

R3003/R3003S SRU...



Upute za uporabu User manual



UPOZORENJE

Upute za uporabu sadrže osnovne informacije o proizvodu. Montaža, instaliranje, uporaba i održavanje trebaju biti izvedeni prema ovoj Uputi kako bi bio osiguran siguran rad unutar nazivnih karakteristika. Ovu Uputu nadopunjuju nacionalni Pravilnici i norme. Odgovorna osoba korisnika je dužna osigurati njihovo provođenje. Neprovođenje može umanjiti protueksplozijsku zaštitu uređaja i dovesti u opasnost ljude, imovinu i okoliš. Svako neispravno i nedozvoljeno postupanje kao i nepoštivanje odredbi ove Upute isključuje svaku odgovornost proizvođača.

Prije ugradnje/puštanja u pogon:

- Pažljivo pročitati cijelu Uputu za uporabu,
- Izvršiti odgovarajuću obuku odgovornog osoblja,
- Provjeriti da je sadržaj ove Upute u potpunosti razumljiv odgovornim osobama,
- Uvjeriti se da su primijenjeni svi zahtjevi nacionalnih Pravilnika i posebne sigurnosne mjere ukoliko postoje.

U slučaju nejasnoća:

- Kontaktirati proizvođača.

Tijekom pogona:

- Osigurati da ove Upute za uporabu i druge radne upute korisnika budu vidljivo istaknute i dostupne odgovornom osoblju cijelo vrijeme,
- Provjeravati provođenje ove Upute i svih drugih sigurnosnih uputa korisnika.



WARNING

The user manual contains basic information about the product. Mounting, installation, usage and maintenance should be carried out under this user manual to provide and ensure safe operation within the nominal characteristics. This user manual complement national Regulation and Standards. The responsible person shall ensure their implementation. Failure off implement this user manual can reduce explosion protection and endanger people, property and the environment. Any improper and illegal actions as well as non-compliance with the provisions of this user manual excludes all responsibility by manufacturer side.

Before installation/commissioning:

- Carefully read all instructions,
- Execute proper training of responsible personnel,
- Check that the contents of these instructions is fully understandable by the responsible personnel,
- Make sure that all the requirements and national Regulations as well as all special security measures are applied.

In lack of understanding:

- Contact the manufacturer.

During operation:

- Ensure that this user manual and other work instructions are available to the responsible staff at all times,
- Check the implementation of these instructions and all other safety user's instructions.

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1. NAMJENA

Protueksplozijski zaštićena visokonaponska razvodna kutija, tip R3003/R3003S-SRU.... namijenjena je za spajanje i razvod sredjenaponskih vodova i kabela u industrijskim prostorima na mjestima s potencijalno eksplozivnom atmosferom plinova, para i prašina u zonama opasnosti 1, 2, 21, 22 sukladno normama EN 60079-10-1 i EN 60079-10-2 i u rudarstvu na mjestima ugroženim rudničkim plinom, ugljenom prašinom i njihovim kombinacijama.

2. SUKLADNOST PROIZVODA

Proizvod je sukladan zahtjevima norme EN 62271-1, EN 61439-1 i svim drugim povezanim normama.

Proizvod je sukladan Pravilniku o opremi i zaštitnim sustavima namijenjenim za uporabu u potencijalno eksplozivnim atmosferama, NN br. 33/16.

Proizvod je sukladan normama:

- EN IEC 60079-0:2018,
- EN IEC 60079-7:2015/A1:2018,
- EN 60079-31:2014.

Proizvod je razvijen, proizveden i ispitan prema postojećem stanju tehnike, sukladno normama EN ISO 9001, EN ISO 80079-34 i EN ISO 14001.

Proizvod je sukladan ATEX Direktivi 2014/34/EU.

Proizvod je sukladan LVD Direktivi 2014/35/EU.

Proizvod je sukladan RoHS Direktivi 2011/65/EU.

Proizvod je sukladan EMC Direktivi 2014/30/EU.

