 3 to EC-Type Examination Certificate

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

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0002U

(4) Component: **Universal instrument housing type XD-SI, XD-SIwin and XD-SILwin**

(5) Manufacturer: **Limatherm, S.A.**

(6) Address: **ul. Tarnowska 1, 34-600 Limanowa, Poland**

(7) This supplement of certificate is valid for:

- modification of certified component
- verification according to new standards
- prolongation of certificate validity

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

(9) This supplement to type examination relates only to design, examination and testing of the specified component in accordance to the directive 94/9/EC. If applicable, further requirements of the Directive apply to the manufacture and supply of this component.

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

EN 60079-0:2012; EN 60079-1:2007; EN 60079-31:2009

(11) Marking of component shall contain symbols:



I M2 Ex d I Mb

II 2G Ex d IIC Gb

II 2D Ex tb IIIC Db

(12) This type examination certificate is valid till: **30.09. 2019**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: **05.09.2014**

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Physical Technical Testing Institute
Ostrava – Radvanice

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Supplement No. 3 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U

(15) Description of Component:

Modification of the Universal instrument housing consists of:

- 1) Change the thickness of circlip from 2 mm to 3 mm in types of housing with window;
- 2) Using only M and NPT threads for thread holes D₁; D₂; D₃ and the length of NPT threads was changed from 13mm to 16,2mm;
- 3) Introducing new type of housing XD-SILwin.

The types of the Universal instrument housing are recertified according to standards EN 60079-0:2012; EN 60079-1:2007 and EN 60079-31:2009.

(16) Report No.: 07/0002-3

(17) Schedule of Limitations:

17.1 Service temperature according to housing type and used sealing ring:

Housing type	Tserv.	
	VQM rubber	FKM rubber
XD- SI	-50°C to +150°C	-20°C to +200°C
XD- SIwin, XD-SILwin	-50°C to +85°C	-20°C to +85°C

17.2 IP protection 66 – 68 is depend on applied cable gland (max. IP 68 / deep =1 m);


17.3 Max. number, size and position of apertures – see (19) of this supplement;

17.4 The enclosure with Ex component certificate shall be applicated only by assumption of filling requests of the standard EN 60079-1:2009 cl.D.3.10;

17.5 The type static pressure test (four times the reference pressure):

- type XD- SI; XD-SIwin – 41 bar;
- type XD-SILwin – 34 bar.

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 05.09.2014

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Physical Technical Testing Institute
Ostrava – Radvanice

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Supplement No. 3 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0002U

17.6 Max. dissipation power for temperature class are as follow:

Max. power dissipation (W)				
T _{amb}	Temperature class T6 85°C	Pztr (W)	Temperature class T5 100°C	Pztr (W)
		For all variety of enclosures position horizontally/vertically		For all variety of enclosures position horizontally/vertically
40°C	$\Delta 0 \leq 40$ K	20,0 / 15,0	$\Delta 0 \leq 55$ K	29,0 / 24,0
55°C	$\Delta 0 \leq 25$ K	11,0 / 8,5	$\Delta 0 \leq 40$ K	20,0 / 15,0
70°C	$\Delta 0 \leq 10$ K	3,6 / 3,1	$\Delta 0 \leq 25$ K	11,0 / 8,5
85°C	N.A.	--	$\Delta 0 \leq 10$ K	3,6 / 3,1

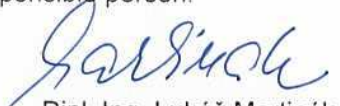
(18) Essential Health and Safety Requirements:

Covered by standards mentioned in (10) of this supplement of certificate.

(19) List of Documentation:

Title	Drawing No.	Date	Revision
Application manual	N-L3625	11.09.2012	
Datasheet	XD-SI	11.09.2012	
Drawing No.: XD-SI	2-Z-L3586	09.02.2012	rev.c
Drawing No.: XD-SIwin	2-Z-L4029	09.02.2012	rev.b
Drawing No.: XD-SILwin	2-Z-L4266	08.11.2012	

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 05.09.2014

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