



(1) **Supplementary EU - Type Examination Certificate No.5**

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

(3) EU - Type Examination Certificate number:

FTZÚ 02 ATEX 0234X

(4) Product: **Capacity level transducer DLS – 27 Xi (XiT, XiM, XiMT)**

(5) Manufacturer: **Dinel, s.r.o.**

(6) Address: **U Tescomy 249, 760 01 Zlín, Czech Republic**

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 02 ATEX 0234X 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 IEC 60079-0:2018, EN 60079-11:2012

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

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

See clause (15)

(12) This certificate is valid till: **31.08.2027**

Responsible person:

v z. g

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 10.06.2022

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Physical-Technical Testing Institute
Ostrava - Radvanice

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 5
to FTZÚ 02 ATEX 0234X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Modification of Ex marking;
- Modification of Technical parameters;
- Specific Conditions of Use were modified;
- Evaluation according to the newest standards;
- Extension of certificate validity.

The product construction remains unchanged. The product has been evaluated according to the newest standards mentioned in clause (10). The validity of the certificate has been extended for the next five years. The documentation has been updated and is listed in clause (19).

Technical parameters: (modified)

Ambient temperature for head part of the product: $-20\text{ °C} \leq T_a \leq +75\text{ °C}$.

Ambient temperature of sensor part of product: T_m – measured process media temperature

Intrinsically safe parameters: (modified)

Power supply: $U_i = 12\text{ V}$, $I_i = 15\text{ mA}$, $P_i = 45\text{ mW}$, $C_i = 28\text{ nF}$, $L_i = 10\text{ }\mu\text{H}$

Parameter C_i was changed from $C_i = 15\text{ nF}$ to $C_i = 28\text{ nF}$.

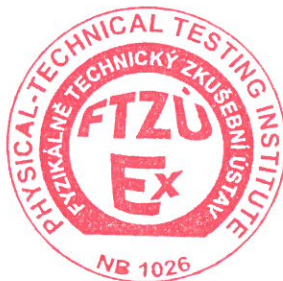
Marking of the product:

II 1G Ex ia IIB T6...T5 Ga	version Xi
II 1D Ex ia IIIC T ₂₀₀ 80 °C ...T ₂₀₀ 90 °C Da	version Xi
II 1G Ex ia IIB T6...T2 Ga	version XiT
II 1D Ex ia IIIC T ₂₀₀ 80 °C ... T ₂₀₀ 205 °C Da	version XiT
I M2 Ex ia I Mb	version XiM, XiMT

(16) Report Number: 02/0234/5

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 10.06.2022

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tel.: +420 595 223 111, +420 604 203 525, e-mail: ftzu@ftzu.cz, www.ftzu.cz



Physical-Technical Testing Institute
Ostrava - Radvanice

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 5
to FTZÚ 02 ATEX 0234X**

(17) Specific Conditions of Use: (modified)

1. If the apparatus is used as device of Group I or Group II it shall be supplied by approved power supply device, which output parameters comply with required input parameters and it is necessary to have an galvanic separation or in a case of apparatus without galvanic separation (Zener barriers) it is necessary to provide equipotential equalisation between sensor and barrier earthing point.
2. If the apparatus is used in coal mine as device of Group I and with is used with an approved supply device, which output parameters comply with required input parameters, it is necessary to have a galvanic separation.
3. Temperature class and maximal surface temperature depends on process media temperature.

Version Xi:

Temperature class for EPL Ga:

T5 ... for maximal process media temperature $T_m = 85^{\circ}\text{C}$.

T6 ... for maximal process media temperature $T_m = 75^{\circ}\text{C}$.

Maximal surface temperature for EPL Da:

Maximal process media temperature range is from -25°C to $+85^{\circ}\text{C}$.

Maximal surface temperature shall be calculated as $T_{200} = T_m + 5^{\circ}\text{C}$.

Version XiT

Temperature class for EPL Ga:

T2 ... for maximal process media temperature $T_m = 200^{\circ}\text{C}$.

T3 ... for maximal process media temperature $T_m = 190^{\circ}\text{C}$.