1. PURPOSE

Explosion-proof high-voltage junction box, type R3003 / R3003S-SRU is intended for connection and distribution of medium-voltage power lines and cables in industrial areas with potentially explosive atmosphere of gases, vapors and dust in zones 1, 2, 21, 22 in accordance with standards EN 60079-10-1 and EN 60079-10-2 and in mines endangered by mine gas, coal dust and their combinations.

2. PRODUCT CONFORMITY

The product complies with the requirements of EN 62271-1, EN 61439-1 and all other related standards.

The product complies with the standards:

- EN IEC 60079-0:2018,
- EN IEC 60079-7:2015/A1:2018,
- EN 60079-31:2014.

The product is developed, manufactured and tested according to the existing state of the art, in accordance with the standards EN ISO 9001, EN ISO 80079-34 and EN ISO 14001.


The product complies with ATEX Directive 2014/34/EU.

The product complies with the LVD Directive 2014/35/EU.


The product complies with RoHS Directive 2011/65/EU.

The product complies with the EMC Directive 2014/30/EU.

3. STUPANJ ZAŠTITE I TEHNIČKI PODACI

Certifikat:	FIDI 20 ATEX 0019
Oznaka kategorije i protueksplozijske zaštite uređaja:	 I M2 Ex eb I Mb II 2G Ex eb IIC T6-T4 Gb II 2D Ex tb IIIC T80°C Db
Temperatura okoline:	-20°C do +40°C
Mehanička zaštita:	IP 66, kategorija 1
Otpornost na udar:	IK 09
Klasa zaštite:	I - zaštitno uzemljenje
Nazivni napon Un:	6,3 kV AC
Radni napon:	6,3 kV + 10% AC
Maksimalna struja I _{max} vodiča kabela:	420 A / 185mm ² 320 A / 120mm ² prema tablici maksimalnih struja
Sustav mreže:	3P + PE
Vijak VN stezaljke:	M10x55-8.8, OK 17 moment pritezanja vijka 22 Nm
Priključne stezaljke dolaznog i odlaznog kabela:	Stezaljka 120mm ² za kabele od 16mm ² do 120mm ² , moment pritezanja vijka 15 Nm, Stezaljka 185mm ² za kabele od 16mm ² do 185mm ² , moment pritezanja vijka 22 Nm
Sabirnica:	Bakrena legura GS CuSn10 50x10mm Maksimalni priključak stezaljki na jednu sabirnicu: 4 x 120mm ² 2 x 185mm ²
Niskonaponske redne stezaljke:	500V, 25A, 2 x (3 x 6mm ²)
Stezaljka za unutarnje uzemljenje sabirničkog ormarića:	Vijčana stezaljka M8 za kabelsku stopicu DIN 46235: - uzemljenje kućišta 25 mm ² H07V-K - uzemljenje poklopca 25 mm ² H07V-K
Stezaljka za vanjsko uzemljenje sabirničkog ormarića:	Vijčana stezaljka M8 za kabelsku stopicu DIN 46235
Skidanje izolacije:	Stezaljka 185 mm ² - 25 mm Stezaljka 120 mm ² - 25 mm
Uvodi:	Max. dva uvoda po strani kućišta (ukupno četiri) Ø32,5 - Ø80,5mm
Uvodnice:	- Uvodnice nisu sastavni dio isporuke – osigurava ih korisnik - Područje primjene rudarstvo I - ATEX certificirane I M2 Ex eb stupnja zaštite IP66 Područje primjene nadzemlje II - ATEX certificirane II 2G/D Ex eb/tb stupnja zaštite IP66
Vijak poklopca:	Vijak M8x20 EN ISO 4762 – gal Zn6 C, moment pritezanja vijka 4 Nm

