



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

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

(3) EU - Type Examination Certificate number:

FTZÚ 13 ATEX 0212X

(4) Product: **Radar level meter type GRLM-70Xi (XiT)**

(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 13 ATEX 0212X 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

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



II 1/2G Ex ia IIB T5 Ga/Gb

(12) This certificate is valid till: **31.07.2024**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 31.07.2019

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

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 1
to FTZÚ 13 ATEX 0212X**

(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.

This supplementary certificate describes the changes of enclosure and internal electronic parts of product. There were added new types of electrodes. There were added alternative cable glands. There was added a variant of internal electronic with LCD display. The validity of certificate was prolonged for next five years. Technical parameters of product remain unchanged. The list of modified or new documents is listed in the clause (19) of this supplement.

Technical parameters: remain unchanged

(16) Report Number.: 13/0212/1

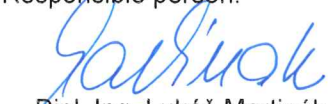
(17) Specific Conditions of Use:

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: 31.07.2019

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Physical-Technical Testing Institute
Ostrava - Radvanice

(13)

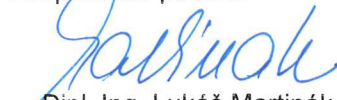
Schedule

(14) **Supplementary EU - Type Examination Certificate No. 1
to FTZÚ 13 ATEX 0212X**

(19) Drawings and Documents:

Number	Sheets	Date	Description
--	43	03.2019	User's manual
GRLM-70	16	03.2019	Technical conditions
GRLM-70Xi	4	03.2019	Production documentation
DM-70-SZ-01	1	23.07.2019	PCB DM-70-D
DM-70-SZ-02	1	23.07.2019	PCB DM-70-C
DM-70-OS-01	1	23.07.2019	PCB DM-70-D TOP
DM-70-OS-02	1	23.07.2019	PCB DM-70-D BOTTOM
DM-70-MO-01	1	23.07.2019	PCB DM-70-D TOP
DM-70-MO-02	1	23.07.2019	PCB DM-70-D BOTTOM
DM-70-SS-01	1	23.07.2019	PCB DM-70-D BOM
DM-70-OS-03	1	23.07.2019	PCB DM-70-C TOP
DM-70-OS-04	1	23.07.2019	PCB DM-70-C BOTTOM
DM-70-MO-03	1	23.07.2019	PCB DM-70-C TOP
DM-70-MO-04	1	23.07.2019	PCB DM-70-C BOTTOM
DM-70-SS-02	1	23.07.2019	PCB DM-70-C BOM
GRLM-70-SZ-02	1	23.07.2019	PCB GRLM-70-RF_v16
GRLM-70-OS-01	1	23.07.2019	PCB GRLM-70-RF_v16 TOP
GRLM-70-OS-02	1	23.07.2019	PCB GRLM-70-RF_v16 BOTTOM
GRLM-70-MO-01	1	23.07.2019	PCB GRLM-70-RF_v16 TOP
GRLM-70-MO-02	1	23.07.2019	PCB GRLM-70-RF_v16 BOTTOM
GRLM-70-SS-01	1	23.07.2019	PCB GRLM-70-RF_v16 BOM
GRLM-70-SZ-03	1	11.11.2014	PCB GRLM-70-TB_vx
GRLM-70-SS-02	1	11.11.2014	PCB GRLM-70-TB_vx BOM
GRLM-70-SZ-04	1	25.06.2018	PCB GRLM-70-P_v2
GRLM-70-SS-03	1	25.06.2018	PCB GRLM-70-P_v2 BOM
GRLM-70-SZ-05	1	06.02.2015	PCB GRLM-70-Z_vx
GRLM-70-SS-05	1	06.02.2016	PCB GRLM-70-Z_vx BOM
GRLM-70-100	1	24.07.2019	Assembly GRLM-70_-10(-00)
GRLM-70-200	1	24.07.2019	Assembly GRLM-70_-12(-11,-13)
GRLM-70-300	1	29.03.2019	Assembly GRLM-70_-20
GRLM-70-500	1	29.03.2019	Assembly GRLM-70_-30 (-33,-34,-35)
GRLM-70-600	1	29.03.2019	Assembly GRLM-70_-32
GRLM-70-700	1	20.10.2015	Assembly GRLM-70_T
CLM-36-32-310	1	11.11.2003	Insulation plug
CLM-36-32-309	1	11.11.2003	Insulation wrap
GRLM-70-OD-02	1	11.11.2014	Label

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body

Date of issue: 31.07.2019

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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 13 ATEX 0212X

(4) Equipment or protective system: **Radar level meter type GRLM-70Xi (XiT)**

(4) Manufacturer: **Dinel s.r.o.**

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

(6) 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.

