



**RADE KONČAR**  
KONTAKTORI I RELEI

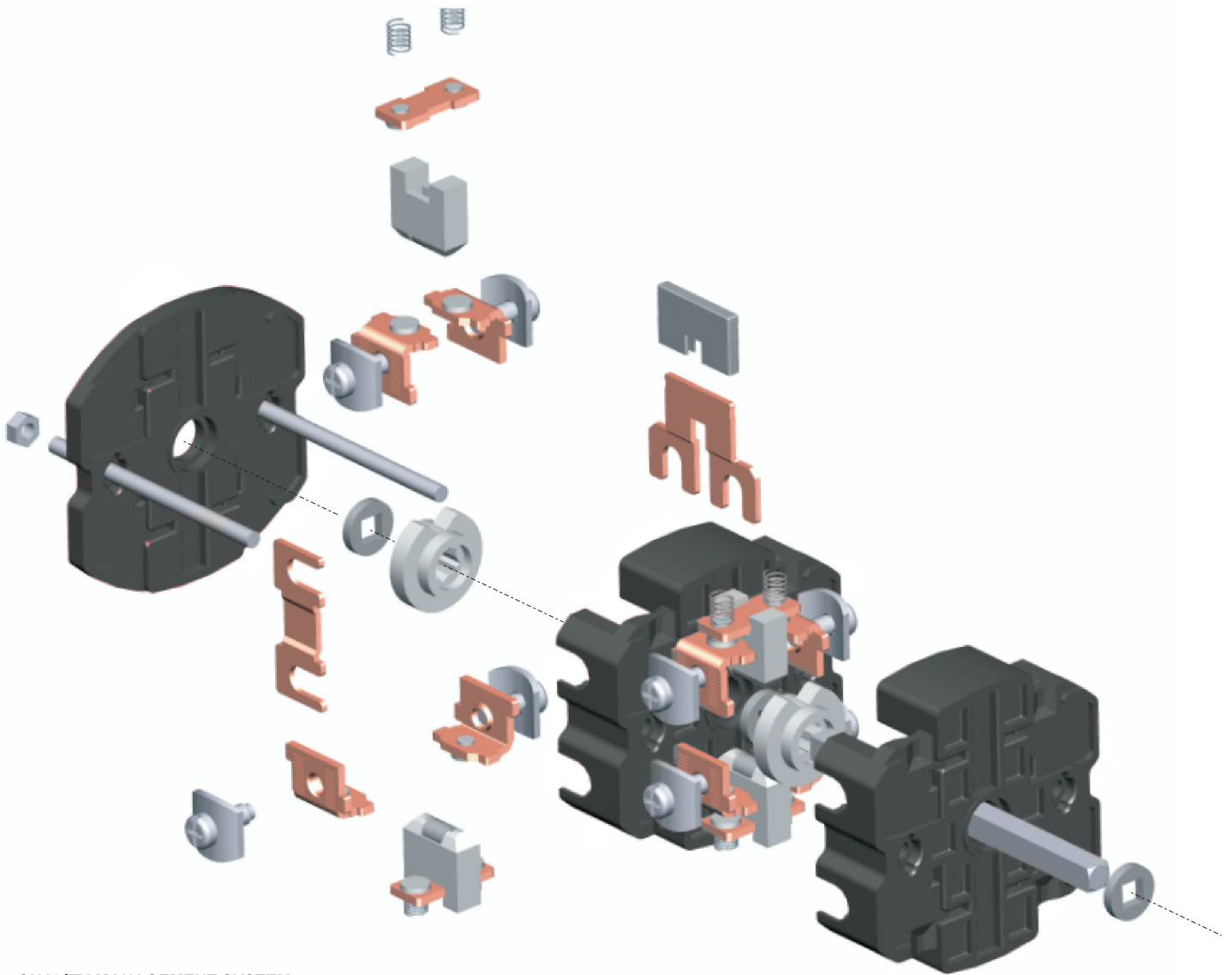
*Simple, safe and affordable for everyone*



# ROTARY CAM SWITCHES

## GREBENASTE SKLOPKE

Type BS / *Tip BS*



**QUALITY MANAGEMENT SYSTEM /**  
*SISTEM MENADIRANJE KVALETETA*

**ISO 9001 Quality management system**  
**Models for quality assurance in design / development,**  
**production and distribution of low - voltage switching devices.**

The **RADE KONCAR - KONTAKTORI I RELEI D.O.O.** Quality Managements System has been certified by TÜV CERT- Certification Body of TÜV Rheinland.

The Certificate No. TRBA 100 0891 issued until April 2021 confirms that the quality system is in conformance with requirements of the standard ISO 9001: 2015 and refers to our product categories: Contactors, Thermal overload relays, Rotary cam switches, Pilot devices, Moulded case circuit breakers, Electronic time relays.

***ISO 9001 Sistem za menadžiranje kvaliteta***  
***Model za garanciju kvaliteta u razvoju, proizvodnji i distribuciju niskonaponskih sklopnih aparata.***

*Sistem kvaliteta u RADE KONČAR - KONTAKTORI I RELEI D.O.O. sertifikiran je od TÜV CERT- Sertifikaciono tjelo na TÜV Rheinland. Sertifikat Br. TRBA 100 0891 koji ima validitet do April 2021 potvrđuje da sistem kvaliteta je u suglasnosti sa zahtjevima norme ISO 9001: 2015, a odnosi se na nase proizvodne kategorije: kontaktore, bimetale, grebenaste sklopke, upravljačke sklopke, niskonaposke prekidače, vrtlive sklopke, elektronske vremenske releje.*

## Certificate

Standard	<b>ISO 9001:2015</b>
Certificate Registr. No.	TRBA 100 0891

TÜV RHEINLAND-BULGARIA EOOD certifies:

Certificate Holder	<b>RADE KONCAR-KONTAKTORI I RELEI D.O.O.</b> MK-1000 Skopje 54, III Makedonska brigada Blvd. R. Macedonia
Scope	<b>Design, manufacture and sale of low-voltage switchgear and controlgear components, retro-reflective registration plates for motor vehicles and other information marking plates.</b>

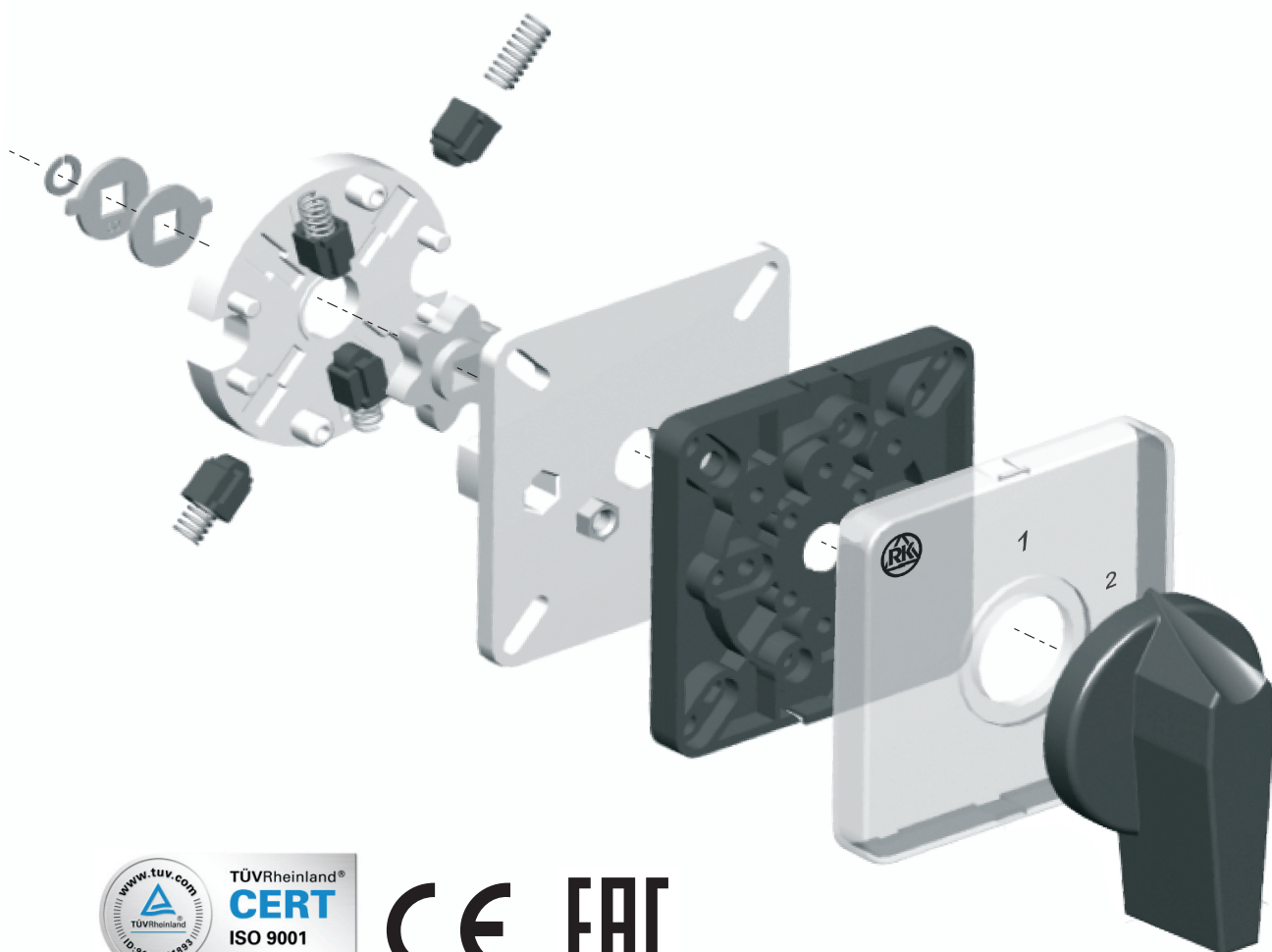
An audit was performed, Report No. 0891. Proof has been furnished that the requirements according to ISO 9001:2015 are fulfilled.

Validity	The certificate is valid from <b>03.04.2018</b> until <b>02.04.2021</b> . First certification: 2003
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03.04.2018

TÜV RHEINLAND-BULGARIA EOOD  
1113 Sofia, 23A Dragan Tsankov Blvd.

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01	20	1 pole with self return <i>1 polna sa povratom</i>	24	41	2 pole reversing switch <i>2 polna reverzibilna</i>	53	21/49	3 pole Changeover switch 1-0-2, Motor sw. <i>3 polna preklonka 1-0-2</i>
02	20	2 pole with self return <i>2 polna sa povratom</i>	25	42	2 pole reversing switch return tu "0" <i>2 polna rever. povrat u "0"</i>	54	21	1 pole Changeover switch 1-2 <i>1 polna preklonka 1-2</i>
03	20	3 pole with self return <i>3 polna sa povratom</i>	26	42	3 pole reversing switch return tu "0" <i>3 polna rever. povrat u "0"</i>	55	21	2 pole Changeover switch 1-2 <i>2 polna preklonka 1-2</i>
04	20	4 pole with self return <i>4 polna sa povratom</i>	27	42	3 pole reversing switch with contactor <i>3 polna rever. sa sklop.</i>	56	21	3 pole Changeover switch 1-2 <i>3 polna preklonka 1-2</i>
05	19	1 pole with 90° switching <i>1 polna s kutom zakreta 90°</i>	28	44	Star-Delta 0 ↔ Y-D <i>Zvezda-Trokut 0 ↔ Y-Δ</i>	57	20	3 pole current changeover switch 1-2 <i>3 polna strujna preklonka</i>
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07	19	3 pole with 90° switching <i>3 polna s kutom zakreta 90°</i>	31	45	Star-Delta with contactor <i>Zvezda-Trokut sa sklop.</i>	60	37	Voltmeter switch without "0" 3 line voltage, 1 phase <i>Voltmetarska sklopka 3 linajska nap. 1 fazni</i>
08	19	4 pole with 90° switching <i>4 polna s kutom zakreta 90°</i>	32	47	D-YY - with contactor <i>Zvezda-Trokut sa sklop.</i>	62	21	10 pole Changeover switch 1-2 <i>10 polna preklonka 1-2</i>
09	19	3 pole with 360° rotation <i>3 polna-rotacija 360°</i>	33	49	D-YY - with contactor <i>Zvezda-Trokut sa sklop.</i>	66	36	Voltmeter switch with "0" 3 line voltage, 3 phase <i>Voltmetarska sklopka 3 linajska nap. 3 fazni</i>
10	19	3 pole switch <i>3 polna sklopka</i>	34	50	3 speed 0-D-Y-YY <i>3 brzine 0-Δ-Y-YY</i>	67	37	Voltmeter switch with "0" 3 line voltage <i>Voltmetarska sklopka 3 linajska napona</i>
11	41	3 pole reversing switch <i>3 polna reverzibilna sklopka</i>	35	51	3 speed 0-D-YY-Y <i>3 brzine 0-Δ-YY-Y</i>	68	37	Voltmeter switch with "0" 3 phase voltage <i>Voltmetarska sklopka 3 fazna napona</i>
12	43	Star-Delta switch 0-Y-D <i>Zvijezda-Trokut sklopka</i>	36	51	3 speed 0-Y-D-YY <i>3 brzine 0-Y-Δ-YY</i>	69	21	4 pole Changeover switch 1-2 <i>4 polna preklonka 1-2</i>
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17	52	Switch for starting 1 f.M permanent start <i>Pokret. 1 f.M-trajno uključ.</i>	41	19	11 pole switch <i>11 polna sklopka</i>	74	21	9 pole Changeover switch 1-2 <i>9 polna preklonka 1-2</i>
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19	46	Dahlander 0 - D - YY <i>Dahlander 0 - Δ - YY</i>	43	21	11 pole Changeover switch 1-2 <i>11 polna preklonka 1-2</i>	76	21	5 pole Changeover switch 1-0-2 <i>5 polna preklonka 1-0-2</i>
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22	48	Motor control switch 0-1-2 <i>Sklopke za uprav. motorima 0-1-2</i>	51	21	1 pole Changeover switch 1-0-2 <i>1 polna preklonka 1-0-2</i>	79	21	8 pole Changeover switch 1-0-2 <i>8 polna preklonka 1-0-2</i>
23	48	M. control switch 2-1-0-1-2 <i>Sklopke za uprav. motorima 2-1-0-1-2</i>	52	21	2 pole Changeover switch 1-0-2 <i>2 polna preklonka 1-0-2</i>	80	21	9 pole Changeover switch 1-0-2 <i>9 polna preklonka 1-0-2</i>



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82	22	Multi-step switch without "0" 1 pole, 3 position <i>Stepenasta sklopka bez "0"</i> <i>1 polna, 3 položaja</i>	105	28	Multi-step switch without "0" 1 pole, 11 position <i>Stepenasta sklopka bez "0"</i> <i>1 polna, 11 položaja</i>	128	30	Multi-step switch with "0" 2 pole, 7 position <i>Stepenasta sklopka s "0"</i> <i>2 polna, 7 položaja</i>
83	23	Multi-step switch without "0" 1 pole, 4 position <i>Stepenasta sklopka bez "0"</i> <i>1 polna, 4 položaja</i>	106	27	Multi-step switch without "0" 1 pole, 12 position <i>Stepenasta sklopka bez "0"</i> <i>1 polna, 12 položaja</i>	129	31	Multi-step switch with "0" 2 pole, 8 position <i>Stepenasta sklopka s "0"</i> <i>2 polna, 8 položaja</i>
84	23	Multi-step switch without "0" 1 pole, 5 position <i>Stepenasta sklopka bez "0"</i> <i>1 polna, 5 položaja</i>	107	27	Multi-step switch with "0" 1 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>1 polna, 2 položaja</i>	130	31	Multi-step switch with "0" 2 pole, 9 position <i>Stepenasta sklopka s "0"</i> <i>2 polna, 9 položaja</i>
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87	23	Multi-step switch without "0" 2 pole, 4 position <i>Stepenasta sklopka bez "0"</i> <i>2 polna, 4 položaja</i>	110	29	Multi-step switch with "0" 1 pole, 5 position <i>Stepenasta sklopka s "0"</i> <i>1 polna, 5 položaja</i>	133	24	Multi-step switch without "0" 3 pole, 7 position <i>Stepenasta sklopka bez "0"</i> <i>3 polna, 7 položaja</i>
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90	19	1 pole switch <i>1 polna sklopka</i>	113	31	Multi-step switch with "0" 1 pole, 8 position <i>Stepenasta sklopka s "0"</i> <i>1 polna, 8 položaja</i>	136	28	Multi-step switch with "0" 3 pole, 3 position <i>Stepenasta sklopka s "0"</i> <i>3 polna, 3 položaja</i>
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93	22	Multi-step switch without "0" 3 pole, 3 position <i>Stepenasta sklopka bez "0"</i> <i>3 polna, 3 položaja</i>	116	32	Multi-step switch with "0" 1 pole, 11 position <i>Stepenasta sklopka s "0"</i> <i>1 polna, 11 položaja</i>	139	30	Multi-step switch with "0" 3 pole, 6 position <i>Stepenasta sklopka s "0"</i> <i>3 polna, 6 položaja</i>
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96	28	Multi-step switch without "0" 3 pole, 6 position <i>Stepenasta sklopka bez "0"</i> <i>3 polna, 6 položaja</i>	119	25	Multi-step switch without "0" 2 pole, 9 position <i>Stepenasta sklopka bez "0"</i> <i>2 polna, 9 položaja</i>	142	23	Multi-step switch without "0" 4 pole, 4 position <i>Stepenasta sklopka bez "0"</i> <i>4 polna, 4 položaja</i>
97	39	Ammeter switch 2 p/0-1-2-3 <i>Amper. sklop. 2p/0-1-2-3</i>	120	26	Multi-step switch without "0" 2 pole, 10 position <i>Stepenasta sklopka bez "0"</i> <i>2 polna, 10 položaja</i>	143	22	Multi-step switch without "0" 4 pole, 5 position <i>Stepenasta sklopka bez "0"</i> <i>4 polna, 5 položaja</i>
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102	25	Multi-step switch without "0" 1 pole, 8 position <i>Stepenasta sklopka bez "0"</i> <i>1 polna, 8 položaja</i>	125	19	Multi-step switch with "0" 2 pole, 4 position <i>Stepenasta sklopka s "0"</i> <i>2 polna, 4 položaja</i>	148	29	Multi-step switch with "0" 4 pole, 5 position <i>Stepenasta sklopka s "0"</i> <i>4 polna, 5 položaja</i>
103	25	Multi-step switch without "0" 1 pole, 9 position <i>Stepenasta sklopka bez "0"</i> <i>1 polna, 9 položaja</i>	126	29	Multi-step switch with "0" 2 pole, 5 position <i>Stepenasta sklopka s "0"</i> <i>2 polna, 5 položaja</i>	149	22	Multi-step switch without "0" 5 pole, 3 position <i>Stepenasta sklopka bez "0"</i> <i>5 polna, 3 položaja</i>

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151	27	Multi-step switch with "0" 5 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>5 polna, 2 položaja</i>	204	39	Spring return switch 1↔2 1 make and 1 break <i>S povratom 1 uklop i 1 isklup</i>
152	28	Multi-step switch with "0" 5 pole, 3 position <i>Stepenasta sklopka s "0"</i> <i>5 polna, 3 položaja</i>	205	39	Spring return switch 1↔2 2 make and 2 break <i>S povratom 2 uklop i 2 isklup</i>
153	29	Multi-step switch with "0" 5 pole, 4 position <i>Stepenasta sklopka s "0"</i> <i>5 polna, 4 položaja</i>	206	39	Spring return switch 1↔2 3 make and 3 break <i>S povratom 3 uklop i 3 isklup</i>
154	22	Multi-step switch without "0" 6 pole, 3 position <i>Stepenasta sklopka bez "0"</i> <i>6 polna, 3 položaja</i>	207	40	Spring return switch 1↔2 1 make right and 1 break left <i>S povratom 1 uklop desno i 1 isklup lijevo</i>
155	23	Multi-step switch without "0" 6 pole, 4 position <i>Stepenasta sklopka bez "0"</i> <i>6 polna, 4 položaja</i>	208	40	Control switch 1↔↔↔2 <i>Upravljačk sklopka 1↔↔↔2</i>
156	27	Multi-step switch with "0" 6 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>6 polna, 2 položaja</i>	209	40	Control switch 1↔↔↔2 <i>Upravljačka sklopka 1↔↔↔2</i>
157	28	Multi-step switch with "0" 6 pole, 3 position <i>Stepenasta sklopka s "0"</i> <i>6 polna, 3 položaja</i>	210	40	Switch with spring return left and right <i>Sklopka sa zakretnim tipkalom lijevo i desno</i>
158	29	Multi-step switch with "0" 6 pole, 4 position <i>Stepenasta sklopka s "0"</i> <i>6 polna, 4 položaja</i>	251	33	Gang switch with "0" 1 pole 2 gang <i>Grupna sklopka s "0"</i> <i>1 polna 2 grupe</i>
159	22	Multi-step switch without "0" 7 pole, 3 position <i>Stepenasta sklopka bez "0"</i> <i>7 polna, 3 položaja</i>	252	33	Gang switch with "0" 2 pole 2 gang <i>Grupna sklopka s "0"</i> <i>2 polna 2 grupe</i>
160	27	Multi-step switch with "0" 7 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>7 polna, 2 položaja</i>	253	34	Gang switch with "0" 3 pole 2 gang <i>Grupna sklopka s "0"</i> <i>3 polna 2 grupe</i>
161	28	Multi-step switch with "0" 7 pole, 3 position <i>Stepenasta sklopka s "0"</i> <i>7 polna, 3 položaja</i>	254	33	Gang switch with "0" 1 pole 3 gang <i>Grupna sklopka s "0"</i> <i>1 polna 3 grupe</i>
162	23	Multi-step switch without "0" 8 pole, 3 position <i>Stepenasta sklopka bez "0"</i> <i>8 polna, 3 položaja</i>	255	34	Gang switch with "0" 2 pole 3 gang <i>Grupna sklopka s "0"</i> <i>2 polna 3 grupe</i>
163	27	Multi-step switch with "0" 8 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>8 polna, 2 položaja</i>	256	34	Gang switch with "0" 3 pole 3 gang <i>Grupna sklopka s "0"</i> <i>3 polna 3 grupe</i>
164	29	Multi-step switch with "0" 8 pole, 3 position <i>Stepenasta sklopka s "0"</i> <i>8 polna, 3 položaja</i>	257	35	Gang switch 1 pole 2 gang <i>Grupna sklopka</i> <i>1 polna 2 grupe</i>
175	27	Multi-step switch with "0" 9 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>9 polna, 2 položaja</i>	258	35	Gang switch 2 pole 2 gang <i>Grupna sklopka</i> <i>2 polna 2 grupe</i>
176	27	Multi-step switch with "0" 10 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>10 polna, 2 položaja</i>	259	35	Gang switch 3 pole 2 gang <i>Grupna sklopka</i> <i>3 polna 2 grupe</i>
177	27	Multi-step switch with "0" 11 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>11 polna, 2 položaja</i>	260	36	Gang switch 2 pole 2 gang <i>Grupna sklopka</i> <i>2 polna 2 grupe</i>
178	27	Multi-step switch with "0" 12 pole, 2 position <i>Stepenasta sklopka s "0"</i> <i>12 polna, 2 položaja</i>	275	20	Switch with 90° switching 4 pole 1 pole preclose <i>Sklopka s kutom zakreta 90°</i> <i>4 polna 1 pol predhodi</i>
182	21	11 pole Changeover switch 1-0-2 <i>11 polna preklopka 1-0-2</i>	276	20	Switch with 90° switching 4 pole 3 pole preclose <i>Sklopka s kutom zakreta 90°</i> <i>4 polna 3 pola predhode</i>
183	21	12 pole Changeover switch 1-0-2 <i>12 polna preklopka 1-0-2</i>	277	20	Switch with 90° switching 5 pole 2 pole preclose <i>Sklopka s kutom zakreta 90°</i> <i>5 polna 2 pola predhode</i>
201	20	Spring return switch 1 pole 1→0→2 <i>S povratom u "0" 1 polna</i>	278	20	Switch with 90° switching 5 pole 3 pole preclose <i>Sklopka s kutom zakreta 90°</i> <i>5 polna 3 pola predhode</i>
202	20	Spring return switch 2 pole 1→0→2 <i>S povratom u "0" 2 polna</i>			

## ROTARY CAM SWITCHES “BS”

Rotary cam switches series “BS” are intended for multiple switching operations in main as well as in auxiliary circuits.

As motor switches they are designed for direct-online starting and stopping of single-phase and three-phase motors. They also come out as star-delta switches, reversing switches, pole-change over motor switches.

In auxiliary circuits they are assembled in compliance with the switching programme according to preference: switches for control, signalling and measuring circuits. Switches, selector switches and step switches e.g. for transformers and welding apparatuses. Group switches e.g. for switching operations of resistors and heaters. Control switch with automatic return

The advantages of rotary cam switches are: high making and breaking capacities, electrical and mechanical endurance and small dimensions.