3. DEGREE OF PROTECTION AND TECHNICAL DATA

Certificate:	FIDI 20 ATEX 0019
Category and explosion protection:	 I M2 Ex eb I Mb II 2G Ex eb IIC T6-T4 Gb II 2D Ex tb IIIC T80°C Db
Ambient temperature:	-20°C to +40°C
Degree of protection:	IP 66, category 1
Impact resistance:	IK 09
Class of protection:	I - protective earthing
Nominal voltage Un:	6,3 kV AC
Operating voltage:	6,3 kV + 10% AC
Maximal current I _{max} of the cable:	420 A / 185mm ² 320 A / 120mm ² According to table of maximal currents
Network system:	3P + PE
Screw of high voltage terminal:	M10x55-8.8, OK 17 screw tightening torque 22 Nm
Connection terminals of incoming and outgoing cables:	Terminal 120mm ² for cables from 16mm ² to 120mm ² , screw tightening torque 15 Nm, Clamp 185mm ² for cables from 16mm ² to 185mm ² , screw tightening torque 22 Nm
Busbar:	Copper alloy GS CuSn10 50x10mm Maximum connection of terminals to one bus: - 4 x 120mm ² - 2 x 185mm ²
Low voltage terminal blocks:	500V, 25A, 2 x (3 x 6mm ²)
Terminal for internal grounding:	M8 screw terminal for cable lug DIN 46235: - housing earthing 25 mm ² H07V-K - cover earthing 25 mm ² H07V-K
Terminal for external grounding:	M8 screw terminal for cable lug DIN 46235
Insulation stripping:	Terminal 185 mm ² - 25 mm Terminal 120 mm ² - 25 mm
Entry's:	Max. two entry's per side of the housing (four in total) Ø32.5 - Ø80.5mm
Cable glands:	- Cable glands are not an integral part of the delivery - they are provided by the user - Area of application zone I M2: ATEX certified I M2 Ex eb degree of protection IP66 - Area of application zone II 2 G/D: ATEX certified II 2G / D Ex eb / tb degree of protection IP66
Cover screw:	Screw M8x20 EN ISO 4762 - gal Zn6 C, screw tightening torque 4 Nm

Dimenzije (DxŠxV):	Ukupno: 620 x 550 x 243 mm R3003 - 470 x 314 x 243 mm R3003S - 470 x 157 x 243 mm	Dimensions (LxWxH):	Total: 620 x 550 x 243 mm R3003 - 470 x 314 x 243 mm R3003S - 470 x 157 x 243 mm
Montaža:	Nosačima za ovjes i vijčanim priborom 10, na razmacima 560 x 520 mm Mogućnost ovješnja kućišta na lanac	Mounting:	- Suspension brackets and screw accessories 10, at intervals of 560 x 520 mm - Possibility of hanging the housing on a chain
Boja:	Crvena, RAL 3001	Colour:	Red, RAL 3001

Tablica maksimalnih struja (table of maximal currents):

Tablica 1. (Table 1.)

