

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: **EESF 19 ATEX 034X**

4. Product: **Junction boxes**

Certified types: **KSRV...**

5. Manufacturer: **ZAVOD GORELTEX Co. Ltd.**

6. Address: **195176, Saint Petersburg, Revolutsii road, 18, lit. A**

Russian Federation

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

8. Eurofins Expert Services Oy, Notified Body number 0537, in accordance with Article 17 of Directive 2014/34/EU of the 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 report No. RU/CCVE/ExTR19.0006/00.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0:2012/A11:2013 EN IEC 60079-7:2015/A1:2018 EN 60079-11:2012
EN 60079-31:2014**

10. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of 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. 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 product shall include the following:



II 2 G Ex eb IIC T6...T4 Gb
II 2 G Ex ia IIC T6...T4 Gb
II 2 G Ex eb ia IIC T6...T4 Gb
II 2 D Ex tb IIIC T85 °C...T135 °C Db
IP54/IP66

Espoo, 12.6.2019
Eurofins Expert Services Oy

Kari Koskela
 Expert

Ilkka Riihimäki
 Expert

This document is digitally signed.

13. **Schedule**

14. **EU-Type Examination Certificate EESF 19 ATEX 034X**

15. **Description of Product**

Equipment and systems covered by this certificate are as follows:

Junction boxes KSRV... series are made on the base of certified enclosures made of aluminum alloy (KSRV...), stainless steel (KSRV-N...) and mild steel (KSRV-M...). Junction boxes may be based on the certified enclosures with windows or without them.

Ground bolts installed on the housing of the junction boxes, additional ground terminals and/or bus bars can be used as ground components.

Dimension types of junction boxes KSRV... series depends on the dimension types of the applied empty enclosures types KSRV... .

Ambient temperature range and temperature classes are given in the Annex.

Degree of protection (EN 60529): IP54/IP66.

Structure of designation of the junction boxes KSRV... series, technical characteristics, dimension types are specified in the operating, safety and maintenance manual LGSA.1.017.2018.

For additional information refer to the Annex.

16. **Report Number**

RU/CCVE/ExTR19.0006/00

17. **Specific Conditions of Use**

1. Cable glands and other devices which can be installed are subject to a separate certification as Ex-equipment and they shall not invalidate the type of protection and IP degree of protection and shall correspond to connecting thread, its size and type of inserted cable.
2. KSRV-N... junction boxes with windows were tested with low level of mechanical impact.

18. **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed at item 9.

19. **Drawings and Documents**

Drawings and documents are listed in the confidential report RU/CCVE/ExTR19.0006/00.

Annex

Structure of designation junction boxes **KSRV**... series

X1X2X3 – X4(X5X6 – X5X6) – X7X8(X9) – X7X8(X9) / X10, where

«X1» – product name: KSRV;

«X2» – material: no mark – aluminum alloy; «-N» – stainless steel; «-M» - mild steel;

«X3» – code of size of product's enclosure (see Table 1);

«X4» – code of window size (if applicable, for products with window, see Table 2);

«X5» – number of terminal clamps (if any);

«X6» – type of terminal clamps (if any);

«X7» – number of cable glands (if any);

«X8» – type of cable gland (if any);

«X9» – side of cable gland location (if any);

«X10» - options, accessories and versions (if any, in accordance with the Operation, safety and maintenance manual LGSA.1.017.2018);

The equipment can have additional designation “QFM...” or “UVG...” in accordance with “ZAVOD GORELTEX” Co. Ltd. classifier.

Electrical characteristics of junction boxes:

Description of parameters	Value
Maximum voltage	1100 VAC 400 VDC
Maximum current	291 A
Maximum ambient temperature range	- 60 °C up to + 85 °C
Degree of protection (EN 60529)	IP54/IP66
Terminal section	1,5 ÷ 240

The above specified ratings are maximum values admitted. Effective values will be function to the electrical equipment/component used from case to case. Depending on the system conditions, the operating mode, the utilization category, etc. the manufacturer will define these ratings, which will be within the range of these limiting values and will comply with the relevant standards. The type and number of terminals, which can be installed in the various enclosures, is indicated in detail together with the maximum admissible current, in the manufacturer documentation. When selecting the permitted current for cross section, the maximum current admitted for the terminals, connecting cables or conductors shall be taken into consideration.