Rotary cam switches comply with international standards such as: IEC 60947-3 and EN 60947-3.

The rotary cam switches “BS 16” to “BS 63” can have 24 contacts (12 switching elements) maximum and can be made with turning angle of 30, 45, 60 and 90 degrees. The rotary cam switches “BS 80” and “BS 100” can have 24 contacts (12 switching elements) maximum and can be made with turning angle of 45, 60 and 90 degrees. The rotary cam switches “BS” 125 to “BS 630” can have 18 contacts (9 switching elements) maximum and can be made with turning angle of 60 and 90 degrees.

## GREBENASTE SKLOPKE “BS”

Grebenaste sklopke služe za uklapanje i isklapanje motora i drugih potrošača. Sklopke “BS”. Imaju višestruku primjenu za sklapanje u glavnim i pomoćnim strujnim krugovima.

Kao motorske sklopke mogu pogonski sigurno sklapati, upravljati i pokretati trofazne i jednofazne motore, a mogu se izvesti kao: preklopka zvijezda - trokut, preklopka za reverziranje, preklopka za motore sa više brzina itd.

U pomoćnim strujnim krugovima sastavljaju se prema željenom programu sklapanja: sklopke za komandne, signalizacijske i mjerne krugove. Sklopke, preklopke i stepenaste sklopke npr. za transformatore i aparate za zavarivanje. Grupne sklopke npr. za sklapanje otpornika i grijača. Zakretna tipkala s automatskim povratom.

Glavne odlike “BS” sklopke su: velika uklopna moć, velika električna trajnost, sigurnost od napona dodira. Njihove karakteristike u potpunosti odgovaraju međunarodnom standardu IEC 60947-3 i EN 60947-3.

Sklopke “BS 16” do “BS 63” mogu imati najviše 24 kontakta (12 sklopnih elemenata) i mogu se izvesti s ugaom zakreta : 30, 45, 60 i 90 stepena. Sklopke “BS 80” i “BS 100” mogu imati najviše 24 kontakta (12 sklopnih elemenata) i mogu se izvesti s ugaom zakreta : 45, 60 i 90 stepena. Sklopke “BS 125” do “BS 630” mogu imati najviše 18 kontakta (9 sklopnih elemenata) i mogu se izvesti s ugaom zakreta : 60 i 90 stepena.

UTILIZATION CATEGORY		KATEGORIJA PRIMENE
Category Kategorije	Utilization Primena	
AC-20	Connecting and disconnecting under no-load conditions <i>Spajanje i rastavljanje neopterećenih kola</i>	
AC-21	ON-OFF switching of resistive loads, including moderate overloads <i>Uključivanje i prekidanje aktivnih potrošača, uključujući i umerena preopterećenja</i>	
AC-22	Switching of mixed resistive and inductive loads, including moderate overloads <i>Uključivanje i prekidanje kombiniranih, aktivnih i induktivnih potrošača, uključujući i umerena preopterećenja</i>	
AC-2	Starting slip-ring motors and plugging <i>Pokretanje klizno-kolutnih motora</i>	
AC-23	Switching of motor loads or other highly inductive loads <i>Uključivanje i isključivanje motora ili drugih jako induktivnih potrošača</i>	
AC-3	Starting squirrel-cage motor and switching off motors when running <i>Pokretanje i isključivanje kafeznih motora pri punoj brzini</i>	
AC-4	Starting squirrel-cage motors, plugging, inching, reversing <i>Pokretanje kafeznih motora, intermitiran pogon, reverziranje</i>	
AC-15	Control switch for switching magnetic devices, contactors, valves <i>Upravljanje elektromagnetnih pogona (sklopnika, ventila i sl.).</i>	

## TECHNICAL DATA / *TEHNIČKI PODACI*

TYPE / <i>TIP</i>				BS 16	BS 25	BS 32	BS 40	BS 63
Rated insulation voltage <i>Nazivni izolacijski napon</i>	$U_i$	V				690		
Rated impulse withstand voltage <i>Nazivni udarni podnosivi napon</i>	$U_{imp}$	kV				6		
Rated thermal current <i>Nazivna termička struja</i>	$I_{th}$	A	25	32	40	50	70	
Main switch <i>Glav. sklopka</i>	Max.value of rated operational voltage(1) <i>Najveća vrijednost naziv. pogon. napona (1)</i>	V				480		
Rated impulse withstand voltage <i>Nazivni udarni podnosivi napon</i>		kV				4		
Max. fuse size for short circuit protection <i>Max. veličina osigurača za Zaštitu od kratkog spoja</i>	gL 10 kA	A	25	32	40	50	70	
Rated Short-time Withstand current	1 sek	A	250	400	600	800	800	
	3 sek	A	150	250	400	530	700	
	10 sek	A	80	140	240	290	350	
<i>Nazivna kratkotrajno podnosiva struja</i>	30 sek	A	50	90	150	200	250	
	60 sek	A	40	70	120	150	150	
Rated operational current $I_o$ AC1 / AC21 <i>Nazivna pogonska struja <math>I_o</math> AC1/AC21</i>		A	20	25	32	40	63	
Rated operational current $I_o$ AC15 <i>Nazivna pogonska struja <math>I_o</math> Ac15</i>	110V	A	10	20	25	40	50	
	220/230V	A	8	20	25	30	40	
	380/400V	A	6	16	20	25	40	
	660/690V	A		8	8.5	8.5	10	
Motor switch in utilization category <i>Motorska sklopka za kategoriju upotrebe</i>								
AC3	220/230V	kW	3	5.5	7.5	9	11	
3-phase <i>3-faze</i>	<b>380/400V</b>	<b>kW</b>	<b>5</b>	<b>7.5</b>	<b>11</b>	<b>15</b>	<b>18.5</b>	
	500/690V	kW	-	11	15	19	22	
1-phase <i>1-faza</i>	2 poles 110V	kW	0.8	1.5	2.5	2.5	3	
	<i>2 pola</i>							
	220/230V	kW	2.2	3	4.8	5.5	6	
	380/400V	kW	3	5.5	6.5	7.5	11	
AC23	220/230V	kW	5	6.5	8	9	15	
3-phase <i>3-faze</i>	<b>380/400V</b>	<b>kW</b>	<b>7.5</b>	<b>11</b>	<b>15</b>	<b>18.5</b>	<b>22</b>	
	500/690V	kW	-	11	18.5	22	30	
1-phase <i>1-faza</i>	2 poles 110V	kW	0.8	1.5	2.5	3	3.5	
	<i>2 pola</i>							
	220/230V	kW	2.5	3.7	5	6	9	
	380/400V	kW	3.7	5.5	7.5	9	15	
AC4	220/230V	kW	1.5	2.5	3	5	6	
3-phase <i>3-faze</i>	380/400V	kW	3	4	5.5	8	11	
	500/690V	kW	-	4	7.5	8	11	
Mechanical endurance switching cycles <i>Mehanička trajnost Broj uklopa</i>		$10^6$	3	3	3	3	2	
Terminal screw <i>Priključni vijak</i>			M3.5	M3.5	M4	M5	M5	
Screw head <i>Oblik glave vijka</i>			PZ2	PZ2	PZ2	PZ2	PZ2	
Tightening torque <i>Moment stezanja</i>			0.8	0.8	1.2	1.8	2	
Cable cross-section <i>Presjek vodiča</i>	Rigid/ <i>kruti</i>	mm <sup>2</sup>	2x(1-4) 1-6*	2x(1-4) 1-6*	2x(2.5-6) 1-10*	2x(2.5-10)	2x(4-16)	
	Flexible / <i>finožičani</i>		2x(1-4)	2x(1-4)	2x(2.5-6) 1-10*	2x(2.5-10)	2x(4-16)	

(1) Valid for neutral earthed systems, overvoltage category III, pollution degree 3 / *Vrijedi za mreže sa uzemljenim zvjezdištem, prenaponska kategorija III, stupanj zagađenja 3*

(\*) Only for diagrams without inside links / *Samo za šeme spoja bez unutrašnjih kratkospojnika.*



## TECHNICAL DATA / *TEHNIČKI PODACI*

TYPE/ <i>TIP</i>			BS 80	BS 100	BS 125	BS 200	BS 400	BS 630
Rated insulation voltage <i>Nazivni izolacijski napon</i>	$U_i$	V	690		690			
Rated impulse withstand voltage <i>Nazivni udarni podnosivi napon</i>	$U_{imp}$	kV	6		8			
Rated thermal current <i>Nazivna termička struja</i>	$I_{th}$	A	80	100	125	200	400	630
Main switch <i>Glav. sklopka</i>	Max. value of rated operational voltage (1) <i>Najveća vrijednost naziv. pogon. napona (1)</i>	V	480		690			
Rated impulse withstand voltage <i>Nazivni udarni podnosivi napon</i>		kV	4		6			
Max. fuse size for short circuit protection <i>Max. veličina osigurača za Zaštitu od kratkog spoja</i>	$g_L$ 10 kA <i>g<sub>L</sub> 10 kA</i>	A	80	100	120	200	400	630
Rated Short-time	1 sek	A	1000	1800	2100	3000		
Withstand current <i>Nazivna kratkotrajno podnosiva struja</i>	3 sek	A	800	900	1300	1700		
	10 sek	A	400	450	700	850		
	30 sek	A	250	300	400	500		
	60 sek	A	160	200	300	400		
	Rated operational current $I_b$ AC1 / AC21 <i>Nazivna pogonska struja <math>I_b</math> AC1/AC21</i>		A	70	75	120	200	400
Motor switch in utilization category <i>Motorska sklopka za kategoriju upotrebe</i>								
AC3	220/230 V	kW	12	19	26	37	37	37
3- Phase <i>3-faze</i>	<b>380/400 V</b>	<b>kW</b>	<b>22</b>	<b>32</b>	<b>41</b>	<b>60</b>	<b>60</b>	<b>60</b>
	500/690 V	kW	28	42	55	75	75	75
1-phase 2 poles <i>1-faza 2-pola</i>	110V	kW	-	-	-	-	-	-
	220/230 V	kW	-	-	-	-	-	-
	380/400 V	kW	-	-	-	-	-	-
AC23	220/230 V	kW	18.5	22	26	37	37	37
3-Phase <i>3-faze</i>	<b>380/400 V</b>	<b>kW</b>	<b>32</b>	<b>37</b>	<b>41</b>	<b>60</b>	<b>60</b>	<b>60</b>
	500/690 V	kW	45	55	55	75	75	75
1-phase 2 poles <i>1-faza 2-pola</i>	110V	kW	-	-	-	-	-	-
	220/230 V	kW	-	-	-	-	-	-
	380/400 V	kW	-	-	-	-	-	-
AC4	220/230 V	kW	7	9.5	17	17		
3-phase <i>3-faze</i>	380/400 V	kW	12	16	30	30		
	500/690 V	kW	12	16	32	32		
Mechanical endurance <i>Mehanička trajnost</i>	switching cycles <i>Broj uklopa</i>	$10^5$	10	10	3	1	0.5	0.5
Terminal screw <i>Priključni vijak</i>			2xM5	2xM5	M8	M10	M12	M16
Cable cross-section <i>Presjek vodiča</i>	Flexible / <i>finožičani</i>	mm <sup>2</sup>	6-25 2x(6-16)	6-25 2x(6-16)	16-35	70-95 <sup>(2)</sup>	70-240	70-240
	Flat connection / <i>šine</i>	mm					△	△

(1) Valid for neutral earthed systems, over voltage category III, pollution degree 3 / *Vrijedi za mreže sa uzemljenim zvjezdištem, prenaponska kategorija III, stupanj zagađenja 3*



(2) Connection valid for luge with cables having a section; min. 70 mm<sup>2</sup>, max.95 mm<sup>2</sup> / *Važi za priključne kablove sa kabelskim stopicama; min. 70 mm<sup>2</sup>, max.95 mm<sup>2</sup>.*

△ Connection valid to connect copper bars / *Važi za spojne bakarne trake.*

## STANDARD MOUNTING FORMS / *STANDARDNI OBLICI UGRADNJE*

Mounting form <i>Oblik ugradnje</i>	Marking <i>Oznaka</i>	Switch type <i>Tip sklopke</i>	Protection/ <i>Zaštita</i>		Outlook <i>Izgled</i>
			Front <i>Prednja</i>	Rear <i>Stražnja</i>	
Front mounting <i>Ugradna sklopka</i>	U	BS 16 BS 25 BS 32 BS 40 BS 63	IP 40	IP 20	
		BS 80 BS 100 BS 125 BS 200 BS 400 BS 630	IP 40	IP 00	
Front mounting without indicating plate cover <i>Ugradna sklopka bez sklopa sa natpisnom pločom</i>	M	BS 16 BS 25 BS 32 BS 40 BS 63	IP 40	IP 20	
		BS 80 BS 100	IP 40	IP 00	
Rear mounting <i>Ugradnja sa stražnje strane</i>	O	BS 16 BS 25 BS 32 BS 40 BS 63	IP 40	IP 20	
		BS 80 BS 100	IP 40	IP 00	
Switch with door interlock device. Door opening only in "0" <i>Sklopka sa spojkom za vrata s blokadom Otvaranje vrata samo u "0"</i>	S8	BS 125 BS 200 BS 400 BS 630	IP 40	IP 00	
Switch in insulated enclosures <i>Sklopka u plastičnom kućištu</i>	PN	PNBS 16 PNBS 25	IP 65		
Switch in insulated enclosures <i>Sklopka u plastičnom kućištu</i>	PNG	PNGBS 25 PNGBS 32 PNGBS 40	IP 65		
	PNG LK	PNGBS 25 .. LK PNGBS 32 .. LK PNGBS 40 .. LK	IP 65		

## STANDARD MOUNTING FORMS / *STANDARDNI OBLICI UGRADNJE*

Mounting form <i>Oblik ugradnje</i>	Marking <i>Oznaka</i>	Switch type <i>Tip sklopke</i>	Protection/ <i>Zaštita</i>		Outlook <i>Izgled</i>
			Front <i>Prednja</i>	Rear <i>Stražnja</i>	
Switch in insulated enclosures <i>Sklopka u plastičnom kućištu</i>	<b>PN1</b>	PN1BS 16 PN1BS 25	IP 55		
Switch in insulated enclosures <i>Sklopka u plastičnom kućištu</i>	<b>PN2</b>	PN2BS 32 PN2BS 40 PN2BS 63	IP 55		
Switch in insulated enclosures <i>Sklopka u plastičnom kućištu</i>	<b>PN3</b>	PN3BS 80 PN3BS 100	IP 54		
Switch in insulated enclosures <i>Sklopka u plastičnom kućištu</i>	<b>PN4</b>	PN4BS 80 PN4BS 100 PN4BS 125 PN4BS 200	IP 54		

MODEL OF FRONT PLATE PS /  
**PREDNJA PLOČA PS**



Sizes: BS 16; .... ; BS 100  
Veličine: BS 16; .... ; BS 100

"ES" - GENERAL EMERGENCY ON - OFF SWITCH  
**"ES" - SKLOPKA ZA NUŽNO ISKLAPANJE**



Sizes: BS 16; .... ; BS 100  
Veličine: BS 16; .... ; BS 100

GENERAL EMERGENCY ON - OFF SWITCH VERSION "LK" WITH PADLOCKING ONLY IN "0"  
**SKLOPKA ZA NUŽNO ISKLAPANJE IZVEDBA "LK" SA ZAKLJUČAVANJE U "0"**

- Emergency switch have to make electrical separation between el. supply and electrical equipment.
- Control handle according the Standards is Red, and the plate behind the handle yellow.
- Emergency switch is able to lock in the open position "0" up to three padlocks.
- "LK" - *Glavna sklopka za nužno isklapanje*
- *Crvena ručica, žuta prednja ploča i podloga saglasno standardima*
- *Glavna sklopka ima mogućnosti zaključavanje u "0" položbu*



BS 16 10 LK (Three-pole)  
BS 25 10 LK (Three-pole)  
BS 32 10 LK (Three-pole)  
BS 40 10 LK (Three-pole)  
BS 63 10 LK (Three-pole)

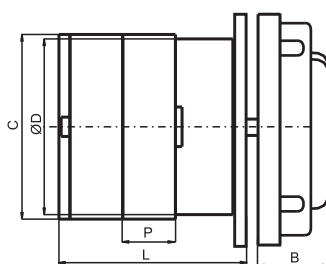
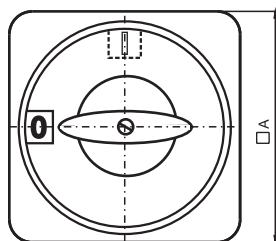
BS 16 92 LK (Four-pole)  
BS 25 92 LK (Four-pole)  
BS 32 92 LK (Four-pole)  
BS 40 92 LK (Four-pole)  
BS 63 92 LK (Four-pole)



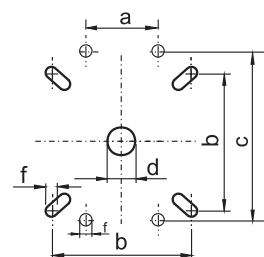
BS 80 10 LK (Three-Pole)  
BS 100 10 LK (Three-pole)  
BS 125 10 LK (Three-Pole)  
BS 200 10 LK (Three-Pole)  
BS 400 10 LK (Three-pole)  
BS 630 10 LK (Three-pole)

BS 80 92 LK (Four-pole)  
BS 100 92 LK (Four-pole)  
BS 125 92 LK (Four-pole)  
BS 200 92 LK (Four-pole)  
BS 400 92 LK (Four-pole)  
BS 630 92 LK (Four-pole)

DIMENSIONAL DRAWINGS VERSION "LK" (mm) **MJERNE SKICE IZVEDBA "LK"**



DRILLING PLAN / **PLAN BUŠENJA**



MOUNTING ON THE RAIL /  
**MONTAŽA NA ŠINU**



BS 16 .. L\*  
BS 25 .. L\*  
BS 32 .. L\*

\* Max. up to 4 elements/  
*Max. do 4 elementi*

TYPE / TIP	□A	C	∅D	P	B	$\frac{L}{2}$	b	d	f	a	c
BS 16 LK BS 25 LK	49	45.2	38.6	12.8	35	45.3	36	10	3.2		
BS 32 LK	72	53	38.6	12.8	32	49.8	58	10	4.2		
BS 40 LK	72	61	56.4	17.5	32	68.1	58	10	4.2		
BS 63 LK	72	68.6	56.4	20.5	32	63	58	10	4.2		
BS 80 LK	105	84	80	25	44	92.5	85	14	5.3		
BS 100 LK											
BS 125 LK BS 200 LK	130		110	39	62	100		18	5.3	30	90



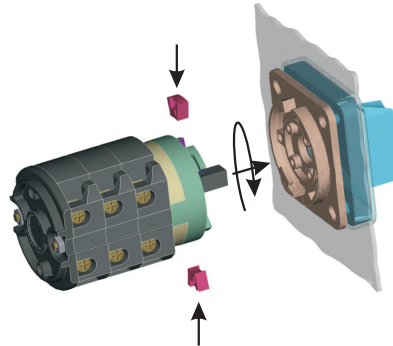
# “BAYONET” ROTARY CAM SWITCHES TYPE BSB

## “BAJONET” GREBENASTE SKLOPKE

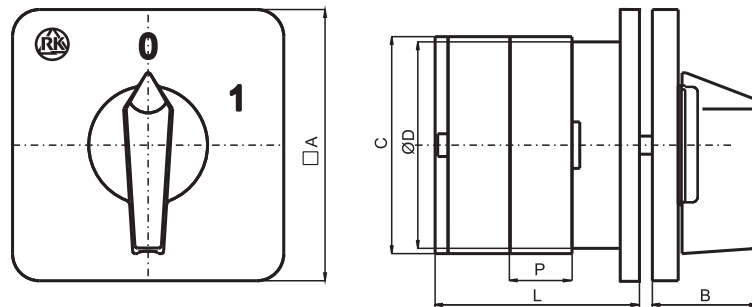
### Selection and ordering data / *Izbor i naračka*



lth A	Description / <i>Opis</i>	Type / <i>Tip</i>
25		<b>BSB 16</b>
32		<b>BSB 25</b>
40		<b>BSB 32</b>
No. of diagram are as the standard version of the model “BS” <i>Br. šeme je isti kao kod standardne verzije “BS”</i>		
Mounting form - for front “U” <i>Oblik ugradnje - za ugradnju sa prednje strane “U”</i>		
Front part: Black handle and front plate gray - standard PS - (Black handle and front plate - PS model) - on request <i>Boja prednjeg sklopa:</i> Crna boja ručica i prednja ploča siva - standardna verzija PS - (crna ručica i prednja ploča - model PS) - na posebno baranje		



### DIMENSIONAL DRAWINGS (mm) / *MJERNE SKICE (mm)*

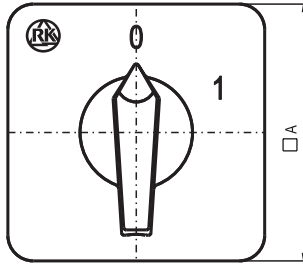


TYPE/TIP	MARKING / <i>OZNAKA</i>					NUMBER OF ELEMENTS / <i>BROJ ELEMENATA</i> (L/mm)											
	□ A	B	C	ØD	P	1	2	3	4	5	6	7	8	9	10	11	12
BSB 16 BSB 25	51,2	27,2	45,2	38,6	12,8	39,5	52,3	65,1	77,9	90,7	103,5	116,3	129,1	141,9	154,7	167,5	180,3
BSB 32	51,2	27,2	53	38,6	12,8	44	56,8	69,6	82,4	95,2	108	120,8	133,6	146,4	159,2	172	184,8

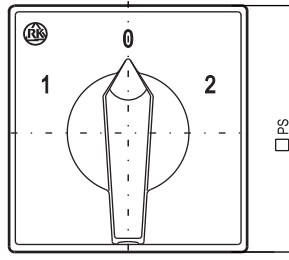
### NOTES / *ZABELEŠKA:*

1. Technical data and drilling plan are same as the standard version of the model “BS”  
*1. Tehničke podatke, plan bušenja su iste kao i kod standardne verzije “BS”*
2. The selection of the color for the front parts for “BS” is same as previous case for “BSB”  
*2. Izbor boje prednjeg sklopa za “BSB” je isti kao i za “BS”.*

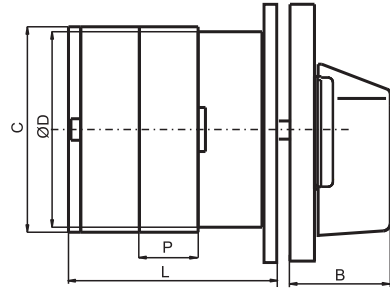
**DIMENSIONAL DRAWINGS (mm) / MJERNE SKICE (mm)**



Front Plate Standard / *Predni Sklop Standard*



Front Plate PS / *Predni Sklop PS*

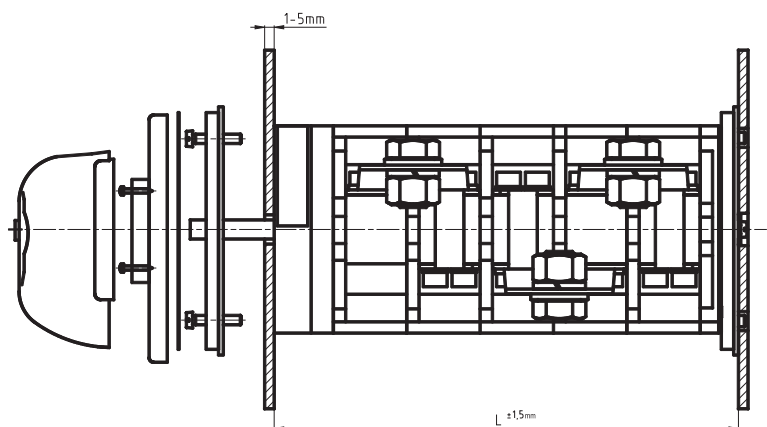


TYPE/TIP	MARKING/ OZNAKA		NUMBER OF ELEMENTS (L/mm) / BROJ ELEMENATA (L/mm)																			
	□A	□PS	B	C	ØD	P	1	2	3	4	5	6	7	8	9	10	11	12				
BS 16 BS 25	51,2	48	27,2	45,2	38,6	12,8	32,5	45,3	58,1	70,9	83,7	96,5	109,3	122,1	134,9	147,7	160,5	173,3				
BS 32	72	65	33	53	38,6	12,8	37	49,8	62,6	75,4	88,2	101	113,8	126,6	139,4	152,2	165	177,8				
BS 40	72	65	33	61	56,4	17,5	50,6	68,1	85,6	103,1	120,6	138,1	155,6	173,1	190,6	208,1	225,6	243,1				
BS 63	72	65	33	68,6	56,4	20,5	42,5	63	83,5	104	124,5	145	165,5	186	206,5	227	247,5	268				
BS 80 BS 100	105	90	41	84	80	25	67,5	92,5	117,5	142,5	167,5	192,5	217,5	242,5	267,5	292,5	317,5	342,5				
BS 125	130	130	62	110	110	30	91	121	151	181												
BS 200						39	100	139	178	217												
BS 400						39	100	139	178	217	-	295										
BS 630						39	-	139	178	-	256	295	-	-	412							