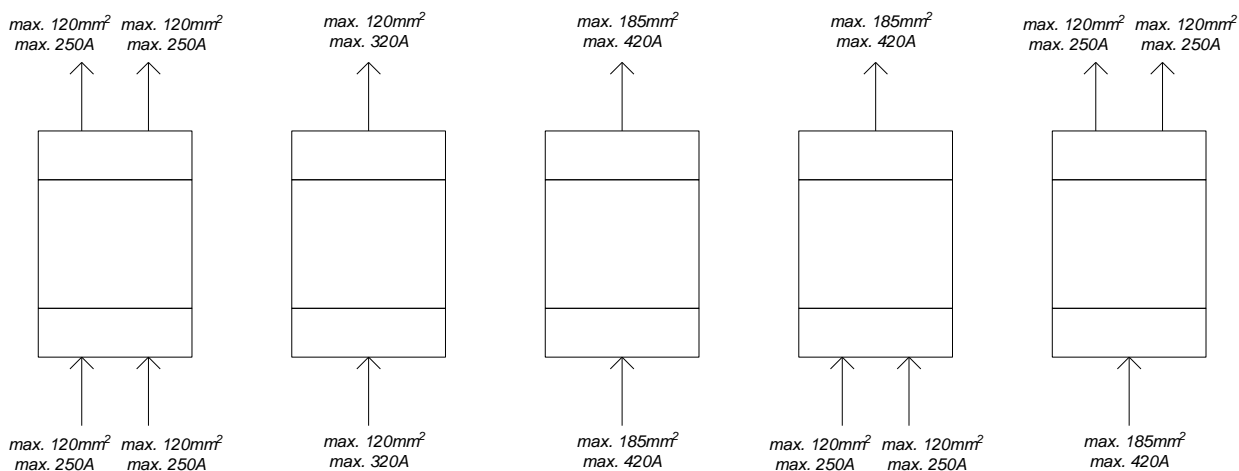
Nazivni presjek vodiča kabela: Nominal cross-section of cable:	16 mm ²	25 mm ²	35 mm ²	50 mm ²	70 mm ²	95 mm ²	120 mm ²	Oznaka zaštite: Marking:
Nazivni presjek stezaljke: Nominal cross-section of terminal:	120 mm ²							
Maksimalna struja vodiča kabela temperaturne postojanosti 110°C: Maximum current for cables with temperature stability 110 °:	30A	50A	70A	105A	150A	200A	250A	I M2 Ex eb I Mb II 2G Ex eb IIC T4 Gb II 2D Ex tb IIIC T80°C Db
Maksimalna struja vodiča kabela temperaturne postojanosti 90°C: Maximum current for cables with temperature stability 90°:	25A	40A	60A	85A	120A	160A	200A	I M2 Ex eb I Mb II 2G Ex eb IIC T5 Gb II 2D Ex tb IIIC T80°C Db
Maksimalna struja vodiča kabela temperaturne postojanosti 70°C: Maximum current for cables with temperature stability 70 °:	20A	30A	45A	65A	90A	120A	150A	I M2 Ex eb I Mb II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Broj mogućih priključaka na "C" sabirnicu: Number of possible connections to "C" busbar:	2 + 2 (ukupno 4 stezaljke i 4 vodiča) 2 + 2 (total 4 terminals and 4 cables)							

Tablica 2. (Table 2.)

Nazivni presjek vodiča kabela : Nominal cross-section of cable:	16 mm ²	25 mm ²	35 mm ²	50 mm ²	70 mm ²	95 mm ²	120 mm ²	150 mm ²	185 mm ²	Oznaka zaštite: Marking:
Nazivni presjek stezaljke: Nominal cross-section of terminal:	120 mm ²							185 mm ²		
Maksimalna struja vodiča kabela temperaturne postojanosti 110°C: Maximum current for cables with temperature stability 110 °:	43A	68A	95A	135A	190A	260A	320A	340A	420A	I M2 Ex eb I Mb II 2G Ex eb IIC T4 Gb II 2D Ex tb IIIC T80°C Db
Maksimalna struja vodiča kabela temperaturne postojanosti 90°C: Maximum current for cables with temperature stability 90°:	35A	55A	80A	110A	155A	210A	260A	285A	350A	I M2 Ex eb I Mb II 2G Ex eb IIC T5 Gb II 2D Ex tb IIIC T80°C Db
Maksimalna struja vodiča kabela temperaturne postojanosti 70°C: Maximum current for cables with temperature stability °:	27A	43A	60A	85A	120A	160A	200A	225A	280A	I M2 Ex eb I Mb II 2G Ex eb IIC T6 Gb II 2D Ex tb IIIC T80°C Db
Broj mogućih priključaka na "C" sabirnicu: Number of possible connections to "C" busbar:	1 + 1 (total 2 terminals and 2 cables)									

Moguća je kombinacija razvoda 1+2 ili 2+1 kombinirajući Tablice 1 i 2.
A combination of 1 + 2 or 2 + 1 is possible by combining Tables 1 and 2.

Mogući priključak kabela temperaturne postojanosti 110°C:
Possible connection of cables with temperature stability 110 ° C:



4. TIPNA OZNAKA

R3003/R3003S - SRU
SRU broj predstavlja broj serije i pridjeljuje se po prirastu,
Npr. R3003/R3003S - SRU 1234.

