[1] EU-TYPE EXAMINATION CERTIFICATE

[2] Equipment or protective system intended for use in potentially explosive atmospheres – Directive 2014/34/EU

[3] EU-type examination certificate Number: **CETS 24 ATEX 061 X** **Issue:0**

[4] Product: **Radar level gauge, Type VZLJOT RLG Ex**

[5] Manufacturer: **Joint-Stock Company "Vzljot"**

[6] Address: **Russia, St. Petersburg, str. Trefoleva 2 lit. BM**

[7] This product any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] The Certification body SIA «CE-Test», notified body number 2861 in accordance with Article 17 of the Directive 2014/34/EU of European Parliament and of the Council, dated 26 February 2014, certifies that this product 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.

The examination and test results are recorded in confidential Evaluation report number 061/2024 from 19.03.2024.

[9] Compliance with Essential Health and Safety Requirements has been assured by compliance with: EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-11:2012

[10] If the sign «X» is placed after the certificate number, it indicates that the product is subject to Specified Conditions of Safe Use specified in the schedule to this certificate

[11] This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

- Ex II 2 G Ex db ib IIC T6…T2 Gb or II 2 D Ex tb ib IIIC T80°C...T230°C Db
- Ex II 2 G Ex db IIC T6...T2 Gb or II 2 D Ex tb IIIC T80°C...T230°C Db
- Ex II 1/2 G Ex db ib IIC T6...T2 Ga/Gb or II 1/2 D Ex tb ib IIIC T80°C...T230°C Da/Db
- Ex II 1/2 G Ex db IIC T6...T2 Ga/Gb or II 1/2 D Ex db IIIC T80°C...T230°C Da/Db

$-40\ °C \leq Tamb \leq +60\ °C$

SIA "CE-Test" * Nr/ 42103087208 * CE-TEST

Date of certification: Riga 19.03.2024

Responsible person: Ing. Pavlo Khorunzhyy
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[13] SCHEDULE

[14] EU-TYPE EXAMINATION CERTIFICATE: **CETS 24 ATEX 061 X** **Issue: 0**

[15] Description of Product

The level gauge is a single structure that combines two functionally complete devices - a primary explosion-proof radar level transducer (hereinafter referred to as PRLT-Ex) and a secondary transducer (hereinafter referred to as ST), connected to each other by a pipe.

Type of the level gauge

VZLJOT RLG - Ex - X X X

a b c d e

position	explanation	Possible values	Value explanation
a	Radar level gauge	VZLJOT RLG	
b	Explosion-proof version	Ex	
c	Measured level range	1	From 0 to 20
		2	From 0 to 30
d	Mounting method at installation site	1	flanged
		2	movable flanged
e	Reserved	1	standard set of interfaces (universal and current outputs, RS-485 interface)
		2	standard set of interfaces + HART

PRLT-Ex is a bell-shaped body made of stainless steel with fastening elements. At the end of the housing, on one side there is a microwave signal output, and on the other there is a flange for connecting the ST. To protect the internal volume of the PRLT-Ex from aggressive environmental influences, the window for outputting the microwave signal is closed with a sheet of fluoroplastic, secured with a threaded washer with corresponding holes for tightening it with a special key.

ST is structurally a cylindrical metal body made of aluminum alloy containing magnesium, titanium and zirconium (in total) no more than 7.5%. The body consists of a base, closed on both sides with screw-on lids. The front cover has a glass viewing window. Below it there is a liquid crystal display and a keyboard made on the basis of photocells. Inside the ST housing there are boards with electronic circuit elements and spark protection barriers for interface circuits, as well as terminal clamps for connecting external circuits of information and power consumers. The housing has internal and external grounding clamps, as well as two explosion-proof cable glands of the KOV1MNK type produced by LLC "Zavod GORELTEX".

The electrical connection between the PRLT-Ex and the ST is made by two cable loops inside a single shell.

Table 1 - Technical characteristics of Radar level gauge, Type VZLJOT RLG Ex

Name of indicator, unit of measurement	Value
DC supply voltage, V	24
Power consumption, W	no more than 25
Ambient temperature range, °C	from -40 °C to + 60°C
The degree of protection in accordance with IEC 60529:2013	IP66/IP68

Table 2 - Input parameters of the current output of the secondary transducer (ST) and the interface RS-485 and universal outputs of ST

	the current output of the secondary transducer (ST)	interface RS-485 and universal outputs of ST
Maximum input voltage, V	24	16
Maximum input current, A	0,100	0,160
Maximum input power, W	1,0	1,0
Maximum internal capacity, μF	negligible	negligible
Maximum internal inductance, mH	negligible	negligible

Table 3 - Output parameters of the current output of the secondary transducer (ST) and the interface RS-485 and universal outputs of ST

	the current output of the secondary transducer (ST)	interface RS-485 and universal outputs of ST
Maximum output voltage, V	23,1	11.6
Maximum output current, A	0,130	0.3
Maximum output power, W	0,8	0.85
Maximum external capacity, μF	0,14	1.59
Maximum external inductance, mH	2	0.45

For a more detailed description of the design, please refer to the relevant instruction manual.

[16] Test Report

The examination and test results are recorded in confidential Evaluation Report number 061/2023 from 19.03.2024

[17] Specific conditions of use

- The temperature class of the level gauge is determined by the temperature of the controlled environment in accordance with Table 4. To ensure the appropriate temperature class, it is necessary not to open the level gauge housing for 15 minutes after turning it off;

Table 4

Temperature class	Maximum temperature of the controlled environment, oC
T6	70
T5	90
T4	120
T3	190
T2	230

- Connection of external information consumers in order to ensure intrinsic safety of the interface circuits of the level gauge should be made only through an spark protection barrier that has a valid ATEX certificate with the appropriate scope and parameters;
- Replacement of the real-time clock batteries in the ST is carried out only by the manufacturer, in the absence of an explosive atmosphere or outside the hazardous area;
- During operation, it is necessary to comply with the special conditions of use specified in the current ATEX certificates for explosion-proof devices included in the level gauge.

[18] Essential health and safety requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information: None.

[19] Drawings and Documents

The documents are listed in the Evaluation report number 061/2023 from 19.03.2024

Title Technical Documents	Decimal number	Date
Technical document	ШКСД.407624.001 ТУ1	2019
Technical document	ШКСД.407624.001 ТУ2	2023
Passport	ШКСД.407624.002-42 ПС	2023
Operational manual	ШКСД.407624.002-42 РЭ	2023
ATEX Certificate for cable glands	VTT 18 ATEX 013	2018