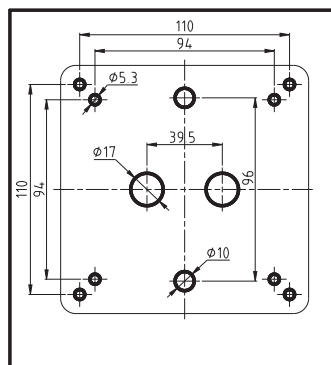
(\*) For the switch with 5-9 elements see the dimensional drawing on page 13. / *Za sklopku za 5-9 elemenata pogledaj mjernu skicu na str. 13.*

FRONT MOUNTING "U" UGRADNJA SA PREDNJE STRANE "U"	<p>DRILLING PLAN / <i>PLAN BUŠENJA</i></p>	<table border="1"> <thead> <tr> <th>TYPE/TIP</th> <th>a</th> <th>b</th> <th>a1</th> <th>b1</th> <th>c</th> <th>d</th> <th>f</th> </tr> </thead> <tbody> <tr> <td>BS 16 BS 25</td> <td></td> <td>34-36 *36</td> <td></td> <td></td> <td>30</td> <td>10</td> <td>3.2</td> </tr> <tr> <td>BS 32</td> <td></td> <td></td> <td></td> <td></td> <td>30</td> <td></td> <td>3.2</td> </tr> <tr> <td>BS 40 BS 63</td> <td>58</td> <td>48</td> <td></td> <td></td> <td>45</td> <td>10</td> <td>4.2</td> </tr> <tr> <td>BS 80 BS 100</td> <td>85</td> <td>68-74 *72</td> <td></td> <td></td> <td>40</td> <td>14</td> <td>5.3</td> </tr> <tr> <td>BS 125 BS 200 BS 400 BS 630</td> <td></td> <td></td> <td>90</td> <td>30</td> <td></td> <td>18</td> <td>5.3</td> </tr> </tbody> </table>	TYPE/TIP	a	b	a1	b1	c	d	f	BS 16 BS 25		34-36 *36			30	10	3.2	BS 32					30		3.2	BS 40 BS 63	58	48			45	10	4.2	BS 80 BS 100	85	68-74 *72			40	14	5.3	BS 125 BS 200 BS 400 BS 630			90	30		18	5.3
	TYPE/TIP	a	b	a1	b1	c	d	f																																										
BS 16 BS 25		34-36 *36			30	10	3.2																																											
BS 32					30		3.2																																											
BS 40 BS 63	58	48			45	10	4.2																																											
BS 80 BS 100	85	68-74 *72			40	14	5.3																																											
BS 125 BS 200 BS 400 BS 630			90	30		18	5.3																																											
FRONT MOUNTING "M" UGRADNJA SA PREDNJE STRANE "M"	<p>DRILLING PLAN / <i>PLAN BUŠENJA</i></p>	<table border="1"> <thead> <tr> <th>TYPE/TIP</th> <th>h</th> <th>d</th> <th>g</th> </tr> </thead> <tbody> <tr> <td>BS 16 BS 25</td> <td>13.5</td> <td>10</td> <td>3.5</td> </tr> <tr> <td>BS 32</td> <td></td> <td>10</td> <td></td> </tr> <tr> <td>BS 40 BS 63</td> <td>16.2</td> <td>10</td> <td>4</td> </tr> <tr> <td>BS 80 BS 100</td> <td>20</td> <td>14</td> <td>4.5</td> </tr> </tbody> </table>	TYPE/TIP	h	d	g	BS 16 BS 25	13.5	10	3.5	BS 32		10		BS 40 BS 63	16.2	10	4	BS 80 BS 100	20	14	4.5																												
TYPE/TIP	h	d	g																																															
BS 16 BS 25	13.5	10	3.5																																															
BS 32		10																																																
BS 40 BS 63	16.2	10	4																																															
BS 80 BS 100	20	14	4.5																																															
REAR MOUNTING "O" UGRADNJA SA STRAŽNJE STRANE "O"	<p>DRILLING PLAN / <i>PLAN BUŠENJA</i></p>	<table border="1"> <thead> <tr> <th>TYPE/TIP</th> <th>a</th> <th>b</th> <th>f</th> <th>k</th> </tr> </thead> <tbody> <tr> <td>BS 16 BS 25</td> <td>36</td> <td>36</td> <td>4.2</td> <td>15.5</td> </tr> <tr> <td>BS 32</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>BS 40</td> <td>58</td> <td>48</td> <td>4.5</td> <td>17</td> </tr> <tr> <td>BS 63</td> <td>58</td> <td>48</td> <td>4.5</td> <td></td> </tr> <tr> <td>BS 80 BS 100</td> <td>85</td> <td>68</td> <td>5.3</td> <td>20.5</td> </tr> </tbody> </table>	TYPE/TIP	a	b	f	k	BS 16 BS 25	36	36	4.2	15.5	BS 32					BS 40	58	48	4.5	17	BS 63	58	48	4.5		BS 80 BS 100	85	68	5.3	20.5																		
TYPE/TIP	a	b	f	k																																														
BS 16 BS 25	36	36	4.2	15.5																																														
BS 32																																																		
BS 40	58	48	4.5	17																																														
BS 63	58	48	4.5																																															
BS 80 BS 100	85	68	5.3	20.5																																														

**DIMENSIONAL DRAWINGS FOR "U" FOR BS 125 - 630 WITH 5-9 ELEMENTS (mm) /  
MJERNE SKICE ZA "U" ZA BS 125 - 630 (mm)**



DRILLING PLAN FROM REAR SITE /  
PLAN BUŠENJA SA ZADNJE STRANE



Size / Veličina	Number of elements / Broj elemenata - L (mm)				
	5	6	7	8	9
BS 125	191	251	281	311	341
BS 200	236	305	344	383	422
BS 400	236	305	344	383	422
BS 630	236	305	-	383	422

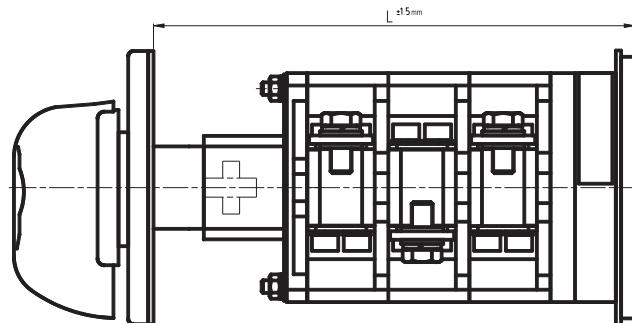
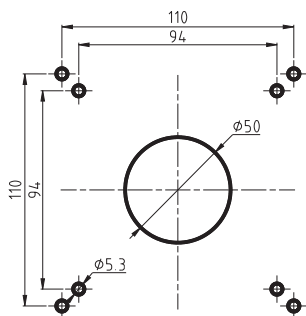
Note / *Zabjeleška:*

- For the switch with 5-9 elements the front plate is also mounted at the back side /
- Za skopku sa 5-9 elemenata ugrađujemo prednju ploču i straga

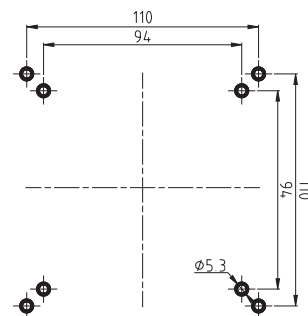
**DIMENSIONAL DRAWINGS FOR "S8" FOR BS 125 - 630  
MJERNE SKICE ZA "S8" ZA BS 125 - 630 (mm)**

DRILLING PLAN / PLAN BUŠENJA

ON THE DOOR /  
NA VRATU



LOOK FROM REAR SITE /  
POGLEĐ SA ZADNJE STRANE



Size / Veličina	Number of elements / Broj elemenata - L (mm)				
	1	2	3	4	5
BS 125	150	180	210	240	270
BS 200	159	198	237	276	315
BS 400	159	198	237	276	315
BS 630	-	198	237	-	315

**SWITCHES SERIES BS 125 - BS 630 / SKLOPKE SERIJE BS 125 - BS 630**

CODE ŠEMA	Number of elements / Broj elemenata			
	BS 125	BS 200	BS 400	BS 630
10	2	2	3	5
92	2	2	4	6
52	2	2	4	6
53	3	3	6	9
11	3	3		

# ROTARY CAM SWITCHES IN INSULATED ENCLOSURES GREBENASTE SKLOPKE U PLASTIČNOM KUCIŠTU

## Selection and ordering data / Izbor i naračka



PNBS 16, PNBS 25



PNGBS 25, PNGBS 32,  
PNGBS 40



PNGBS 25..LK, PNGBS 32..LK,  
PNGBS 40..LK



PNGBS 16, PNGBS 25

	Degree of protection	Type / Tip		
Number of elements 1-3	IP 65	PNBS 16 PNBS 25 *	..	.
Number of diagram / <i>Br. šeme</i> - (90, 91, 10, 92, 51, 52, 53, 54, 55, 56, 11, 15)				
Front part: Black handle and front plate gray - standard		<i>Boja prednjeg sklopa:</i> <i>Crna boja ručica i prednja ploča siva - standardna</i>		
Number of elements 1-3 for BS 25, BS 32, BS 32 .. LK	IP 65	PNGBS 25	..	.
Number of elements 1-2 for BS 40, BS 40 .. LK		PNGBS 32	..	.
		PNGBS 40	..	.
		PNGBS 25	..	LK
		PNGBS 32	..	LK
		PNGBS 40	..	LK
Number of diagram for / <i>Br. šeme za</i> PNGBS 25 - (90, 91, 10, 92, 51, 52, 53, 54, 55, 56, 11, 15)				
Number of diagram for / <i>Br. šeme za</i> PNGBS 32 - (90, 91, 10, 92, 51, 52, 53, 54, 55, 56, 11, 15)				
Number of diagram for / <i>Br. šeme za</i> PNGBS 40 - (90, 91, 10, 92, 51, 52, 54, 55)				
Front part: Black handle and front plate gray - standard		<i>Boja prednjeg sklopa:</i> <i>Crna boja ručica i prednja ploča siva - standardna</i>		
Number of elements 4-6	IP 55	PN1BS 16 PN1BS 25	..	.
No. of diagram - (12, 13, 75, 69, 19, 97, 98)				
Front part: Black handle and front plate gray - standard		<i>Boja prednjeg sklopa:</i> <i>Crna boja ručica i prednja ploča siva - standardna</i>		

### NOTES:

Color of enclosures is grey (RAL 7035)

\* Only with connection cable up to 2.5 mm<sup>2</sup>



# ROTARY CAM SWITCHES IN INSULATED ENCLOSURES GREBENASTE SKLOPKE U PLASTIČNOM KUČIŠTU

## Selection and ordering data / Izbor i naračka



PN2BS 32, PN2BS 40,  
PN2BS 63

	Degree of protection	Type
Number of elements 4-5 for BS 32 Number of elements 3-5 for BS 40 Number of elements 1-4 for BS 63	IP 55	PN2BS 32 .. . PN2BS 40 .. . PN2BS 63 .. .

Number of diagram for PN2BS 32 - ( 75, 69, 13, 12, 19, 97, 98)  
 Number of diagram for PN2BS 40 - ( 53,75, 56, 69, 11,13, 12, 26,19, 97, 98)  
 Number of diagram for PN2BS 63 - ( 90, 91, 10, 92, 51, 52, 53, 75, 54, 55, 56, 69, 11, 13, 12, 26, 19, 15, 207, 98)

Front part:  
Black handle and front plate gray - standard

*Boja prednjeg sklopa:*  
*Crna boja ručica i prednja ploča siva - standardna*



PN3BS 80, PN3BS 100

Number of elements 1-3	IP 54	PN3BS 80 .. . PN3BS 100 .. .
------------------------	-------	---------------------------------

Number of diagram - (90, 91, 10, 92, 51, 52, 53, 54, 55, 56, 11, 26, 15, )

Front part:  
Black handle and front plate gray - standard

*Boja prednjeg sklopa:*  
*Crna boja ručica i prednja ploča siva - standardna*



PN4BS 80, PN4BS 100  
PN4BS 125, PN4BS 200

Number of elements 4 for BS 80 Number of elements 4 for BS 100 Number of elements 1-3 for BS 125 Number of elements 1-2 for BS 200	IP 54	PN4BS 80 .. . PN4BS 100 .. . PN4BS 125 .. . PN4BS 200 .. .
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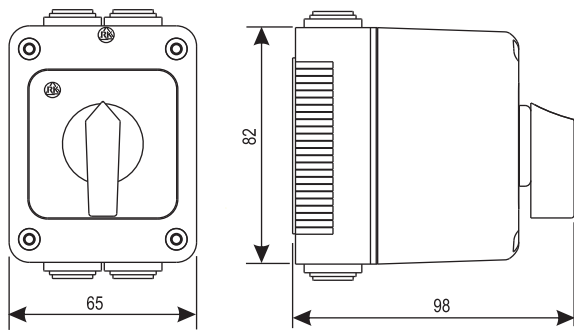
Number of diagram for PN4BS 80, 100 - (12, 13, 19, 75, 98)  
 Number of diagram for PN4BS 125 - (10, 11, 51, 52, 53, 54, 55, 56, 92 )  
 Number of diagram for PN4BS 200 - (10, 51, 52, 54, 55, 92)

Front part:  
Black handle and front plate gray - standard

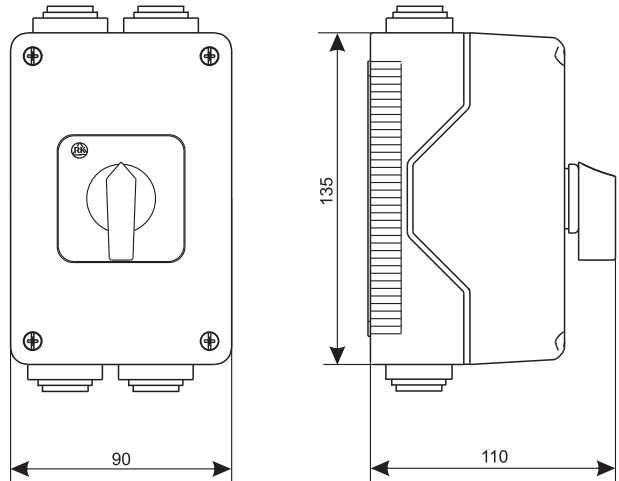
*Boja prednjeg sklopa:*  
*Crna boja ručica i prednja ploča siva - standardna*

**DIMENSION DRAWINGS (mm) / MJERNE SKICE (mm)**

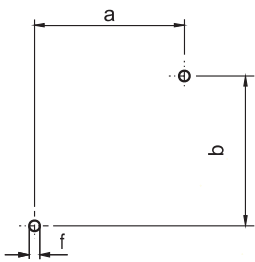
**PNBS 16, 25**



**PNGBS 25, 32, 40**



**DRILLING PLAN / PLAN BUŠENJA**



TYPE/ TIP	a	b	f
PNBS 16 *	44	48	4,3
PNBS 25 *			
PNGBS 25	48	100	4,3
PNGBS 32 (LK)			
PNGBS 40 (LK)			

**NOTES / ZABELEŠKA**

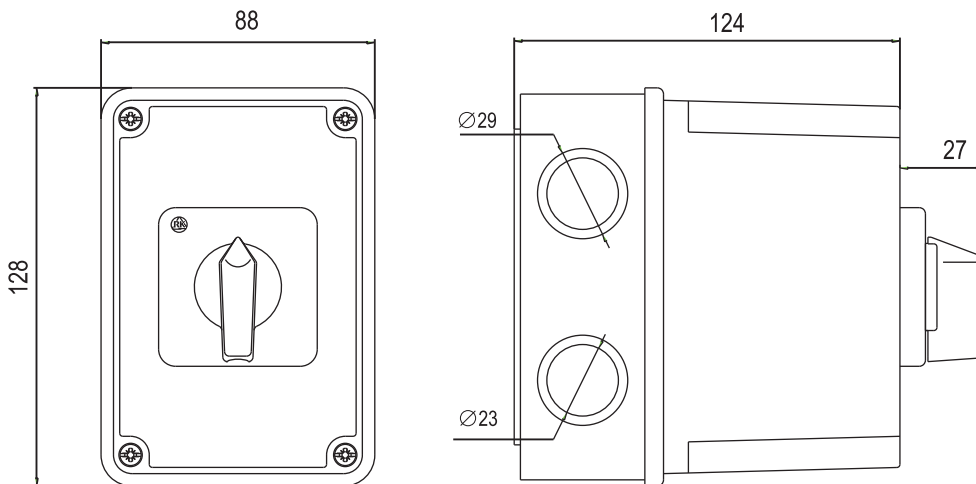
Color of enclosures is grey (RAL 7035)

\* Only with connection cable up to 2.5 mm<sup>2</sup>

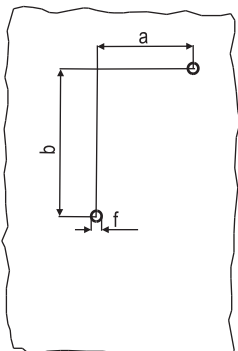
Boja kućišta je siva (RAL 7035)

\* Samo za priključne kablove do 2.5 mm<sup>2</sup>

**PN1BS 16, 25**

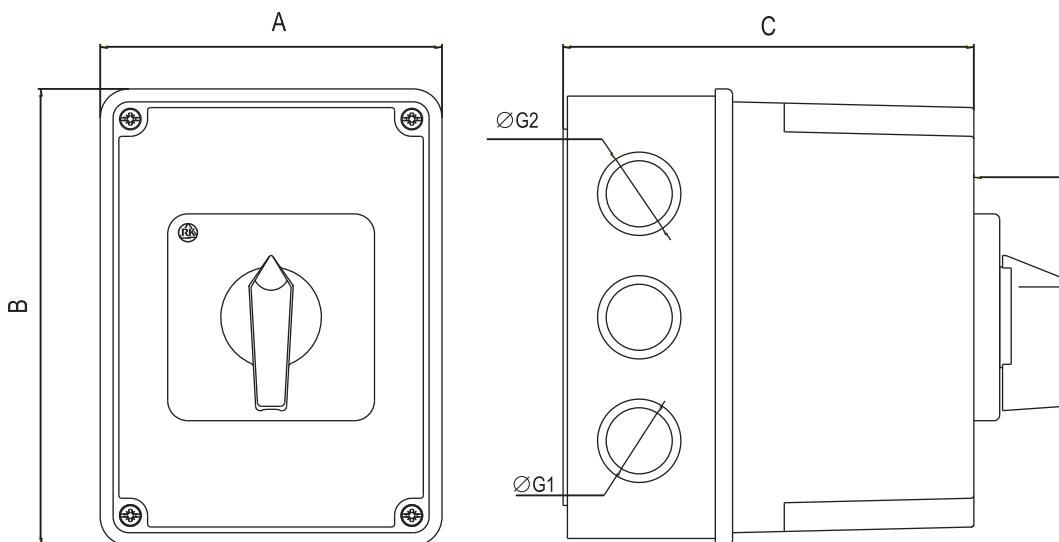


**DRILLING PLAN / PLAN BUŠENJA**



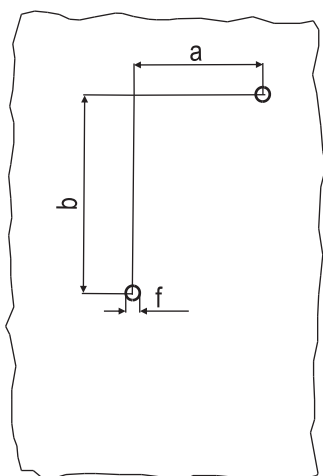
TYPE	a	b	f
PN1BS 16	42	82	4,3
PN1BS 25			

**DIMENSION DRAWINGS (mm) / MJERNE SKICE (mm)**



TYPE / TIP	MARKING / OZNAKA					
	A	B	C	D	ØG1	ØG2
PN2BS 32 PN2BS 40 PN2BS 63	119	159	143	33	23	29
PN3BS 80 PN3BS 100	155	201	148	41	29	37
PN4BS 80 PN4BS 100	210	260	168	41	29	37
PN4BS 125 PN4BS 200	210	260	168	57	29	37

**DRILLING PLAN / PLAN BUŠENJA**



TYPE	a	b	f
PN2BS 32 PN2BS 40 PN2BS 63	72	112	4,5
PN3BS 80 PN3BS 100	98	144	4,5
PN4BS 80 PN4BS 100 PN4BS 125 PN4BS 200	140	194	4,3

# Diagrams for rotary cam switches / Šeme za grebenaste sklopke

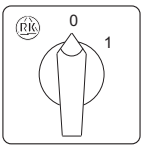
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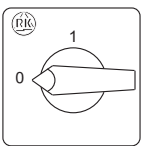
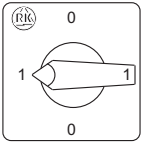


<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
------------------------------------	------------------------------------	-------------	----------------------------------	--

**SWITCHES WITH 60° SWITCHING**  
*SKLOPKE S KUTOM ZAKRETA 60°*

1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i> 4 pole <i>4 polna</i> 5 pole <i>5 polna</i> 6 pole <i>6 polna</i> 7 pole <i>7 polna</i> 8 pole <i>8 polna</i> 9 pole <i>9 polna</i> 10 pole <i>10 polna</i> 11 pole <i>11 polna</i> 12 pole <i>12 polna</i>		<b>90</b>	1	<table border="1" style="margin-top: 10px;"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> </table>	0												1	X	X	X	X	X	X	X	X	X	X	X
		0																										
		1	X		X	X	X	X	X	X	X	X	X	X														
		<b>91</b>	1																									
		<b>10</b>	2																									
		<b>92</b>	2																									
		<b>99</b>	3																									
		<b>100</b>	3																									
		<b>37</b>	4																									
		<b>38</b>	4																									
		<b>39</b>	5																									
		<b>40</b>	5																									
<b>41</b>	6																											
<b>42</b>	6																											

**SWITCHES WITH 90° SWITCHING**  
*SKLOPKE S KUTOM ZAKRETA 90°*

1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i> 4 pole <i>4 polna</i>		<b>05</b>	1	<table border="1" style="margin-top: 10px;"> <tr><td>0</td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td>X</td><td>X</td></tr> </table>	0				1	X	X	X								
		0																		
		1	X		X	X														
		<b>06</b>	1																	
<b>07</b>	2																			
<b>08</b>	2																			
3 pole (360° rotation) <i>3 polna (rotacija 360°)</i>		<b>09</b>	2	<table border="1" style="margin-top: 10px;"> <tr><td>0</td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td>X</td><td>X</td></tr> </table>	0				1	X	X	X	0				1	X	X	X
			0																	
1	X	X	X																	
0																				
1	X	X	X																	

FUNCTION <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	CODE	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**SWITCHES WITH 90° SWITCHING**  
*SKLOPKE S KUTOM ZAKRETA 90°*

<p>3 pole current change over switch <i>3 polna strujna preklopka</i></p>		<b>57</b>	3	
<p>4 pole 1 pole preclose <i>4 polna 1 pol predhodi</i> 5 pole 2 pole preclose <i>5 polna 2 pola prethode</i> 4 pole 3 pole preclose <i>4 polna 3 pola prethode</i> 5 pole 3 pole preclose <i>5 polna 3 pola prethode</i></p>		<b>275</b> <b>277</b> <b>276</b> <b>278</b>	2 3 2 3	

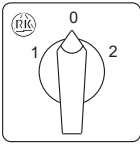
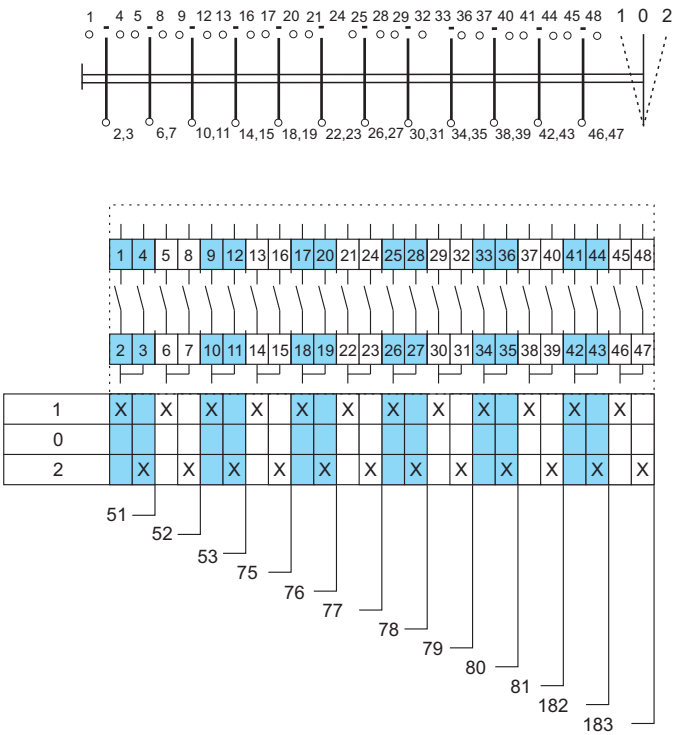
**SWITCHES SPRING RETURN WITH 30° SWITCHING**  
*SKLOPKE S POVRATOM - KUT ZAKRETA 30°*