5. MONTAŽA I DIMENZIJE

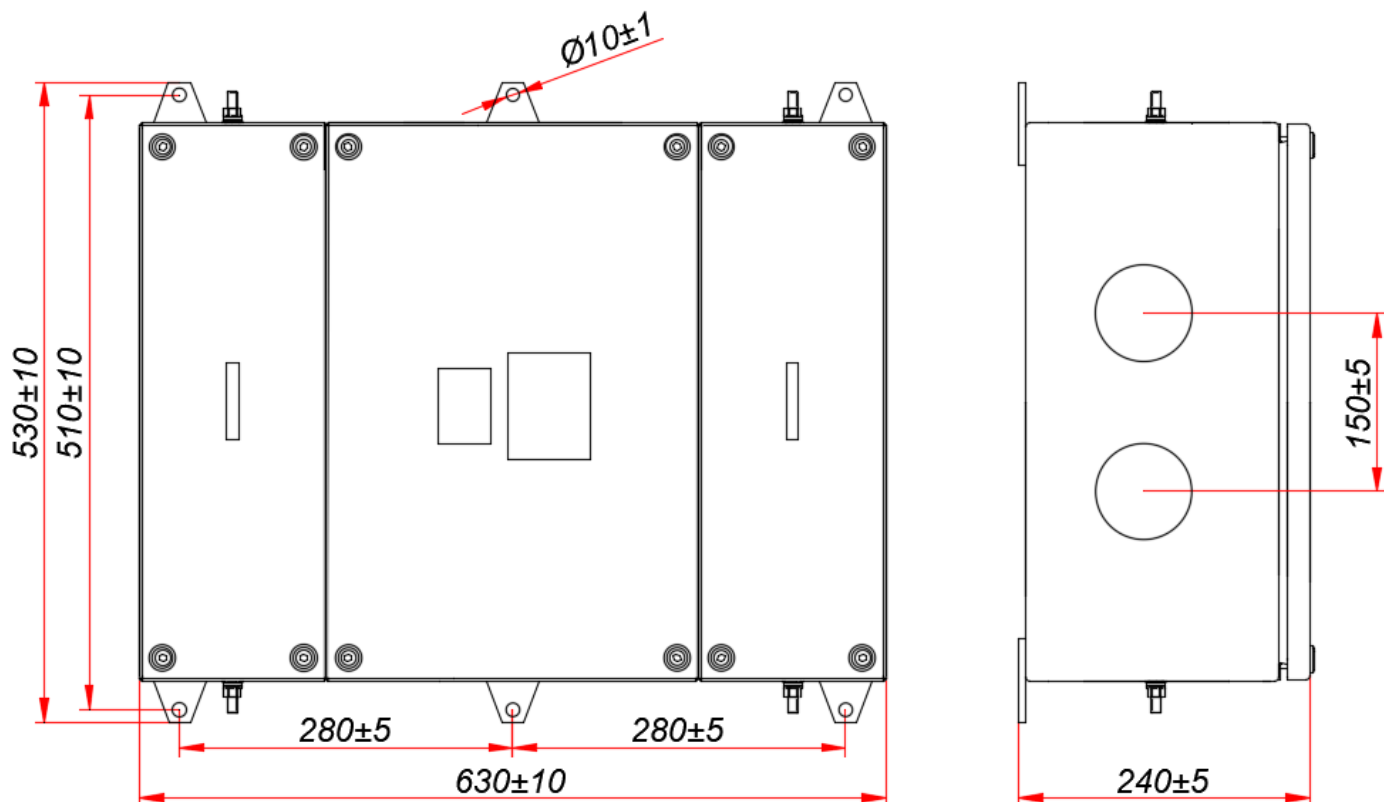
Nosačima za ovjes i vijčanim priborom 10, na razmacima
560 x 520 mm.
Mogućnost ovješnja kućišta na lanac.