(7) 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°:

13/0212 dated 26.05.2014

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

EN 60079-0:2012; EN 60079-11:2012; EN 60079-26:2007

(9) 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.

(10) 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.

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



II 1/2G Ex ia IIB T5 Ga/Gb

This EC-Type Examination Certificate is valid till: **26.05.2019**

Responsible person:

Lukáš Martinák

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 26.05.2014

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Physical Technical Testing Institute
Ostrava – Radvanice

(13)

Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 13 ATEX 0212X**

(15) Description of Equipment or Protective System:

The radar level meter type GRLM-70Xi (XiT) consists of two main parts – level meter (body) and display module. It works on principle of electromagnetic wave transmission towards the liquid level where the wave is partially reflected back. The electromagnetic wave is guided by level meter electrode that could be made by rod or rope. The actual distance to the liquid level is indicated with display and current output 4 – 20 mA with HART communication.

Maximum input parameters:

$U_i = 30 \text{ V}$; $I_i = 132 \text{ mA}$; $P_i = 0,99 \text{ W}$; $C_i = 370 \text{ nF}$; $L_i = 0,9 \text{ mH}$

Ambient temperature: $-30^\circ\text{C} \leq T_a \leq +70^\circ\text{C}$

(16) Report No.: 13/0212

(17) Special conditions for safe use:

When the other approved supply unit is used, whose output parameters satisfy above mentioned output parameters, it is necessary to have a galvanic separation or, if supply unit without galvanic separation is used (Zener barriers), it is necessary provide potential equalization between sensor and point of barrier earthing.

(18) Essential Health and Safety Requirements:

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

(19) List of Documentation:

Title:	Number:	Date:	Pages:
Technical conditions	GRLM	12/2013	12 pages
Production documentation	GRLM-70Xi	10/2013	5 pages
Instruction manual		10/2013	28 pages

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 26.05.2014

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(14) EC-Type Examination Certificate N° FTZÚ 13 ATEX 0212X

Mechanical body:	GRML-70-100	02.10.2013
	GRML-70-200	02.10.2013
	GRML-70-300	03.10.2013
	GRML-70-500	03.10.2013
	GRML-70-600	30.10.2013
	GRML-70-700	30.10.2013

Drawings No.:	GRML-70-SV-01	23.10.2013
	GRML-70-SZ-02	23.10.2013
	GRML-70-SZ-03	23.10.2013
	GRML-70-SZ-04	23.10.2013
	GRML-70-SZ-05	23.10.2013
	GRML-70-OS-01	23.10.2013
	GRML-70-OS-02	23.10.2013
	GRML-70-OS-03	23.10.2013
	GRML-70-OS-04	23.10.2013
	GRML-70-OS-05	23.10.2013
	GRML-70-OS-06	23.10.2013
	GRML-70-OS-07	23.10.2013
	GRML-70-OS-08	23.10.2013
	GRML-70-MO-01	23.10.2013
	GRML-70-MO-02	23.10.2013
	GRML-70-MO-03	23.10.2013
	GRML-70-MO-04	23.10.2013
	GRML-70-MO-05	23.10.2013
	GRML-70-MO-06	23.10.2013
	GRML-70-MO-07	23.10.2013
	GRML-70-MO-08	23.10.2013
	GRML-70-SS-01	16.10.2013
	GRML-70-SS-02	16.10.2013
	GRML-70-SS-03	16.10.2013
	GRML-70-SS-04	16.10.2013
	GRML-70-SS-05	16.10.2013
	GRML-70-OD-01	16.10.2013

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 26.05.2014

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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 15 ATEX 0207X

(4) Equipment or protective system: **Radar level meter GRLM-70Xd (XdT)**

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

(6) Address: **U Tescomy 249, 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°:

15/0207 dated 10.11.2015

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

EN 60079-0:2012; EN 60079-31:2014

(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.

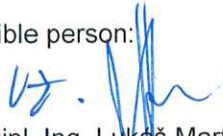
(12) The marking of the equipment or protective system shall include following:



II 1/2D Ex ta/tb IIIC T75°C...T300°C Da/Db – see Annex No. 1

This EC-Type Examination Certificate is valid till: **30.11.2020**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 25.11.2015

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Annex: 1 (1 pages)

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**Physical Technical Testing Institute
Ostrava – Radvanice**

(13)

Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 15 ATEX 0207X**

(15) Description of Equipment or Protective System:

The radar level meter type GRLM-70Xd (XdT) consists of two main parts – level meter (body) and display module. It works on principle of electromagnetic wave transmission towards the liquid level where the wave is partially reflected back. The electromagnetic wave is guided by level meter electrode that could be made by rod or rope. The actual distance to the liquid level is indicated with display.