Table 1 – Dimension types of junction boxes enclosures:

KSRV...	KSRV-N...	KSRV-M...
111109	111109	111109
141410	151512	151512
171109	171109	171109
202012	202012	202012
301410	231815	231815
302314	232315	232315
342421	303012	303012
513321	322312	322312
663221	342315	342315
626221	343415	343415
	402315	402315
	453415	453415
	534315	534315
	606025	606025
	806030	806030
	1008030	1008030

Table 2 – Codes of window sizes

Type of junction boxes enclosures	Code of window size
KSRV...	O0808
	O1508
	O1515
	O2515
	O2525
	O3725
	O3737

Table 3 – Temperature class taking into account the ambient temperature range

Maximum ambient temperature, °C	Temperature class	Max. surface temperature	Max. service temperature of terminals*
-60...+40	T6	85	80
-60...+55	T5	100	95
-60...+70	T4	135	110
-60...+85	T4	135	130

*The maximum service temperature of terminals installed inside the enclosures should be equal or greater than the temperature indicated into the tables shown above.

Table 4 – Maximum currents for max. ambient temperature +40 °C and + 55 °C

Dimension types	Maximum current [A] for each conductor cross-section in mm ²															
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240	
KSRV-N111109/ KSRV-M111109	12	17	22	29	40	53										
KSRV-N151512/KSRV-M151512	12	17	22	29	40	53	75	88	96							
KSRV-N171109/KSRV-M171109	12	17	22	29	40	53	75	88	96	100						
KSRV-N202012/KSRV-M202012	12	17	22	29	40	53	75	88	96	100						
KSRV-N231815/KSRV-M231815	12	17	22	29	40	53	75	88	105	134						
KSRV-N232315/KSRV-M232315	12	17	22	29	40	53	75	88	105	134						
KSRV-N303012/KSRV-M303012	12	17	22	29	40	53	75	88	105	134	162					
KSRV-N322312/KSRV-M322312	12	17	22	29	40	53	75	88	105	134	162					
KSRV-N342315/KSRV-M342315	12	17	22	29	40	53	75	88	105	134	162					
KSRV-N343415/KSRV-M343415	12	17	22	29	40	53	75	88	105	134	162					
KSRV-N402315/KSRV-M402315	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV-N453415/KSRV-M453415	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV-N534315/KSRV-M534315	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV-N606025/KSRV-M606025	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV-N806030/KSRV-M806030	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV-N1008030/KSRV-M1008030	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV111109	12	17	22	29	40	53										
KSRV141410	12	17	22	29	40	53	75	88	96							
KSRV171109	12	17	22	29	40	53	75	88	96							
KSRV202012	12	17	22	29	40	53	75	88	96	100						
KSRV301410	12	17	22	29	40	53	75	88	96	100						
KSRV302314	12	17	22	29	40	53	75	88	105	134	162					
KSRV342421	12	17	22	29	40	53	75	88	105	134	162					
KSRV513321	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV626221	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	
KSRV663221	12	17	22	29	40	53	75	88	105	134	162	188	216	250	291	

Table 5 – Maximum currents for max. ambient temperature + 70 °C

Dimension types	Maximum current [A] for each conductor cross-section in mm ²														
	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240
KSRV-N111109/ KSRV-M111109	10	14	19	25	34	45									
KSRV-N151512/KSRV-M151512	10	14	19	25	34	45	64	74,8	81,6						
KSRV-N171109/KSRV-M171109	10	14	19	25	34	45	64	74,8	81,6	85					
KSRV-N202012/KSRV-M202012	10	14	19	25	34	45	64	74,8	81,6	85					
KSRV-N231815/KSRV-M231815	10	14	19	25	34	45	64	74,8	89,3	114					
KSRV-N232315/KSRV-M232315	10	14	19	25	34	45	64	74,8	89,3	114					
KSRV-N303012/KSRV-M303012	10	14	19	25	34	45	64	74,8	89,3	114	138				
KSRV-N322312/KSRV-M322312	10	14	19	25	34	45	64	74,8	89,3	114	138				
KSRV-N342315/KSRV-M342315	10	14	19	25	34	45	64	74,8	89,3	114	138				
KSRV-N343415/KSRV-M343415	10	14	19	25	34	45	64	74,8	89,3	114	138				
KSRV-N402315/KSRV-M402315	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV-N453415/KSRV-M453415	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV-N534315/KSRV-M534315	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV-N606025/KSRV-M606025	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV-N806030/KSRV-M806030	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV-N1008030/KSRV-M1008030	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV111109	10	14	19	25	34	45									
KSRV141410	10	14	19	25	34	45	64	74,8	81,6						
KSRV171109	10	14	19	25	34	45	64	74,8	81,6						
KSRV202012	10	14	19	25	34	45	64	74,8	81,6	85					
KSRV301410	10	14	19	25	34	45	64	74,8	81,6	85					
KSRV302314	10	14	19	25	34	45	64	74,8	89,3	114	138				
KSRV342421	10	14	19	25	34	45	64	74,8	89,3	114	138				
KSRV513321	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV626221	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247
KSRV663221	10	14	19	25	34	45	64	74,8	89,3	114	138	160	184	213	247

Table 6 – Maximum currents for max. ambient temperature + 85 °C

Dimension types	Maximum current [A] for each conductor cross-section in mm ²						
	1,5	2,5	4	6	10	16	25
KSRV-N111109/ KSRV-M111109	10	14	19	25	34	45	
KSRV-N151512/KSRV-M151512	10	14	19	25	34	45	64
KSRV-N171109/KSRV-M171109	10	14	19	25	34	45	64
KSRV-N202012/KSRV-M202012	10	14	19	25	34	45	64
KSRV-N231815/KSRV-M231815	10	14	19	25	34	45	64
KSRV-N232315/KSRV-M232315	10	14	19	25	34	45	64
KSRV-N303012/KSRV-M303012	10	14	19	25	34	45	64
KSRV-N322312/KSRV-M322312	10	14	19	25	34	45	64
KSRV-N342315/KSRV-M342315	10	14	19	25	34	45	64
KSRV-N343415/KSRV-M343415	10	14	19	25	34	45	64
KSRV-N402315/KSRV-M402315	10	14	19	25	34	45	64
KSRV-N453415/KSRV-M453415	10	14	19	25	34	45	64
KSRV-N534315/KSRV-M534315	10	14	19	25	34	45	64
KSRV-N606025/KSRV-M606025	10	14	19	25	34	45	64
KSRV-N806030/KSRV-M806030	10	14	19	25	34	45	64
KSRV-N1008030/KSRV-M1008030	10	14	19	25	34	45	64
KSRV111109	10	14	19	25	34	45	
KSRV141410	10	14	19	25	34	45	64
KSRV171109	10	14	19	25	34	45	64
KSRV202012	10	14	19	25	34	45	64
KSRV301410	10	14	19	25	34	45	64
KSRV302314	10	14	19	25	34	45	64
KSRV342421	10	14	19	25	34	45	64
KSRV513321	10	14	19	25	34	45	64
KSRV626221	10	14	19	25	34	45	64
KSRV663221	10	14	19	25	34	45	64

Installation conditions:

- When selecting the admitted current for cross section, the maximum permitted current for the terminals and the connecting cable or conductor should be taken into consideration. The terminals shall be fitted in accordance with the manufacturer's instructions and when installed, they shall have the minimum clearance and creepage distances required by EN 60079-7 standard.
- Junction boxes KSRV... series with type of protection Ex ia the distances between intrinsic safety circuits shall be according to EN 60079-11 standard. Intrinsically safe circuits shall be clearly identified. Where a colour is used for this purpose, it shall be light blue for the intrinsically safe connections.
- The service temperature range of the terminals used shall be taken into consideration and ambient temperature range of the junction boxes KSRV... series shall be reduced accordingly.