4. TYPES

R3003 / R3003S - SRU. . . .
The SRU number represents the batch number and is assigned in
increments, for example R3003 / R3003S - SRU 1234.

5. MOUNTING AND DIMENSIONS

Suspension brackets and screw accessories 10, at distance
560 x 520 mm.
Possibility of hanging the housing of a chain.



6. INSTALIRANJE I PUŠTANJE U RAD

Kabel treba rasplesti za priključak vodiča na stezaljku sabirnice i pripremiti za prihvat uvednice prema uputi proizvođača uvednica. Izolaciju vodiča treba skinuti u duljini prema tehničkim podacima. Kabele treba uvesti u kućište, rasteretiti obujmicama i priključiti vodiče na odgovarajuće stezaljke na sabirnicama. Vijke stezaljki pritegnuti momentom prema tehničkim podacima. Pritisne matice uvednica pritegnuti momentom prema tehničkim podacima proizvođača uvednica.

Kućište zatvoriti poklopcem. Vijke poklopca pritegnuti momentom prema tehničkim podacima.

Ukoliko se očekuje kratkotrajno podnosiva struja kratkog spoja $I_{k.s.}$ (r.s.m.) > 15 kA, s obzirom na vrijeme isklapanja zaštitnog uređaja, treba sukladno IEC 60364-5-54 preispitati je li presjek zaštitnog vodiča uzemljenja kućišta dovoljno dimenzioniran.

Pri puštanja u rad treba poštivati relevantne nacionalne Pravilnike i norme za izvođenje električnih instalacija u prostorima s potencijalno eksplozivnom atmosferom.

6. INSTALLATION AND COMMISSIONING

The cable should be unravel for connection to the busbar terminal and prepared for the cable gland according to the instructions of the cable gland manufacturer. The insulation of the conductor should be removed in length according to the technical data. The cables should be inserted into the housing, unloaded with clamps and the wires connected to the appropriate terminals on the busbars. Tighten the terminal screws according to the technical data. Tighten the cable gland nuts according to the manufacturer's specifications.

Close the housing with a cover. Tighten the cover screws according to the technical data.

If a short-term short-circuit current $I_{k.s.}$ (r.s.m.) > 15 kA is expected, with regard to the switch-off time of the protective device, it must be checked in accordance with IEC 60364-5-54 whether the cross-section of the protective earth conductor is sufficiently dimensioned.

When commissioning, the relevant national regulations and standards of electrical installations in areas with a potentially explosive atmosphere must be preserved.

7. PREGLED, ODRŽAVANJE, POPRAVAK I OBNAVLJANJE

7. INSPECTION, MAINTENANCE, REPAIR AND OVERHAUL



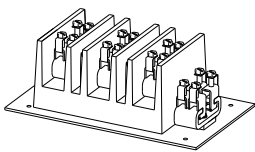
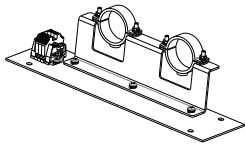
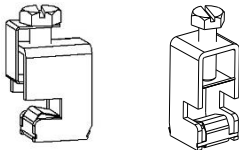
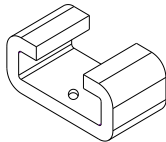
WARNING!

Prije svakog otvaranja kućišta obavezno treba poštovati upozorenje:
Before each opening of the housing, the warning must be respected:

DO NOT OPEN WHEN ENERGIZED

8. REZERVNI DIJELOVI

8. SPARE PARTS

SKICA	OPIS	KOD
	Sklop VN stezaljke HV terminal assembly	R3003/R3003S 10-110
	Sklop rasterećenja kabela i NN signalni razvod Cable reliefs and LV signal distribution	R3003/R3003S 10-120
	Stezaljke Terminals	BKS 12010 BKS 18510
	„C“ Sabirnice „C“ busbar	R3003/R3003S 10-130

9. ODGOVORNOSTI I OVLAŠTENJA

Ova Uputa predstavlja najvažniju informaciju o proizvodu. Nadopunjuju ju odgovarajući nacionalni zakoni i propisi. Proizvodnja, uporaba, certifikacija i nadzor određene su na nacionalnoj razini:

- Pravilnikom o opremi i zaštitnim sustavima namijenjenim za uporabu u prostorima ugroženim eksplozivnom atmosferom (NN br. 33/16, odnosno EU Direktiva ATEX 2014/34/EU) i
- Pravilnikom o najmanjim zahtjevima sigurnosti i zaštite zdravlja radnika te tehničkom nadgledanju postrojenja, opreme, instalacija i uređaja u prostorima ugroženim eksplozivnom atmosferom (NN br. 39/06, 106/07.), odnosno EU Direktivi 1999/92/EC (ATEX 137).

Odgovorna osoba dužna je osigurati njihovo provođenje u pogonu.

10. SKLADIŠTENJE I TRANSPORT

Transport i skladištenje treba vršiti samo u originalnoj ambalaži, na način istaknut na kartonskoj kutiji.

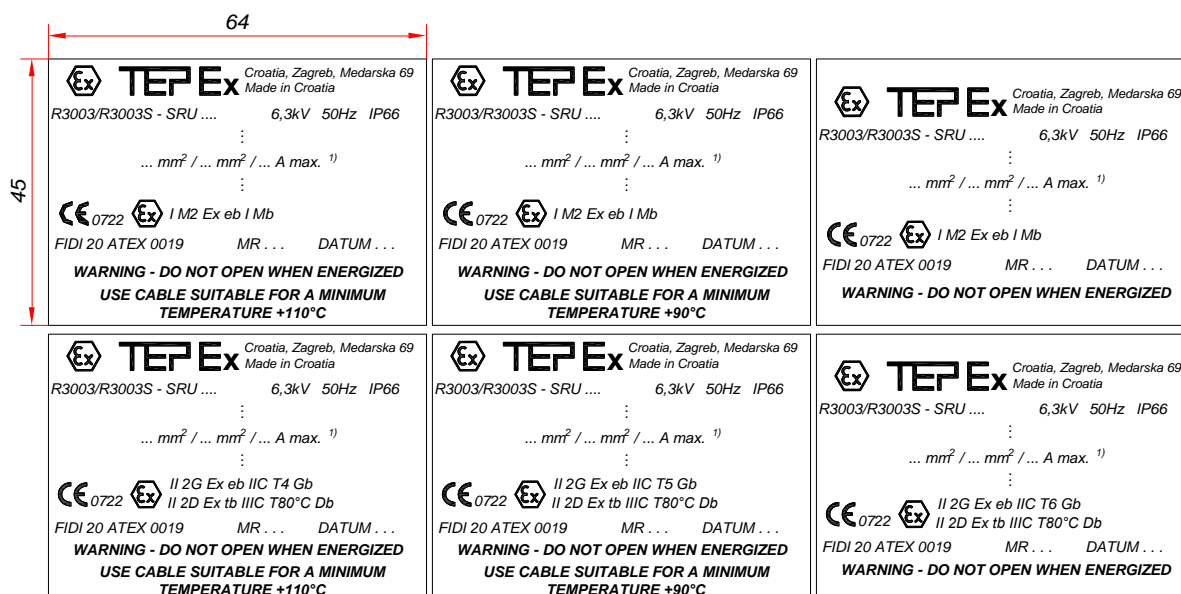
11. JAMSTVO PROIZVOĐAČA

Proizvođač izdaje jamstvo na proizvod u trajanju od godine dana prema odredbama Zakona o obveznim odnosima. Ova izjava ima snagu Jamstvenog lista.