<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i> 4 pole <i>4 polna</i></p>		<b>01</b> <b>02</b> <b>03</b> <b>04</b>	1 1 2 2	
<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i></p> <p>With spring return to "0" <i>S povratom u "0"</i></p>		<b>201</b> <b>202</b> <b>203</b>	1 2 3	

<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	<b>Connection diagram / Šema spoja</b>
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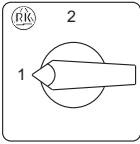
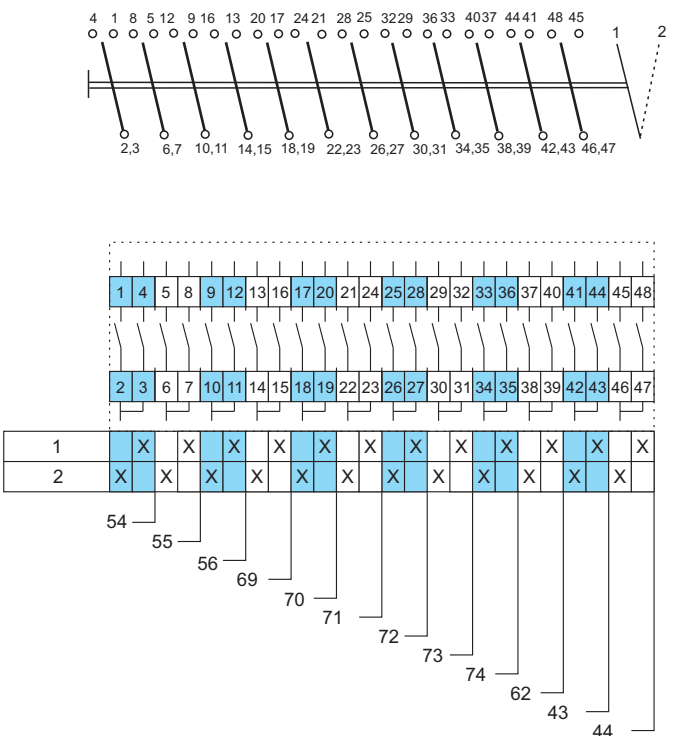
### CHANGEOVER SWITCHES WITH "0" - 60° SWITCHING

#### PREKLOPKE S "0" POLOŽAJEM - KUT ZAKRETA 60°

1 pole <i>1 polna</i>		<b>51</b>	1	
2 pole <i>2 polna</i>		<b>52</b>	2	
3 pole <i>3 polna</i>		<b>53</b>	3	
4 pole <i>4 polna</i>		<b>75</b>	4	
5 pole <i>5 polna</i>		<b>76</b>	5	
6 pole <i>6 polna</i>		<b>77</b>	6	
7 pole <i>7 polna</i>		<b>78</b>	7	
8 pole <i>8 polna</i>		<b>79</b>	8	
9 pole <i>9 polna</i>		<b>80</b>	9	
10 pole <i>10 polna</i>		<b>81</b>	10	
11 pole <i>11 polna</i>		<b>182</b>	11	
12 pole <i>12 polna</i>		<b>183</b>	12	

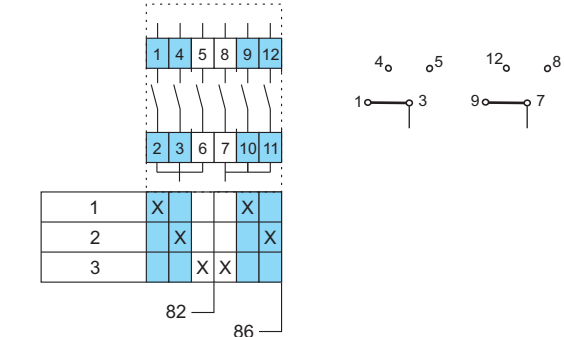
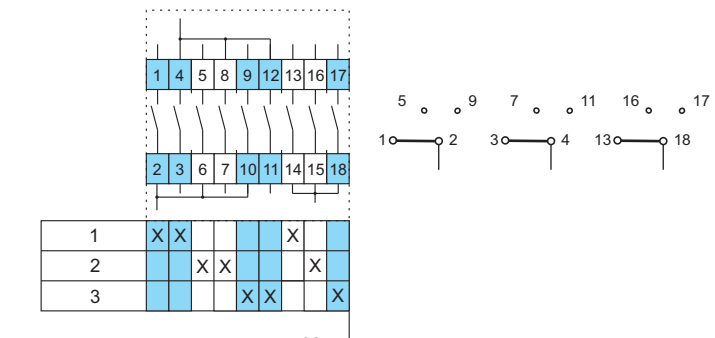
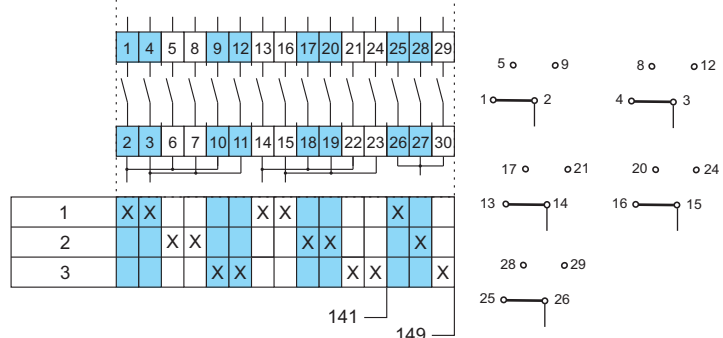
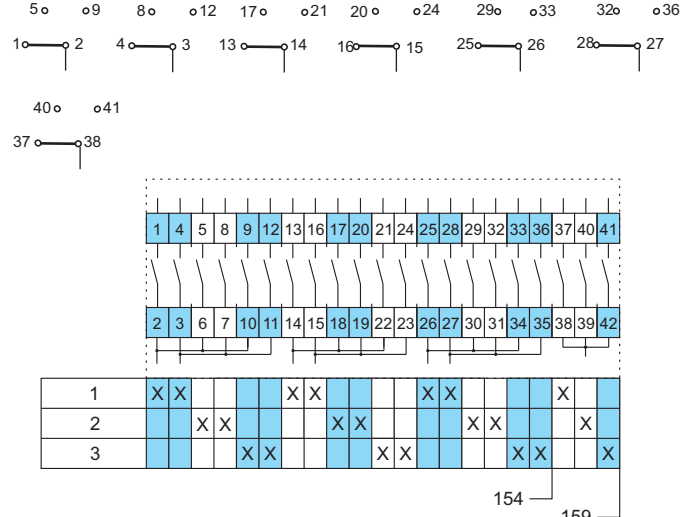
### CHANGEOVER SWITCHES WITHOUT "0" - 90° SWITCHING

#### PREKLOPKE BEZ "0" POLOŽAJEM - KUT ZAKRETA 90°

1 pole <i>1 polna</i>		<b>54</b>	1	
2 pole <i>2 polna</i>		<b>55</b>	2	
3 pole <i>3 polna</i>		<b>56</b>	3	
4 pole <i>4 polna</i>		<b>69</b>	4	
5 pole <i>5 polna</i>		<b>70</b>	5	
6 pole <i>6 polna</i>		<b>71</b>	6	
7 pole <i>7 polna</i>		<b>72</b>	7	
8 pole <i>8 polna</i>		<b>73</b>	8	
9 pole <i>9 polna</i>		<b>74</b>	9	
10 pole <i>10 polna</i>		<b>62</b>	10	
11 pole <i>11 polna</i>		<b>43</b>	11	
12 pole <i>12 polna</i>		<b>44</b>	12	

<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MULTI-STEP SWITCHES WITHOUT "0"**  
**STEPENASTE SKLOPKE BEZ "0" POLOŽAJA**

1 pole <i>1 polna</i> 2 pole <i>2 polna</i>	3 positions <i>3 položaja</i>	<b>82</b> <b>86</b>	2 3	 <table border="1" data-bbox="766 537 861 638"> <tr><td>1</td><td>X</td><td></td><td></td><td>X</td></tr> <tr><td>2</td><td></td><td>X</td><td></td><td>X</td></tr> <tr><td>3</td><td></td><td></td><td>X X</td><td></td></tr> </table>	1	X			X	2		X		X	3			X X																																		
1	X			X																																																
2		X		X																																																
3			X X																																																	
3 pole <i>3 polna</i>	3 positions <i>3 položaja</i>	<b>93</b>	5	 <table border="1" data-bbox="766 940 861 1041"> <tr><td>1</td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td></td><td>X</td><td></td></tr> <tr><td>2</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td></tr> </table>	1	X	X				X		X		2			X	X				X	X	3					X	X			X																		
1	X	X				X		X																																												
2			X	X				X	X																																											
3					X	X			X																																											
4 pole <i>4 polna</i> 5 pole <i>5 polna</i>	3 positions <i>3 položaja</i>	<b>141</b> <b>149</b>	6 8	 <table border="1" data-bbox="734 1321 861 1422"> <tr><td>1</td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td></td></tr> <tr><td>2</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td></tr> </table>	1	X	X				X	X			X	X			X		2			X	X				X	X			X	X		X	3					X	X				X	X			X	X
1	X	X				X	X			X	X			X																																						
2			X	X				X	X			X	X		X																																					
3					X	X				X	X			X	X																																					
6 pole <i>6 polna</i> 7 pole <i>7 polna</i>	3 positions <i>3 položaja</i>	<b>154</b> <b>159</b>	9 11	 <table border="1" data-bbox="766 1881 861 1982"> <tr><td>1</td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td></td></tr> <tr><td>2</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td></tr> </table>	1	X	X				X	X			X	X			X		2			X	X				X	X			X	X		X	3					X	X				X	X			X	X
1	X	X				X	X			X	X			X																																						
2			X	X				X	X			X	X		X																																					
3					X	X				X	X			X	X																																					

FUNCTION  
FUNKCIJA

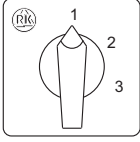
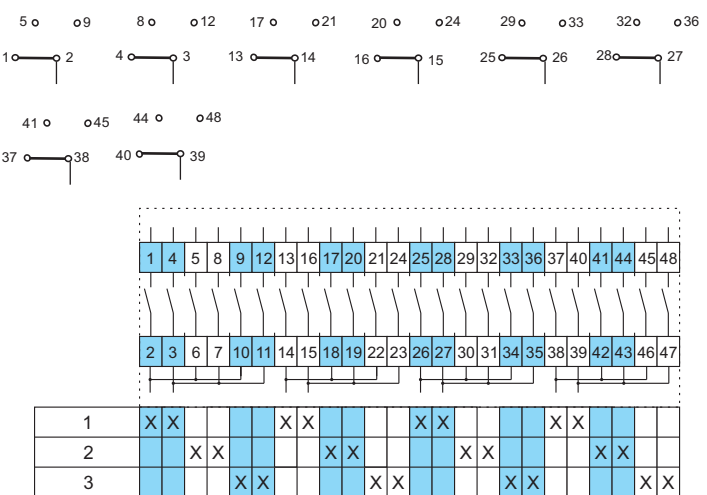
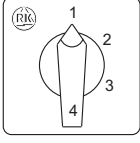
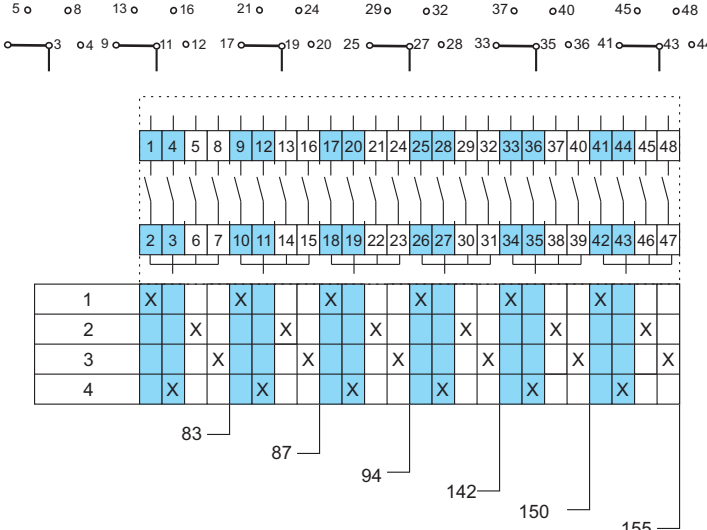
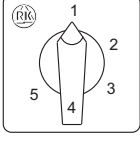
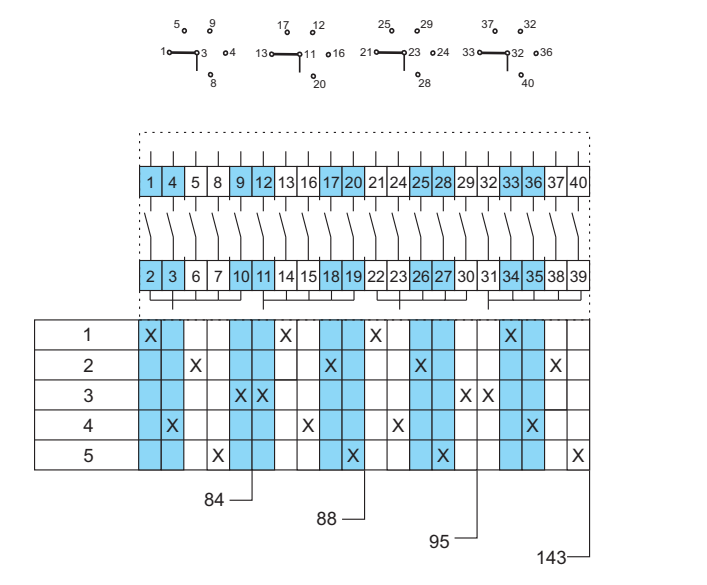
Escutcheon plate  
Podloga

CODE

No. of elem.  
Br. elem.

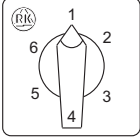
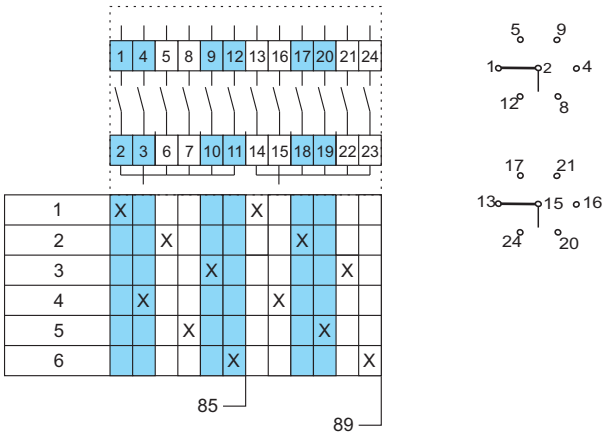
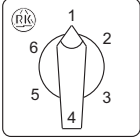
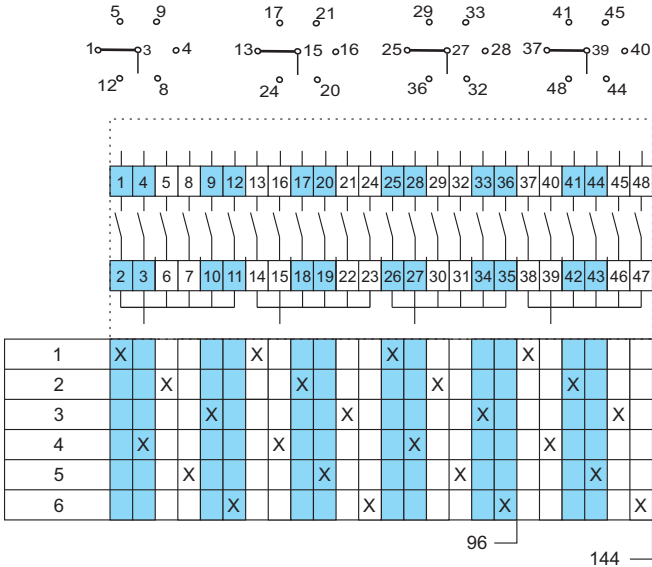
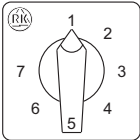
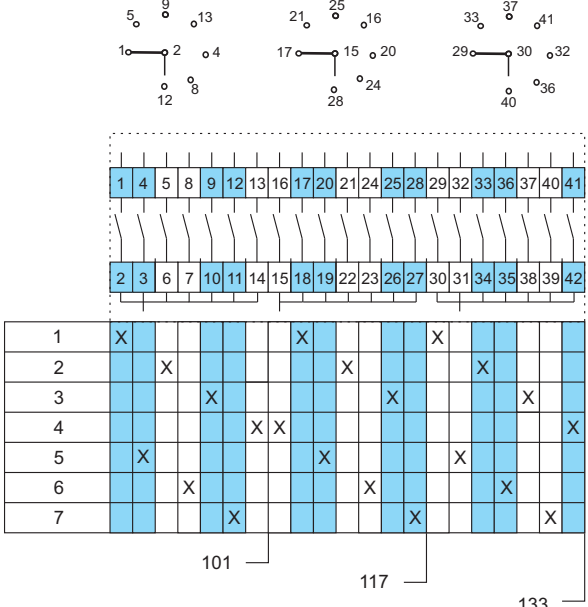
Connection diagram / Šema spoja

MULTI-STEP SWITCHES WITHOUT "0"  
STEPENASTE SKLOPKE BEZ "0" POLOŽAJA

<p>8 pole 8 polna</p> <p>3 positions 3 položaja</p>		162	12	
<p>1 pole 1 polna</p> <p>2 pole 2 polna</p> <p>3 pole 3 polna</p> <p>4 pole 4 polna</p> <p>5 pole 5 polna</p> <p>6 pole 6 polna</p>		83 87 94 142 150 155	2 4 6 8 10 12	
<p>1 pole 1 polna</p> <p>2 pole 2 polna</p> <p>3 pole 3 polna</p> <p>4 pole 4 polna</p>		84 88 95 143	3 5 8 10	

FUNCTION <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	CODE	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MULTI-STEP SWITCHES WITHOUT "0"**  
**STEPENASTE SKLOPKE BEZ "0" POLOŽAJA**

<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i></p> <p>6 positions <i>6 položaja</i></p>		<p><b>85</b> <b>89</b></p>	<p>3 6</p>	
<p>3 pole <i>3 polna</i> 4 pole <i>4 polna</i></p> <p>6 positions <i>6 položaja</i></p>		<p><b>96</b> <b>144</b></p>	<p>9 12</p>	
<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i></p> <p>7 positions <i>7 položaja</i></p>		<p><b>101</b> <b>117</b> <b>133</b></p>	<p>4 7 11</p>	



FUNCTION  
FUNKCIJA

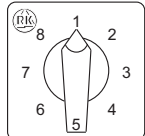
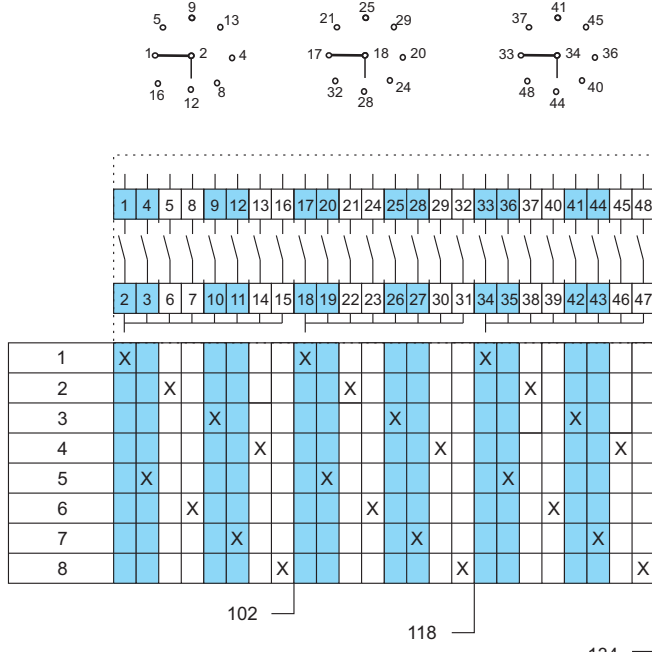
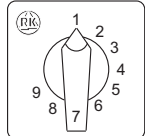
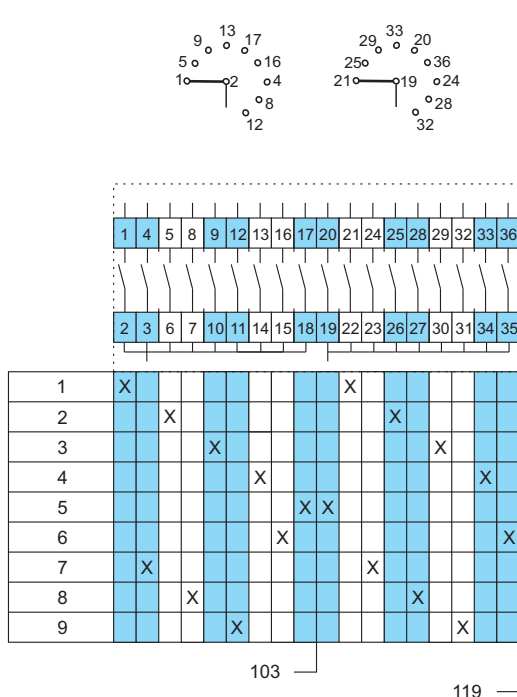
Escutcheon plate  
Podloga

CODE

No of elem.  
Br. elem.