T4 ... for maximal process media temperature $T_m = 125^{\circ}\text{C}$.

T5 ... for maximal process media temperature $T_m = 90^{\circ}\text{C}$.

T6 ... for maximal process media temperature $T_m = 75^{\circ}\text{C}$.

Maximal surface temperature for EPL Da:

Process media temperature range is from -40°C to $+200^{\circ}\text{C}$.

Maximal surface temperature shall be calculated as $T_{200} = T_m + 5^{\circ}\text{C}$.

Version XiM, XiMT

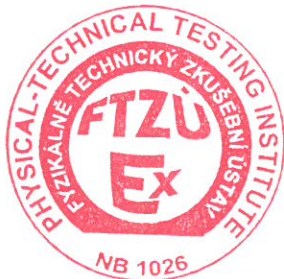
Maximal temperature of process media is 145°C .

4. Equipment for application in explosive dust atmosphere must be installed in such a manner that the risk of propagating brush discharges is avoided. This restriction applies only to the part of the equipment where the label, cable gland or connector is located.

Responsible person:

v z. Jm

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 10.06.2022

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Physical-Technical Testing Institute
Ostrava - Radvanice

(13) **Schedule**

(14) **Supplementary EU - Type Examination Certificate No. 5
to FTZÚ 02 ATEX 0234X**

(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) Drawings and Documents:

Number:	Revision:	Sheets:	Date:	Description:
--	05.2022	16	05.2022	Technical conditions DLS-27
--	05.2022	32	05.2022	User's manual
DLS-27-OD-01	05.2022	1	09.05.2022	Label

Responsible person:

v z. [Signature]

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 10.06.2022

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(1) **Supplementary EU - Type Examination Certificate No.4**

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

(3) EU - Type Examination Certificate number:

FTZÚ 02 ATEX 0234X

(4) Product: **Capacity level transducer DLS – 27 Xi (XiT, XiM, XiMT)**

(5) Manufacturer: **Dinel, s.r.o.**

(6) Address: **U Tescomy 249, 760 01 Zlín, Czech Republic**

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 02 ATEX 0234X 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

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

Ver. Xi  **II 1G Ex ia IIB T6 Ga**

 **II 1D Ex ia IIIC T76°C Da**

Ver. XiT  **II 1/2G Ex ia IIB T6 Ga/Gb**

 **II 1/2D Ex ia IIIC T76°C Da/Db**

Ver. XiM, XiMT

 **I M2 Ex ia I Mb**

(12) This certificate is valid till: **15.08.2022**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 03.08.2017

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**Physical-Technical Testing Institute
Ostrava - Radvanice**

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 4
to FTZÚ 02 ATEX 0234X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Modification of certified apparatus.
- Evaluation according to the newest standards.
- Prolongation of certificate validity.

The product was modified. There are changes in the materials. The type of electrodes was exactly specified for versions Xi and XiT. The product was evaluated according to the newest standard EN 60079-0:2012+A11:2013. The standard EN 60079-26 was removed from list of standards. Approval documentation was updated. Technical parameters remain unchanged.

(16) Report Number.: 02/0234/4

(17) Specific Conditions of Use:

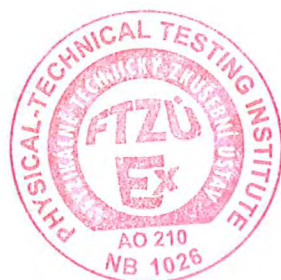
None additional to those listed previously.

(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.

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 03.08.2017

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Physical-Technical Testing Institute
Ostrava - Radvanice

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 4
to FTZÚ 02 ATEX 0234X**

(19) Drawings and Documents:

Document name/Drawings:	Date:	Sheet:
Technical conditions DLS-27	07.2017	16
Instruction manual DLS-27	04.2017	26
Production documentation DLS-27Xi	07.2017	3
Test scheduler DLS-27Xi	05.2012	2
DLS-27-0	11.07.2002	1
DLS-27.01	11.07.2002	1
DLS-27.1.21	05.09.2008	1
DLS-27.1.31	05.09.2008	1
DLS-27.1.40	14.03.2016	1
DLS-27-SV-01	16.05.2012	1
DLS-27-SZ-01	16.05.2012	1
DLS-27-OS-01	16.05.2012	1
DLS-27-OS-02	16.05.2012	1
DLS-27-HP-01	16.05.2012	1
DLS-27-HP-02	16.05.2012	1
DLS-27-MO-01	16.05.2012	1
DLS-27-MO-02	16.05.2012	1
DLS-27-SS-01	16.05.2012	1
DLS-27-OD-01	27.07.2017	1

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 03.08.2017

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(1) **Supplement No. 3 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 02 ATEX 0234X

(4) Equipment or protective system: **Capacity level transducer DLS – 27 Xi (XiT, XiM, XiMT)**

(5) Manufacturer: **Dinel, s.r.o.**

(6) Address: **U Tescomy 249, 760 01 Zlín, Czech Republic**

(7) This supplement of certificate is valid for:

- application of new standards
- prolongation of certificate validity
- modification of apparatus marking
- modification of certified apparatus
- new model (variant) – extension of series **DLS – 27 XiMT**

(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 60079-0:2009, EN 60079-11:2012, EN 60079-26:2007

(11) Marking of equipment shall contain symbols:

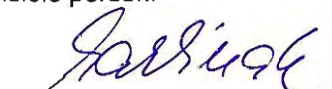
Ver. Xi  **II 1G Ex ia IIB T6 Ga**  **II 1D Ex ia IIIC T76°C Da**

Ver. XiT  **II 1/2G Ex ia IIB T6 Ga/Gb**  **II 1/2D Ex ia IIIC T76°C Da/Db**

Ver. XiM, XiMT  **I M2 Ex ia I Mb**

(12) This type examination certificate is valid till: **15.08.2017**

Responsible person:


Dípl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: **15.08.2012**

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Physical Technical Testing Institute
Ostrava – Radvanice

(13)

Schedule

(14)

Supplement No. 3 to
EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X

(15) Description of Equipment or Protective System:

Extension of new high temperature type DLS – 27 XiMT.

Added new type of electrode Nr. 22, constructionally identical with type Nr. 21, there is used insulating material with improved resistance against aggressive media.

Technical parameters and construction of apparatus remain unchanged.

(16) Report No.: 02/0234/3

(17) Special conditions for safe use: modified

- 17.1 If the apparatus is used as device of Group II and with using of an approved power supply device, which output parameters comply with required input parameters, it is necessary to have an galvanic separation or in a case of apparatus without galvanic separation (Zener barriers) it is necessary to provide equipotential equalizing between sensor and barrier earthing point.
- 17.2 If the apparatus is used in coal mine as device of Group I and with using of an approved power supply device, which output parameters comply with required input parameters it is necessary to have an galvanic separation.
- 17.3 When used in zone 0 the present explosive atmosphere of air mixture and gases, vapours or mists must comply with:
 $20^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$,
 $0,8 \text{ bar} \leq p \leq 1,1 \text{ bar}$
- 17.4 Design DLS-27Xi can be used in zone 0 or zone 20. With design DLS-27XiT can be used in zone 0 and zone 20 only electrode part and head with electronics can be used only in zone 1 or zone 21.
- 17.5 Ambient temperature: $T_{\text{amb}} = - 20^{\circ}\text{C}$ až $+75^{\circ}\text{C}$
Temperature of measured medium according to design variant:
Xi, XiM (- 20°C to + 85°C)
XiT, XiMT for types 10, 11, 20, 30 (- 30°C to + 200°C)
XiT, XiMT for types 21, 22, 31, 40 (- 30°C to + 120°C)
Maximum temperature of electrodes is equal to temperature of measured medium.
- 17.6 For design XiMT it is necessary to observe that temperature of any surface of apparatus, when coal dust can form a layer, do not exceed 150°C.

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 15.08.2012

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Physical Technical Testing Institute
Ostrava – Radvanice

(13)

Schedule

(14)

Supplement No. 3 to
EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X

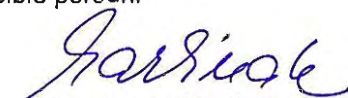
(18) Essential Health and Safety Requirements:

Essential health and safety requirement of Directive 94/9/EC are covered by the standards mentioned in clause (10) of this supplement according which the new model was verified and in the manufacturer's Instruction for Using.

(19) List of Documentation:

<i>Document name/Drawing:</i>	<i>Date:</i>	<i>Nr. of Pages:</i>
Production documentation DLS-27Xi	05.2012	3
Technical conditions DLS-27	05.2012	16
Test scheduler DLS-27Xi	05.2012	2
Manual	05.2012	22
General technical instructions - Epoxy casting compounds	02.20002	3
DLS-27-0	11.07.2002	1
DLS-27.01	11.07.2002	1
DLS-27.1.21	11.07.2002	1
DLS-27.1.31	05.09.2008	1
DLS-27.1.40	12.6.2009	1
DLS-27-SV-01	16.05.2012	1
DLS-27-SZ-01	16.05.2012	1

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 15.08.2012

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Physical Technical Testing Institute
Ostrava – Radvanice

(13)

Schedule

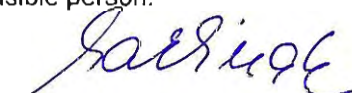
(14)

Supplement No. 3 to
EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X

(19) List of Documentation:

<i>Document name/Drawing:</i>	<i>Date:</i>	<i>Nr. of Pages:</i>
DLS-27-OS-01	16.05.2012	1
DLS-27-OS-02	16.05.2012	1
DLS-27-HP-01	16.05.2012	1
DLS-27-HP-02	16.05.2012	1
DLS-27-MO-01	16.05.2012	1
DLS-27-MO-02	16.05.2012	1
DLS-27-SS-01	16.05.2012	1
DLS-27-OD-01	16.05.2012	1

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 15.08.2012

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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 02 ATEX 0234X

(4) Equipment or protective system: **Capacity level transducer DLS – 27 Xi (XiT)**

(5) Manufacturer: **Dinel, s.r.o.,**

(6) Address: **U Tescomy 249, 760 01 Zlín, Czech Republic**

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


(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 50281-1-1:1998

(11) Marking of equipment shall contain symbols:

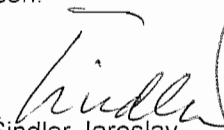
 **II 1GD T76°C Ex ia IIB T6**

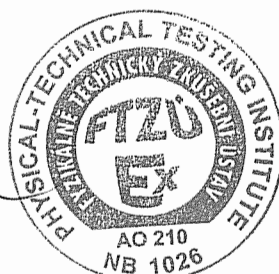
 **II 1/2GD T76°C Ex ia IIB T6**

 **I M2 Ex ia I**

(12) This type examination certificate is valid till: **15. 08. 2012**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 15.08.2007

Number of pages: 3

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Physical Technical Testing Institute
Ostrava-Radvanice

(13)

Schedule

(14)

**Supplement No. 2 to
EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X**

(15) Description of Equipment or Protective System:

The validity of the certificate has been prolonged till 15.08.2012. The certified device is manufactured according to the verified documentation shown in the basic certificate, supplement No. 1 and this supplement No. 2.

Technical parameters remain valid, only $P_i = 45$ mW was modified.

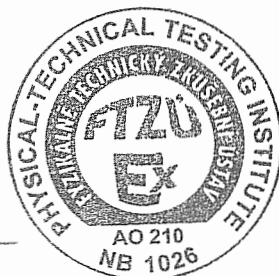
(16) Report No. : 02/0234-2 (4 pages)

(17) Special conditions for safe use: remain valid

(18) Essential Health and Safety Requirements: remain valid

Responsible person:

Dipl. Ing. Sindler Jaroslav
Head of certification body



Date of issue: 15.08.2007

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Physical Technical Testing Institute
Ostrava-Radvanice

(13)

Schedule

(14)

Supplement No. 2 to
EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X

(19)

LIST OF DOCUMENTATION

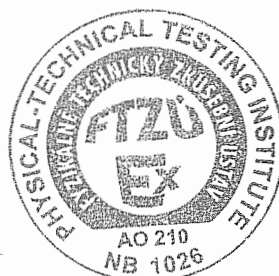
Documentation:

Date of verification:

- | | |
|---|------------|
| 1. Instruction for use (6 pages) | 14.08.2007 |
| 2. Technical conditions DLS-27 (17 pages) | 14.08.2007 |
| 3. Drawing labels | 14.08.2007 |

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 15.08.2007

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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 02 ATEX 0234X

(4) Equipment: **Capacity level transducer DLS – 27 Xi (XiT)**

(5) Manufacturer: **Dinel, s.r.o.,**

(6) Address: **Na Výsluní 541, 760 01 Zlín, Czech Republic**

(7) This supplement of certificate is valid: - for marking modification of certified apparatus


(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 fulfil by satisfying of following standards:

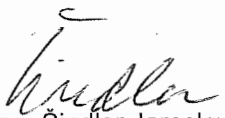
EN 50014:1997 + A1, A2; EN 50020:2002

(11) Marking of equipment designed according to this supplement shall contain symbols:

 **I M2 EEx ia I**


This type examination certificate is valid till: **08. 10. 2007**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 09. 02. 2004


Number of pages: 3
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Physical Technical Testing Institute
Ostrava-Radvanice

(13)

Schedule

(14)

Supplement No. 1 to
EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X

(15) Description of Equipment:

The only change of equipment is extension of its use for mine application. Technical parameters remain valid.

Type of sensor changed to DLS-27XiM.

(16) Report No. : -

(17) Special conditions for safe use: remain valid

The clauses 17.1 and 17.2 of certificate are changed for mine application as followed:


The equipment is intended for connection to supply unit type SNSU-811 and DNSU-822. When other approved supply source is used, its output parameters must comply with input parameters of transducer and source must use galvanic isolation.

(18) Essential Health and Safety Requirements:

They are included in standards, which are mentioned in clause (10) of this certificate.

Responsible person:

Date of issue: 09. 02. 2004


Dipl. Ing. Šindler Jaroslav
Head of certification body



Number of pages: 3

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Physical Technical Testing Institute
Ostrava-Radvanice

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Schedule

(14)

Supplement No. 1 to
EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X

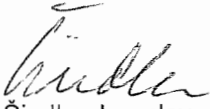
(19)

LIST OF DOCUMENTATION

1. Marking plate drawing, see Annex 9 on 01 / 2004
2. Supplemented technical condition and instruction for use (14 pages) on 01 / 2004

Responsible person:

Date of issue: 09. 02. 2004


Dipl. Ing. Šindler Jaroslav
Head of certification body



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EC-Type Examination Certificate

- (1) **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 02 ATEX 0234X


- (4) Equipment or protective system: **Capacity level transducer DLS – 27 Xi (XiT)**
(5) Manufacturer: **Dinel, s.r.o.,**
(6) Address: **Na Výsluní 541, 760 01 Zlín, Czech republic**
(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°

02/0234 dated 29. 08. 2002

- (9) Compliance with Essential Health and safety requirements has been assured by compliance with:
EN 50014 : 1997 + A1, A2; EN 50020 : 1994; EN 50281-1-1 : 1998; EN 50284 : 1999
(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 GD T 76°C EEx ia IIB T6 or**

 **II 1/2 GD T 76°C EEx ia IIB T6**

This EC-Type Examination Certificate is valid until **08 of October 2007**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 08 of October 2002

Number of pages: 3

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Physical Technical Testing Institute
Ostrava-Radvanice

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Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X**

(15) Description of Equipment or Protective System:

Equipment type DLS - 27 Xi (XiT) is designed to bistable level indication in tanks or containers. It allows level sensing and indication of electric conductive and non-conductive liquids, bulky materials, granulate and grain. Sensors are manufactured in several electrode modifications:

DLS-27Xi(XiT)-10-B(C)-RO(C) – cylindrical electrode without insulation

DLS-27Xi(XiT)-11-B(C)-RO(C) - cylindrical electrode with insulation

DLS-27Xi(XiT)-20-B(C)-RO(C) - rod electrode without insulation

DLS-27Xi(XiT)-21-B(C)-RO(C) - rod electrode with insulation

DLS-27Xi(XiT)-30-B(C)-RO(C) – thin-rod electrode without insulation

DLS-27Xi(XiT)-31-B(C)-RO(C) - thin-rod electrode with insulation

DLS-27Xi(XiT)-40-B(C)-RO(C) - cable electrode with insulated cable and non-insulated weight

Capacity level transducer DLS - 27 Xi (XiT) must be solely connected in intrinsically safe circuits of separating supply unit, approved by SZ 210 and ensuring limitation of electric power in intrinsically safe circuits, so following maximum parameter in them can't be exceeded:

$$U_i = 12 \text{ V}, I_i = 15 \text{ mA}, P_i = 30 \text{ mW}$$

Internal sensor inductance: 10 μ H

Internal sensor capacitance:

15 nF

(16) Report No. : 02/0234 (51 pages)

(17) Special conditions for safe use:

17.1 Equipment is designed to be connected to supply unit type SNSU-811 and DNSU-822.

17.2 If other approved apparatus is used, which output parameters comply with above mentioned input parameters it is necessary to have an galvanic separation or in a case of apparatus without galvanic separation (Zener barriers) it is necessary to provide equipotential equalizing between sensor and barrier earthing point.

17.3 When used in zone 0 the present explosive atmosphere of air mixture and gases, vapours or mists must comply with:

$$- 20^\circ\text{C} \leq T_{\text{amb}} \leq 60^\circ\text{C}$$

$$0,8 \text{ bar} \leq p \leq 1,1 \text{ bar}$$

17.4 Design DLS-27Xi can be used in zone 0 or zone 20. With design DLS-27XiT can be used in zone 0 and zone 20 only electrode part and head with electronics can be used only in zone 1 or zone 21.

17.5 Ambient temperature: $T_{\text{amb}} = - 20^\circ\text{C}$ to $+75^\circ\text{C}$

Temperature of measured medium according to design variant:

Xi (- 20°C to + 85°C)

XiT for types 10, 11, 20, 30 (- 30°C to + 200°C)

XiT for types 21, 31, 40 (- 30°C to + 120°C)

Maximum temperature of electrodes is equal to temperature of measured medium.

(18) Essential Health and Safety Requirements

Covered by standards mentioned in (9).

Responsible person:

Dipl. Ing. Šindler Jaroslav

Head of certification body



Date of issue: 8 of October 2002

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Physical Technical Testing Institute
Ostrava-Radvanice

(13) **Schedule**

(14) **EC-Type Examination Certificate N° FTZÚ 02 ATEX 0234X**

(19) **LIST OF DOCUMENTATION**

- | | |
|--|------------------------|
| 1. Certificate FTZÚ 98 Ex 0139 (3 pages) | on 16.04.1998 |
| 2. Instruction for use DLS - nav (6 pages) | 08 / 2002 |
| 3. Manufacturing documentation (3 pages) | 06 / 2002 |
| • Annex 1: Wiring diagram DLS-27Xi | |
| • Annex 2: Circuit layout schema DLS-27Xi (component side) | verified on 29.08.2002 |
| • Annex 3: Circuit layout schema DLS-27Xi (wiring side) | verified on 29.08.2002 |
| • Annex 6: Printed circuit DLS-27Xi (component side) | verified on 29.08.2002 |
| • Annex 7: Printed circuit DLS-27Xi (wiring side) | verified on 29.08.2002 |
| • Annex 8: List of components DLS-27Xi | verified on 29.08.2002 |
| • Annex 9: Content of label DLS-27Xi | verified on 29.08.2002 |
| 4. Drawings No. DLS-27.1.31 | on 01.03.2000 |
| DLS-27.1.21 | on 01.03.2000 |
| DLS-27.1.40 | on 26.03.2000 |
| DLS-27.0 | on 11.07.2002 |
| DLS-27.01 | on 11.07.2002 |
| 5. Technical specification (13 pages) | 06 / 2002 |
| 6. Test schedule (2 pages) | 06 / 2002 |