The design of Radar level meter GRLM-70Xd (XdT) is for type of Ex-protection „Ex t“.

The encapsulated electronic unit, display module with control buttons and terminal block for connection of cable to associated (evaluation) device are situated inside of the housing. The stainless steel rod with electrode is fixed to lower part of housing by inner screw joint.

Variants of electrodes - 00, 10, 30, 33, 34, 35. The Radar level meter is mounted into the upper lid of the tank or reservoir by using a welding flange or fastening nut.

The housing with electronic is placed in zone 21, the electrode part is placed inside of the tank or reservoir where is zone 20.

Electrical parameters of radar level meter type GRLM-70Xd a GRLM-70XdT:

Power supply: 18V DC - 33V DC

The variants of the level meter output:

GRLM-70Xd(XdT)-xx-G-I-B-x current loop 4-20mA with HART communication

GRLM-70Xd(XdT)-xx-G-M-B-x data communication RS-485 (Modbus RTU)

Degree of protection: IP 67

(16) Report No.: 15/0207

dated 10.11.2015

(17) Special conditions for safe use:

17.1 Ambient temperature of housing Tamb: -30°C to +70°C.

17.2 Maximum surface temperature – see annex No. 1.

17.3 When is used variant with sight glass cover, the housing shall be protected against direct sunlight.

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



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Annex: 1 (1 pages)

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(14) **EC-Type Examination Certificate N° FTZÚ 15 ATEX 0207X**

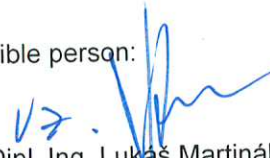
(18) Essential Health and Safety Requirements:

They are included in standards, which are mentioned in clause (9) of this certificate.

(19) List of Documentation:

<i>Title</i>	<i>Drawing No.:</i>	<i>Date:</i>
Technical conditions	GRLM-70	10/2015
Instruction manual	GRLM-70	10/2015
Drawings No.:	GRLM-70-100-Xd	20.10.2015
	GRLM-70-700-Xd	20.10.2015
	GRLM-70-500-Xd	20.10.2015
	ULM-70-003-Xd	16.10.2015
	ULM-70-002-Xd	24.06.2015
	ULM-70-001b-Xd	09.07.2015
	GRLM-70-104a	30.01.2013
	GRLM-70-104b	30.01.2013
	GRLM-70-108	16.04.2014
	GRLM-70-109	14.04.2014
	GRLM-70-154	12.08.2013
	GRLM-70-159	15.07.2014
	GRLM-70-163	27.05.2013
	GRLM-70-165	16.07.2014
	GRLM-70-168	22.08.2013

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Physical Technical Testing Institute
Ostrava – Radvanice

ANNEX No. 1

to EC-Type Examination Certificate N° FTZÚ 15 ATEX 0207X

Table No.1: Maximum service temperature - variant Xd

variants / performance	temperature tp	temperature tm	temperature ta
GRLM-70Xd-00 (10)	-40°C...+85°C	-40°C...+300°C	-30°C...+70°C
GRLM-70Xd-30 (33)	-40°C...+85°C	-40°C...+200°C	-30°C...+70°C
GRLM-70Xd-34 (35)	-40°C...+85°C	-40°C...+95°C	-30°C...+70°C

Table No. 2: Maximum service temperature - high-temperature variant XdT

variants / performance	temperature tp	temperature tm	temperature ta
GRLM-70XdT-00 (10)	-40°C...+200°C	-40°C...+300°C	-30°C...+70°C
GRLM-70XdT-30 (33)	-40°C...+130°C	-40°C...+200°C	-30°C...+70°C
GRLM-70XdT-34 (35)	-40°C...+130°C	-40°C...+95°C	-30°C...+70°C

Table No. 3: Maximum surface temperature - variants Xd and XdT

variants / performance	surface temperature
All variants	on housing with electronic: ambient temperature ta +5 °C on process connection: equal to process connection temperature tp on electrode: equal to medium operating temperature tm

tp – Temperature in process connection place
tm – Medium operating temperature
ta – Ambient temperature range (on the housing)

Responsible person:

17.
Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 25.11.2015

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