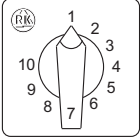
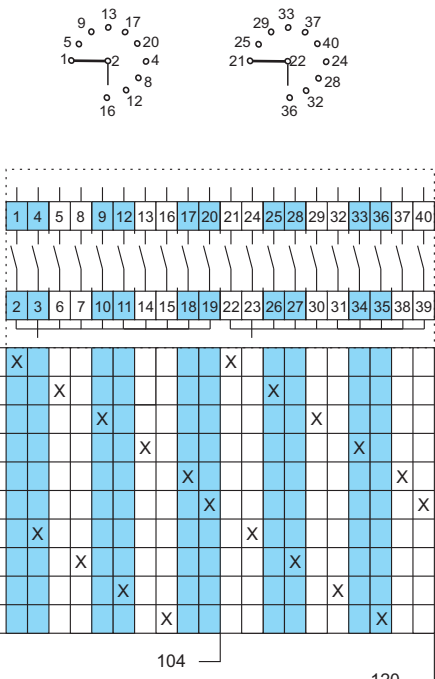
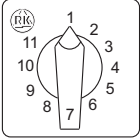
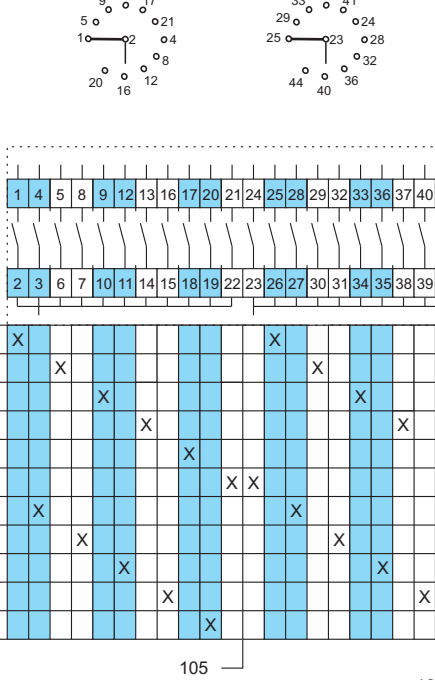
Connection diagram / Šema spoja

MULTI-STEP SWITCHES WITHOUT "0"  
STEPENASTE SKLOPKE BEZ "0" POLOŽAJA

<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i></p> <p>8 positions <i>8 položaja</i></p> 	<p><b>102</b> 4 <b>118</b> 8 <b>134</b> 12</p>	
<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i></p> <p>9 positions <i>9 položaja</i></p> 	<p><b>103</b> 5 <b>119</b> 9</p>	

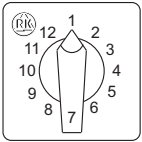
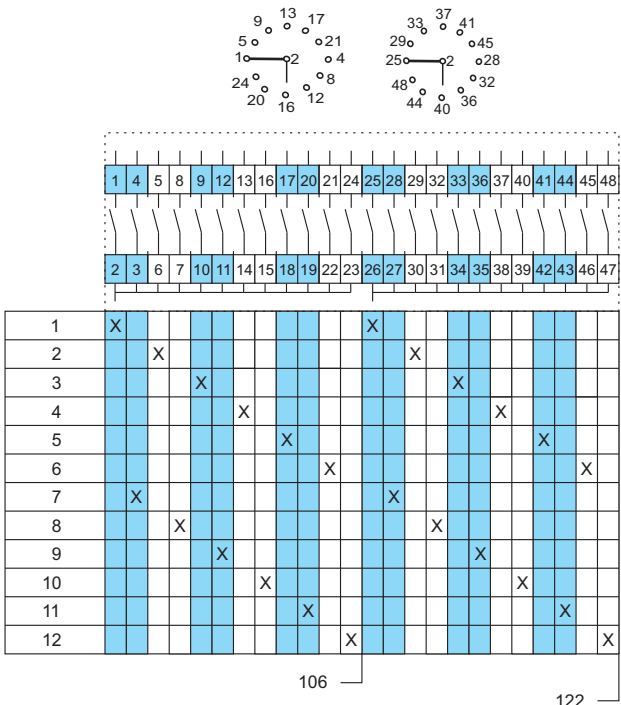
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MULTI-STEP SWITCHES WITHOUT "0"**  
**STEPENASTE SKLOPKE BEZ "0" POLOŽAJA**

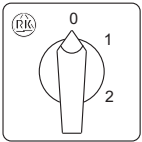
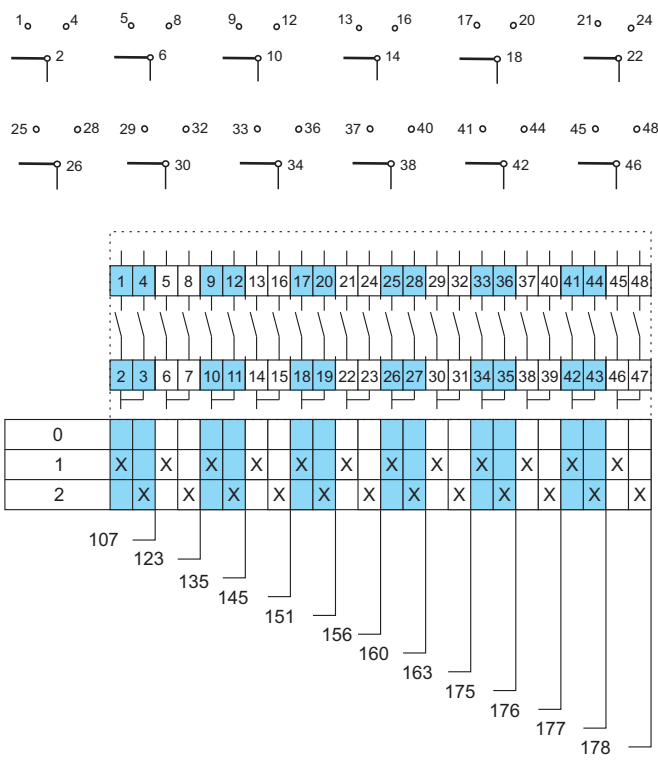
1 pole 1 polna 2 pole 2 polna	10 positions 10 položaja		<b>104</b> <b>120</b>	5 10	
1 pole 1 polna 2 pole 2 polna	11 positions 11 položaja		<b>105</b> <b>121</b>	6 11	

FUNCTION <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	CODE	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MULTI-STEP SWITCHES WITHOUT "0"**  
*STEPENASTE SKLOPKE BEZ "0" POLOŽAJA*

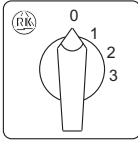
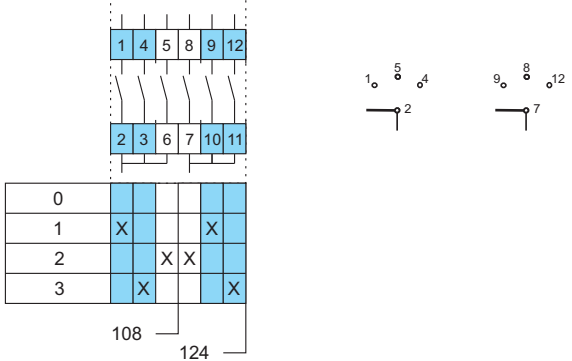
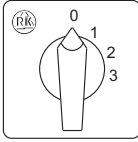
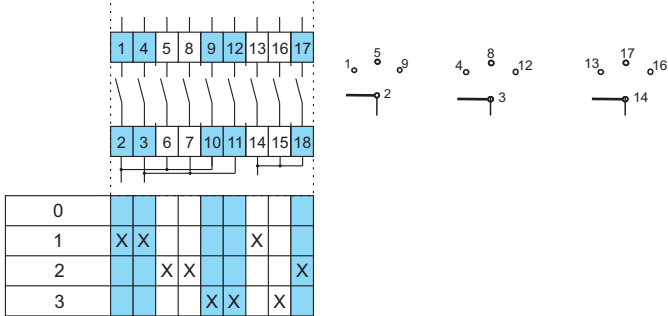
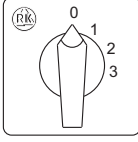
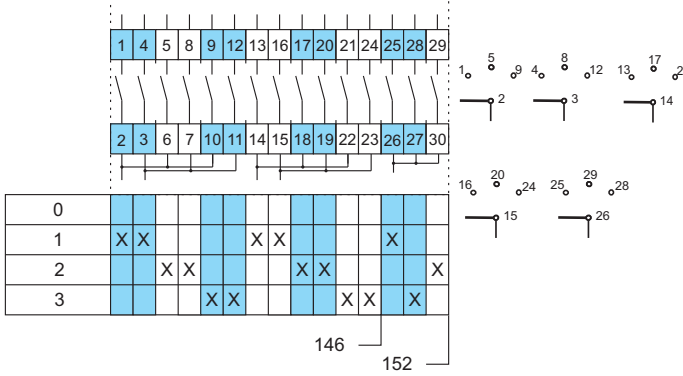
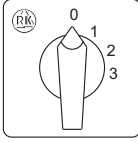
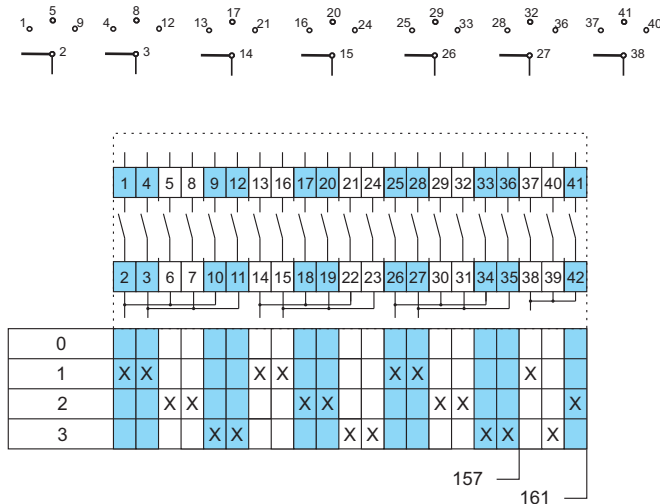
<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i></p>	<p>12 positions <i>12 položaja</i></p>		<p><b>106</b> <b>122</b></p>	<p>6 12</p>	
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**MULTI-STEP SWITCHES WITH "0"**  
*STEPENASTE SKLOPKE S "0" POLOŽAJEM*

<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i> 4 pole <i>4 polna</i> 5 pole <i>5 polna</i> 6 pole <i>6 polna</i> 7 pole <i>7 polna</i> 8 pole <i>8 polna</i> 9 pole <i>9 polna</i> 10 pole <i>10 polna</i> 11 pole <i>11 polna</i> 12 pole <i>12 polna</i></p>	<p>2 positions <i>2 položaja</i></p>		<p><b>107</b> <b>123</b> <b>135</b> <b>145</b> <b>151</b> <b>156</b> <b>160</b> <b>163</b> <b>175</b> <b>176</b> <b>177</b> <b>178</b></p>	<p>1 2 3 4 5 6 7 8 9 10 11 12</p>	
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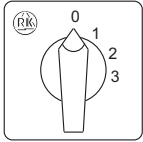
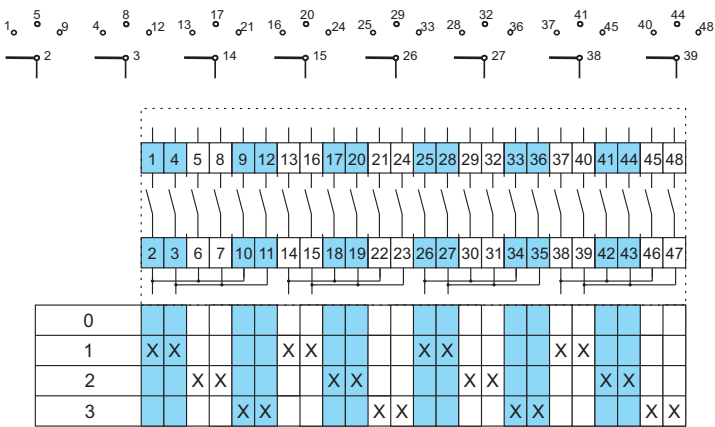
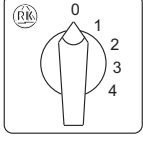
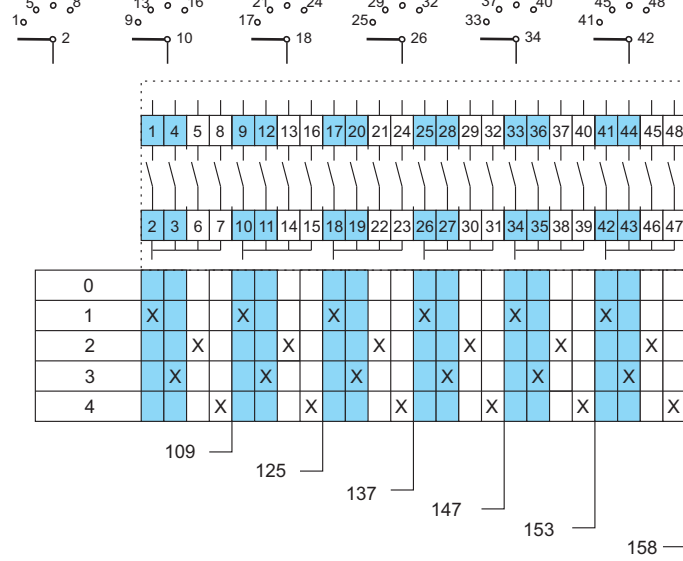
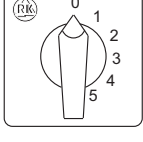
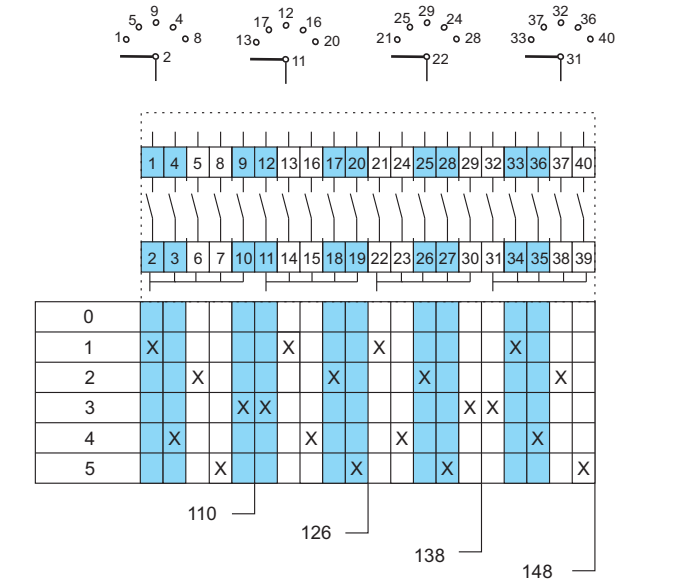
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MULTI-STEP SWITCHES WITH "0"**  
*STEPENASTE SKLOPKE S "0" POLOŽAJEM*

<p>1 pole <i>1 polna</i> 2 pole <i>2 polna</i></p> <p>3 positions <i>3 položaja</i></p> 	<p><b>108</b> <b>124</b></p>	<p>2 3</p>	
<p>3 pole <i>3 polna</i></p> <p>3 positions <i>3 položaja</i></p> 	<p><b>136</b></p>	<p>5</p>	
<p>4 pole <i>4 polna</i> 5 pole <i>5 polna</i></p> <p>3 positions <i>3 položaja</i></p> 	<p><b>146</b> <b>152</b></p>	<p>6 8</p>	
<p>6 pole <i>6 polna</i> 7 pole <i>7 polna</i></p> <p>3 positions <i>3 položaja</i></p> 	<p><b>157</b> <b>161</b></p>	<p>9 11</p>	

<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b> No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MULTI-STEP SWITCHES WITH "0"**  
*STEPENASTE SKLOPKE S "0" POLOŽAJEM*


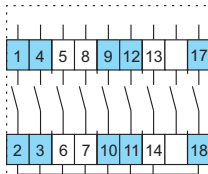
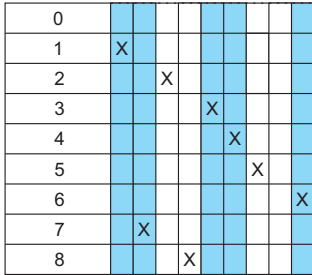

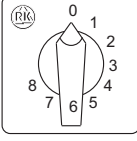
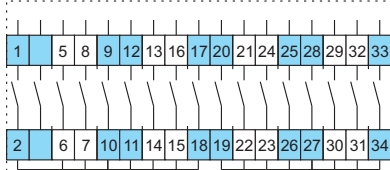
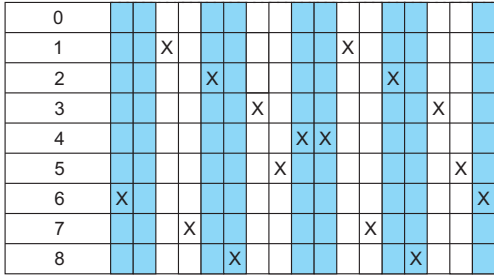
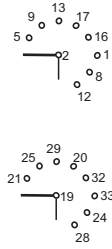
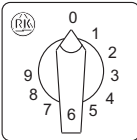
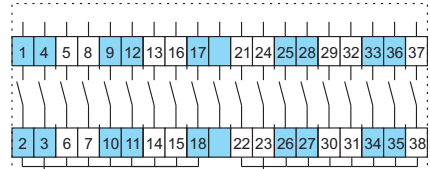
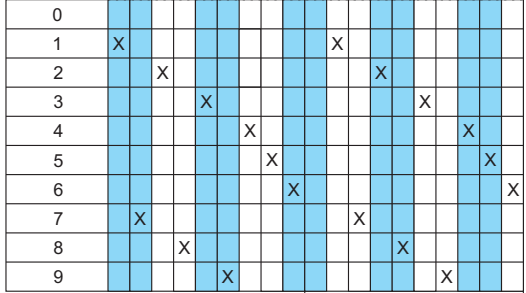
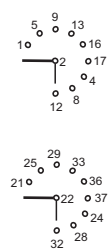
8 pole <i>8 polna</i> 3 positions <i>3 položaja</i>		<b>164</b> 12	
1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i> 4 pole <i>4 polna</i> 5 pole <i>5 polna</i> 6 pole <i>6 polna</i>		<b>109</b> <b>125</b> <b>137</b> <b>147</b> <b>153</b> <b>158</b>	
1 pole <i>1 polna</i> 2 pole <i>2 polna</i> 3 pole <i>3 polna</i> 4 pole <i>4 polna</i>		<b>110</b> <b>126</b> <b>138</b> <b>148</b>	





<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MULTI-STEP SWITCHES WITH "0"**  
**STEPENASTE SKLOPKE S "0" POLOŽAJEM**

1 pole <i>1 polna</i>	8 positions <i>8 položaja</i>	<b>113</b>	5	   
2 pole <i>2 polna</i>	8 positions <i>8 položaja</i>	<b>129</b>	9	   
1 pole <i>1 polna</i> 2 pole <i>2 polna</i>	9 positions <i>9 položaja</i>	<b>114</b> <b>130</b>	5 10	    <p style="text-align: center;">114 ————— 130</p>

FUNCTION  
FUNKCIJA

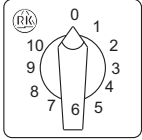
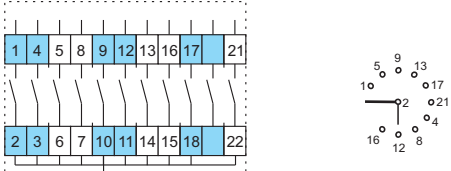
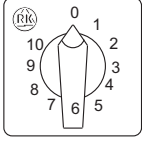
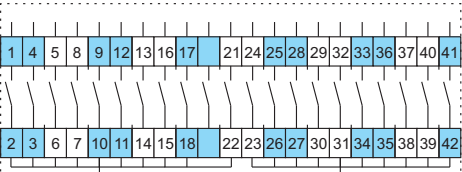
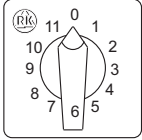
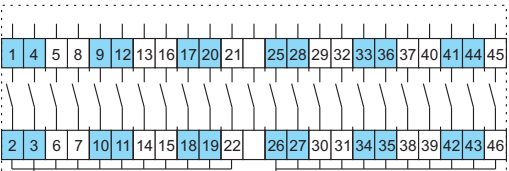
Escutcheon plate  
Podloga

CODE

No. of elem.  
Br. elem.

Connection diagram / Šema spoja

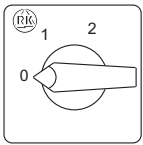
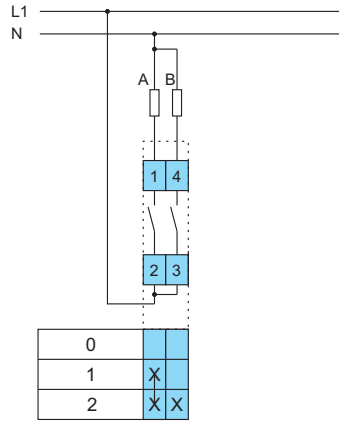
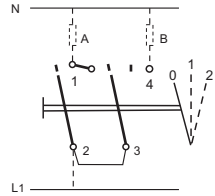
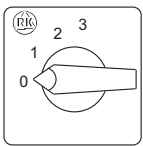
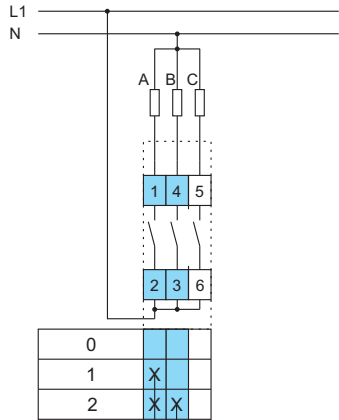
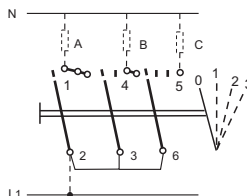
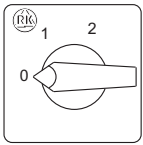
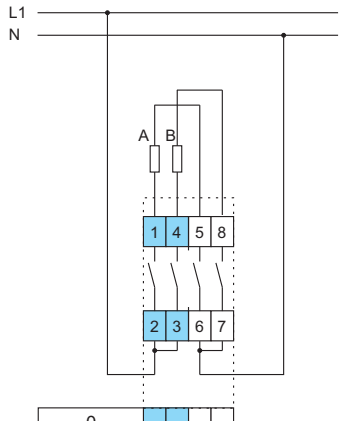
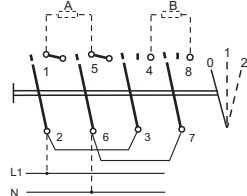
MULTI-STEP SWITCHES WITH "0"  
STEPENASTE SKLOPKE S "0" POLOŽAJEM

<p>1 pole 1 polna</p> <p>10 positions 10 položaja</p> 	<p><b>115</b></p> <p>6</p>	 <table border="1" data-bbox="762 533 1110 855"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td></tr> <tr><td>7</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	0												1	X											2			X									3				X								4					X							5								X				6									X			7	X											8			X									9				X								10					X																																																																																																																																																						
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<p>2 pole 2 polna</p> <p>10 positions 10 položaja</p> 	<p><b>131</b></p> <p>11</p>	 <table border="1" data-bbox="737 1081 1302 1404"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td></tr> <tr><td>7</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td></tr> </table>	0																							1	X									X													2			X								X												3				X								X											4					X								X										5								X	X														6								X														X	7	X									X													8			X								X												9				X								X											10					X								X									X																							
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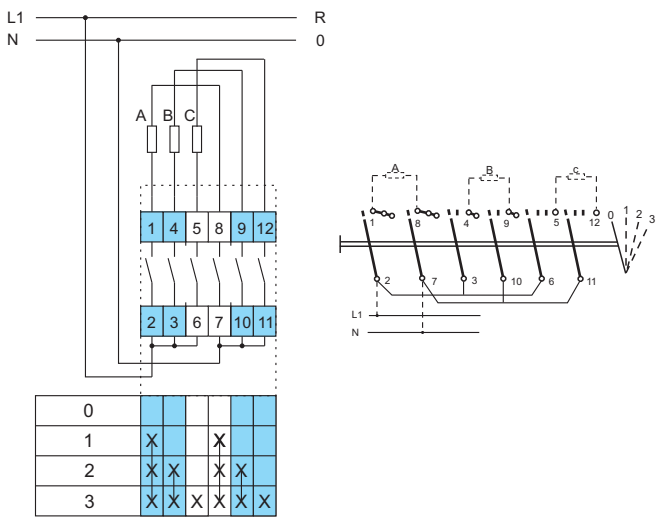
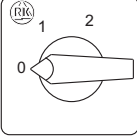
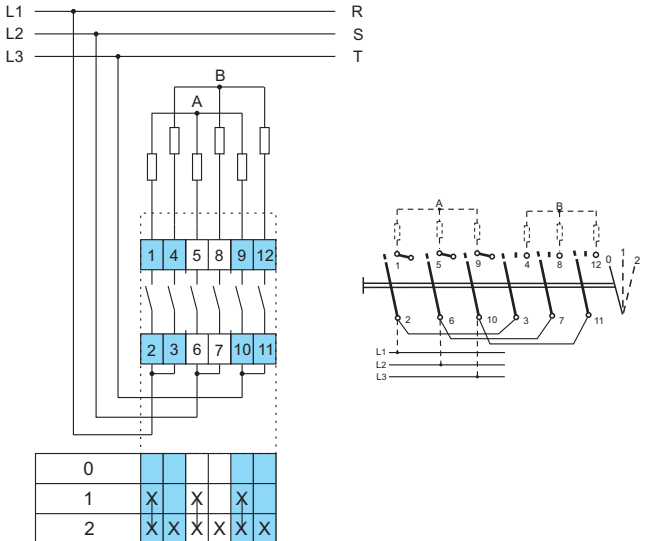
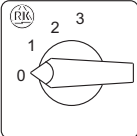
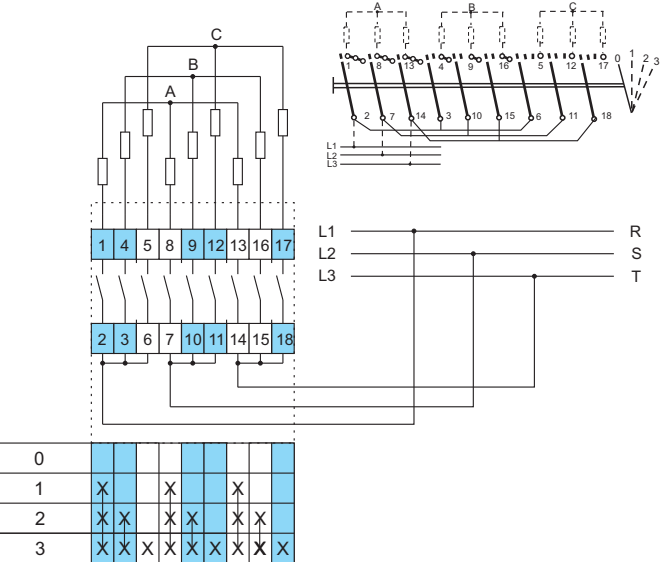
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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## GANG SWITCHES

### GRUPNE SKLOPKE

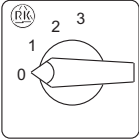
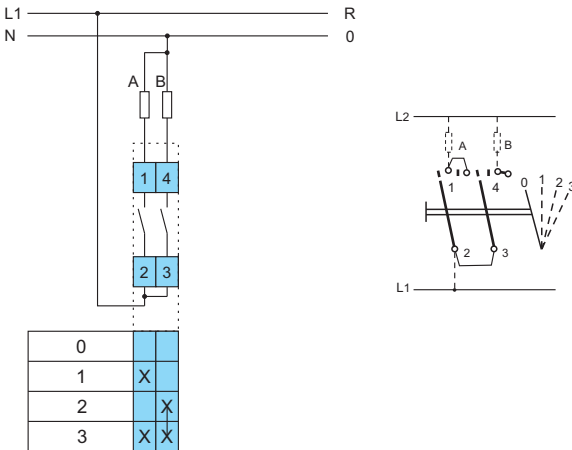
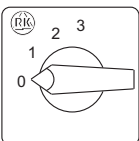
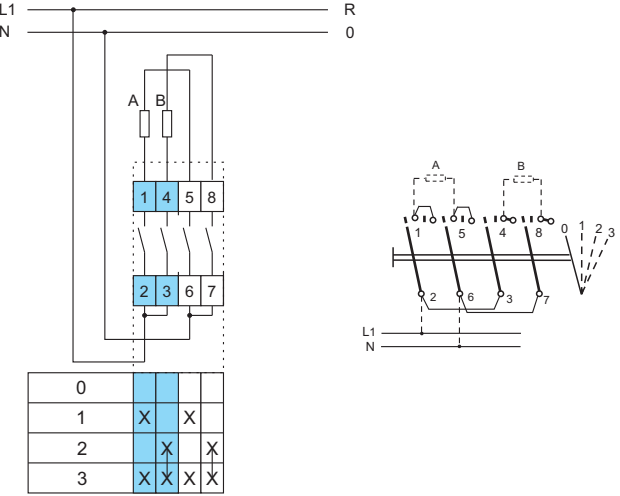
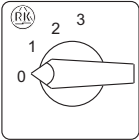
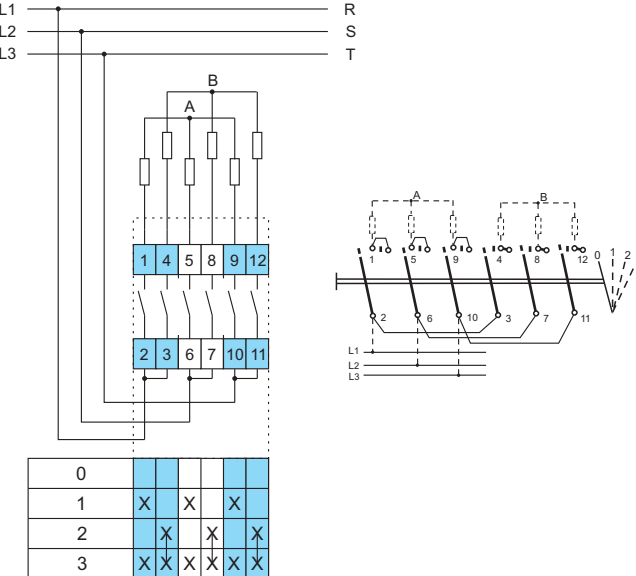
<p>1 pole <i>1 polna</i></p> <p>2 GANG Switching sequence: 0, A, A+B</p> <p><i>2 GRUPE</i> Sklopni slijed: 0, A, A+B</p>		<p><b>251</b></p>	<p>1</p>	  <table border="1" data-bbox="810 676 965 772"> <tr><td>0</td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td></tr> <tr><td>2</td><td>X</td><td>X</td></tr> </table>	0			1	X		2	X	X							
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**GANG SWITCHES**  
*GRUPNE SKLOPKE*

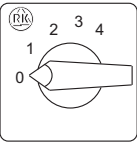
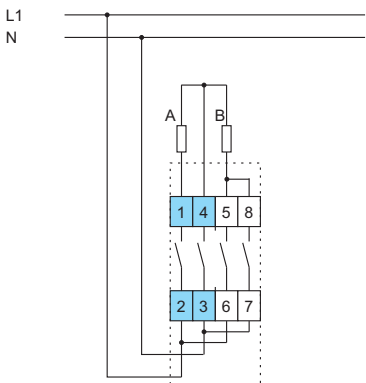
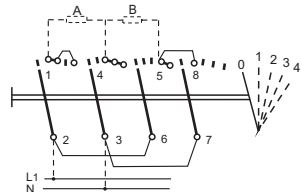
<p>2 pole <i>2 polna</i></p> <p>3 GANG          Switching sequence:          0, A, A+B, A+B+C  <i>3 GRUPE</i>  <i>Sklopni slijed:</i>  <i>0, A, A+B, A+B+C</i></p>		255	3	 <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td>X</td><td></td><td></td><td>X</td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>3</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td>X</td><td></td><td></td></tr> </table>	0												1	X			X			X					2	X	X		X	X		X	X				3	X	X	X	X	X		X	X	X																										
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<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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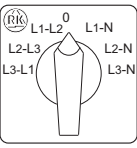
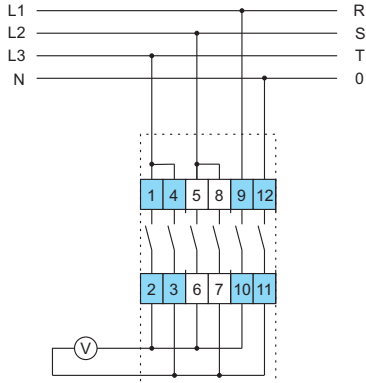
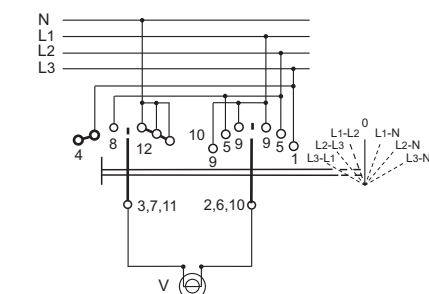
**GANG SWITCHES**  
*GRUPNE SKLOPKE*

<p>1 pole <i>1 polna</i></p> <p>2 GANG          Switching sequence:          0, A, B, A+B</p> <p><i>2 GRUPE</i>  <i>Sklopni slijed:</i>          0, A, B, A+B</p>		<p><b>257</b></p>	<p>1</p>	 <table border="1" data-bbox="815 696 967 817"> <tr><td>0</td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td></tr> <tr><td>2</td><td></td><td>X</td></tr> <tr><td>3</td><td>X</td><td>X</td></tr> </table>	0			1	X		2		X	3	X	X								
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**GANG SWITCHES**  
*GRUPNE SKLOPKE*

<p>2 pole <i>2 polna</i></p> <p>2 GANG          Switching sequence:          0, A+B, series, A, B          A+B parallel  <i>2 GRUPE</i>  <i>Sklopni slijed:</i>  <i>0, A+B, serijski, A, B</i>  <i>A+B paralelno</i></p>		260	2	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>L1 N</p>  </div> <div style="width: 45%;"> <p>R 0</p>  </div> </div> <table border="1" style="margin-top: 10px; border-collapse: collapse; width: 100%;"> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td>X</td></tr> <tr><td>2</td><td>X</td><td>X</td><td></td><td></td></tr> <tr><td>3</td><td></td><td>X</td><td>X</td><td></td></tr> <tr><td>4</td><td>X</td><td>X</td><td>X</td><td></td></tr> </table>	0					1	X			X	2	X	X			3		X	X		4	X	X	X	
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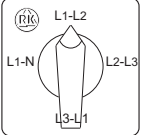
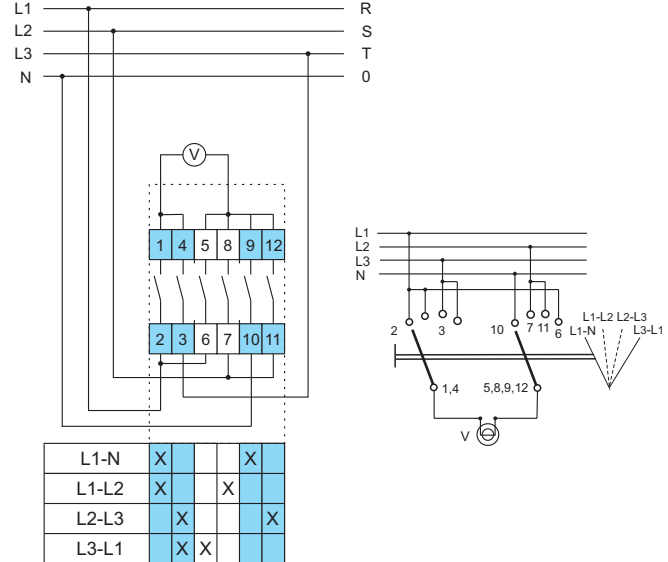
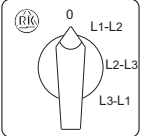
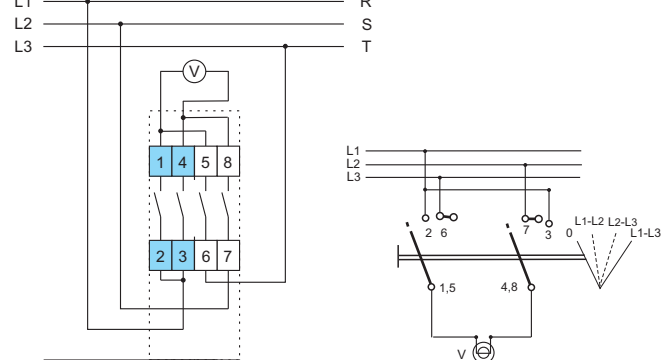
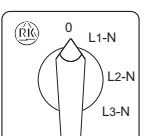
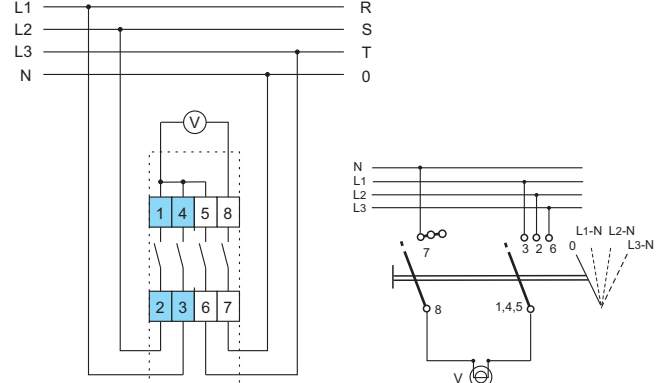
**VOLTMETER SWITCHES**  
*VOLTMETARSKJE SKLOPKE*

<p>3 line voltage and 3 phase voltage</p> <p><i>3 linjska napona i</i> <i>3 fazna napona</i></p>		66	3	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>L1 L2 L3 N</p>  </div> <div style="width: 45%;"> <p>R S T 0</p>  </div> </div> <table border="1" style="margin-top: 10px; border-collapse: collapse; width: 100%;"> <tr><td>L3-L1</td><td>X</td><td></td><td></td><td>X</td></tr> <tr><td>L2-L3</td><td>X</td><td>X</td><td></td><td></td></tr> <tr><td>L1-L2</td><td></td><td></td><td>X</td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td></tr> <tr><td>L1-N</td><td></td><td></td><td></td><td>X</td><td>X</td></tr> <tr><td>L2-N</td><td></td><td>X</td><td></td><td></td><td>X</td></tr> <tr><td>L3-N</td><td>X</td><td></td><td></td><td></td><td>X</td></tr> </table>	L3-L1	X			X	L2-L3	X	X			L1-L2			X	X	0					L1-N				X	X	L2-N		X			X	L3-N	X				X
L3-L1	X			X																																						
L2-L3	X	X																																								
L1-L2			X	X																																						
0																																										
L1-N				X	X																																					
L2-N		X			X																																					
L3-N	X				X																																					



<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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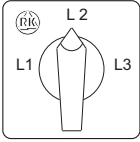
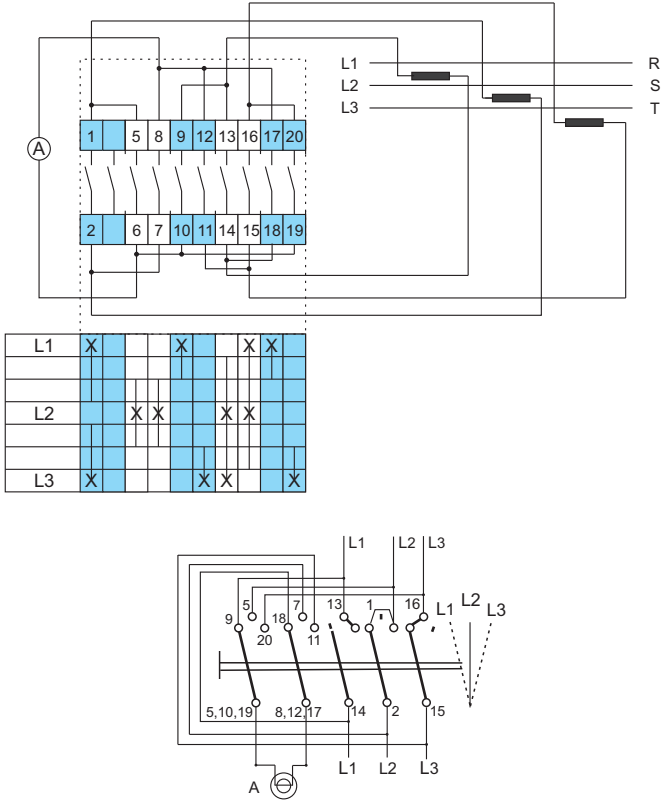
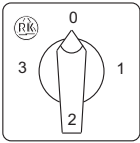
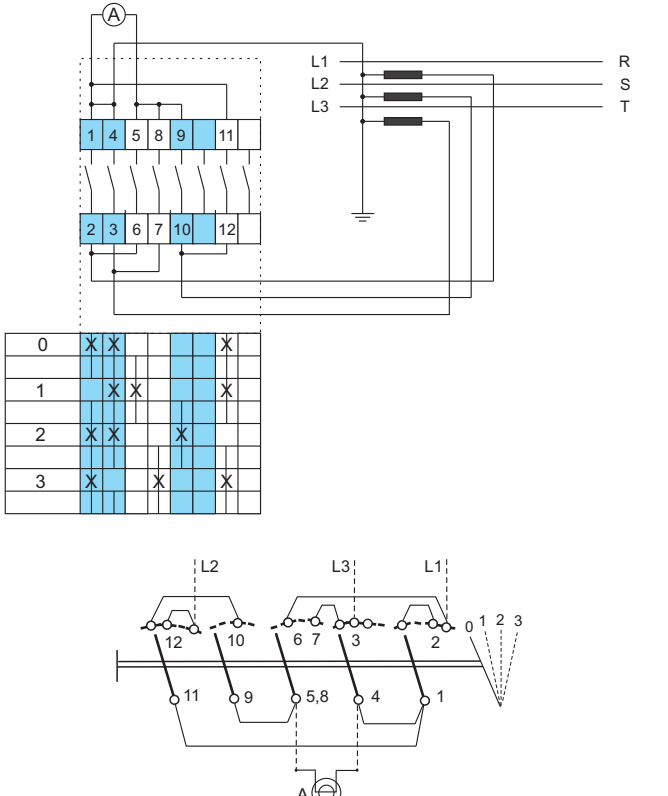
**VOLTMETER SWITCHES**  
**VOLTMETARSKE SKLOPKE**

<p>3 line voltage and 1 phase voltage <i>3 linjska napona / 1 fazni napon</i></p>		<b>60</b>	3	 <table border="1" data-bbox="813 784 1061 907"> <tr> <td>L1-N</td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>L1-L2</td> <td>X</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>L2-L3</td> <td>X</td> <td>X</td> <td></td> <td>X</td> </tr> <tr> <td>L3-L1</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> </table>	L1-N	X			X	L1-L2	X		X		L2-L3	X	X		X	L3-L1	X	X		
L1-N	X			X																				
L1-L2	X		X																					
L2-L3	X	X		X																				
L3-L1	X	X																						
<p>3 line voltage <i>3 linjska napona</i></p>		<b>67</b>	2	 <table border="1" data-bbox="813 1332 1013 1444"> <tr> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>L1-L2</td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>L2-L3</td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>L3-L1</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> </table>	0					L1-L2	X			X	L2-L3		X	X		L3-L1	X	X		
0																								
L1-L2	X			X																				
L2-L3		X	X																					
L3-L1	X	X																						
<p>3 phase voltage <i>3 fazna napona</i></p>		<b>68</b>	2	 <table border="1" data-bbox="813 1892 1013 2004"> <tr> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>L1-N</td> <td></td> <td>X</td> <td></td> <td>X</td> </tr> <tr> <td>L2-N</td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>L3-N</td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> </table>	0					L1-N		X		X	L2-N	X			X	L3-N		X	X	
0																								
L1-N		X		X																				
L2-N	X			X																				
L3-N		X	X																					

<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b> No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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### AMMETER SWITCHES

### AMPERMETARSKE SKLOPKE

<p>2 pole 3 currents (with or without current transformers) <i>2 polna 3 struje (sa ili bez strujnih transformatora)</i></p>		<b>58</b> 5	
<p>1 pole 3 currents (with current transformer) <i>1 polna 3 struje (sa strujnim transformatorom)</i></p>		<b>98</b> 4	

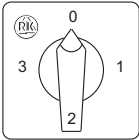
<b>FUNCTION</b> <b>FUNKCIJA</b>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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### AMMETER SWITCHES

#### AMPERMETARSKE SKLOPKE

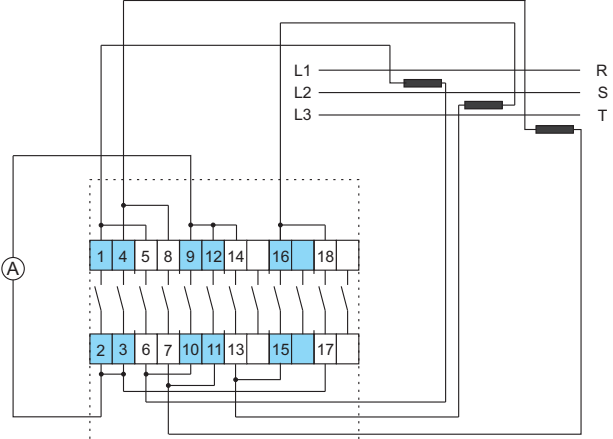
2 pole 0-position  
3 currents (with or without current transformers)

*2 polna 0-položaj  
3 struje (sa ili bez strujnih transformatora)*

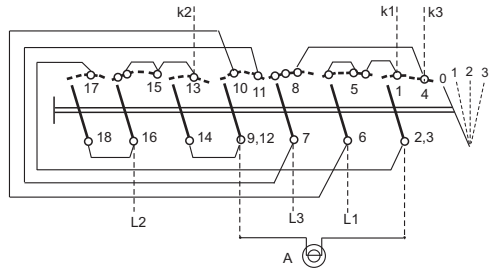


**97**

6



0		X	X			X											
1	X			X	X			X									
2			X	X			X								X		
3		X	X			X			X								



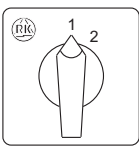
### CONTROL SWITCHES (with spring return)

#### UPRAVLJAČKE SKLOPKE (s povratom)

1 make and 1 break  
*1 uklop i 1 isklop*

2 makes and 2 breaks  
*2 uklopa i 2 isklopa*

3 makes and 3 breaks  
*3 uklopa i 3 isklopa*



**204**

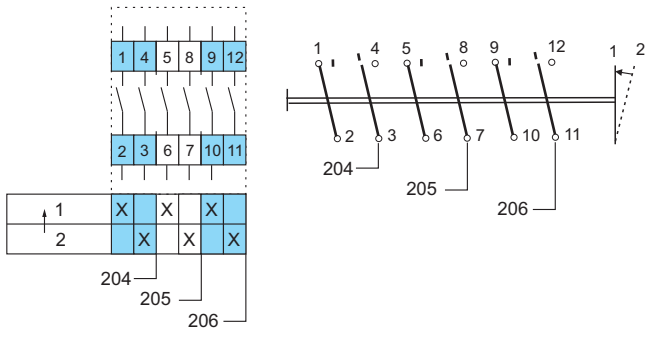
**205**

**206**

1

2


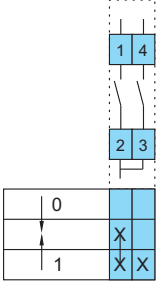
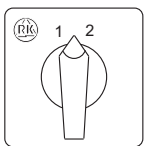
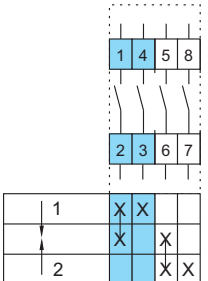

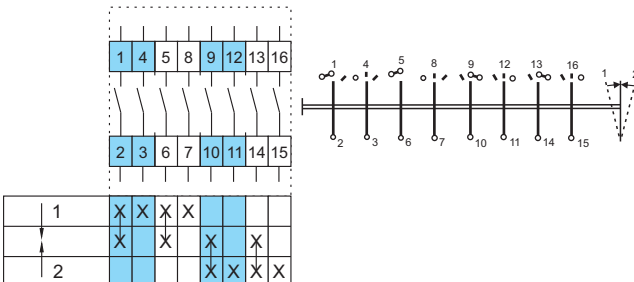
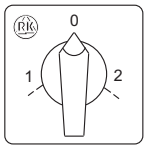
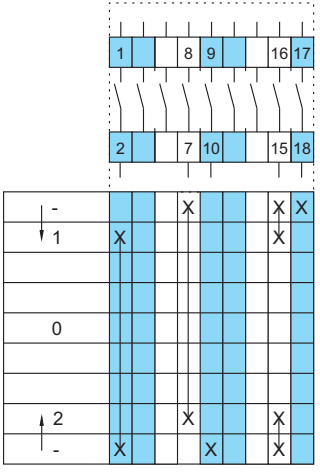
3



1	X		X	X							
2	X		X	X							

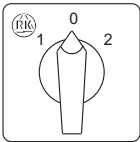
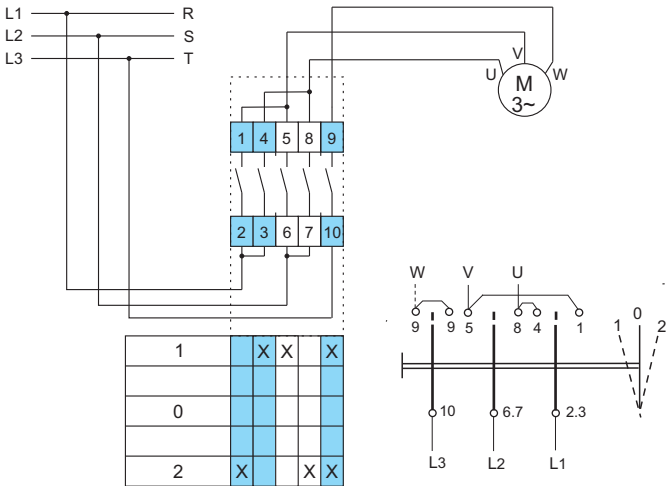
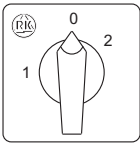
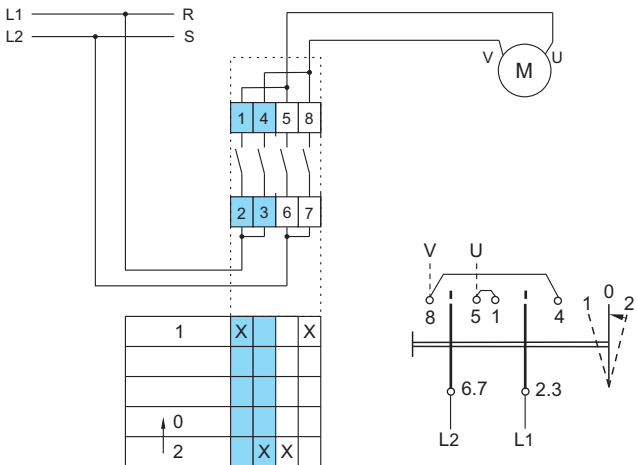
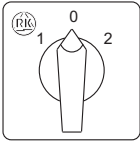
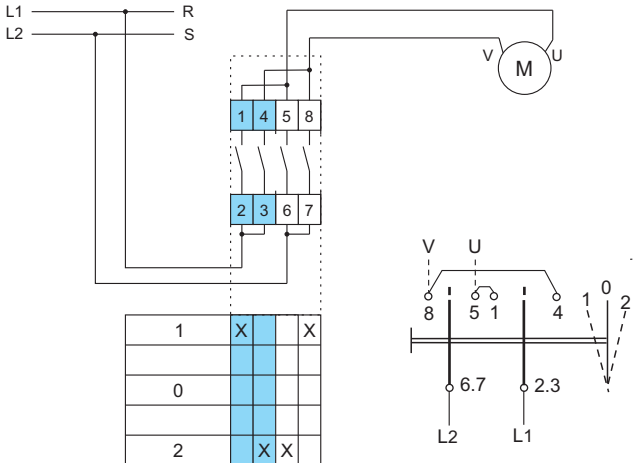
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**CONTROL SWITCHES (with spring return)**  
*UPRAVLJAČKE SKLOPKE (s povratom)*

<p>1 make right and 1 break left <i>1 uklop desno i 1 isklop lijevo</i></p>		<b>207</b>	1	
<p>1 make, 1 break right 1 make, 1 break left <i>1 uklop, 1 isklop desno 1 uklop, 1 isklop lijevo</i></p>		<b>208</b>	2	
<p>2 makes, 2 breaks right 2 makes, 2 breaks left <i>2 uklopa, 2 isklopa desno 2 uklopa, 2 isklopa lijevo</i></p>		<b>209</b>	4	
<p>Switch with spring return left and right <i>Sklopka sa zakretnim tipkalom lijevo i desno</i></p>		<b>210</b>	5	

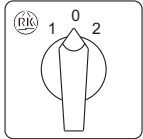
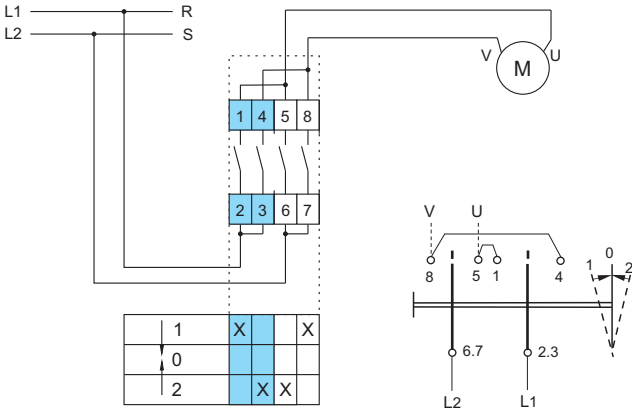
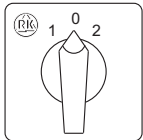
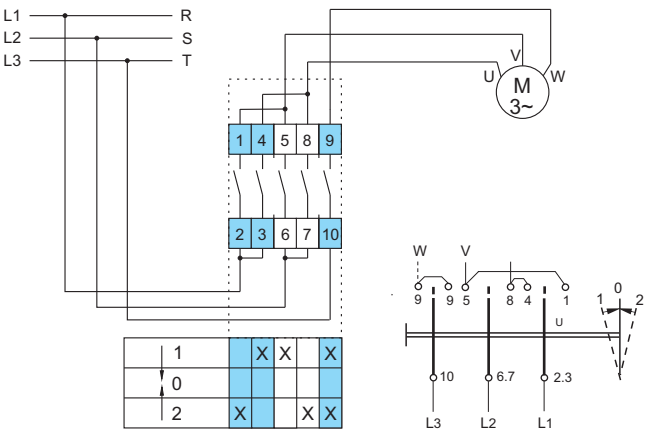
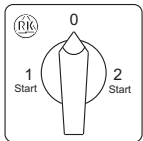
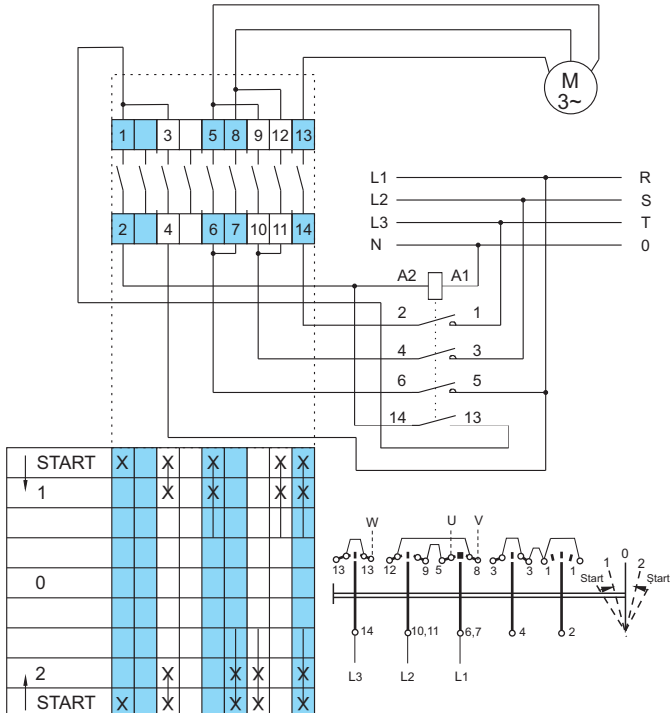
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MOTOR REVERSING SWITCHES**  
*MOTORSKE REVERZIBILNE SKLOPKE*

3 pole <i>3 polna</i>		<b>11</b>	3	
2 pole return from 2 to "0" <i>2 polna          povrat iz 2 u "0"</i>		<b>14</b>	2	
2 pole <i>2 polna</i>		<b>24</b>	2	

<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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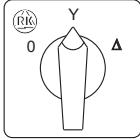
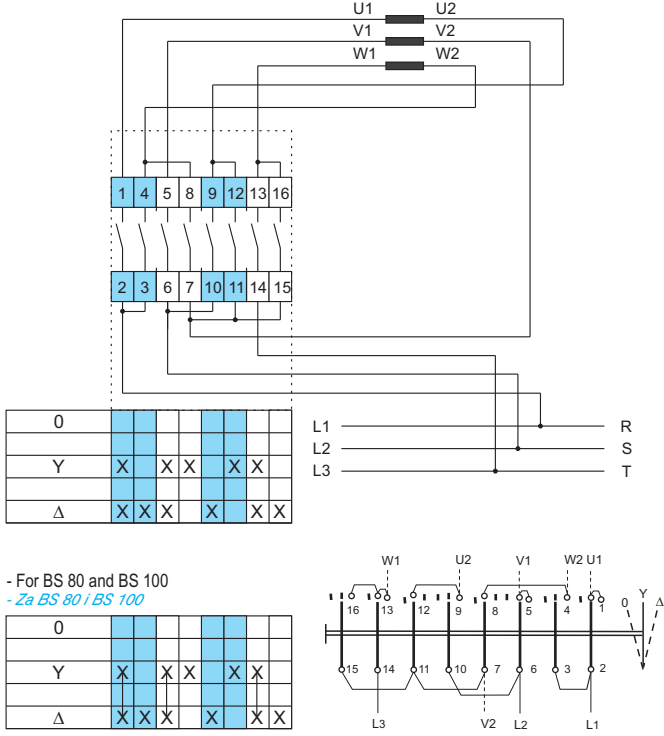
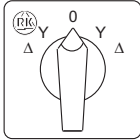
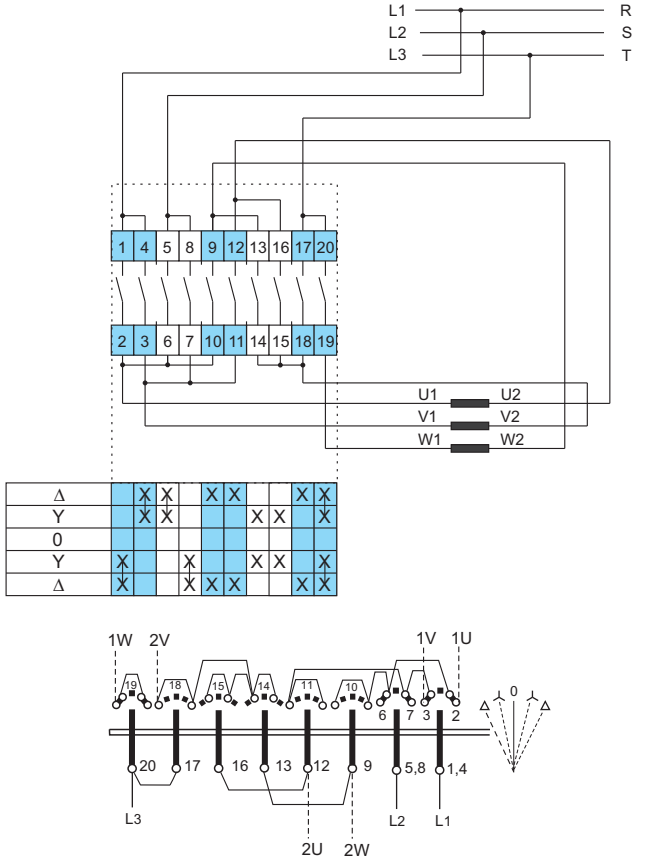
**MOTOR REVERSING SWITCHES**  
*MOTORSKE REVERZIBILNE SKLOPKE*

2 pole return tu "0" <i>2 polna          povrat u "0"</i>		<b>25</b>	2	 <table border="1" data-bbox="882 656 1082 750"> <tr> <td>1</td> <td>X</td> <td></td> <td>X</td> </tr> <tr> <td>0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>X</td> <td>X</td> <td></td> </tr> </table>	1	X		X	0				2	X	X																								
1	X		X																																				
0																																							
2	X	X																																					
3 pole return tu "0" <i>3 polna          povrat u "0"</i>		<b>26</b>	3	 <table border="1" data-bbox="882 1131 1106 1225"> <tr> <td>1</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>X</td> <td></td> <td>X</td> </tr> </table>	1	X	X	X	0				2	X		X																							
1	X	X	X																																				
0																																							
2	X		X																																				
3 pole with contactor <i>3 polna          sa sklopnikom</i>		<b>27</b>	5	 <table border="1" data-bbox="778 1742 1093 2011"> <tr> <td>START</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>1</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>START</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>	START	X	X	X	X	X	X	1		X	X	X	X	X	0							2		X		X	X	X	START	X	X	X	X	X	X
START	X	X	X	X	X	X																																	
1		X	X	X	X	X																																	
0																																							
2		X		X	X	X																																	
START	X	X	X	X	X	X																																	



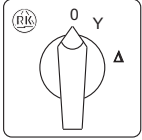
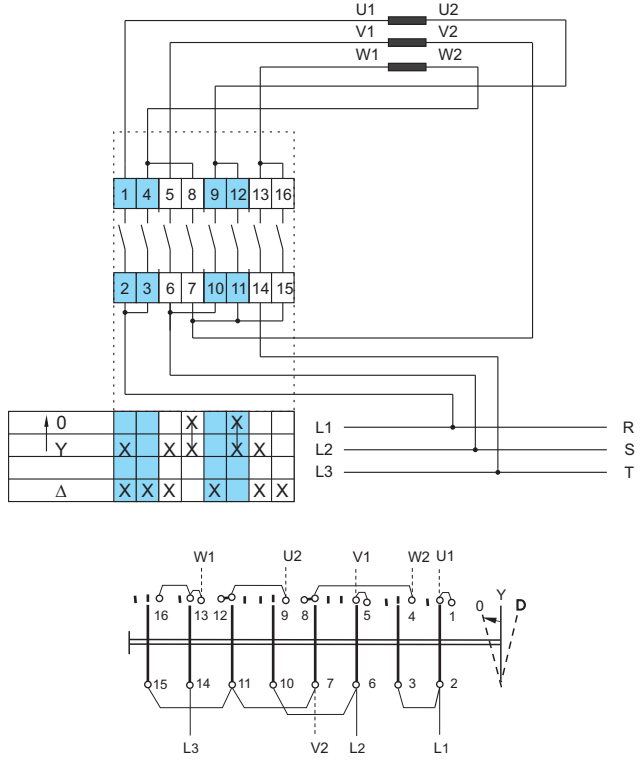
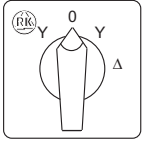
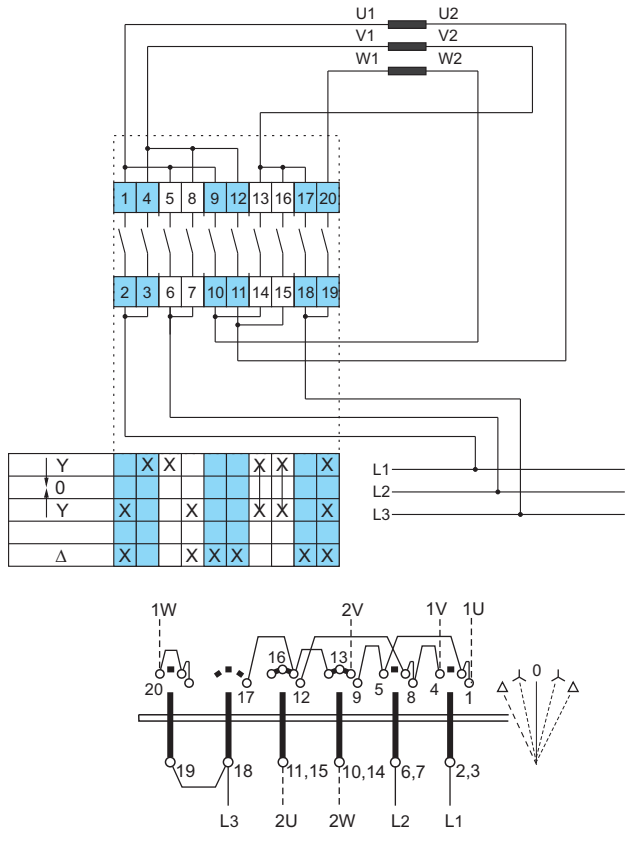
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**STAR - DELTA SWITCHES**  
*ZVIJEZDA - TROKUT SKLOPKE*

Standard version <i>Standardna verzija</i>		<b>12</b>	4	 <table border="1" data-bbox="778 757 1070 875"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Y</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Δ</td><td>X</td><td>X</td><td>X</td><td></td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td></tr> </table> <p data-bbox="778 920 949 965">- For BS 80 and BS 100  <i>- Za BS 80 i BS 100</i></p> <table border="1" data-bbox="778 965 1070 1081"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Y</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Δ</td><td>X</td><td>X</td><td>X</td><td></td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td></tr> </table>	0																Y	X		X	X		X	X		X	X						Δ	X	X	X		X			X	X		X	X				0																Y	X		X	X		X	X		X	X						Δ	X	X	X		X			X	X		X	X			
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Δ	X	X	X		X			X	X		X	X																																																																																								
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Y	X		X	X		X	X		X	X																																																																																										
Δ	X	X	X		X			X	X		X	X																																																																																								
Reversing <i>2 smjera okretanja</i>		<b>21</b>	5	 <table border="1" data-bbox="778 1630 1114 1747"> <tr><td>Δ</td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>Y</td><td>X</td><td>X</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Y</td><td>X</td><td></td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>Δ</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td><td></td></tr> </table> <p data-bbox="778 2004 949 2045">- From BS 16 to BS 63  <i>- Od BS 16 do BS 63</i></p>	Δ	X	X		X	X			X	X		X	X				Y	X	X				X	X		X	X		X	X			0																Y	X		X		X	X		X	X		X	X				Δ	X	X	X	X	X			X	X		X	X																			
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<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**STAR - DELTA SWITCHES**  
*ZVIJEZDA - TROKUT SKLOPKE*

Return from Y to "0" <i>Povrat iz Y u "0"</i>		<b>28</b>	4	
Counter current braking <i>Protustrujno kočenje</i>		<b>29</b>	5	

FUNCTION  
FUNKCIJA

Escutcheon plate  
Podloga

CODE

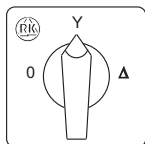
No of elem.  
Br. elem.

Connection diagram / Šema spoja

STAR - DELTA SWITCHES

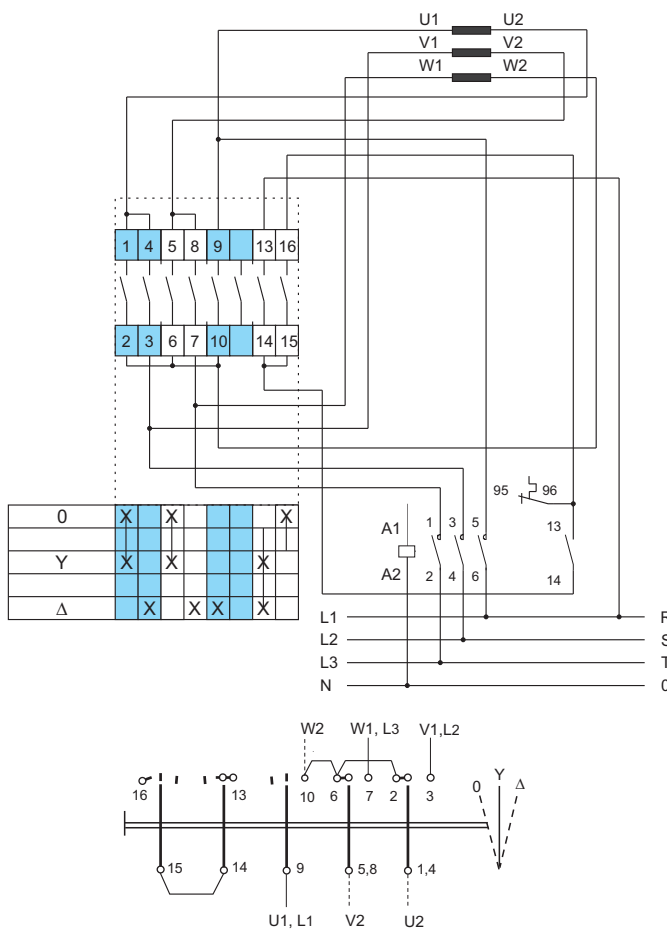
ZVIJEZDA - TROKUT SKLOPKE

With contactor  
Sa sklopnikom

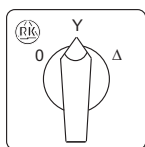


31

4

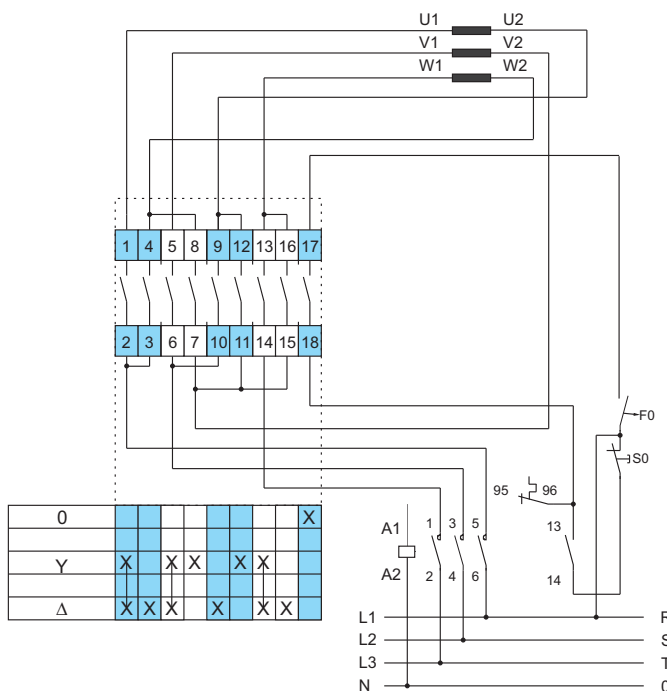


With contact in "0"  
position  
S kontaktom u  
"0" položaju



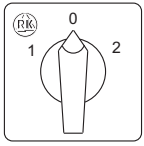
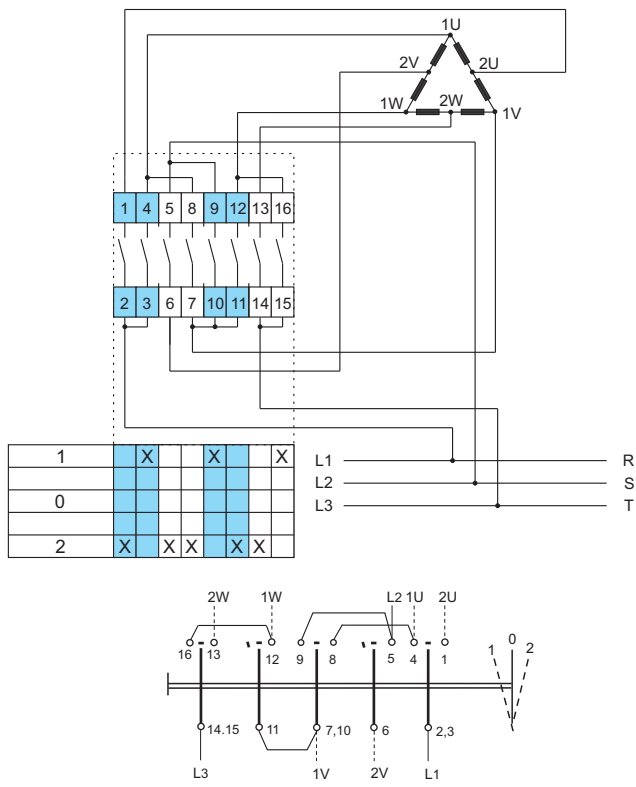
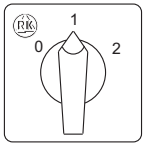
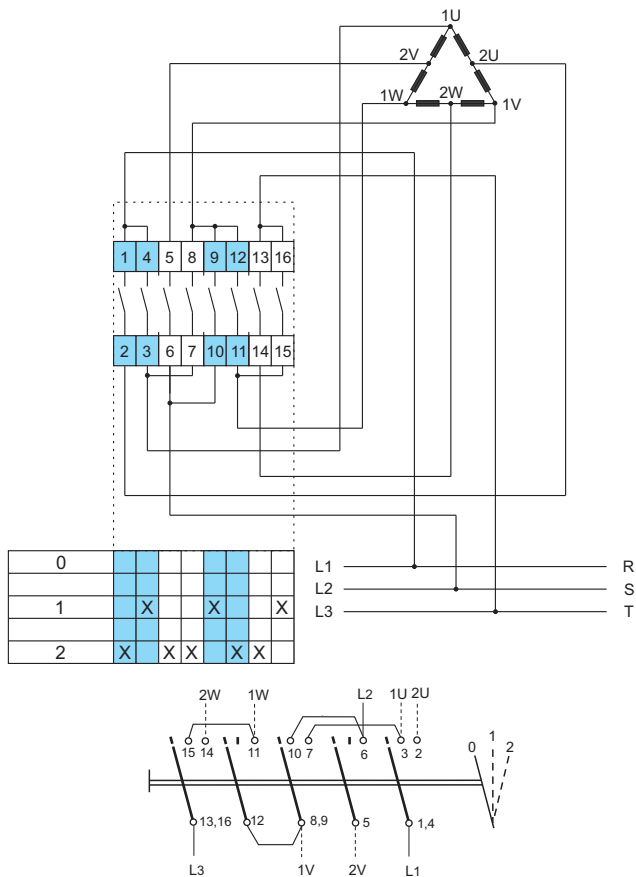
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5



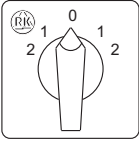
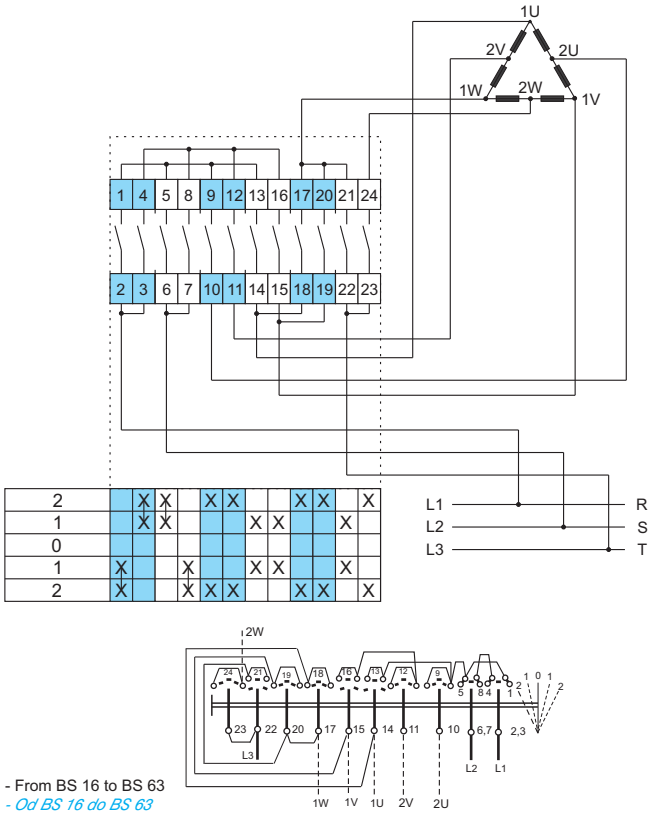
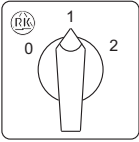
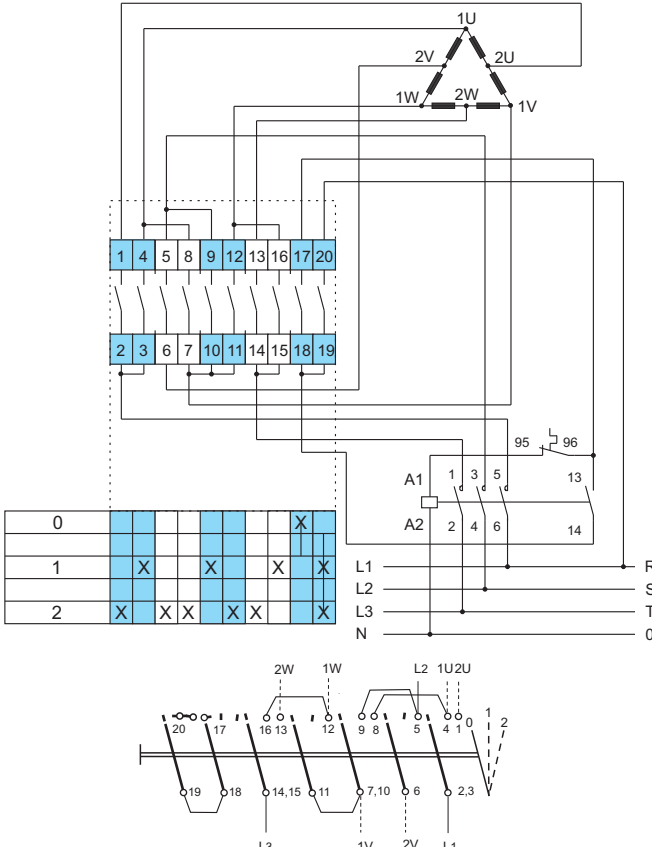
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MOTOR CONTROL SWITCHES (Dahlander)**  
**SKLOPKE ZA UPRAVLJANJE MOTORIMA (Dahlander)**

<p>With center "0"          (<math>\Delta</math> - 0 - YY)  <i>Položaj "0" u sredini</i>          (<math>\Delta</math> - 0 - YY)</p>		<b>13</b>	4	 <table border="1" data-bbox="790 795 1077 918"> <tr> <td>1</td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td>X</td> </tr> <tr> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>	1		X		X		X	0							2	X	X	X	X	X	X
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0																									
2	X	X	X	X	X	X																			
<p>Standard version          (0 - <math>\Delta</math> - YY)  <i>Standardna izvedba</i>          (0 - <math>\Delta</math> - YY)</p>		<b>19</b>	4	 <table border="1" data-bbox="790 1713 1077 1836"> <tr> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td>X</td> </tr> <tr> <td>2</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>	0							1		X		X		X	2	X	X	X	X	X	X
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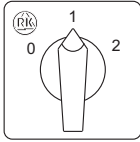
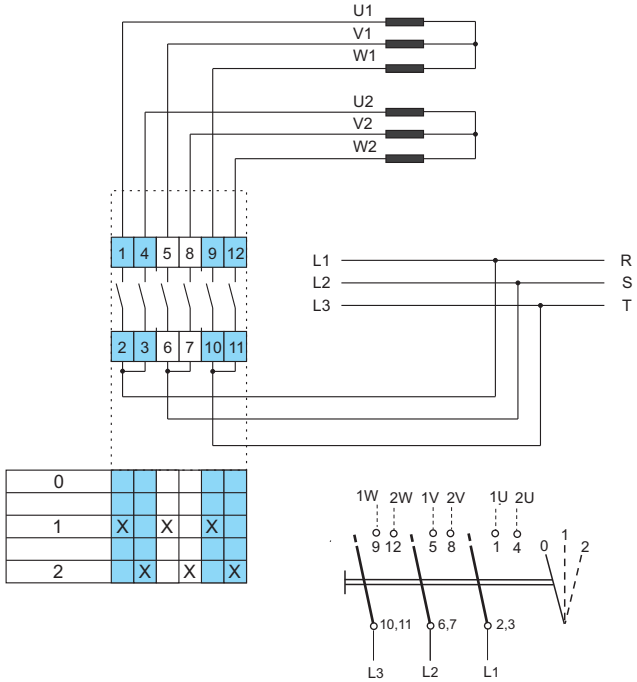
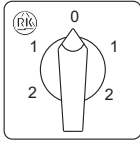
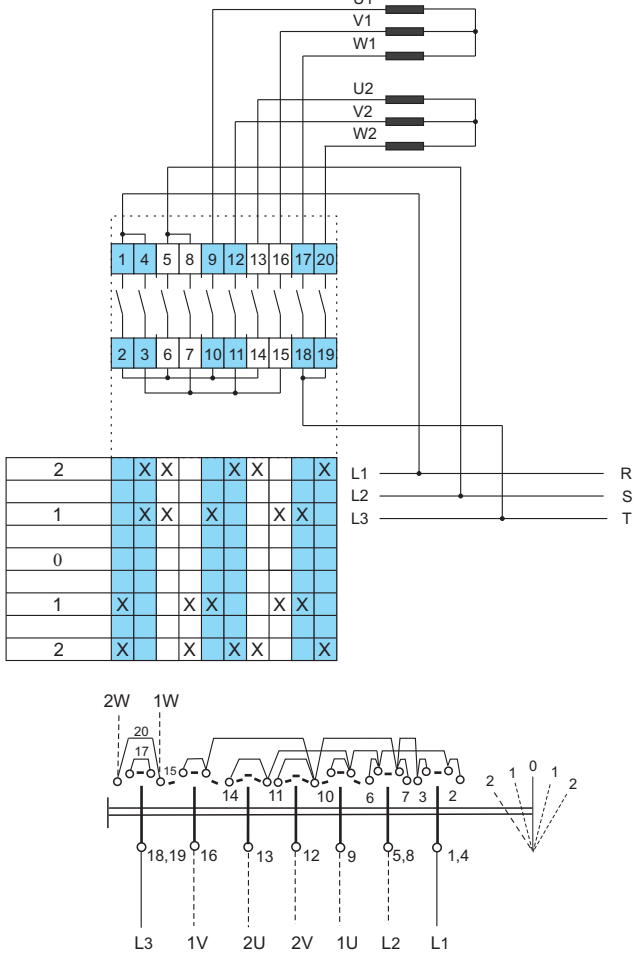
<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MOTOR CONTROL SWITCHES (Dahlander)**  
**SKLOPKE ZA UPRAVLJANJE MOTORIMA (Dahlander)**

<p>Reversing          Switching sequence:          (YY - Δ - 0 - Δ - YY)  <i>2 smjera okretanja</i>  <i>Sklopni slijed:</i>          (YY - Δ - 0 - Δ - YY)</p>		<b>20</b>	6	 <p style="font-size: small;">- From BS 16 to BS 63          - Od BS 16 do BS 63</p>
<p>With contactor          Switching sequence:          (0 - Δ - YY)  <i>Sa sklopnikom</i>  <i>Sklopni slijed:</i>          (0 - Δ - YY)</p>		<b>32</b>	5	

<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No. of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MOTOR CONTROL SWITCHES (Separate windings)**  
*SKLOPKE ZA UPRAVLJANJE MOTORIMA (Odvojeni namoti)*

<p>2 speed, 2 winding  <i>2 brzine, 2 namota</i></p>		<b>22</b>	3	 <table border="1" data-bbox="778 824 1023 936"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td>X</td><td></td><td>X</td></tr> <tr><td>2</td><td></td><td>X</td><td></td><td>X</td><td></td></tr> </table>	0						1	X		X		X	2		X		X																																						
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<p>2 speed, reversing,          2 windings  <i>2 brzine, 2 smjera, 2 namota</i></p>		<b>23</b>	5	 <table border="1" data-bbox="778 1529 1114 1738"> <tr><td>2</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td></td><td>X</td></tr> <tr><td>1</td><td></td><td>X</td><td>X</td><td></td><td>X</td><td></td><td>X</td><td>X</td><td></td><td>X</td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td></tr> <tr><td>2</td><td>X</td><td></td><td></td><td>X</td><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td></tr> </table>	2		X	X		X	X		X		X	1		X	X		X		X	X		X	0											1	X			X	X		X	X			2	X			X	X		X	X		
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<b>FUNCTION</b> <i>FUNKCIJA</i>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**MOTOR CONTROL SWITCHES (Separate windings)**  
*SKLOPKE ZA UPRAVLJANJE MOTORIMA (Odvojeni namoti)*

<p>2 speed, 2 winding with contactor  <i>2 brzine, 2 namota sa sklopnikom</i></p>		<b>33</b>	4	<table border="1" data-bbox="782 851 1069 974"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td></tr> <tr><td>1</td><td>X</td><td></td><td>X</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td>X</td><td></td><td>X</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	0																X	1	X		X					X		X							2		X		X					X		X					
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<p>2 speed, 2 windings  <i>2 brzine, 2 namota</i></p>		<b>53</b>	3	<table border="1" data-bbox="782 1747 1021 1825"> <tr><td>1</td><td>X</td><td></td><td>X</td><td></td><td></td><td>X</td><td></td></tr> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td>X</td><td></td><td>X</td><td></td><td></td><td>X</td></tr> </table>	1	X		X			X		0								2		X		X			X																											
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FUNCTION  
FUNKCIJA

Escutcheon plate  
Podloga

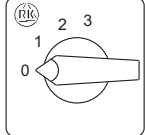
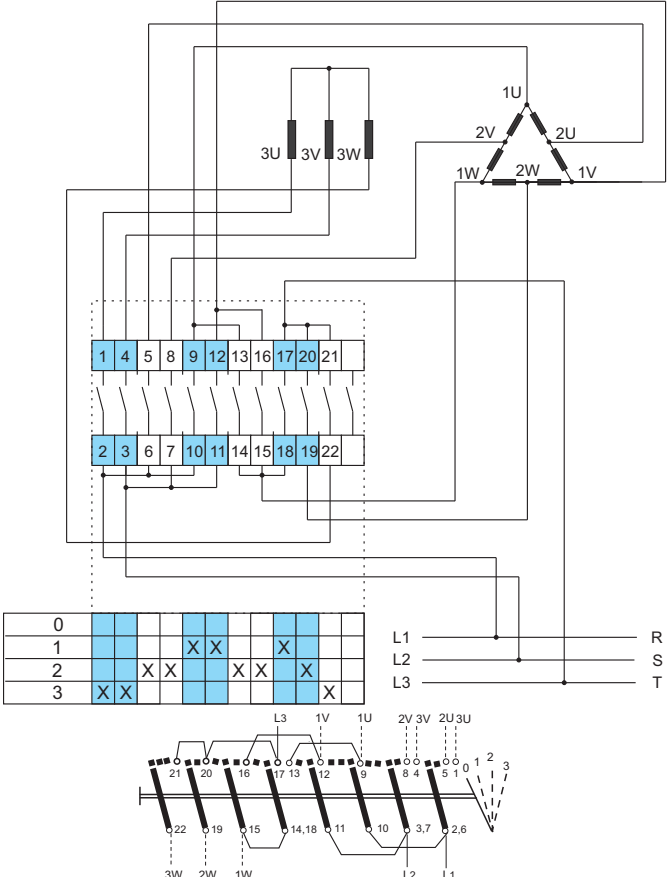
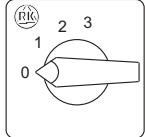
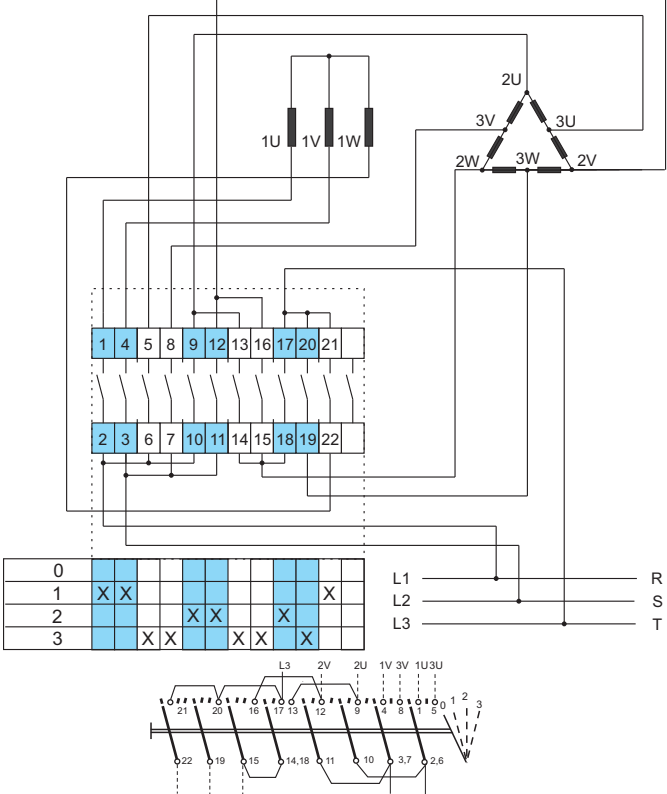
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No. of elem.  
Br. elem.

Connection diagram / Šema spoja

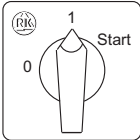
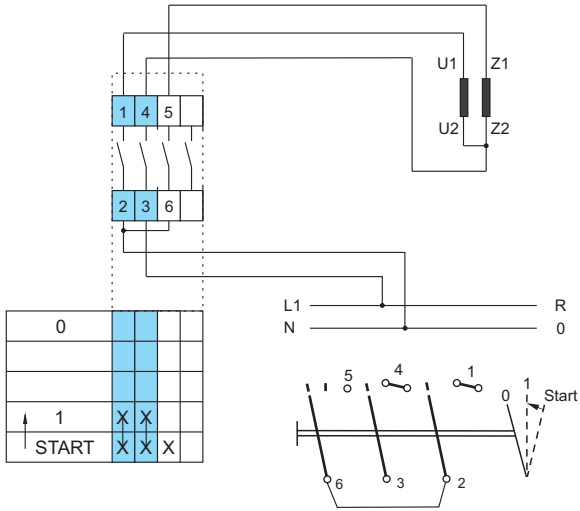

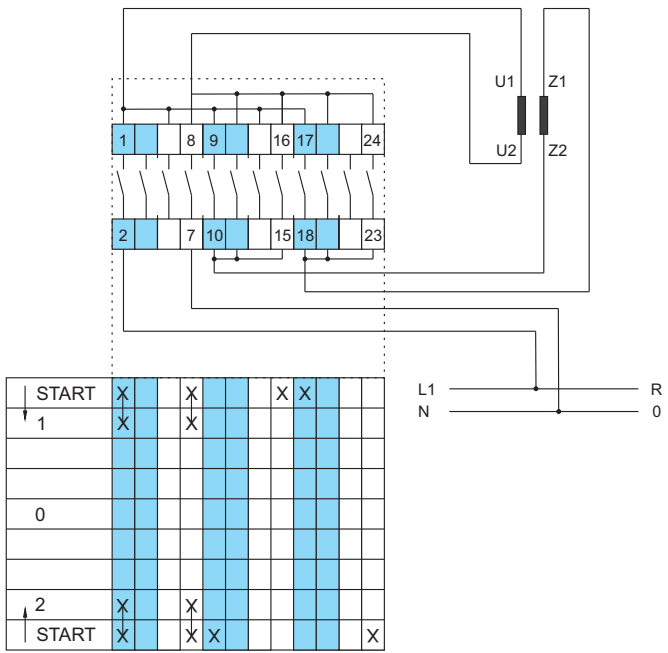
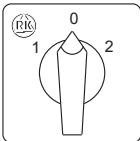
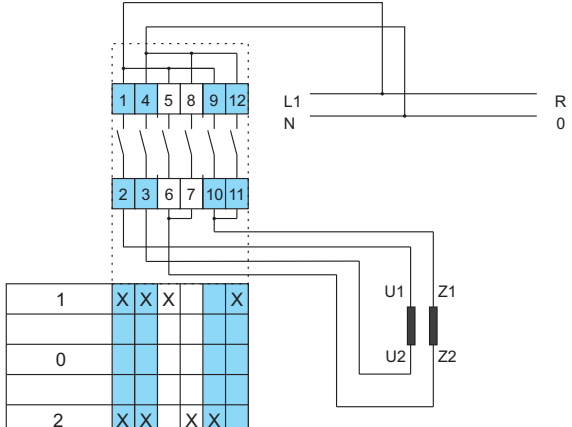
SWITCHES FOR 3-SPEED MOTOR CONTROL

SKLOPKE ZA UPRAVLJANJE TROBRZINSKIM MOTORIMA

<p>3 speed, 2 winding (1. and 2. speed Dahlander) (0-Δ-YY-Y)</p> <p>3 brzine, 2 namota (1. i 2. brzina Dahlander) (0-Δ-YY-Y)</p>		<p><b>35</b></p>	<p>6</p>	 <table border="1" data-bbox="758 963 1125 1064"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td></tr> </table>	0																							1				X	X					X	X												2			X	X						X	X												3	X	X																			X	
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<p>3 speed, 2 winding (2. and 3. speed Dahlander) (0-Y-Δ-YY)</p> <p>3 brzine, 2 namota (2. i 3. brzina Dahlander) (0-Y-Δ-YY)</p>		<p><b>36</b></p>	<p>6</p>	 <table border="1" data-bbox="758 1814 1125 1915"> <tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td></tr> <tr><td>2</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	0																							1	X	X																				X	2			X	X						X	X												3			X	X						X	X											
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<b>FUNCTION</b> <b>FUNKCIJA</b>	Escutcheon plate <i>Podloga</i>	<b>CODE</b>	No of elem. <i>Br. elem.</i>	Connection diagram / <i>Šema spoja</i>
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**START AND RUN SWITCHES**  
**SKLOPKE ZA POKRETANJE JEDNOFAZNIH MOTORA**

Standard version <i>Standardna izvedba</i>		<b>15</b>	2	
Reversing <i>2 smjera okretanja</i>		<b>16</b>	6	
Reversing permanent start winding <i>2 smjera okretanja trajno uključenja pomoćna faza</i>		<b>17</b>	3	

When ordering please define:

- 1.- Switch type
- 2.- Number of schematic diagram
- 3.- Mounting form ( for front "U" or rear mounting "O")

Front part - Optional:

- PS - (handle black and front plate model PS) - on request.  
 LK - (red knob and yellow plate for main emergency on - off switch).  
 ES - (handle-red and front plate-yellow)

**EXAMPLE:**

1	2	3
BS 25	10	U

Type - **BS 25**, schematic diagram - **10**, mounting form - **U**, with standard **black** handle and front plate standard **gray**.

1	2	3	o
BS 40	10	U	PS

Type - **BS 40**, schematic diagram - **10**, mounting form - **U**, with black handle and PS front plate.

1	2	o
BS 63	10	LK

Type - **BS 63**, schematic diagram - **10**, Main emergency on-off switch with 3 padlock facility in "0" position - **LK**

### PODACI ZA NARUČIVANJE:

*Prilikom naručivanja sklopke potrebno je definirati:*

- 1.- Tip sklopke
- 2.- Broj šeme
- 3.- Oblici ugradnje ( ugradnja sa prednje strane "U" ili ugradnja sa stražne strane "O" )

*Predni sklopa - neobavezan:*

*PS- (ručica je crna i prednja ploča model PS) - na posebno baranje*

*LK - (crvena ručica, žuta prednja ploča za nužno isklapanje).*

*ES - (crvena ručica, žuta prednja ploča)*

**PRIMER:**

1	2	3
BS 25	10	U

*Tip - **BS 25**, broj šeme - **10**, ugradnja sa prednje strane - **U**, sa ručicom u crna boja i prednjeg sklopa siv - standard.*

1	2	3	o
BS 40	10	U	PS

*Tip - **BS 40**, broj šeme - **10**, ugradnja sa prednje strane - **U**, ručica crna boja i prednji sklop PS model - **PS**.*

1	2	o
BS 63	10	LK

*Tip - **BS 63**, broj šeme - **10**, Glavna sklopka za nužno isklapanje, Zaključavanje u "0"-om položaju - **LK***

# SWITCHES WITH SPECIAL SWITCHING PROGRAM

# SKLOPKE SA SPECIJALNIM PROGRAMOM SKLAPANJA

When ordering cam switches with special switching program that are not included in the catalogue, the purchaser is required to submit a developed diagram for switching of contacts. For this purpose we have created an order form, which besides the diagram, purchaser should fill in data for rated current, rated voltage, utilization category, mounting form, type of handle, special version and marks on the front plate. Example of filled order form.

*Priklikom narudžbe grebenaste sklopke prema programu sklapanja koji nije sadržan u ovom katalogu, potrebno je dostaviti razvijenu šemu sklapanja kontakta. Nardžbeni list je na sledećoj strani. U toj listi osim razvijene šeme treba napisati podatke za tip sklopke, za struju, napon, ugao zaokreta, oblik ugradnje, tip ručice, posebnu izvedbu i oznake na čeonj ploči. Primer ispunjenog narudžbenog lista.*

Order Sheet for special rotary cam switches		RADE KONČAR																																																																																																	
Narudžbeni list za specijalne grebenaste sklopke		KONTAKTORI I RELEI																																																																																																	
<b>Voltage</b> <i>Napon</i> <b>400</b> V/50Hz	<b>Power</b> <i>Snaga</i> <b>15</b> kW	<b>Current</b> <i>Struja</i> <b>29</b> A	<b>Utilization category</b> <i>Kategorija primena</i> <b>AC 23</b>																																																																																																
<b>Front parts / Prednji sklop</b>		<input checked="" type="checkbox"/> <b>Note: Standard combination of front parts.</b> <i>Napomena: Standardna kombinacija prednji sklop</i>																																																																																																	
Optional <i>neobavezan</i> <b>Model of front plate</b> <i>Model prednja ploča</i>	Optional <i>neobavezan</i> <b>Color of Handle</b> <i>Boja Ručica</i>	Optional <i>neobavezan</i> <b>Color of front plate</b> <i>Boja prednja ploča</i>	Optional <i>neobavezan</i> <b>Emergency on-off switch with padlocking only in "0"</b> <i>Sklopka za nužno isklapanje sa zaključavanjem u "0"</i> <input type="checkbox"/> LK																																																																																																
<input type="checkbox"/> Standard <input type="checkbox"/> PS <input type="checkbox"/> M <input type="checkbox"/> PS <input type="checkbox"/> M	<input type="checkbox"/> Black <input type="checkbox"/> Blue <input type="checkbox"/> Red <input type="checkbox"/> Grey <input type="checkbox"/> Yellow <input type="checkbox"/> Zeta <input type="checkbox"/> Crna <input type="checkbox"/> Plava <input type="checkbox"/> Crvena	<input type="checkbox"/> Grey <input type="checkbox"/> Yellow <input type="checkbox"/> Zeta																																																																																																	
Arrangement of position marks on front plate <i>Oznake položaja sklopke na čeonj ploči</i>	Additional requirements / <i>Dodatni zahtjevi:</i>																																																																																																		
	<b>Contact scheme and jumpers (pre-wired)</b> <i>Kontaktna šema i kratkospojnici</i>																																																																																																		
30° <input type="checkbox"/> 60° <input type="checkbox"/> 45° <input checked="" type="checkbox"/> 90° <input type="checkbox"/> Full rotation 360° <input type="checkbox"/> <i>Puna rotacija 360°</i>	<table border="1"> <tr> <td>1</td><td>4</td><td>5</td><td>8</td><td>9</td><td>12</td><td>13</td><td>16</td><td>17</td><td>20</td><td>21</td><td>24</td><td>25</td><td>28</td><td>29</td><td>32</td><td>33</td><td>36</td><td>37</td><td>40</td><td>41</td><td>44</td><td>45</td><td>48</td> </tr> <tr> <td>2</td><td>3</td><td>6</td><td>7</td><td>10</td><td>11</td><td>14</td><td>15</td><td>18</td><td>19</td><td>22</td><td>23</td><td>26</td><td>27</td><td>30</td><td>31</td><td>34</td><td>35</td><td>38</td><td>39</td><td>42</td><td>43</td><td>46</td><td>47</td> </tr> </table>			1	4	5	8	9	12	13	16	17	20	21	24	25	28	29	32	33	36	37	40	41	44	45	48	2	3	6	7	10	11	14	15	18	19	22	23	26	27	30	31	34	35	38	39	42	43	46	47																																																
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Connection diagram <i>Šema spoja</i>	<table border="1"> <tr> <td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>1</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> <tr> <td>2</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> <tr> <td>3</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> </table>			0																								1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
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2				X		X		X		X		X		X		X		X		X		X																																																																													
Order no. <i>Broj narudžbe</i>	Contact closed <i>Kontakt zatvoren</i>																																																																																																		
Purchaser <i>Naručuje</i>	Contact closed no break <i>Kontakt zatvoren bez prekidanja</i>																																																																																																		
Address <i>Adresa</i>	Contact closed with break <i>Kontakt zatvoren sa prekidanjem</i>																																																																																																		
Telephone <i>Telefon</i>	Overlapping of contacts <i>Preklapanja kontakata</i>																																																																																																		
E-mail <i>E-mail</i>	Passing contact <i>Prolazni kontakt</i>																																																																																																		
Date <i>Datum</i>	Self return 30° max. <i>Samostaleni povratni hod 30° max.</i>																																																																																																		







# RADE KONČAR

## KONTAKTORI I RELEI

### PRODUCTION PROGRAM / *PROIZVODNI PROGRAM*



Motor Contactors



Contactors for capacitor switching



Molded Case Circuit Breaker



Miniature Circuit Breaker



Thermal Overload Relays



Motor Protection Circuit Breaker



Pushbuttons and Indicator Lights



Electronic Time Relays

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