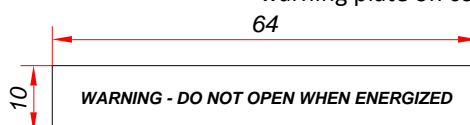
12. OZNAČAVANJE

Protueksplozijski zaštićena visokonaponska razvodna kutija R3003/R3003S označena je:

- natpisnom pločicom s tehničkim podacima na poklopcu R3003:



- pločicom upozorenja na poklopcu R3003S:



9. RESPONSIBILITY AND AUTHORIZATION

This instruction is the basic information about the product. It is completed by the corresponding national laws and regulations. Production, use, certification and supervision are determined at the national level:

- Regulations concerning equipment and protective systems intended for use in potentially explosive atmospheres EU directive 2014/34/EU and
- Regulations on minimum requirements for safety and health protection of workers and technical inspection of facilities, equipment, installations and equipment in hazardous areas EU directive 1999/92/EC (ATEX 137).

The responsible person shall ensure their implementation at the working facility.

10. STORAGE AND TRANSPORT

Transportation and storage of the lamps is only allowed in the original packaging, as outlined in a cardboard box.

11. MANUFACTURER'S WARRANTY

The manufacturer provides a warranty on the product for a period of one year under the provisions of this user manual and the law on obligations. This statement has the force of Warranty sheet.

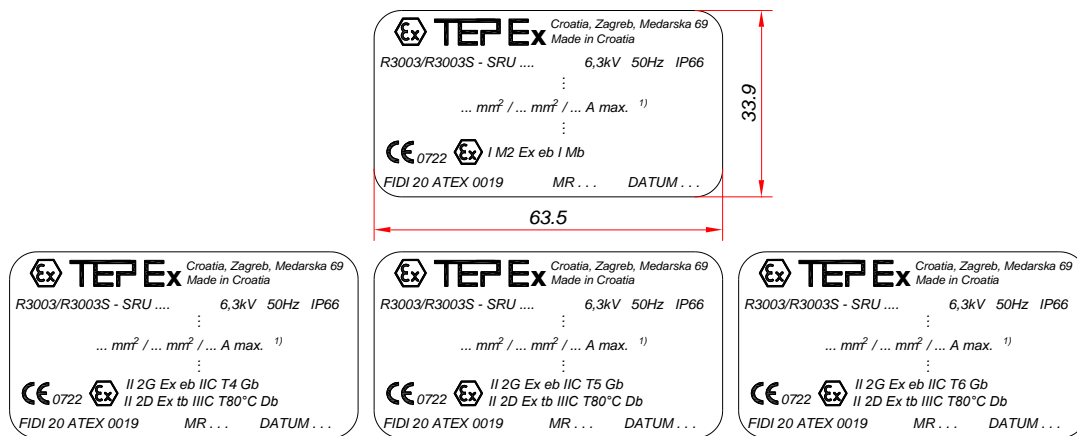
12. MARKING

Explosion-proof high-voltage junction box R3003 / R3003S is marked:

- a label with technical data on the cover R3003:

- warning plate on cover R3003S:

- natpisnom naljepnicom s tehničkim podacima u unutrašnjosti - label with technical data inside R3003 housing:
R3003 kućišta:



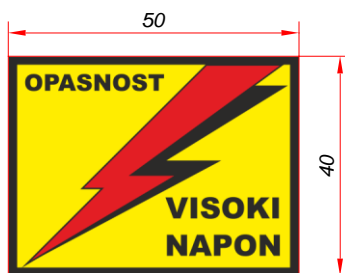
1) ovisno o projektu, unose se podaci o nazivnom presjeku stezaljki, presjeku priključenog kabela i maksimalnim strujama vodiča kabela prema tablici 1 i 2.

Primjer: 120mm² / 95mm² / 200A max. – na stezaljku nazivnog presjeka 120mm² priključuje se kabel 4x95mm² maksimalne struje vodiča kabela od 200A.

1) depending on the project, data of the nominal cross-section of the terminals, the cross-section of the connected cable and the maximum currents of the cables are entered according to Tables 1 and 2.

Example: 120mm² / 95mm² / 200A max. - a 4x95mm² cable with a maximum cable conductor current of 200A is connected to the terminal with a nominal cross-section of 120mm².

- naljepnicom upozorenja na poklopcu R3003 kućišta:



Primjer označavanja:

Marking example:

