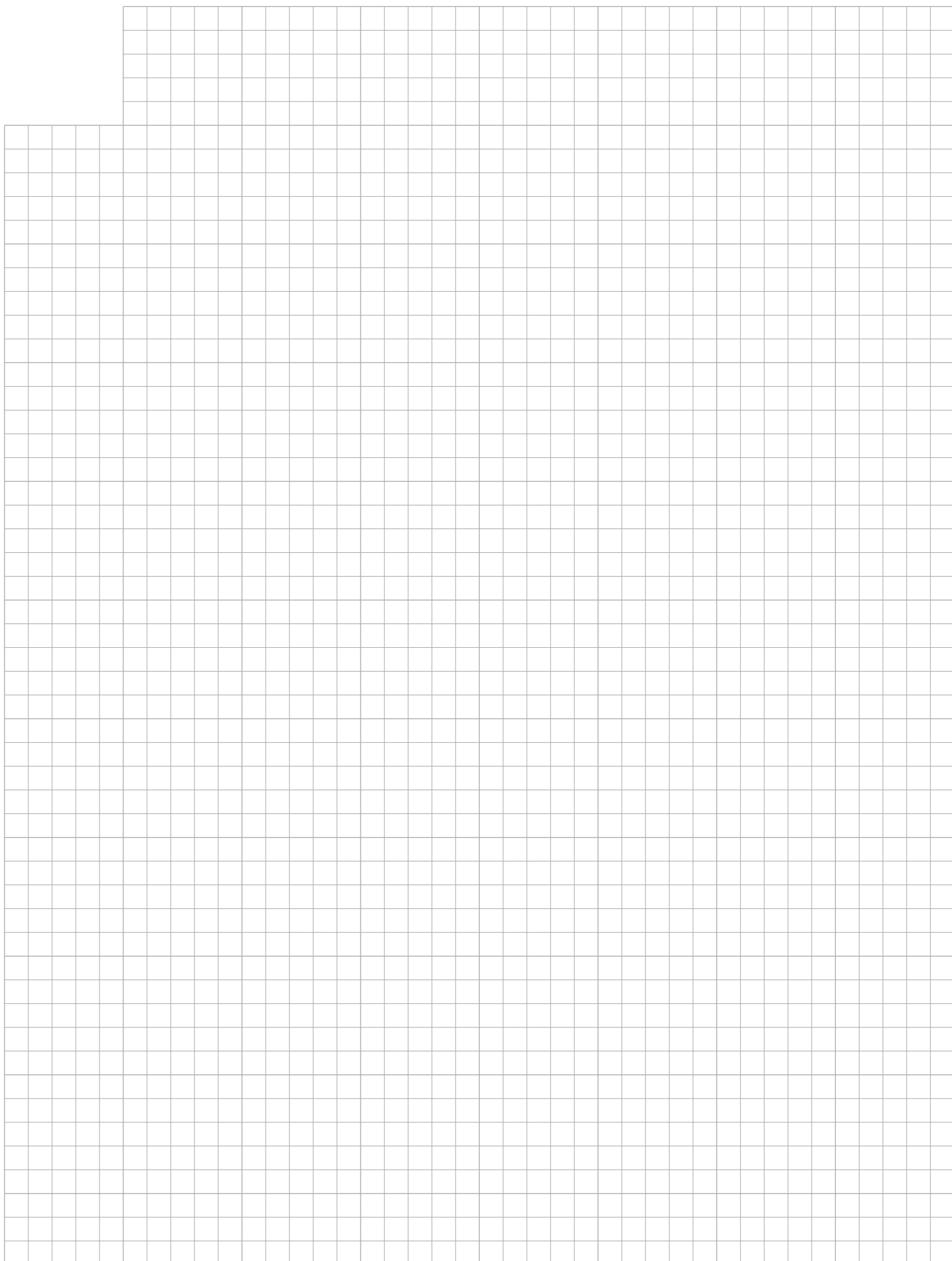


Vačkové spínače

| | |
|--|------|
| Vačkové spínače S 6 – 160 J | D 3 |
| Otočné spínače S 32, 250, 400 J | D 50 |
| Kompaktné výkonové spínače K 16 J a K 32 J | D 54 |
| Ovládacie prvky | D 58 |
| Sporákové spínače | D 59 |
| Žeriavové spínače | D 61 |



Všeobecne

Vačkové spínače S6, 10, 16, 25, 32, 40, 63, 100, 160J sú spínače prúdového radu od 6 do 160 A rozdelené do piatich rozmerových kategórií:

- I. rozmerová veľkosť-spínače S6,10J- obrysovú rozmery spínacej časti 34x33x(10,5)mm
- II. rozmerová veľkosť- spínače S16,25J- obrysovú rozmery spínacej časti 43x43x(13,5) mm
- III. rozmerová veľkosť-spínače S32,40J- obrysovú rozmery spínacej časti 56x53x(16)mm
- IV. rozmerová veľkosť-spínače S63J -obrysovú rozmery spínacej časti 66x66x(18,5)mm
- V. rozmerová veľkosť-spínače S100,160J-obrysovú rozmery spínacej časti 77x84x(21)mm
(údaj v zátvorke znamená výšku 1 spínacej komory)

Spínače IV. a V. veľkosti majú zhodnú aretačnú komoru $\varnothing 66$ mm a upevnenie na panel.

Spínače rady S..J sa vyznačujú:

- vyhovujú STN EN 60 947-3 (EN 60 947-3, IEC 60 947-3, ČSN EN 60 947-3), STN EN 60 204-1, VDE 0660
- svorky a prepojenia sú chránené voči dotyku so stupňom krytia IP20, z čela prístroja je IP40
- krytie IP 65 dosahujú vo vyhotovení označenom „G“ s utesnením hriadeľa a upevňovacích skrutiek a v prevedení S...JP
- prevedenia v hliníkových skrinách S...JA a S...JI majú krytie IP54
- spínače veľkosti I. až IV. majú prístup k svorkám skrutkovačom pod uhlom 45° resp. 30° a taktiež zlepšenú čitateľnosť označenia svoriek na zošíknenej ploche
- spínací uhol 30°, 45°, 60° a 90° (prednostný uhol je 60° do 6 spínacích polôh a 30° do 12 spínacích polôh)
- malé rozmery a jednotný design s unifikáciou jednotlivých nastavieb
- variabilnosť mechanických vyhotovení spínačov
- široký sortiment elektrických zapojení spínačov podľa prehľadu elektrických schém jednotných pre celý prúdový rad, možnosť špeciálnych el. schém (podľa požiadavky zákazníka)
- maximálny počet spínacích komôr je 12 (24 kontaktov), vyšší počet komôr je potrebné dohodnúť s výrobcom
- vyhovujú požiadavkám T 32 a teplotám okolia -30° do +55 °C

Použitie

Výkonové spínače pre spínanie motorov v AC3, AC23

Spínače v pomocných a meracích obvodoch

Pre radenie odporových záťaží a v elektrických peciach

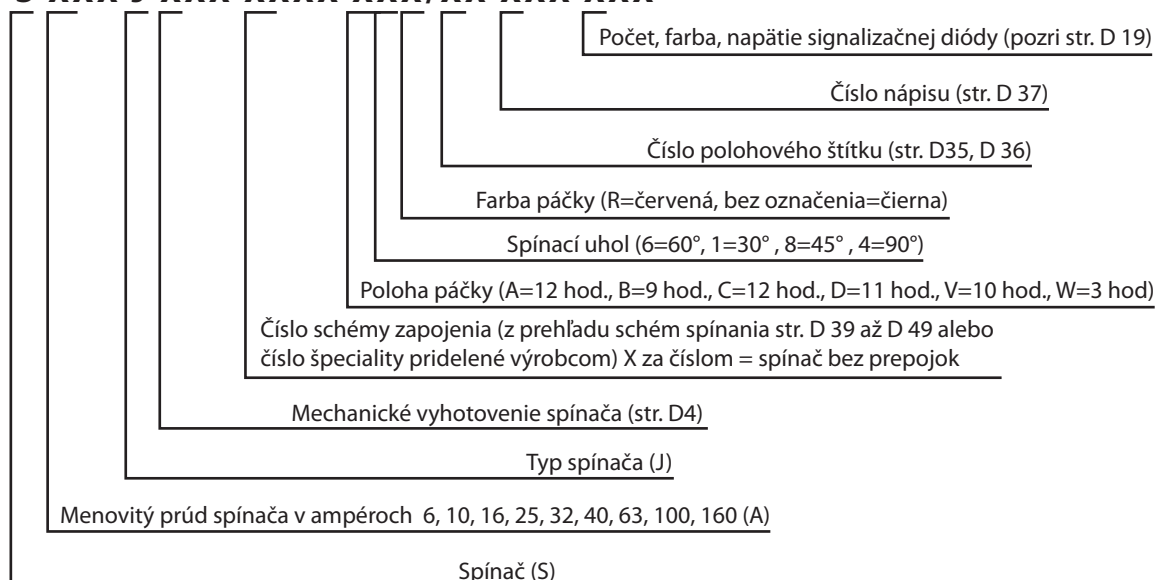
Stupňové prepínače (odbočky transformátorov, prepínače)

Spínače s vratnou polohou pre testovacie účely a jednofázové motory

Reverzačné spínače, spínače Δ , prepínanie pólov (rýchlosti) viacotáčkových motorov

Typové označenie

S XXX J XXX XXXX XXX/XX XXX XXX



Príklad objednávky

S16JVDG 2203X A6 R / 01 N01 1R4

Na príklade je vyšpecifikovaný vačkový spínač:

- vačkový spínač men. prúdu 16A
- s vratnou polohou (V), čelnou doskou (D), gumovým tesnením pre IP 65(G)
- trojpólový prepínač (2203), bez prepajok (X)
- základná poloha páčky A (12 hod.), spínací uhol 60° (6)
- červená páčka (R)
- polohový štítok 01 s nápisom HLAVNÝ VYPÍNAČ
- s 1 signalizačnou diódou (červená) na napätie 230V~

Pri vytypovaní spínača je potrebné vychádzať z katalógu s uvedenými mechanickými vyhotoveniami a prehľadu elektrických schém. Pre neštandardné vyhotovenia el. zapojenia je potrebné vyplniť „List špecifikácie“ podľa predtlaču a zaslať na otypovanie a pridelenie čísla el. schémy výrobcovi. Pri neoznačení požadovanej polohy páčky, spínacieho uhla, polohového štítu resp. nápisu, výrobca prednostne určí polohu páčky A (12 hod.) a spínací uhol 60° resp. 30° pre viac ako 6 spínacích polôh. Číslo štítu, nápisu a LED diódy za zvislou deliacou čiarou uvádzať len keď to vyplýva z požadovaného vyhotovenia.

Mechanické vyhotovenia

Spínače na panel (predná montáž)

| Typové označenie | Popis vyhotovenia spínačov |
|------------------|--|
| S ... J | S páčkou (bez čelnej dosky) |
| S ... JE | S páčkou a násuvnými kolíkmi |
| S ... JG | S páčkou a tesnením pre IP65 |
| S ... JD | S páčkou a čelnou doskou |
| S ... JZ | So zámkom FAB s uzamykaním polohy „0“ (alebo iných polôh - uviesť) |
| S ... JU | S páčkou uzamykateľnou 1-3 visiacimi zámkami (Ø 5-8 mm) |
| S ... JF | So svetelnou signalizáciou (1-3 LED diódy) |
| S ... JV | S jednou, alebo dvoma vratnými polohami (iba S 6 - 25 J) |
| S ... JR | Rýchlopúpanie na Ø 22 mm s ovládaním páčkou (iba S 6 - 25 J) |
| S ... JK | Rýchlopúpanie na Ø 22 mm s ovládaním kľúčom (iba S 6 - 25 J) |
| S ... JT | S blokovacím tlačidlom blokujúcim páčku v polohe „0“ (inú polohu uviesť) |

Spínače so zadným upevnením (obrátená montáž)

| Typové označenie | Popis vyhotovenia spínačov |
|------------------|--|
| S ... JO | Zadné upevnenie spínačov (obrátená montáž) |
| S ... JLD | S upevnením na lištu (DIN) TH 35-7,5 s čelnou doskou |
| S ... JLS | S upevnením na lištu (DIN) TH 35-7,5 so štítom 52,5x45 (iba S 6, 10, 16, 25 J) |
| S ... JB | Zadné upevnenie spínača - s páčkou na dverách |
| S ... JBD | - s páčkou a čelnou doskou na dverách |
| S ... JBU | - s uzamykacou páčkou na dverách |
| S ... JBZ | - so zámkom FAB a páčkou na dverách |
| S ... JP | V kryte z plastickej hmoty s páčkou (IP 65) |
| S ... JPD | V kryte z plastickej hmoty s čelnou doskou (IP 65) |
| S ... JPU | V kryte z plastickej hmoty s uzamykateľnou páčkou (IP 65) |
| S ... JPZ | V kryte z plastickej hmoty so zámkom FAB (IP 65) |
| S ... JA | V AI kryte (S16 - 63 J) |
| S ... JAZ | V AI kryte so zámkom FAB (S16 - 63 J) |
| S ... JI | V AI kryte s 3 poistkami (S16 - 63 J) |
| S ... JIZ | V AI kryte s 3 poistkami a so zámkom FAB (S16 - 63 J) |
| S ... NJ | V kryte z plastickej hmoty s 3 poistkami (S16 - 25J) |
| S ... NJU | V kryte z plastickej hmoty s 3 poistkami a uzamykateľnou páčkou 1-3 visiacimi zámkami (S 16 - 25J) |
| S ... NJZ | V kryte z plastickej hmoty s 3 poistkami a so zámkom FAB (S16 - 25J) |
| S ... JM | s malou páčkou |
| S ... JH | s uzamykacou páčkou S 6 - 25 J |

Pozn.: Jednotlivé mechanické vyhotovenia spínačov je možné vzájomne kombinovať, napr. S 16JVDG je 16A spínač s vratnou polohou (V), čelnou doskou (D) a tesnením (G) pre IP65. Vyhotovenie JV, JR, JK, JLS je možné len pre spínače do 25A (rozmerová veľkosť I, II.). Iné špeciálne požiadavky na mechanické vyhotovenia (upravený hriadeľ, šnúrový spínač, ovládanie jedným smerom, spriahnutie spínačov rozmerovej veľkosti IV. a II., V. a II. za sebou a vedľa seba a pod.) je možné po dohode s výrobcou.

Technické údaje

| Typ spínača | | S6J | S10J | S16J | S25J | S32J | S40J | S63J | S100J | S160J |
|---|------------------|---------|-----------|------------|------------|-----------|---------|-----------|-----------|-----------|
| Menovité izolačné napätie U_i , V * | | 500 | 500 | 690 ** | 690 ** | 690 | 690 | 690 | 690 | 690 |
| Menovité impulzné výdržné napätie U_{imp} , kV | | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| Menovitý tepelný prúd I_{th} , A | | 6 | 10 | 20 | 25 | 32 | 40 | 63 | 100 | 150 |
| Men. pracovný prúd I_n , A, AC-21A - ohmické záťaž; AC-1 - málo indukívne záťaž | | 6 | 10 | 16 | 25 | 32 | 40 | 60 | 100 | 150 |
| Men. pracovný výkon, kW / men. pracovný prúd I_n , A | | | | | | | | | | |
| AC-3 motory s kotvou nákratko; Spúšťanie, vypínanie za chodu | 1 fáza 220-240 V | 0,9/5,1 | 1,5/8,5 | 1,7/9,6 | 2,6/14,7 | 4/22,7 | 4,4/25 | 5 / 28,4 | 10 / 56,8 | 13 / 73,8 |
| | 3 fázy 220-240 V | 1,5 | 2,5 | 3 | 4,5 | 7 | 7,7 | 8,5 | 17 | 23 |
| | 380-440 V | 2,5/4,5 | 3,5 / 6,3 | 4 / 7,2 | 7,5 / 13,5 | 12 / 17,3 | 13/18,8 | 15 / 27 | 30 / 54 | 40 / 72 |
| | 500 V | 2,5 | 3,5 | 4 | 7,5 | 12 | 13 | 15 | 30 | 40 |
| AC-23A spínanie motorových a vysoko- induktívnych záťaží | 1 fáza 220-240 V | 1/5,5 | 1,7 / 9,6 | 2,3 / 13 | 3 / 17 | 6,8/32 | 7,3/40 | 10 / 56,8 | 13 / 73,8 | 18 / 102 |
| | 3 fázy 220-240 V | 1,8 | 3 | 4 | 5,5 | 10 | 12,5 | 17 | 23 | 30 |
| | 380-440 V | 3,3/6 | 5,5/10 | 7,5 / 13,5 | 11 / 19,8 | 17,5/32 | 22/40 | 30 / 54 | 40 / 72 | 55 / 99 |
| | 500 V | 3,3 | 5,5 | 7,5 | 11 | 22 | 27 | 30 | 40 | 55 |
| Menovitý pracovný prúd I_n , A | | | | | | | | | | |
| -jednosmerný | 24 V | 6/4 | 10/8 | 16/8 | 25/8 | 32/12 | 34/12 | 63/25 | 100/32 | 150/63 |
| (spínanie s jedným kontaktom) | 48 V | 3,7/2 | 6/4 | 6/4 | 6/4 | 25/10 | 25/10 | 25/16 | 32/20 | 32/20 |
| DC-21A / DC-22A | 110 V | 0,7/0,2 | 1/0,3 | 1/0,3 | 1/0,3 | 4/3 | 4/3 | 4/3 | 5/4 | 5/4 |
| (odporová záťaž / jednosmerné motory) | 220 V | 0,2/0,1 | 0,3/0,2 | 0,3/0,2 | 0,3/0,2 | 1/0,4 | 1/0,4 | 1/0,4 | 1,2/0,5 | 1,2/0,5 |
| Men. podmienený skrat. prúd, kA | | 3 | 4 | 5 | 5 | 10 | 10 | 8 | 10 | 10 |
| s poistkou gG, A | | 6 | 10 | 16 | 25 | 32 | 40 | 63 | 100 | 160 |
| Menovitý krátkodobý výdržný prúd - 1 sec I_{cw} , A | | 160 | 200 | 220 | 500 | 800 | 1000 | 1200 | 1500 | 2000 |
| Skratová zapínacia schopnosť I_{cm} , A | | 320 | 400 | 400 | 500 | 800 | 1000 | 1200 | 1500 | 1600 |
| Mechanická trvanlivosť (cykly) | | 106 | 106 | 106 | 106 | 3x105 | 3x105 | 3x105 | 3x105 | 105 |
| Rozsah pripojovacích vodičov, mm ² | | 0,5-2,5 | 0,5-2,5 | 1-4 | 1,5-4 | 2,5-10 | 2,5-10 | 6-16 | 16-50*** | 16-50 *** |
| Pripojovacia skrutka | | M3 | M3 | M4 | M4 | M5 | M5 | M5 | M6x0,75 | M6x0,75 |
| Ovládací hriadeľ | | ● 5 | ● 5 | ● 5 | ● 5 | ● 5 | ● 5 | ● 6 | ● 6 | ● 6 |

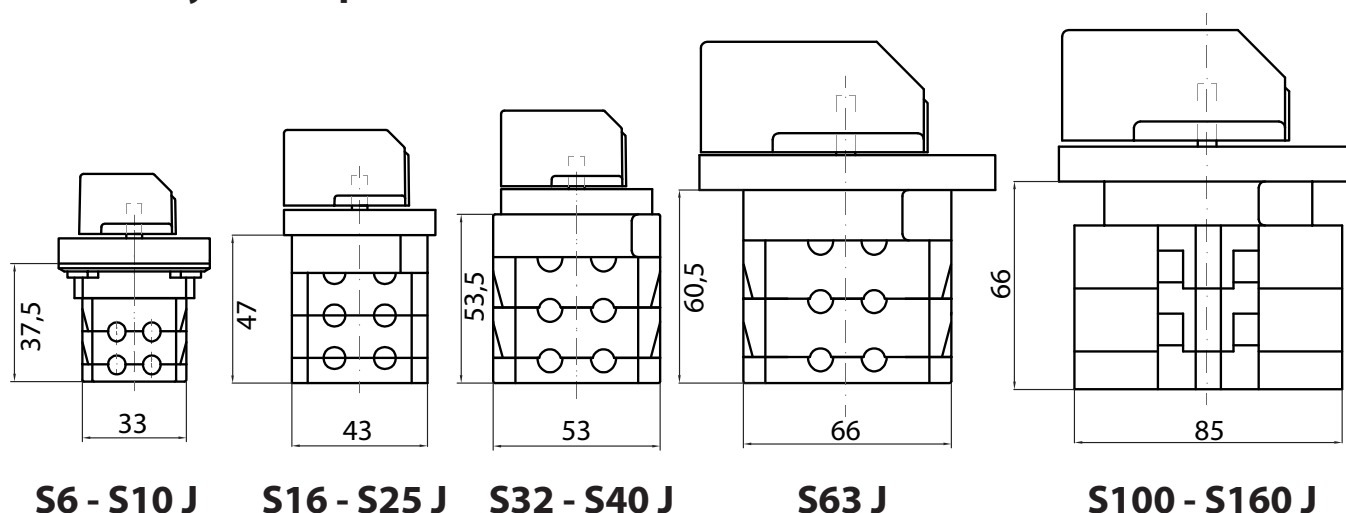
Pozn.: * STN 330420 - platí pre siete s uzemneným neutrálnym bodom, kategóriou prepätia III. a stupeň znečistenia 2;

$U_i = 500$ V, ak stupeň znečistenia je 3.

** Vo funkcii hlavného vypínača (vyhotovenia S ... JU) zníženie U_i na 400 V.

*** Pre 1 tuhý (plný alebo lanovaný) Cu vodič max. prierezu 70 mm².

Rozmerový náčrt - porovnanie veľkostí S6 - S160 J



SPÍNAČE NA PANEL

-vyhotovenia S ... J, JE, JD, JG, JZ, JU, JR, JK, JV, JT, JF

ROZMERY (uvedené v mm)

| Typ | A | B | C | D | E | F | G | H | I | J | K | M | N | O | P | R | S | H1 | U | V | X | Y | Z |
|--------------|----|----|-----|----|------|------|-----|------|----|----|----|----|----|---|----|----|----|----|-----|----|------|-----|----|
| S 6, 10 J | 48 | 36 | 66 | 8 | 13 | 17,5 | 1,5 | 10,5 | 9 | 31 | 30 | M3 | 23 | 3 | 19 | 30 | 34 | 5 | 5,5 | 33 | 15 | 3,2 | 46 |
| S 16, 25 J | 48 | 36 | 66 | 8 | 14 | 24 | 1,5 | 13,5 | 9 | 31 | 35 | M4 | 23 | 3 | 24 | 30 | 43 | 5 | 5,5 | 43 | 19 | 4,2 | 46 |
| S 32, 40 J | 48 | 36 | 66 | 8 | 20,5 | 31 | 1,5 | 16 | 9 | 31 | 35 | M4 | 23 | 3 | 24 | 30 | 56 | 5 | 7,5 | 53 | 19 | 4,2 | 46 |
| S 63 J | 94 | 75 | 106 | 11 | 22 | 46 | 2 | 18,5 | 10 | 42 | 50 | M5 | 30 | 4 | 35 | 50 | 66 | 6 | 7,5 | 66 | 34,5 | 5,4 | 74 |
| S 100, 160 J | 94 | 75 | 106 | 11 | 22 | 46 | 2 | 21 | 10 | 42 | 50 | M5 | 30 | 4 | 35 | 50 | 77 | 6 | 7,5 | 85 | 34,5 | 5,4 | 74 |

| Typ | L pri počte komôr | | | | | | | | | | | |
|--------------|-------------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S 6, 10 J | 27,5 | 38 | 48,5 | 59 | 69,5 | 80 | 90,5 | 101 | 111,5 | 122 | 132,5 | 143 |
| S 16, 25 J | 33,5 | 47 | 60,5 | 74 | 87,5 | 101 | 114,5 | 128 | 141,5 | 155 | 168,5 | 182 |
| S 32, 40 J | 37,5 | 53,5 | 69,5 | 85,5 | 101,5 | 117,5 | 133,5 | 149,5 | 165,5 | 181,5 | 197,5 | 213,5 |
| S 63 J | 42 | 60,5 | 79 | 97,5 | 116 | 134,5 | 153 | 171,5 | 190 | 208,5 | 227 | 245,5 |
| S 100, 160 J | 45 | 66 | 87 | 108 | 129 | 150 | 171 | 192 | 213 | 234 | 255 | 276 |

SPÍNAČE V SKRINKÁCH SO ZADNÝM UPEVNENÍM

vyhotovenia S ...J, JO, JLS, JLD, JB, JBD, JBU, JBZ, JP, JPU, JPD, JA, JI, JAZ, JIZ, NJ, NJU

ROZMERY (uvedené v mm)

| Typ | A | B | C | D | E | F | G | H | I | J | K | M | N | O | P | R | S | H1 | U | V | X | Y | Z |
|--------------|----|----|-----|----|------|------|-----|------|----|----|----|----|----|---|----|----|----|----|-----|----|------|-----|----|
| S 6, 10 J | 48 | 36 | 66 | 8 | 13 | 17,5 | 1,5 | 10,5 | 9 | 31 | 30 | M3 | 23 | 3 | 19 | 30 | 34 | 5 | 5,5 | 33 | 15 | 3,2 | 46 |
| S 16, 25 J | 48 | 36 | 66 | 8 | 14 | 24 | 1,5 | 13,5 | 9 | 31 | 35 | M4 | 23 | 3 | 24 | 30 | 43 | 5 | 5,5 | 43 | 19 | 4,2 | 46 |
| S 32, 40 J | 48 | 36 | 66 | 8 | 20,5 | 31 | 1,5 | 16 | 9 | 31 | 35 | M4 | 23 | 3 | 24 | 30 | 56 | 5 | 7,5 | 53 | 19 | 4,2 | 46 |
| S 63 J | 94 | 75 | 106 | 11 | 22 | 46 | 2 | 18,5 | 10 | 42 | 50 | M5 | 30 | 4 | 35 | 50 | 66 | 6 | 7,5 | 66 | 34,5 | 5,4 | 74 |
| S 100, 160 J | 94 | 75 | 106 | 11 | 22 | 46 | 2 | 21 | 10 | 42 | 50 | M5 | 30 | 4 | 35 | 50 | 77 | 6 | 7,5 | 85 | 34,5 | 5,4 | 74 |

| Typ | Z1 | V1 | S1 | B1 | B2 | U1 | U2 | L1 | L2 | L3 | D1 | D2 | D3 | A1 | F1 | A2 | C1 |
|--------------|----|-----|-----|-----|-----|-----|------|-----|-----|-----|----|----|----|-----|----|----|-----|
| S 6, 10 J | 22 | 110 | 87 | 66 | 73 | 5,5 | 10,5 | 86 | 100 | 159 | 64 | 14 | 8 | 72 | 35 | 48 | 66 |
| S 16, 25 J | 22 | 110 | 87 | 66 | 73 | 5,5 | 10,5 | 86 | 100 | 159 | 64 | 14 | 8 | 72 | 35 | 48 | 66 |
| S 32, 40 J | 30 | 160 | 140 | 110 | 110 | 6,5 | 12 | 108 | 140 | | 84 | 16 | 10 | 119 | 58 | 66 | 106 |
| S 63 J | 30 | 160 | 140 | 110 | 110 | 6,5 | 12 | 108 | 140 | | 84 | 16 | 10 | 119 | 58 | 66 | 106 |
| S 100, 160 J | 30 | 160 | 140 | 110 | 110 | 6,5 | 12 | 140 | | | 84 | 16 | 10 | 119 | 58 | 66 | 106 |

| Typ | T pri počte komôr | | | | | | | | | | | |
|--------------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S 6, 10 J | 84 | 94,5 | 105 | 115,5 | 126 | 136,5 | 147 | 157,5 | 168 | 178,5 | 189 | 199,5 |
| S 16, 25 J | 90 | 103,5 | 117 | 130,5 | 144 | 157,5 | 171 | 184,5 | 198 | 211,5 | 225 | 238,5 |
| S 32, 40 J | 98 | 114 | 130 | 146 | 162 | 178 | 194 | 210 | 226 | 242 | 258 | 274 |
| S 63 J | 102,5 | 121 | 139,5 | 158 | 176,5 | 195 | 213,5 | 232 | 250,5 | 269 | 287,5 | 306 |
| S 100, 160 J | 105 | 126 | 147 | 168 | 189 | 210 | 231 | 252 | 273 | 294 | 315 | 336 |

| Typ | L4 pri počte komôr | | | | | | | | | | | |
|--------------|--------------------|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S 6, 10 J | 70 | 70 | 70 | 70 | 112 | 112 | 112 | 112 | 154 | 154 | 154 | 154 |
| S 16, 25 J | 62 | 62 | 76 | 130 | 130 | 130 | 130 | 197,5 | 197,5 | 197,5 | 197,5 | 197,5 |
| S 32, 40 J | 112 | 112 | 112 | 112 | 169 | 169 | 169 | 253 | 253 | 253 | 295 | 295 |
| S 63 J | 115 | 115 | 115 | 115 | 172 | 172 | 172 | 256 | 256 | 256 | 298 | 298 |
| S 100, 160 J | 115 | 115 | 115 | 172 | 172 | 172 | 256 | 256 | 256 | 256 | 298 | 298 |

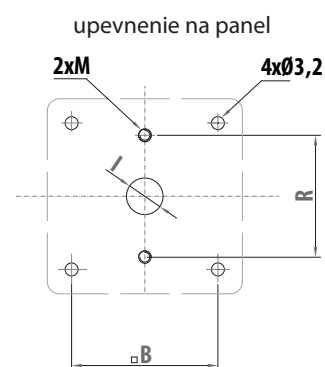
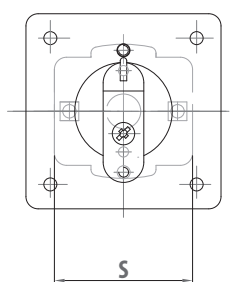
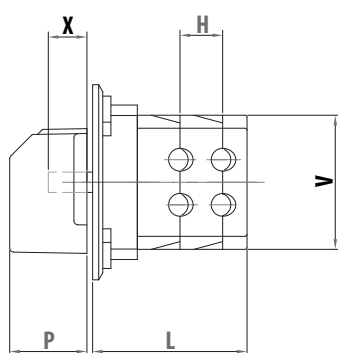
| Typ | Max. počet komôr | | |
|--------------|------------------|----|----|
| | L1 | L2 | L3 |
| S 6, 10 J | 3 | 4 | 9 |
| S 16, 25 J | 2 | 3 | 7 |
| S 32, 40 J | 2 | 4 | - |
| S 63 J | 2 | 4 | - |
| S 100, 160 J | 3 | - | - |

VAČKOVÉ SPÍNAČE S ... J

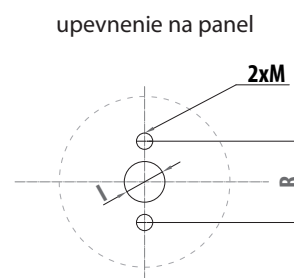
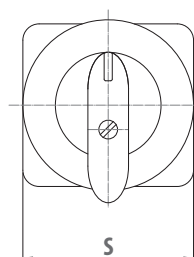
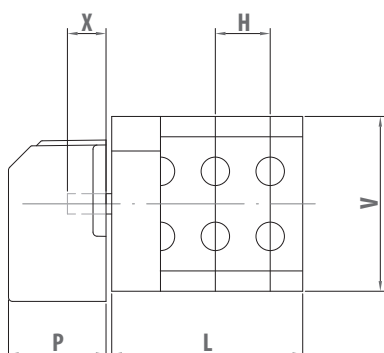
- spínač s páčkou bez čelnej dosky



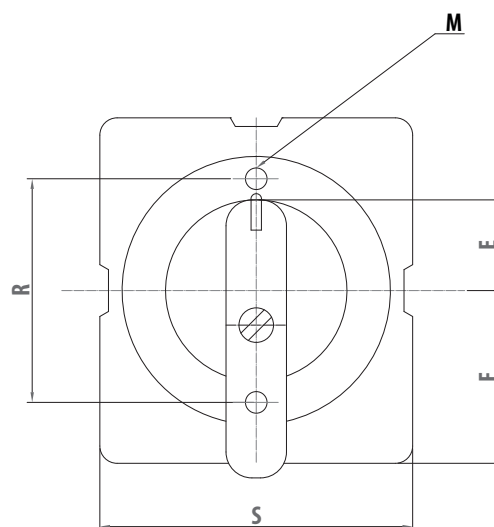
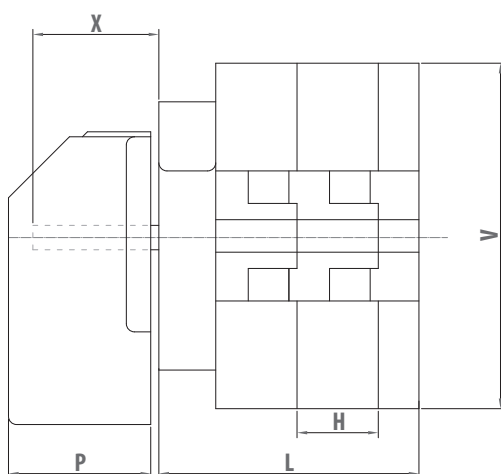
S 6, 10 J

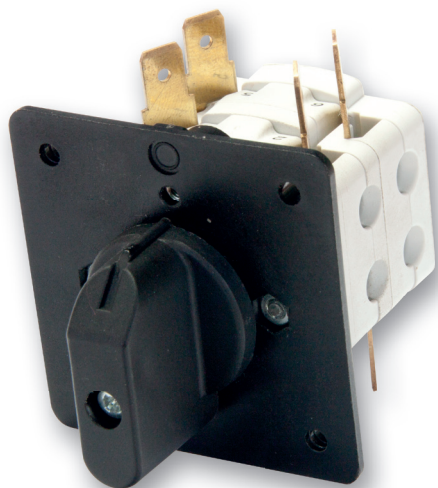


S 16, 25, 32, 40, 63 J



S 100, 160 J

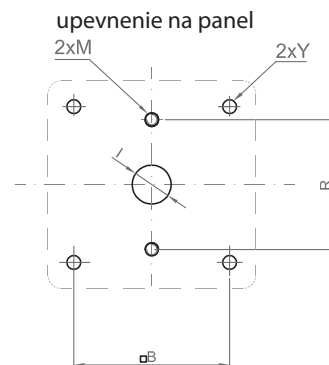
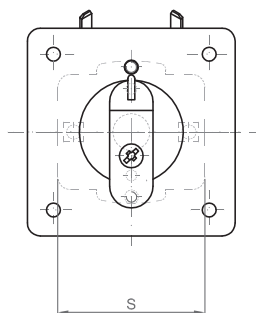
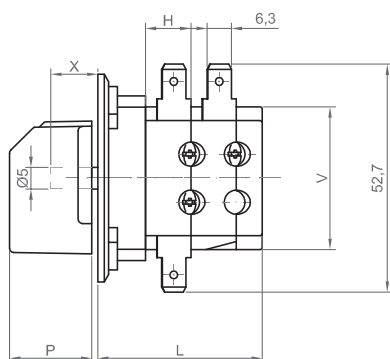




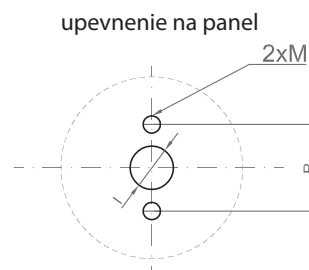
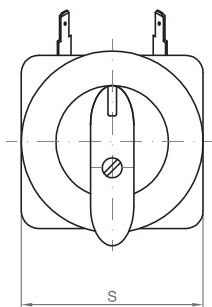
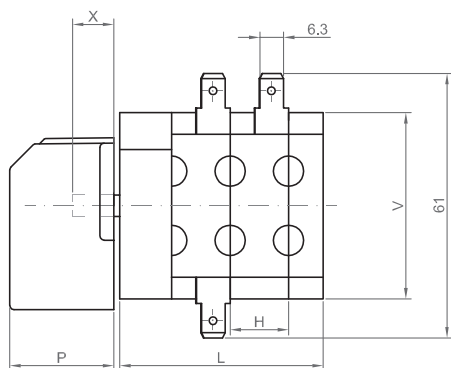
VAČKOVÉ SPÍNAČE S ... JE

- spínač s páčkou bez čelnej dosky a s násuvnými kolíkmi
- prevedenie umožňuje uľahčenú montáž vodičov na kontakty spínača

S 6, 10 JE



S 16, 25 JE

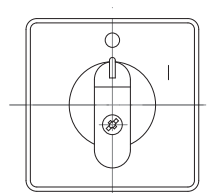
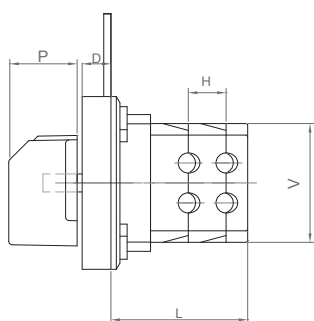


VAČKOVÉ SPÍNAČE S ... JD

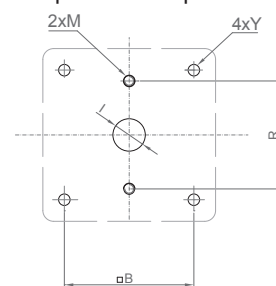
- spínač s páčkou a čelnou doskou



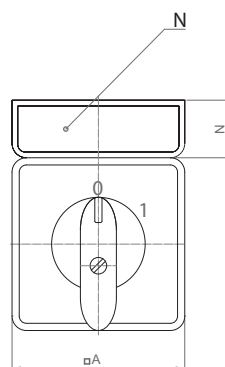
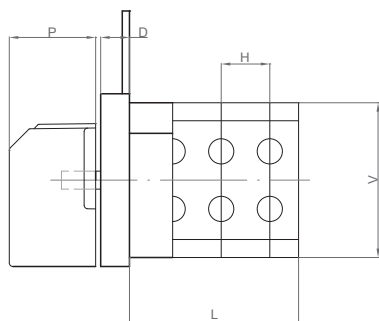
S 6, 10 JD



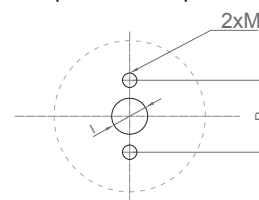
upevnenie na panel



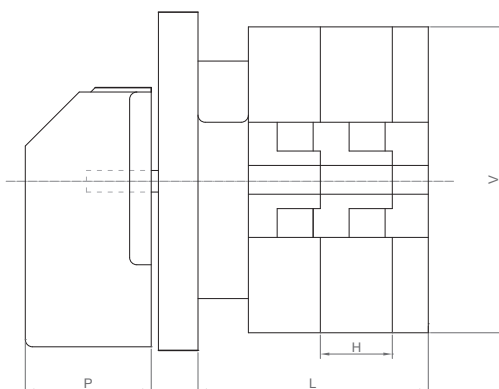
S 16, 25, 32, 40, 63 JD

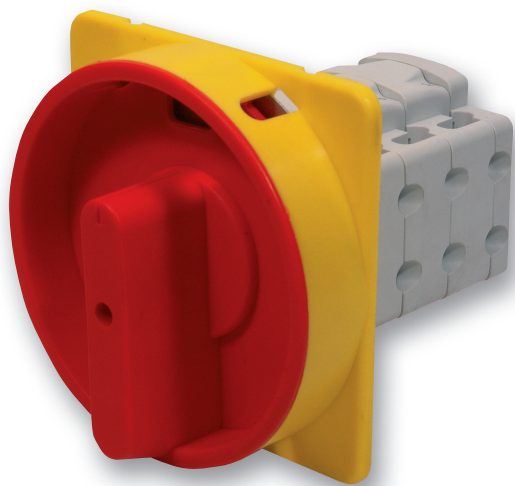


upevnenie na panel



S 100, 160 JD

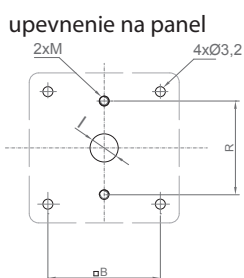
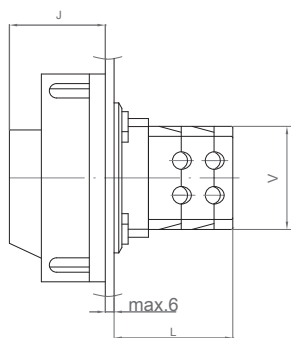




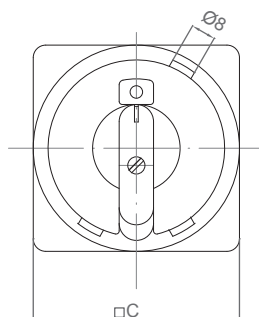
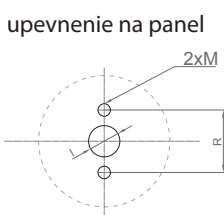
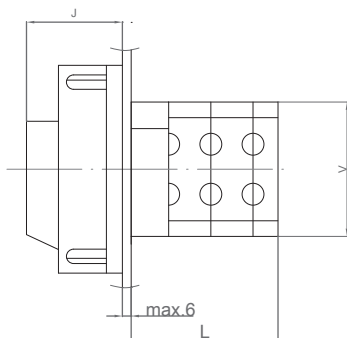
VAČKOVÉ SPÍNAČE S ... JU

- spínač s možnosťou uzamknutia páčky tromi visiacimi zámkami (Ø 5-8mm)
- použitie ako hlavné alebo núdzové vypínače

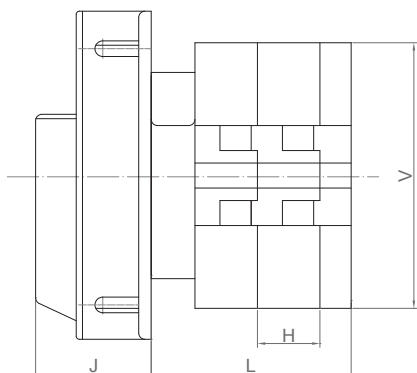
S 6, 10 JU



S 16, 25, 32, 40, 63 JU



S 100, 160 JU

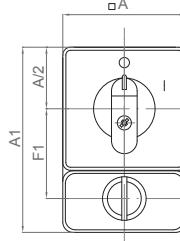
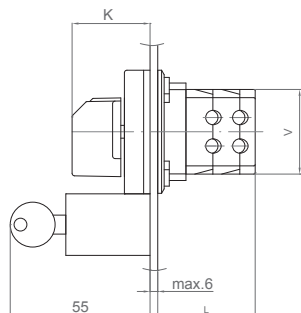


VAČKOVÉ SPÍNAČE S ... JZ

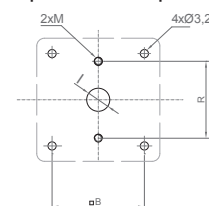
- spínač s uzamykaním nulovej polohy
(alebo iných požadovaných polôh)
zámkom FAB



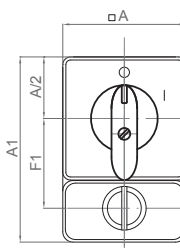
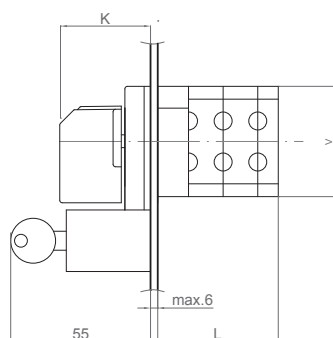
S 6, 10 JZ



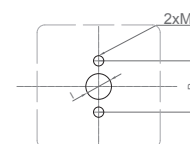
upevnenie na panel



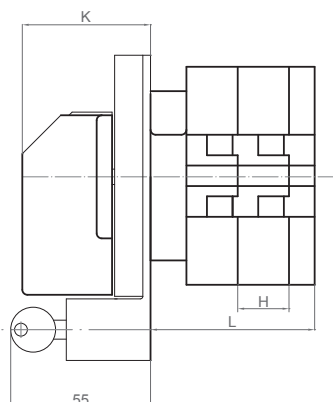
S 16, 25, 32, 40, 63 JZ



upevnenie na panel



S 100, 160 JZ



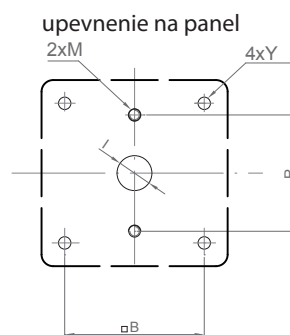
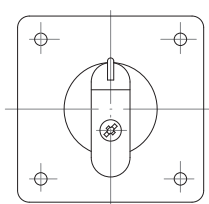
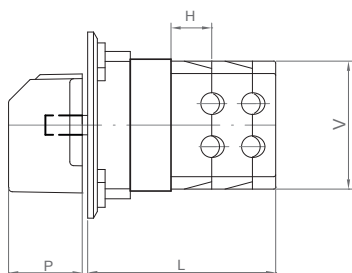


VAČKOVÉ SPÍNAČE S ... JV

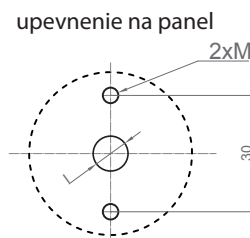
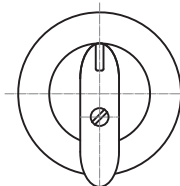
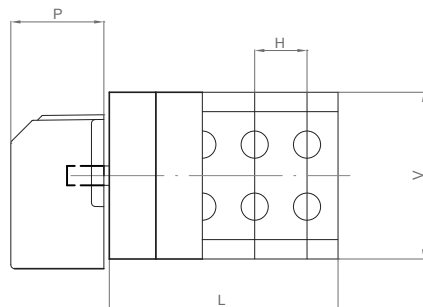
- spínač s jednou alebo dvoma vratnými polohami aj cez viac polôh
- max. možný uhol vratného pohonu je 120°
- v objednávke je nutné uviesť (pri spínačoch s viac ako dvoma polohami) požadovanú vratnú a aretovanú polohu, napr. pri vypínači 0-1-2, pri požadovanom pohybe z polohy 2 do polohy 1 je označenie V2 - A1

| Typ | L (mm) pri počte komôr | | | | | | | | | | | |
|-------------|------------------------|------|----|------|-----|-------|-----|-------|-----|-------|-----|-------|
| Počet komôr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S 6, 10 JV | 38 | 48,5 | 59 | 69,5 | 80 | 90,5 | 101 | 111,5 | 122 | 132,5 | 143 | 154,5 |
| S 16, 25 JV | 47 | 60,5 | 74 | 87,5 | 101 | 114,5 | 128 | 141,5 | 155 | 168,5 | 182 | 195,5 |

S 6, 10 JV

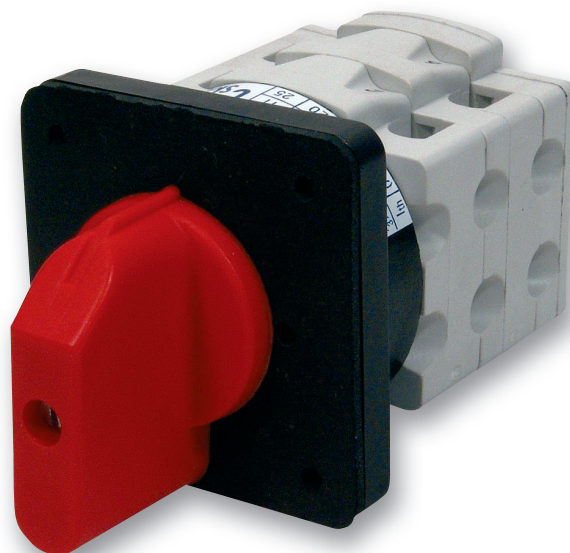


S 16, 25 JV



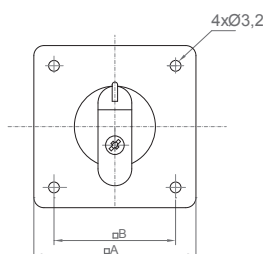
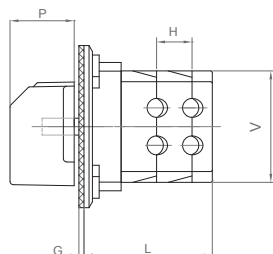
VAČKOVÉ SPÍNAČE S ... JG

- spínač s gumovým tesnením pre IP 65

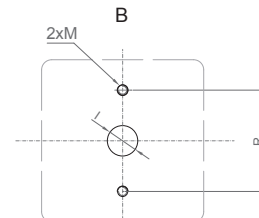
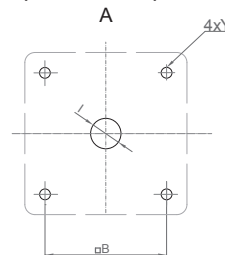


| | S 6 - 10 J | S 16 - 40 J | S 63 - 160 J |
|--------------------------------------|------------|-------------|--------------|
| A - Upevnenie 2x samoreznou skrutkou | D3,5 | D4 | D4 |
| B - Upevnenie 2x skrutkou a maticou | M3 | M4 | M5 |

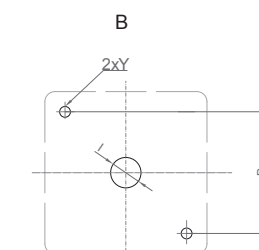
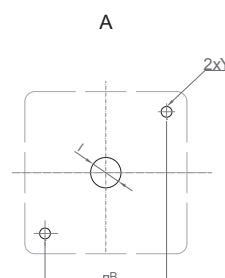
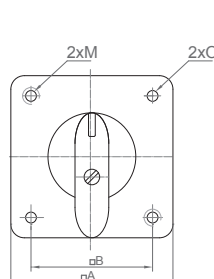
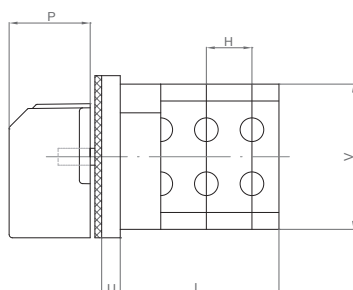
S 6, 10 JG



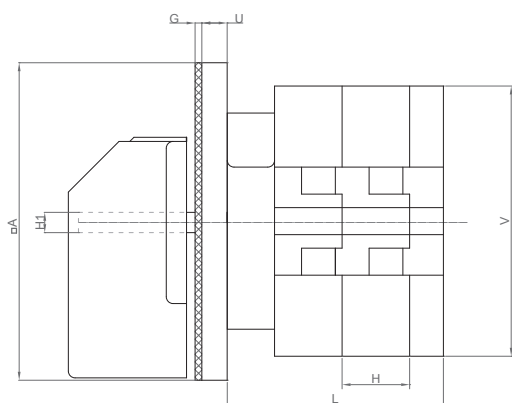
upevnenie na panel



S 16, 25, 32, 40, 63 JG



S 100, 160 JG



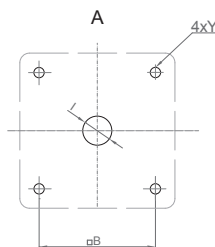
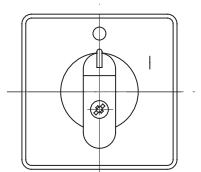
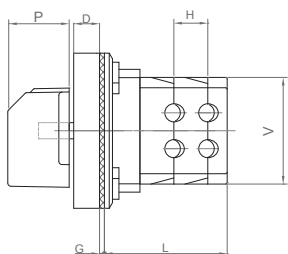


VAČKOVÉ SPÍNAČE S ... JDG

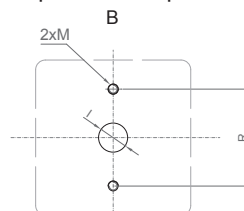
- spínač s čelnou doskou a gumovým tesnením pre IP 65

| | S 6 - 10 J | S 16 - 40 J | S 63 - 160 J |
|--------------------------------------|------------|-------------|--------------|
| A - Upevnenie 2x samoreznou skrutkou | D3,5 | D4 | D4 |
| B - Upevnenie 2x skrutkou a maticou | M3 | M4 | M5 |

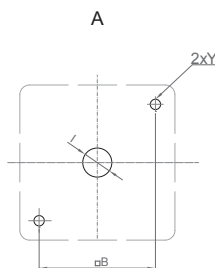
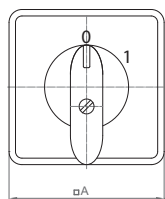
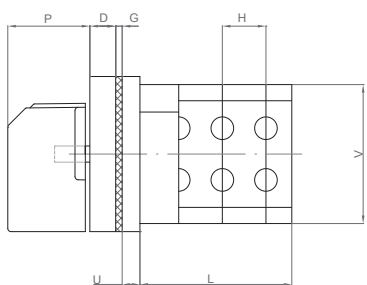
S 6, 10 JDG



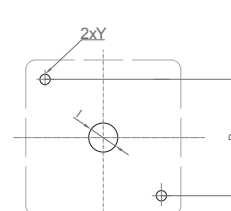
upevnenie na panel



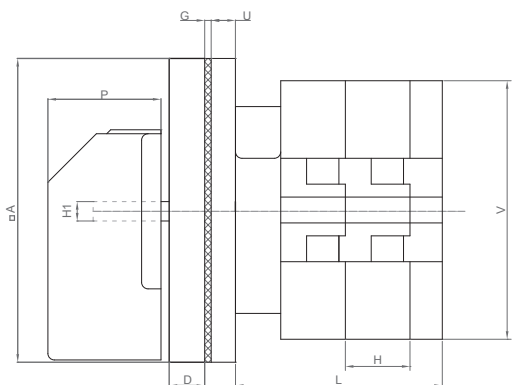
S 16, 25, 32, 40, 63 JDG



upevnenie na panel



S 100, 160 JDG



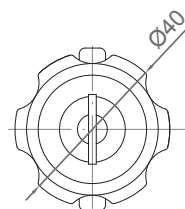
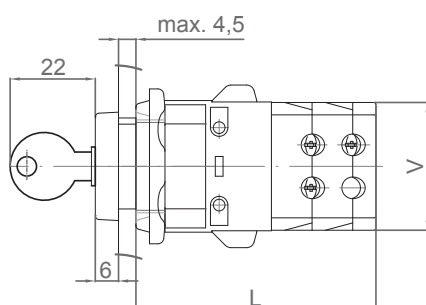
VAČKOVÉ SPÍNAČE S ... JK

- centrálné upevnenie spínača na otvor Ø 22 mm rýchlopínacím mechanizmom
- ovládanie kľúčom

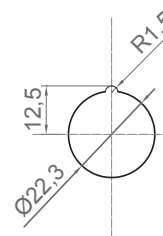


| Typ | L (mm) pri počte komôr | | | | | | | | | | | |
|-------------|------------------------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|
| Počet komôr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S 6, 10 JK | 51,5 | 62 | 73,5 | 84 | 94,5 | 106 | 107,5 | 108 | 118,5 | 129 | 139,5 | 150 |
| S 16, 25 JK | 54,5 | 68 | 81,5 | 95 | 108,5 | 112 | 135,5 | 149 | 162,5 | 176 | 189,5 | 203 |

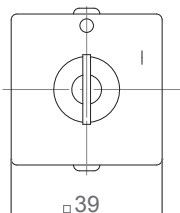
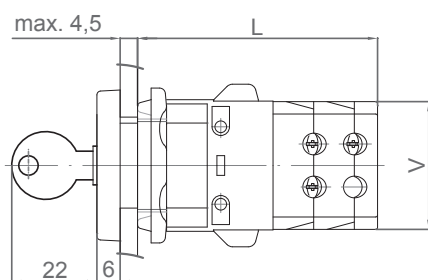
S 6, 10 JK



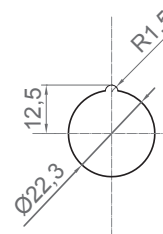
upevňovací otvor na panel



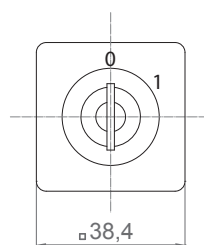
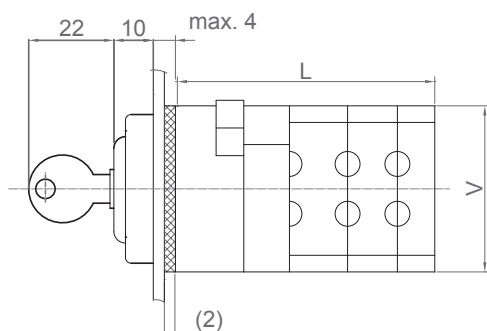
S 6, 10 JKD



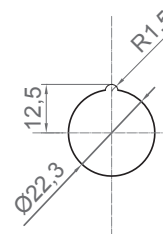
upevňovací otvor na panel



S 16, 25 JK



upevňovací otvor na panel



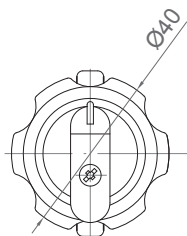
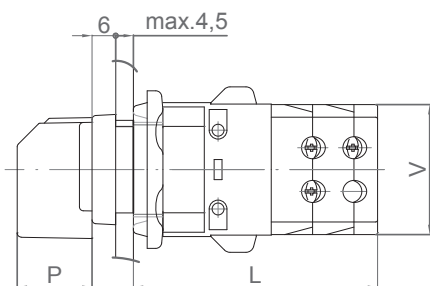


VAČKOVÉ SPÍNAČE S ... JR

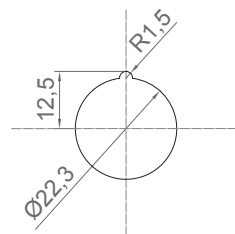
- centrálné upevnenie spínača na otvor $\varnothing 22$ mm rýchlopínacím mechanizmom, JRG : JR + tesnenie G
- ovládanie páčkou

| Typ | L (mm) pri počte komôr | | | | | | | | | | | |
|-------------|------------------------|----|------|----|-------|-----|-------|-----|-------|-----|-------|-----|
| Počet komôr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S 6, 10 JR | 51,5 | 62 | 73,5 | 84 | 94,5 | 106 | 107,5 | 108 | 118,5 | 129 | 139,5 | 150 |
| S 16, 25 JR | 54,5 | 68 | 81,5 | 95 | 108,5 | 112 | 135,5 | 149 | 162,5 | 176 | 189,5 | 203 |

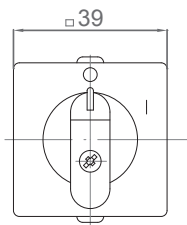
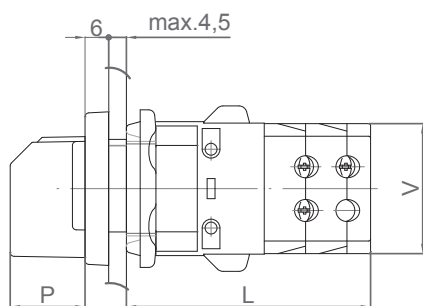
S 6, 10 JR



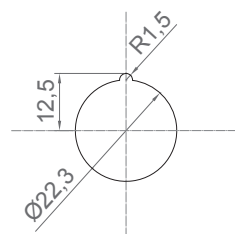
upevňovací otvor na panel



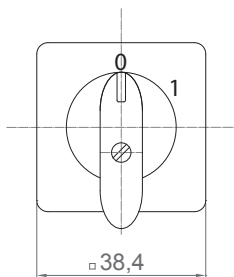
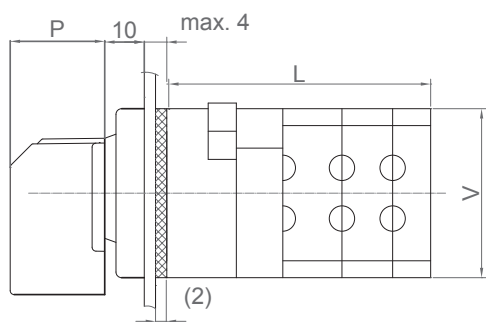
S 6, 10 JRD



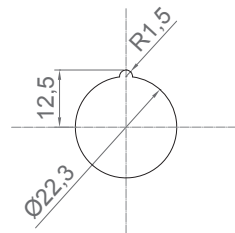
upevňovací otvor na panel



S 16, 25 JR



upevňovací otvor na panel

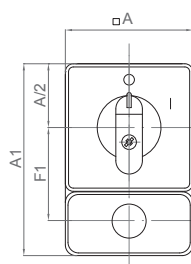
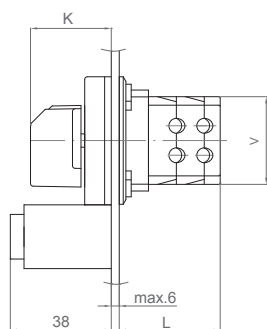


VAČKOVÉ SPÍNAČE S ... JT

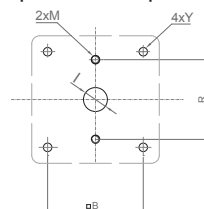
- spínač s tlačidlom blokujúcim páčku v polohe „0“



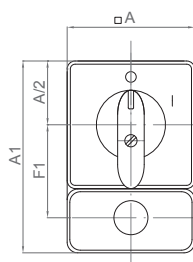
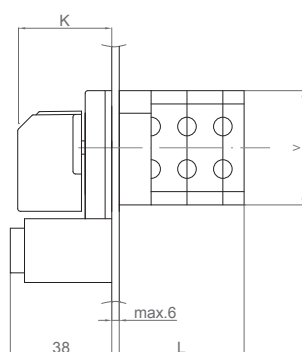
S 6, 10 JT



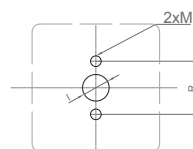
upevnenie na panel



S 16, 25, 32, 40, 63 JT

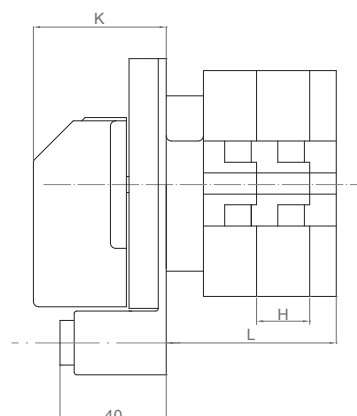


upevnenie na panel



S 100, 160 JT

S 100, 160 JT



tlačidlo: G - zelené
R - červené
Y - žlté
bez označenia - čierna



VAČKOVÉ SPÍNAČE S ... JF

- spínač so svetelnou signalizáciou zvolených polôh

Špecifikácia typu signálky

3 alebo 4-znakový kód, uvedený na konci špecifikácie vačkového spínača (pozri „Príklad objednávky“ str. D 2)

Napr.:

2 RG 0

Napájacie napätie signálky ("24 V ~" - pozri tab. 2)

Farba signálky dvojfarebná ("červená / zelená" - pozri tab. 1)

Počet signáliek 2 (1, 2 alebo 3)

2 R.G 0

Napájacie napätie signálky ("24 V ~" - pozri tab. 2)

1. signálka červená, 2. zelená

Počet signáliek 2 (1, 2 alebo 3)

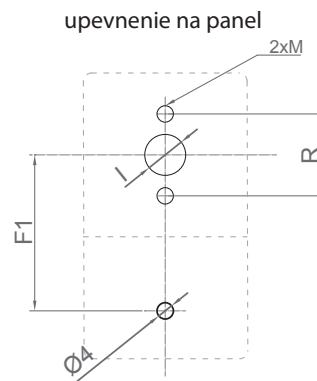
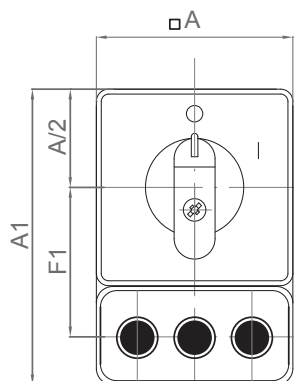
| Farba | Znak |
|----------|------|
| Červená | R |
| Zelená | G |
| Oranžová | E |
| Žltá | Y |

Možné kombinácie farieb (2 - farebná signálka): RG, YG, EG, EY

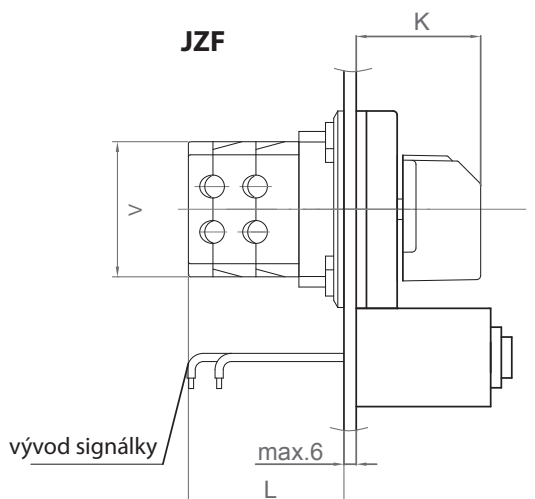
| Napätie | 24 V | 48 V | 60 V | 110 V | 230 V |
|-------------|------|------|------|-------|-------|
| Striedavé | 0 | 1 | 2 | 3 | 4 |
| Jednosmerné | 5 | 6 | 7 | 8 | 9 |

Pozn.: Vodiče signáliek sú vyvedené na samostatné svorky na konci spínača, resp. iné požiadavky konzultovať s výrobcom.

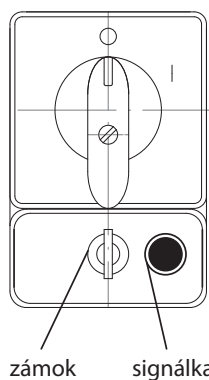
JF



JZF

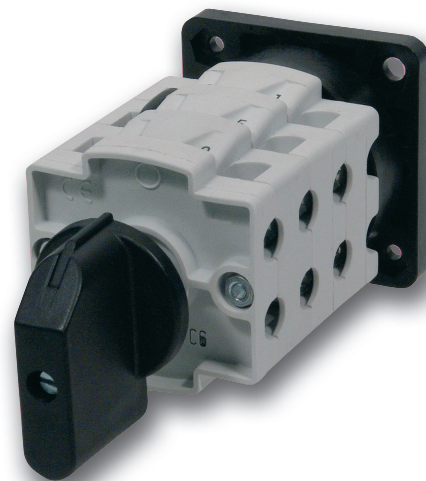


upevnenie na panel

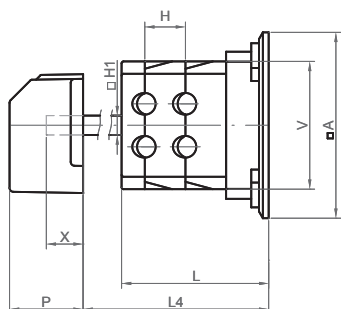


VAČKOVÉ SPÍNAČE S ... JO

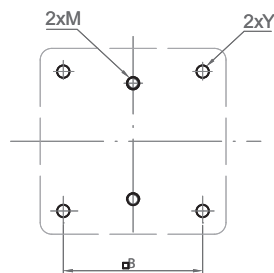
- spínač so zadným upevnením na panel



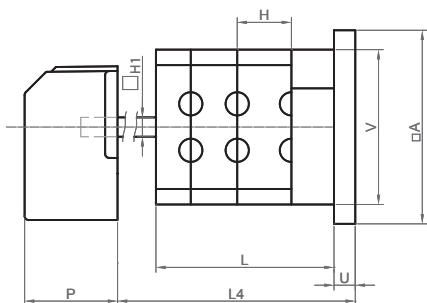
S 6,10 JO



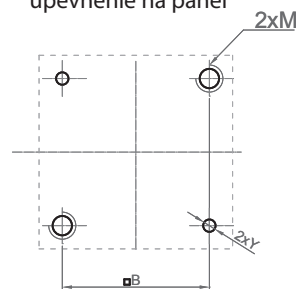
upevnenie na panel



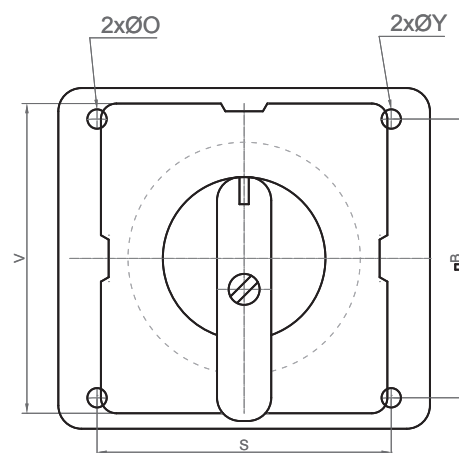
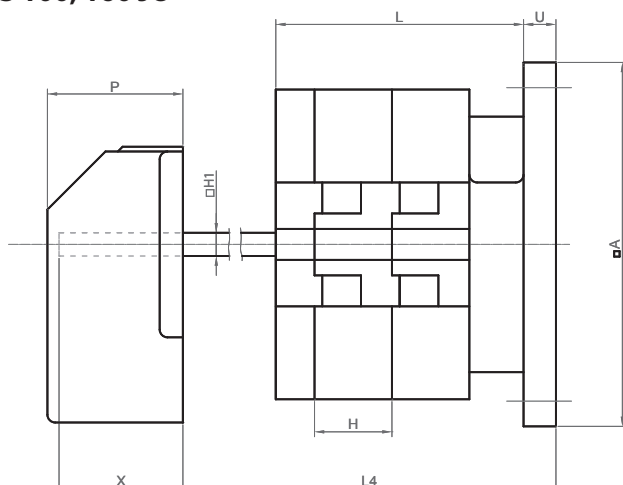
S 16, 25, 32, 40, 63 JO



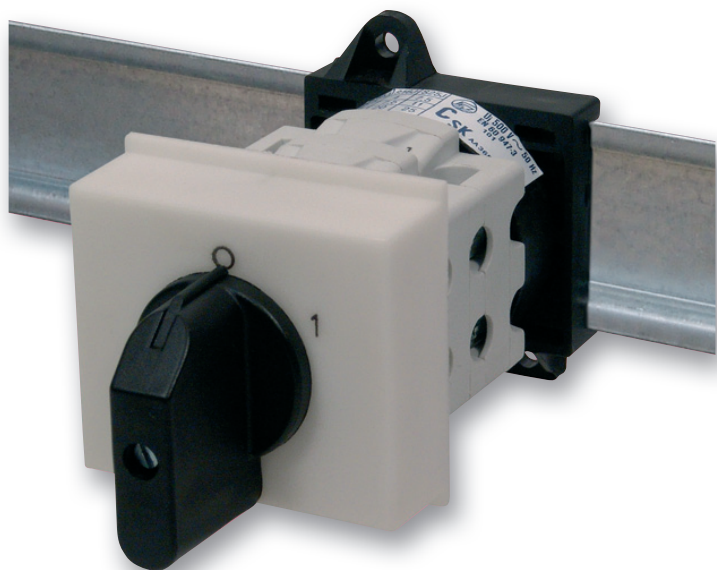
upevnenie na panel



S 100, 160 JO



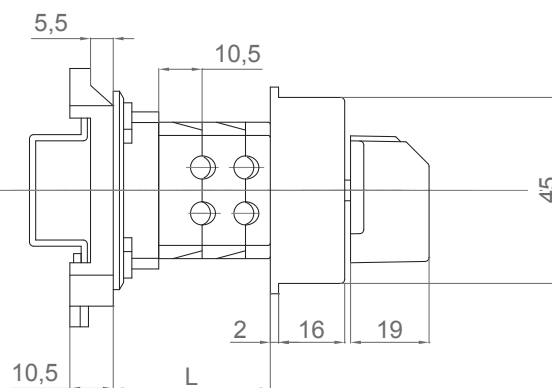
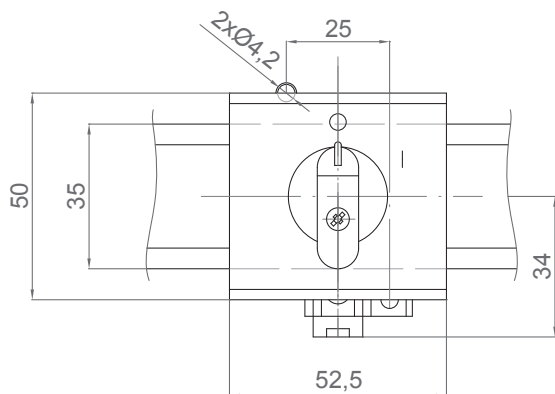
VAČKOVÉ SPÍNAČE S ... JLS



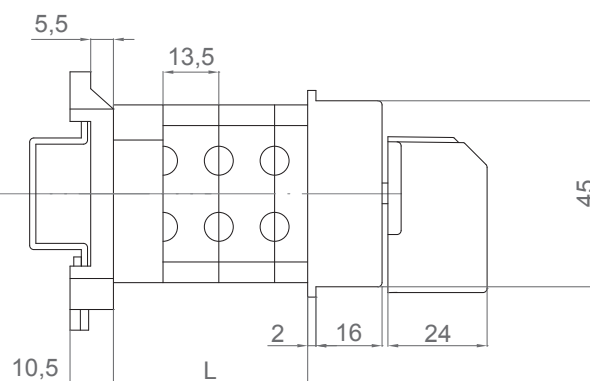
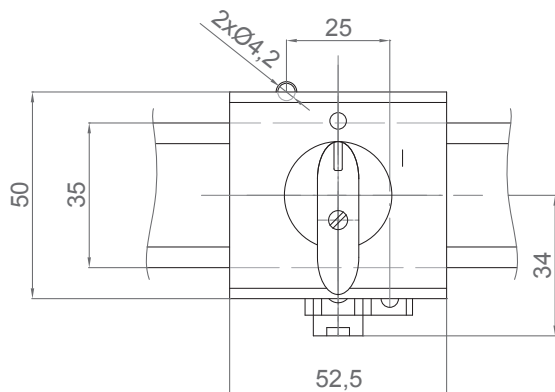
- spínač so štítom s upevnením na lištu TH 35 - 7,5
- vyhotovenie JL bez štítu, s páčkou

| Typ | L (mm) pri počte komôr | | | | | | | | | | | |
|--------------|------------------------|------|------|------|------|-------|------|-------|-------|-------|-------|-------|
| Počet komôr | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| S 6, 10 JLS | 39 | 52,5 | 66 | 79,5 | 93 | 106,5 | 120 | 133,5 | 147 | 160,5 | 174 | 187,5 |
| S 16, 25 JLS | 27,5 | 38 | 48,5 | 59 | 69,5 | 80 | 90,5 | 101 | 111,5 | 122 | 132,5 | 143 |

S 6, 10 JLS

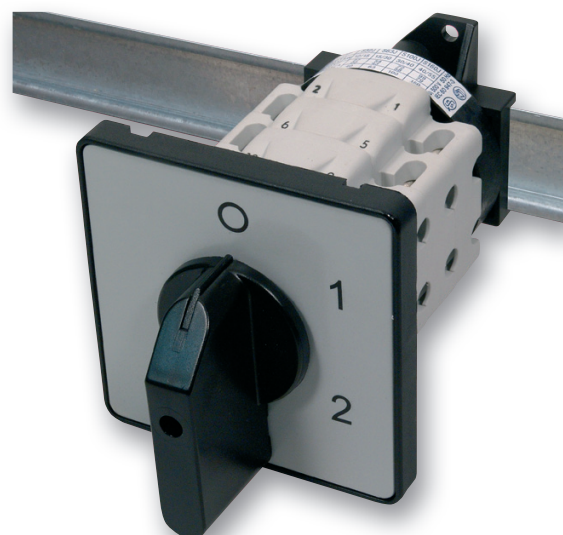


S 16, 25 JLS

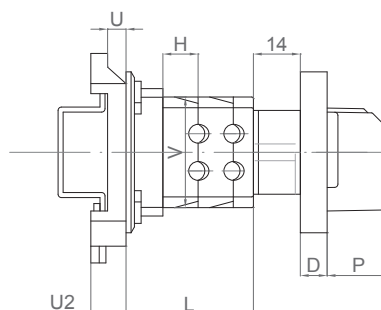
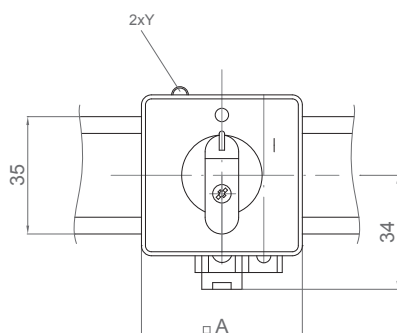


VAČKOVÉ SPÍNAČE S ... JLD

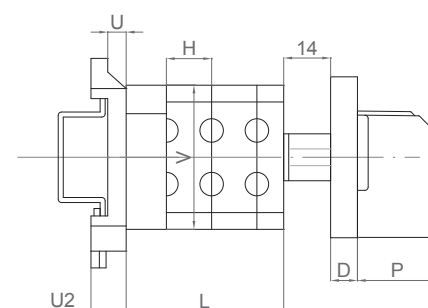
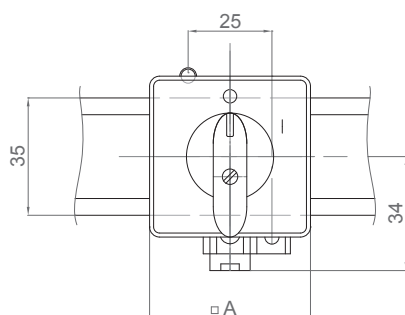
- spínač s čelnou doskou s upevněním na lištu TH 35 - 7,5
- vyhotovenie JL bez čelnej dosky, s páčkou



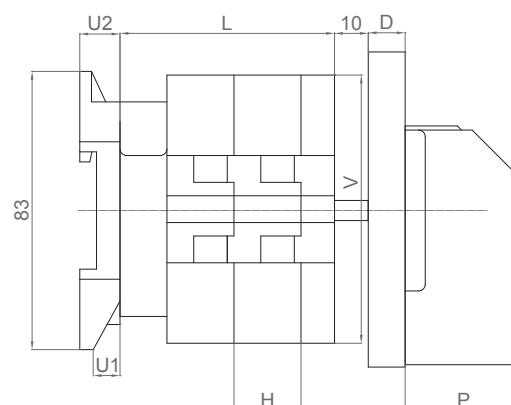
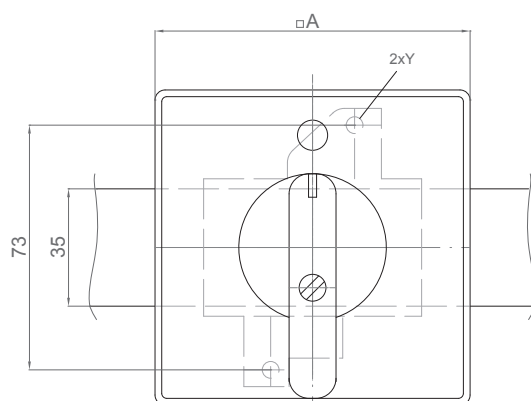
S 6, 10 JLD



S 16, 25, 32, 40 JLD



S 63, 100, 160 JLD

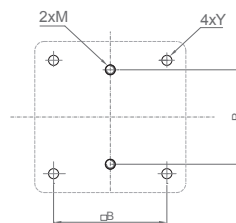
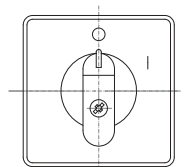
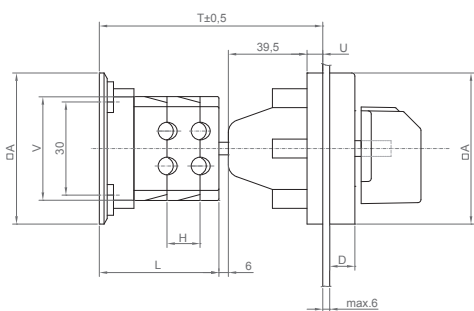




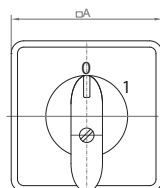
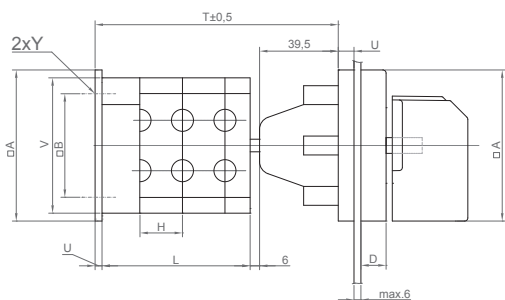
VAČKOVÉ SPÍNAČE S ... JBD

- spínač so zadným upevnením v rozvádzači s upevnením ovládacieho prvku s čelnou doskou na dverách
- vyhotovenie JB len s páčkou, bez čelnej dosky
- „možnosť dodania aj inej dĺžky hriadeľa - kóta T podľa požiadavky zákazníka“

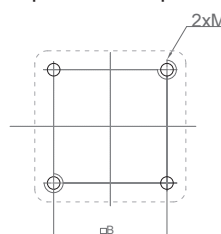
S 6,10 JBD



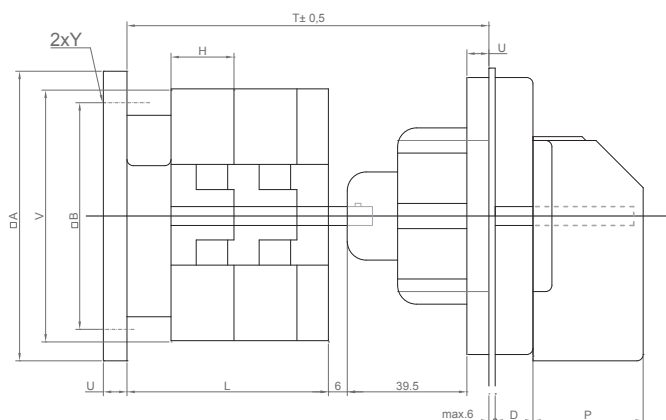
S 16, 25, 32, 40, 63 JBD



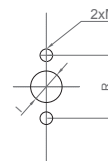
upevnenie na panel



S 100, 160 JBD

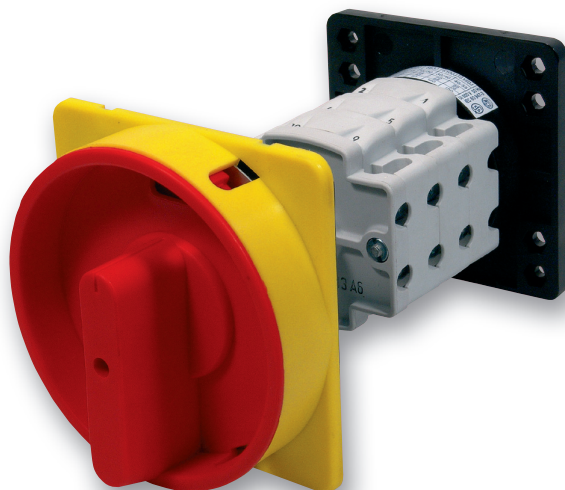


upevnenie na panel

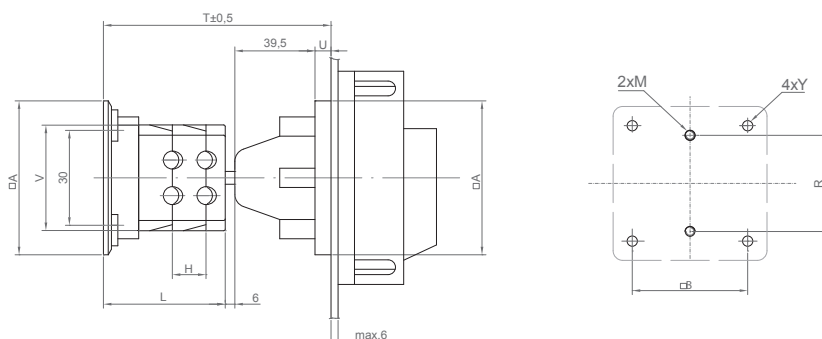


VAČKOVÉ SPÍNAČE S ... JBU

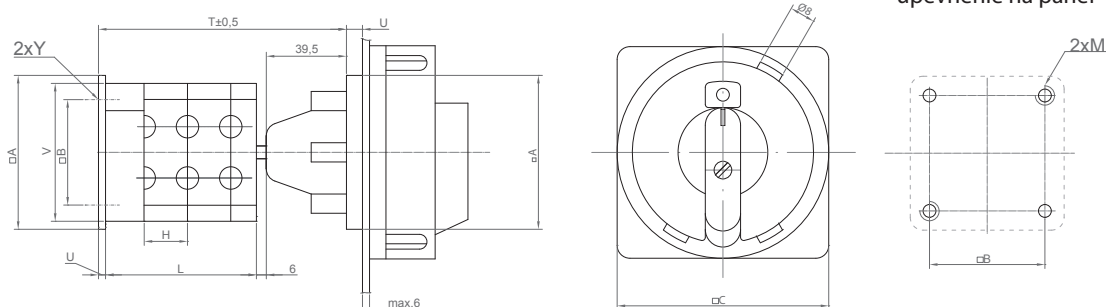
- spínač so zadným upevnením v rozvádzači s upevnením ovládacieho prvku s uzamykateľnou páčkou na dverách
- vyhotovenie JB len s páčkou, bez uzamykania
- „možnosť dodania aj inej dĺžky hriadeľa - kóta T podľa požiadavky zákazníka“



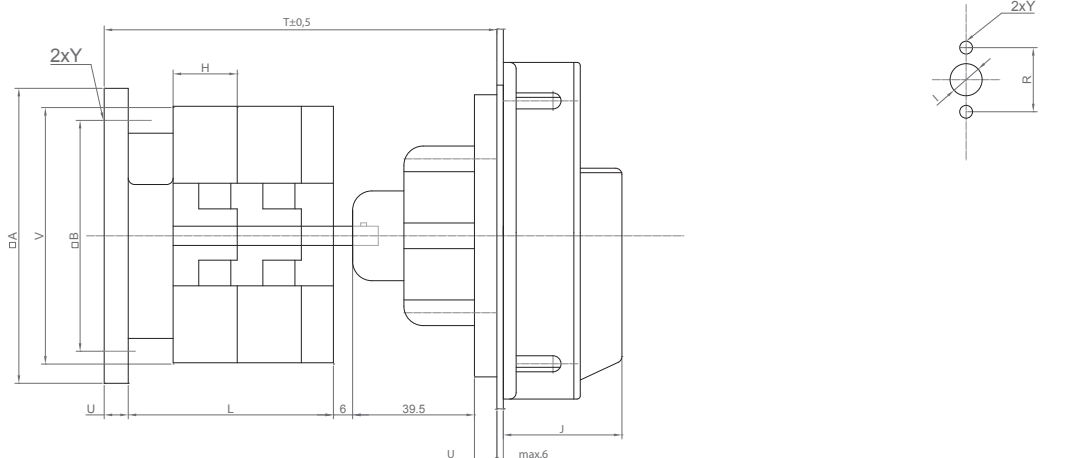
S 6,10 JBU

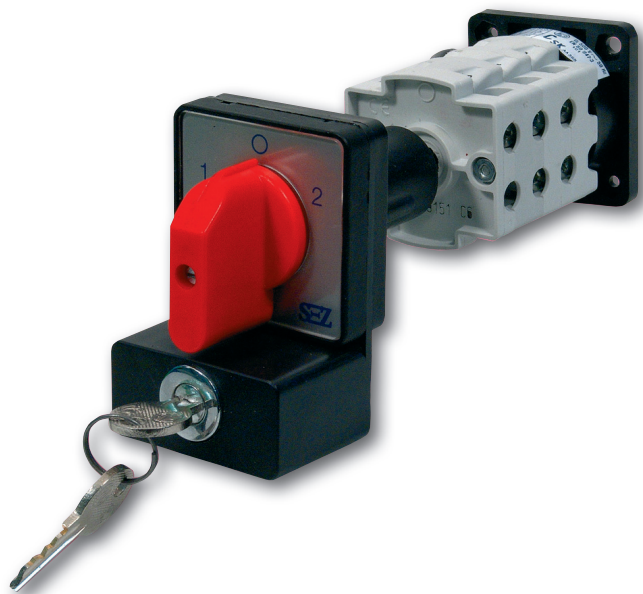


S 16, 25, 32, 40, 63 JBU



S 100, 160 JBU

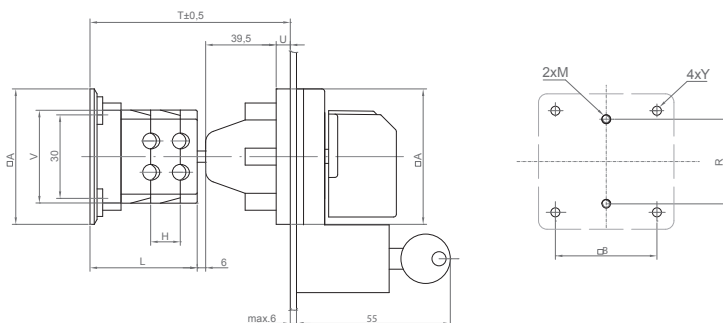




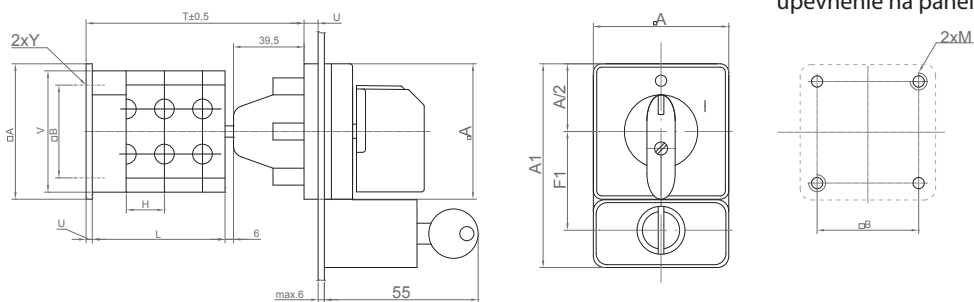
VAČKOVÉ SPÍNAČE S ... JBZ

- Spínač so zadným upevnením v rozvádzači s upevnením ovládacieho prvku so zámkom FAB na dverách s uzamknutím "O" polohy (inú uviesť)
- vyhotovenie JB len s páčkou, bez zámku
možnosť dodania aj inej dĺžky hriadeľa - kóta T podľa požiadavky zákazníka

S 6, 10 JBZ



S 16, 25, 32, 40, 63 JBZ



S 100, 160 JBZ

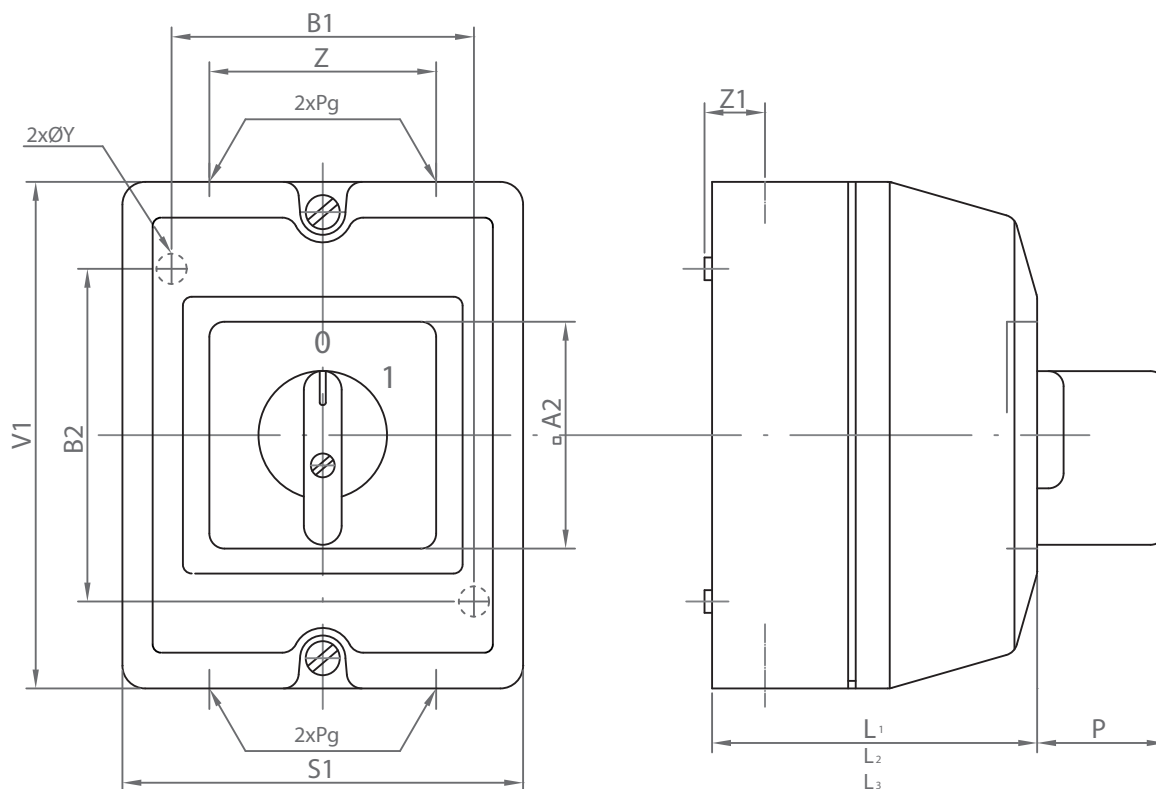


VAČKOVÉ SPÍNAČE S ... JP

- Spínač v škatuli z plastickej hmoty IP 65
- upevnenie na podložku 2 skrutkami
M4 pre (S6, 10, 16, 25 J),
M5 pre (S32, 40, 63, 100)
- súčasťou dodávky sú 2 káblové priechodky:
Pg 16 - pre S6 -16J
Pg 21 - pre S25J a S40J
Pg 29 - pre S63 -100J



S 6, 10, 16, 25, 32, 40, 63, 100 JP

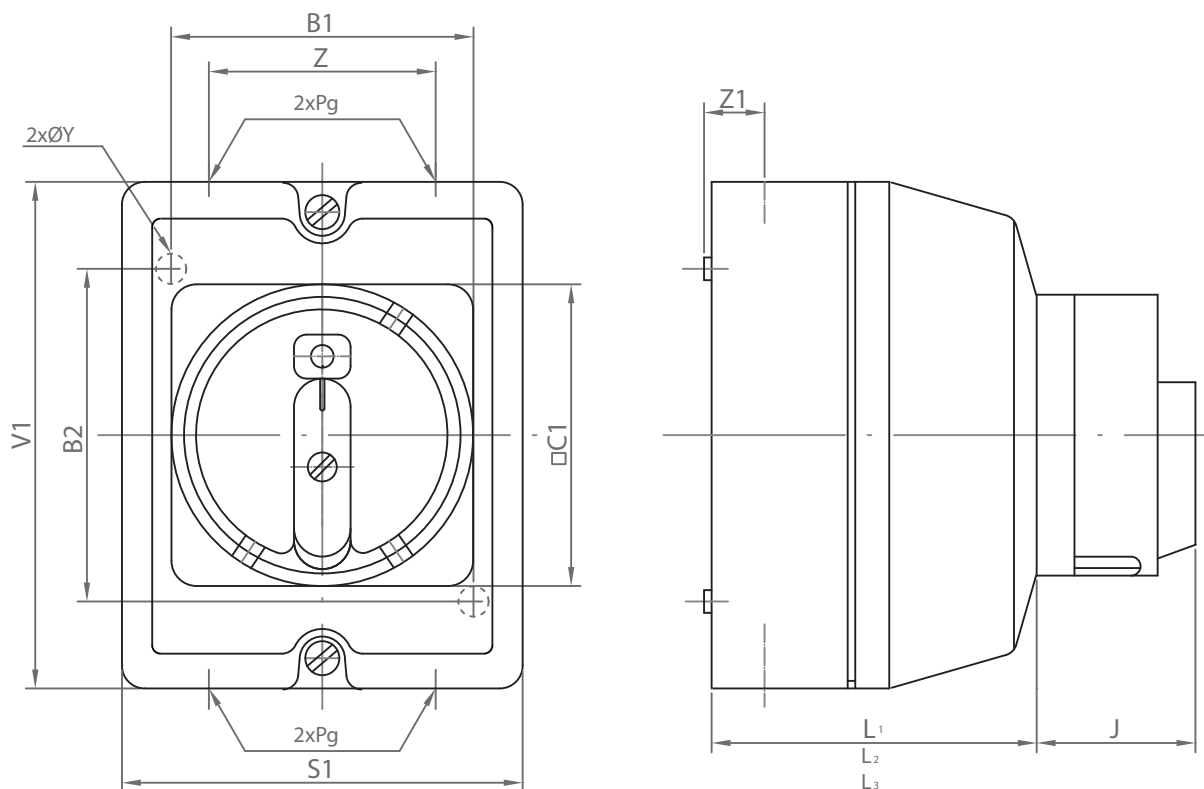




VAČKOVÉ SPÍNAČE S ... JPU

- spínač v škatuli z plastickej hmoty s páčkou uzamykatelňou
- trocha visiaticimi zámkami - IP 65
- spínač so zámkom FAB - označenie S ... JPZ
- čelná doska so zámkom FAB z typu S ... JZ
- upevnenie na podložku 2 skrutkami M4 pre (S6, 10, 16, 25J)
- M5 pre (S32, 40, 63, 100J)
- súčasťou dodávky sú 2 káblové priechodky: Pg16 - pre S6-16J
- Pg21 - pre S25 - 40J
- Pg29 pre S63-100J

S 6, 10, 16, 25, 32, 40, 63, 100 JPU

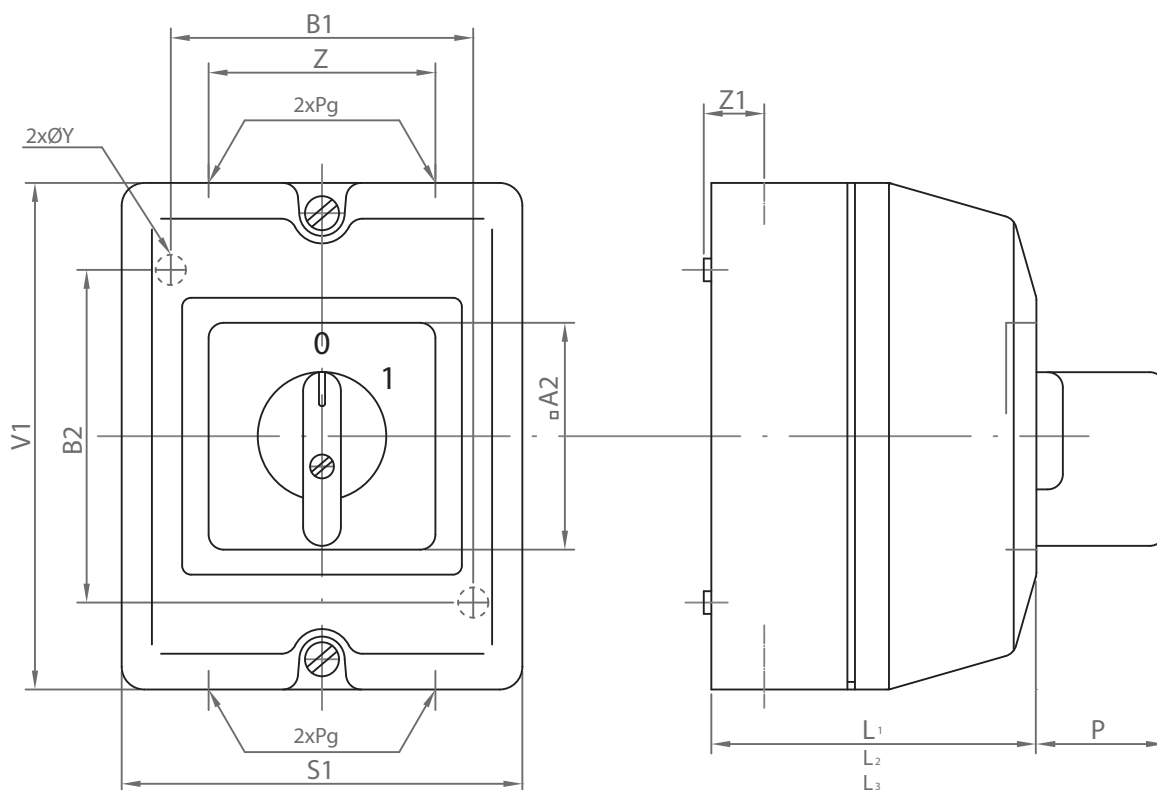


VAČKOVÉ SPÍNAČE S ... JPD

- spínač v škatuli z plastickej hmoty s čelnou doskou - IP 65
- upevnenie na podložku 2 skrutkami M4 pre (S6, 10, 16, 25J)
M5 pre (S32, 40, 63, 100J)
- súčasťou dodávky sú 2 káblové priechodky:
Pg16 - pre S6-16J
Pg21 - pre S25 - 40J
Pg29 pre S63-100J



S 6, 10, 16, 25, 32, 40, 63, 100 JPD

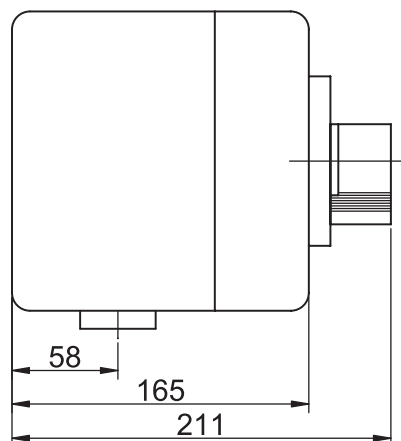
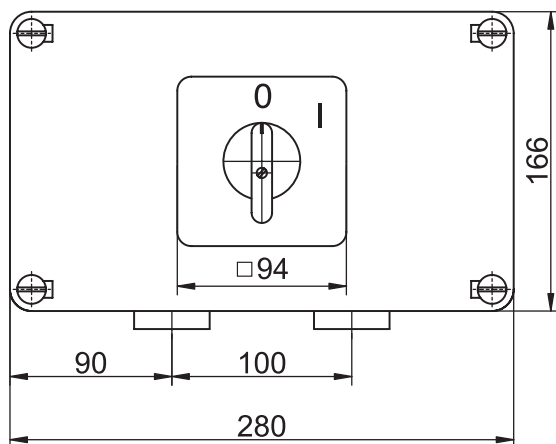


S 6 - 25 JPU**S 32 - 63 JPU****S 32 - 63 - 100 JPU****S 6 - 25 JPZ****S 32 - 63 JPZ****S 32 - 63 - 100 JPZ****S 6 - 25 JPD, JP****S 32 - 63 JPD, JP****S 32 - 63 - 100 JPD, JP**

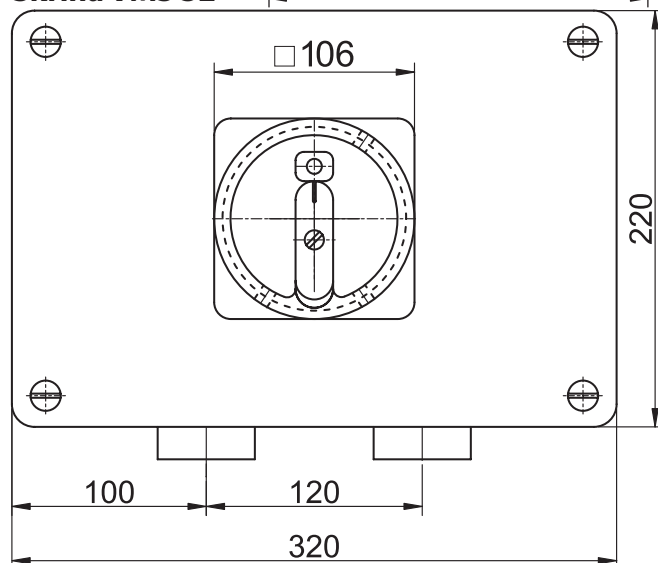
VAČKOVÉ SPÍNAČE S 160 JPD, JPU, JPZ

- spínač v skrini z plastickej hmoty s čelnou doskou (JPD), s páčkou uzamykateľnou 3 visiacimi zámkami (JPU), s lamelovým zámkom FAB (JPZ) - IP 54
- spínače do 3 poschodí sú v skrini JP (rozmery 280x160x165 mm)
- spínače so 4 a viac poschodiami sú v skrini VMS 32 (rozmery 320 x 220 x 180 mm, výšku skrine možno zväčšovať podľa potreby)
- pridávaním modulov o výške 75mm)
- súčasťou dodávky sú 2 kábelové priechodky Pg 36

Skriňa JP



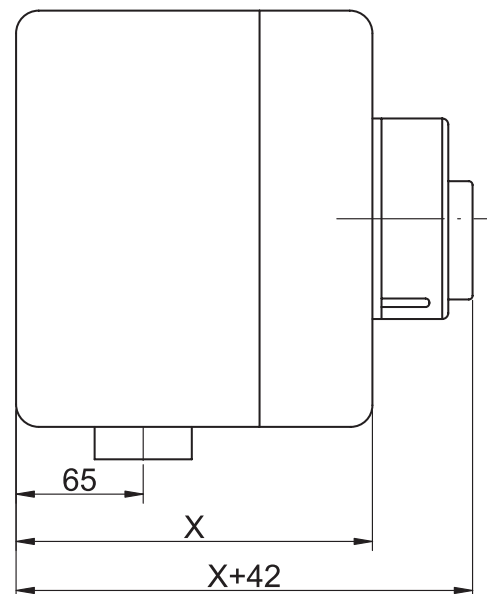
Skriňa VMS 32



S 160 JPD

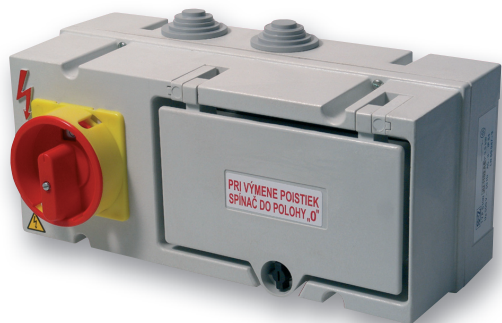


S 160 JPU

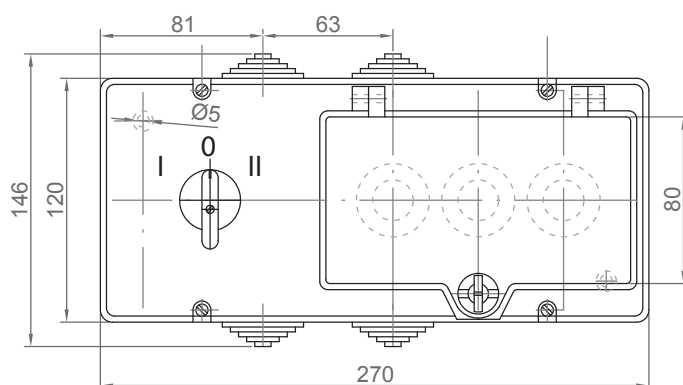
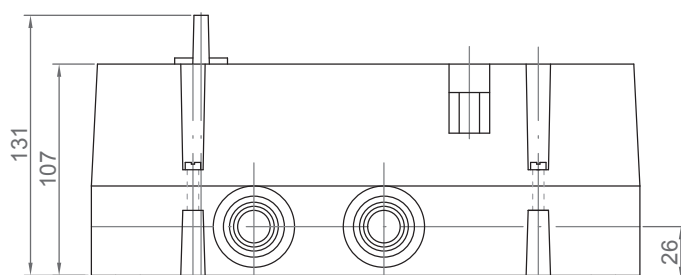
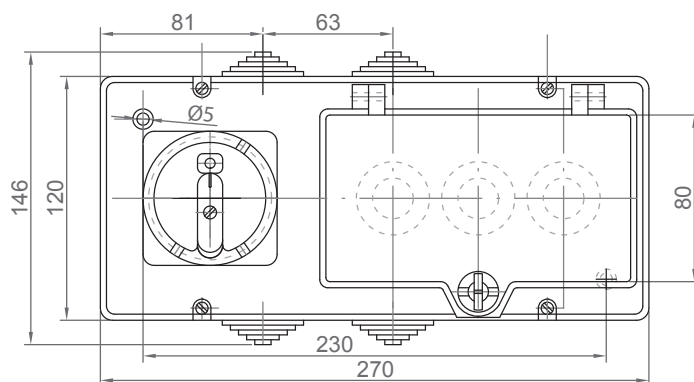
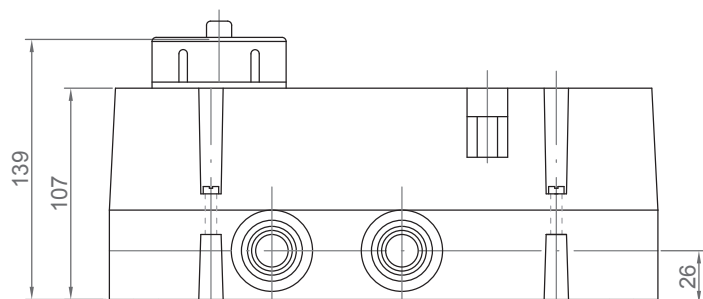


X = 180; 255; 330; ...

VAČKOVÉ SPÍNAČE S 16, 25 NJ, NJU, NJZ, NJD

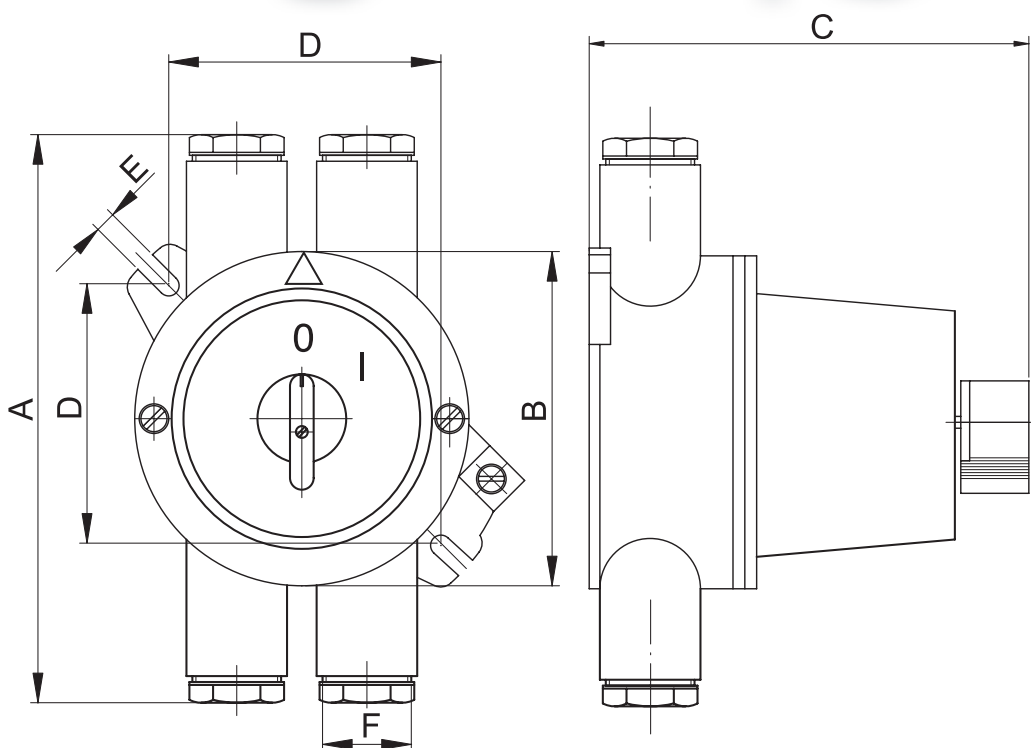


- spínač v skrini z plastickej hmoty v kombinácii s 3 poistkami (E 27) so svorkami pre pripojenie nulového a ochranného vodiča - IP 54
- S ... NJ - s páčkou
- S ... NJU - s páčkou pre uzamykanie 3 visiacimi zámkami
- S ... NJZ - s páčkou a uzamykaním lamelovým zámkom FAB
- S ... NJD - s páčkou a čelnou doskou odstupňované tesniace gumové priechodky



VAČKOVÉ SPÍNAČE S ... JA, JAZ

- spínače v Al skrini, IP 54
- S ... JA - s páčkou
- S ... JAZ - s páčkou a uzamykaním lamelovým zámkom FAB



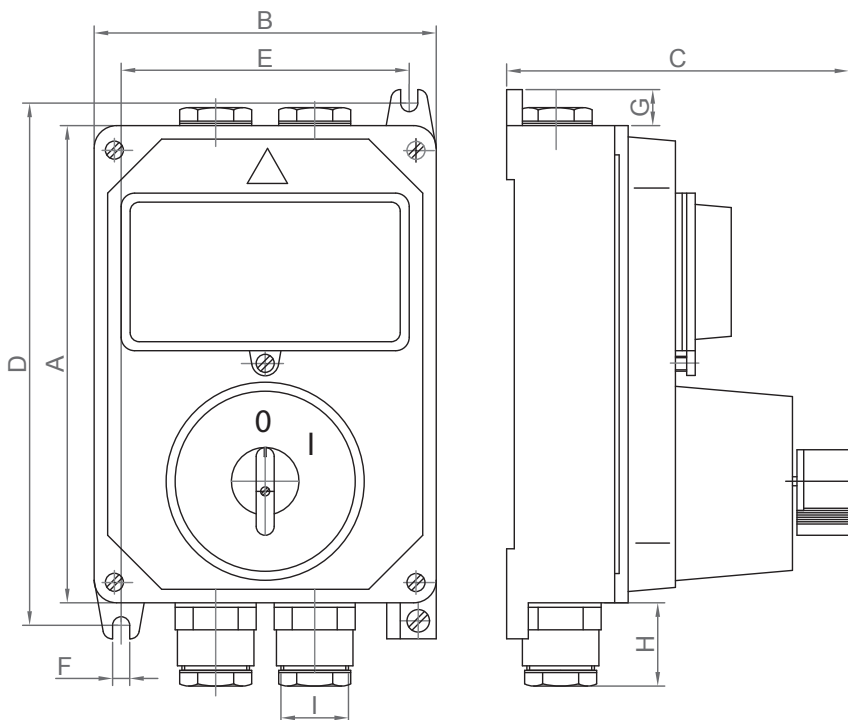
| Typ | El. prevedenie | A | B | C | D | E | F |
|--------------|------------------------------|-----|-------|-----|-----|---|-----|
| S 16, 25 JA | 1103, 9151, 9551, 9552, 2203 | 190 | Ø 113 | 134 | 90 | 7 | P21 |
| | 9153 | | | 167 | | | |
| S 16, 25 JAZ | 1103, 9151, 9551, 9552, 2203 | 190 | Ø 113 | 168 | 90 | 7 | P21 |
| | 9153 | | | 201 | | | |
| S 32, 63 JA | 1103, 9151, 2203 | 235 | Ø 113 | 166 | 122 | 9 | P29 |
| | 9551, 9153, 9552 | | | 198 | | | |
| S 32, 63 JAZ | 1103, 9151, 2203 | 235 | Ø 113 | 200 | 122 | 9 | P29 |
| | 9551, 9153, 9552 | | | 232 | | | |

VAČKOVÉ SPÍNAČE S ... JI, JIZ

- spínače v Al skrini v kombinácii s 3 poistkami (E 27,E 33), IP 54
- S ... JI - s páčkou
- S ... JIZ - s páčkou a uzamykaním lamelovým zámkom



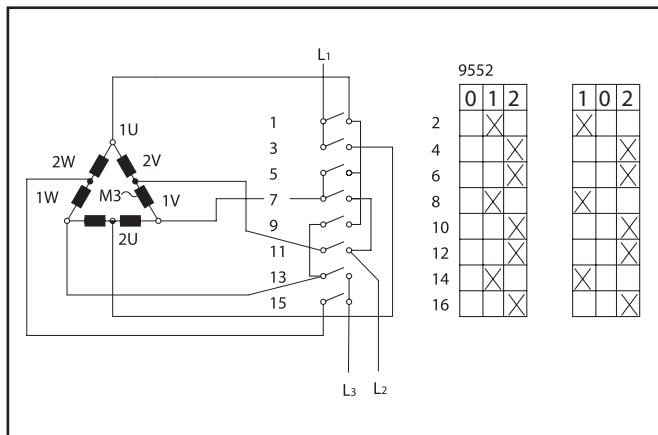
S 16, 25, 32, 40, 63 JI, JIZ



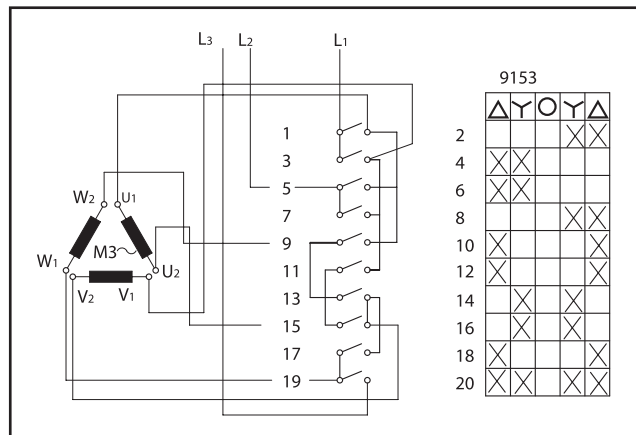
| Typ | El. prevedenie | A | B | C | D | E | F | G | H | I |
|------------------|------------------------------|-----|-----|------------------|-----|-----|---|----|----|-----|
| S 16, 25 JI | 1103, 9151, 9551, 9552, 2203 | 212 | 152 | 136 | 226 | 125 | 7 | 16 | 34 | P21 |
| | 9153 | | | 168 | | | | | | |
| S 16, 25 JIZ | 1103, 9151, 9551, 9552, 2203 | | | 170 | | | | | | |
| | 9153 | | | 202 | | | | | | |
| S 32, 63 JI | 1103, 9151, 2203 | 269 | 212 | 166 | 300 | 180 | 9 | 25 | 39 | P29 |
| | 9551, 9153, 9552 | | | 198 | | | | | | |
| | S 32, 63 JIZ | | | 1103, 9151, 2203 | | | | | | |
| 9551, 9153, 9552 | | | | 253 | | | | | | |

ĎALŠIE SCHÉMY – POZRI STRANU D 35 – D 45

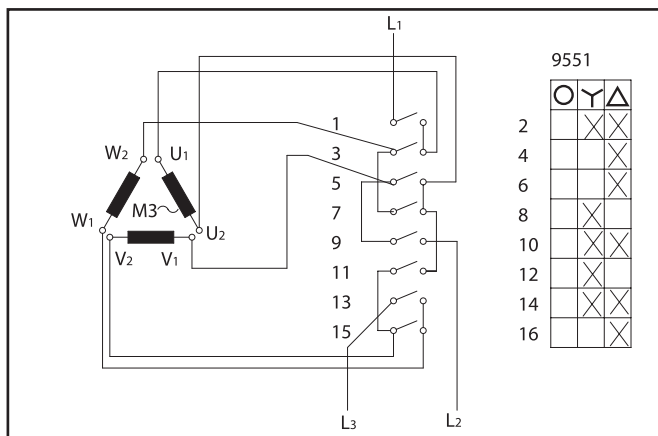
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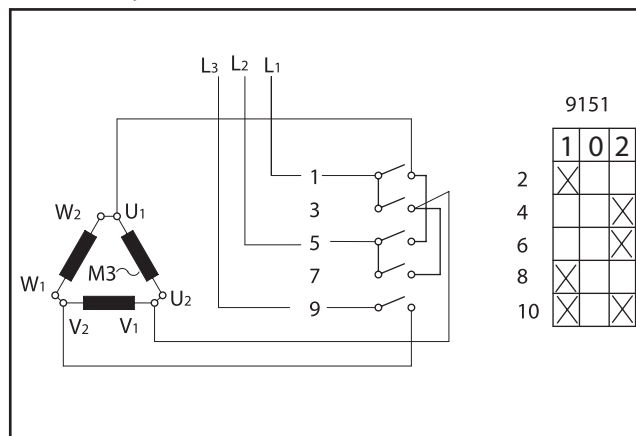
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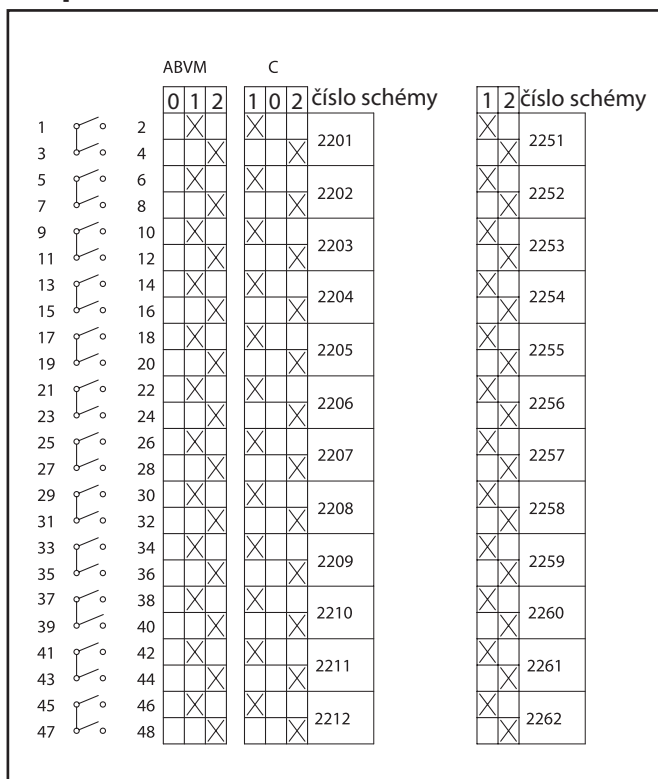
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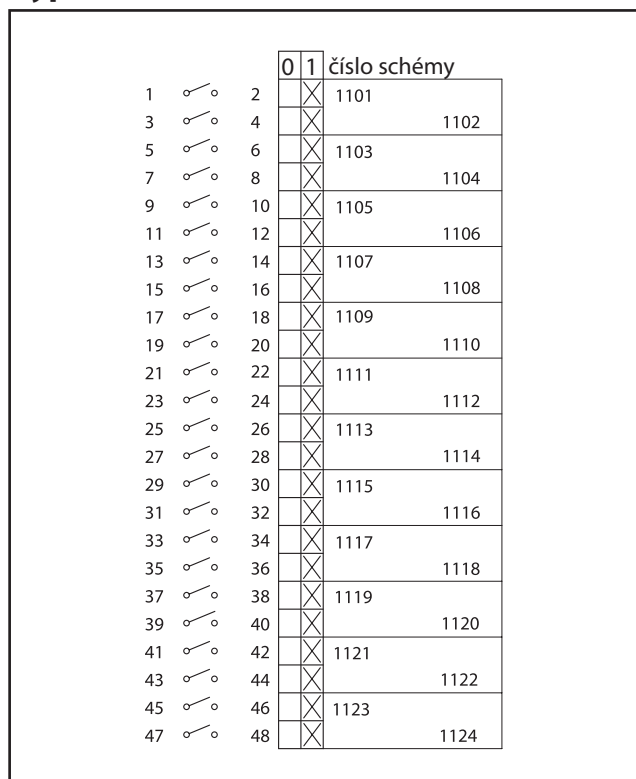
Reverzný spínač



Prepínač sietí



Vypínače



Polohové štítky

Farba štítkov: hliníková (štandard)
 iná (podľa požiadaviek zákazníka)

| | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
| 60° | | | | | | | | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| | | | | | | | | | |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| | | | | | | | | | |
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| | | | | | | | | | |
| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| | | | | | | | | | |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 90° | | | | | | | | | |
| 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| | | | | | | | | | |
| 79 | 80 | 81 | 82 | 83 | | | | | |
| | | | | | | | | | |

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
| 30° | | | | | | | | | |
| 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 |
| | | | | | | | | | |
| 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 |
| | | | | | | | | | |
| 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| | | | | | | | | | |
| 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 |
| | | | | | | | | | |
| 139 | 140 | 141 | 142 | 143 | 144 | 145 | | | |
| | | | | | | | | | |
| 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | |
| 45° | | | | | | | | | |
| 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 |
| | | | | | | | | | |
| 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 |
| | | | | | | | | | |
| 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | |
| | | | | | | | | | |

Štítky nápisov

1

HLAVNÝ VYPÍNAČ
otvárať v polohe 0

2

HAUPTSCHLATER MAINSWITSC

ÖFFEN IN OPEN
0 - STELLUNG 0 - POSITION

3

WATTMETER

4

VOLTMETER

5

AMPERMETER

6

**VOLTMETER
AMPERMETER**

7

OHREV

8

ČERPADLO

9

MOTOR

10

POSUV

11

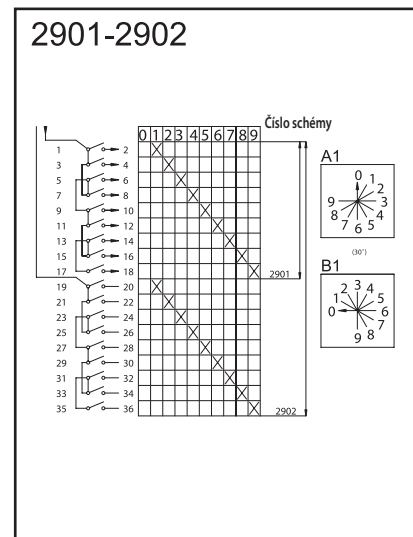
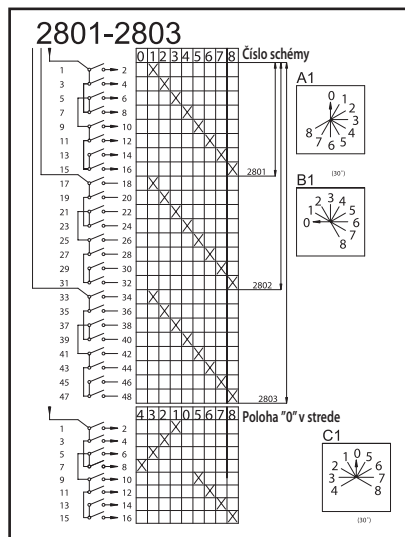
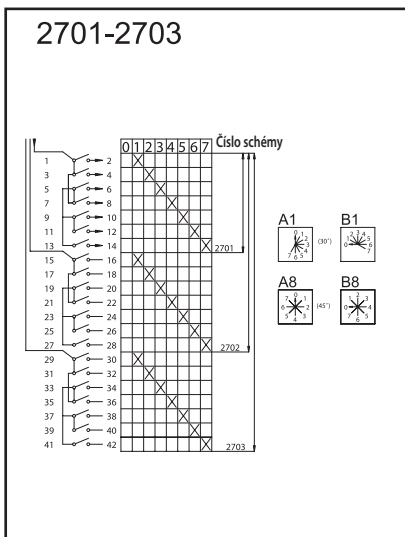
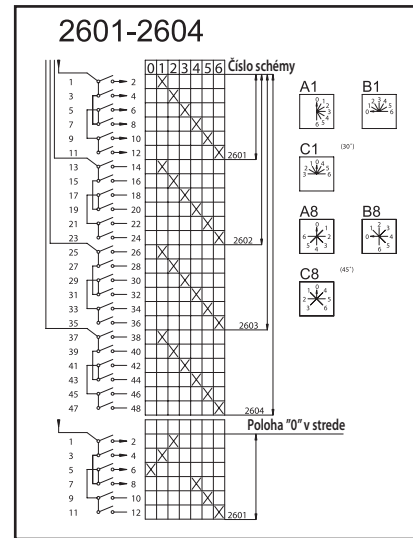
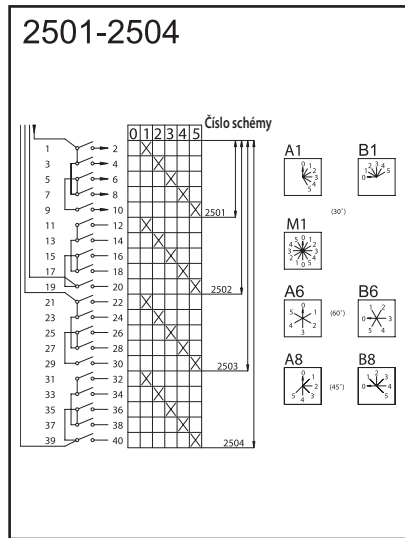
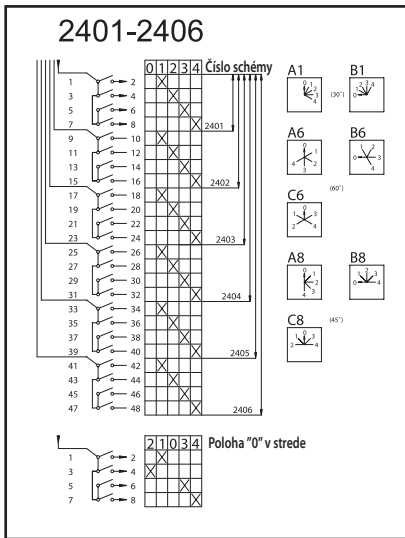
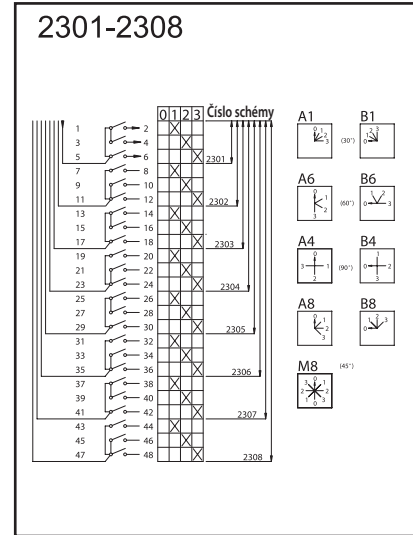
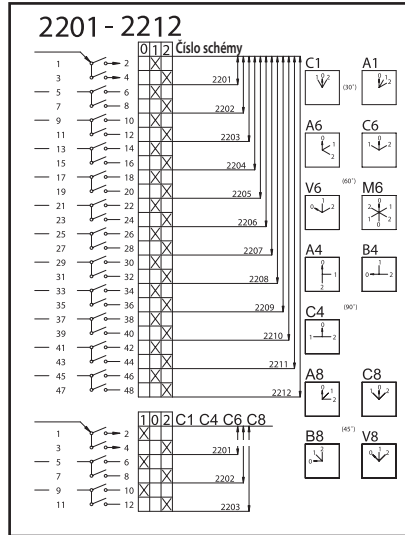
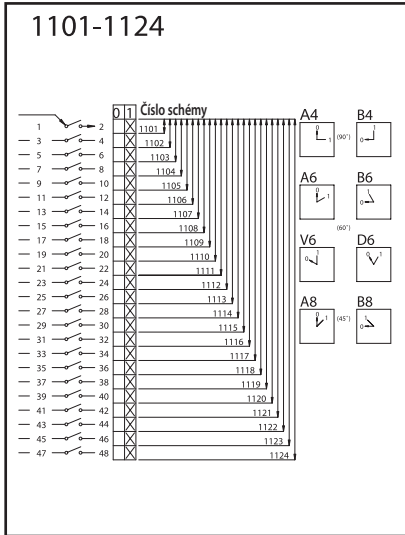
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ОТКРЫВАТЬ В СОСТОЯНИИ 0

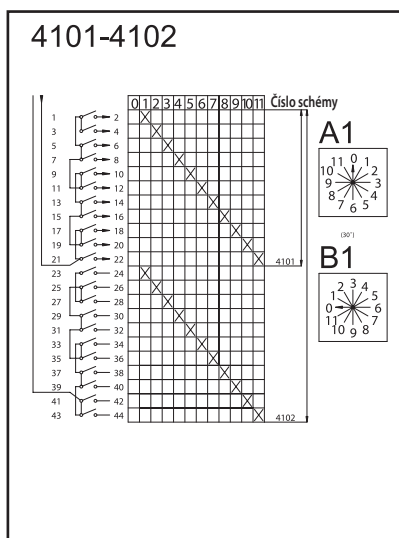
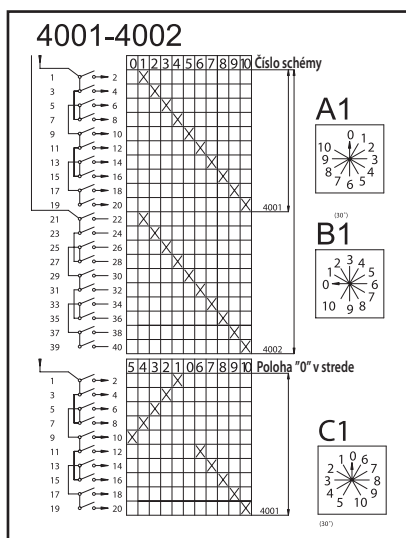
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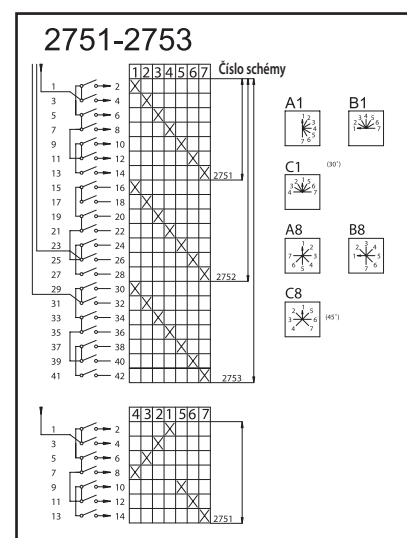
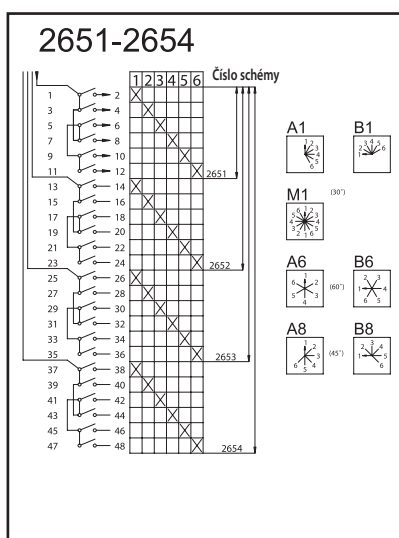
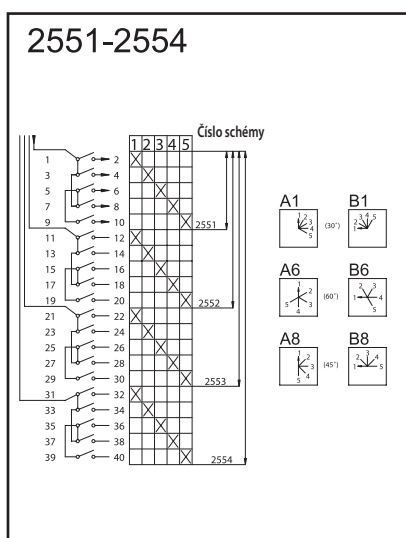
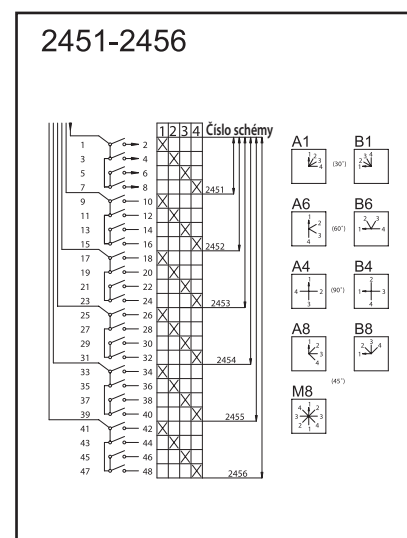
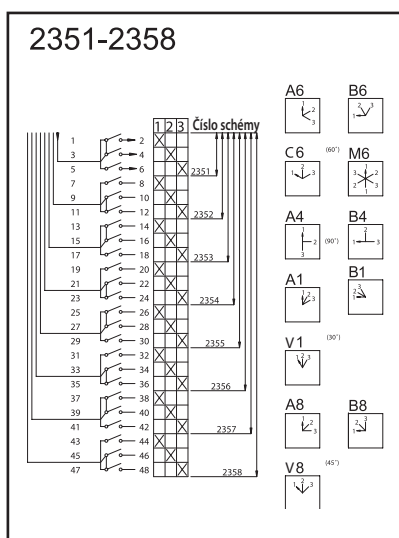
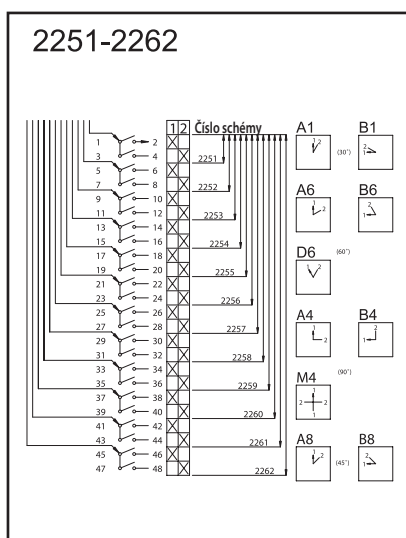
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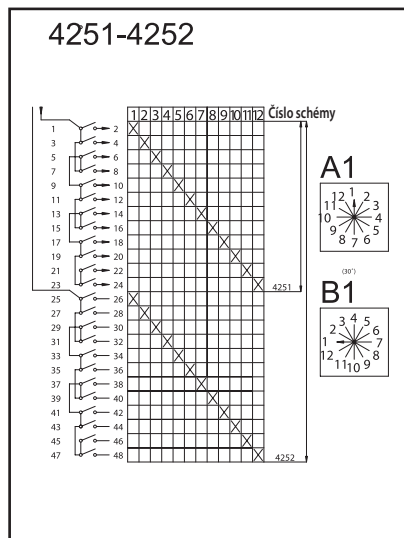
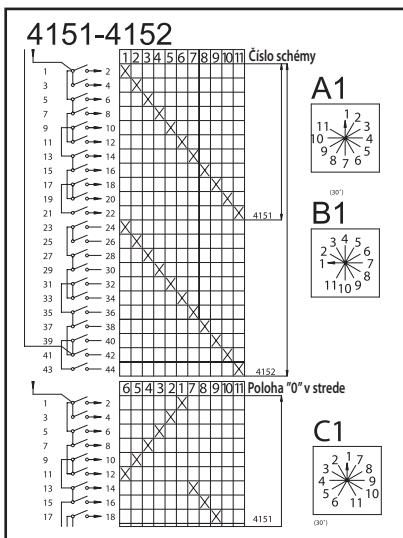
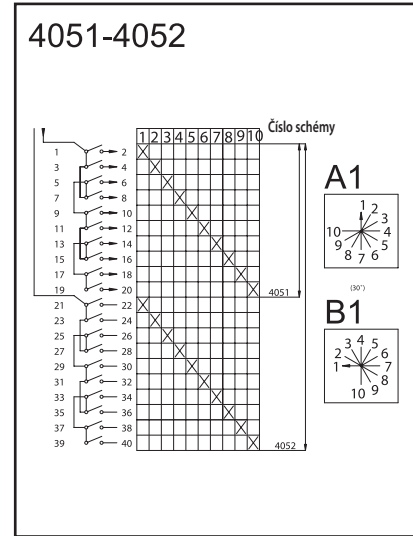
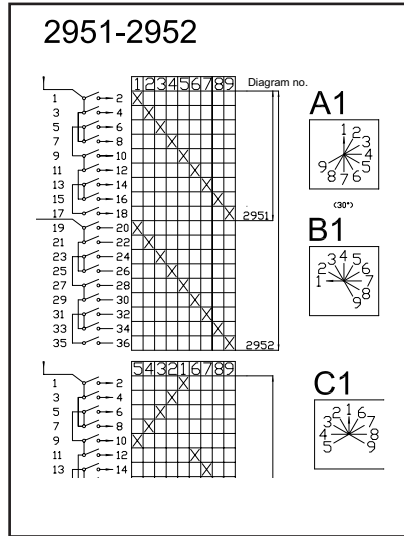
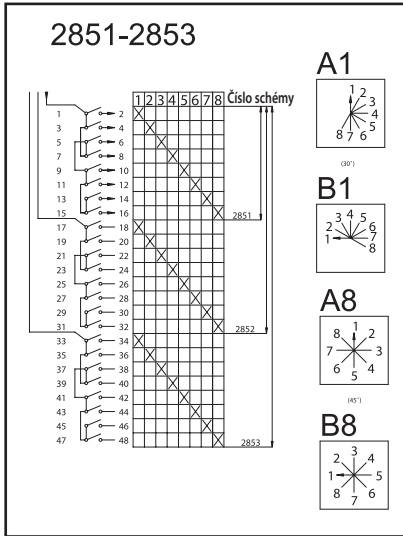
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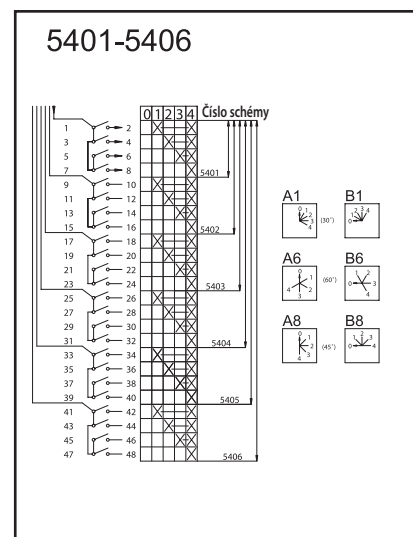
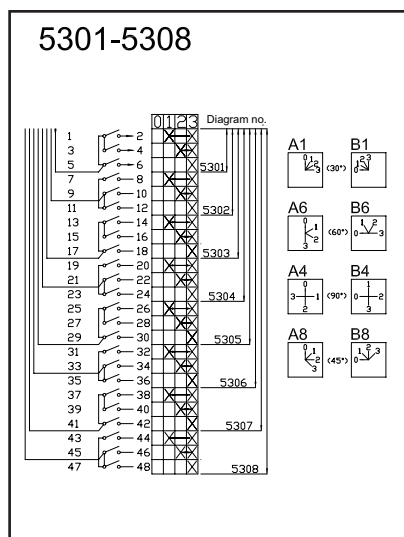
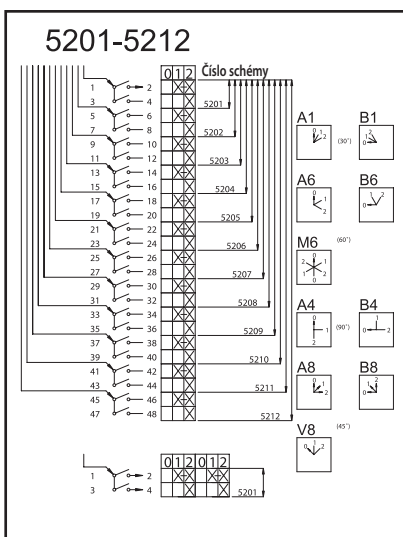


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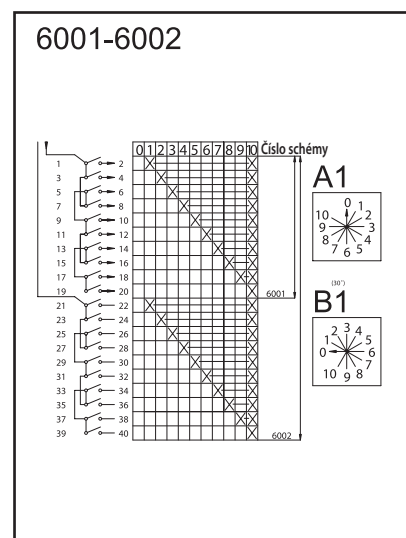
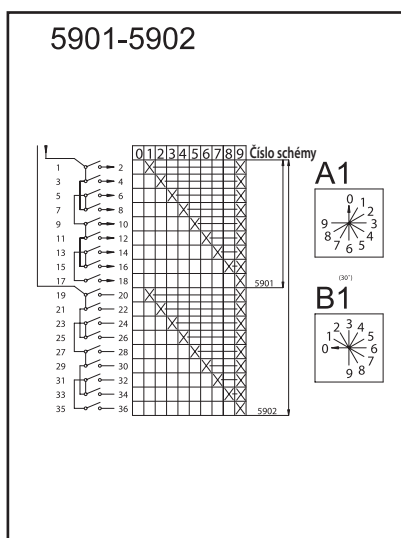
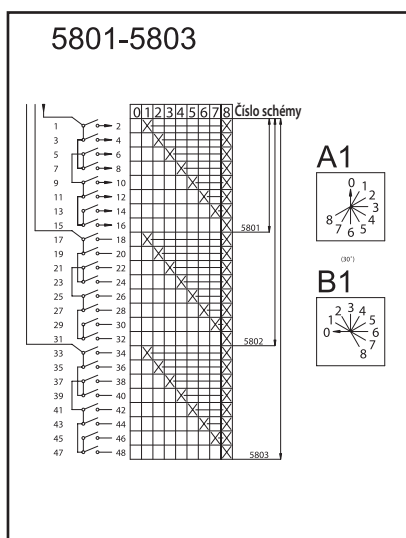
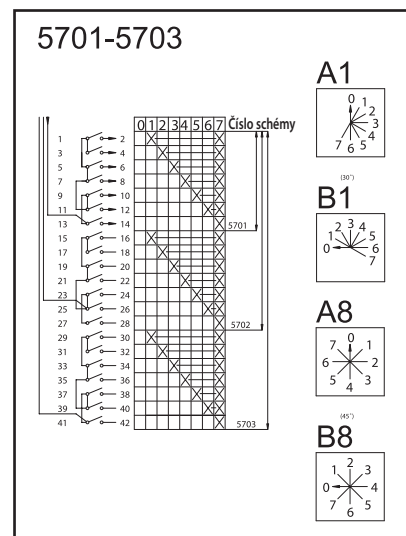
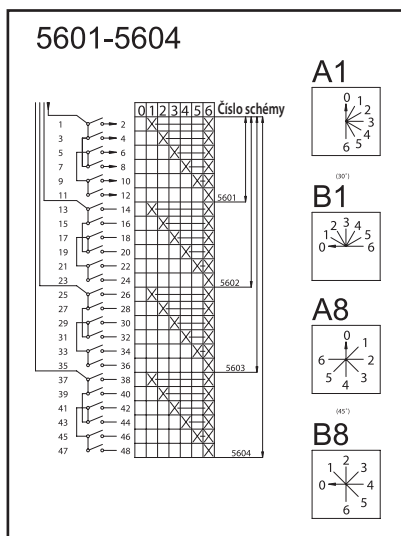
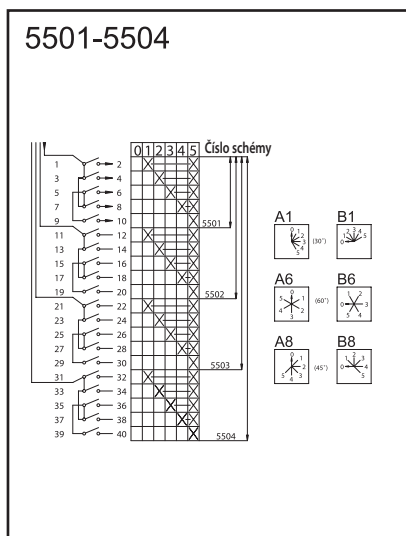




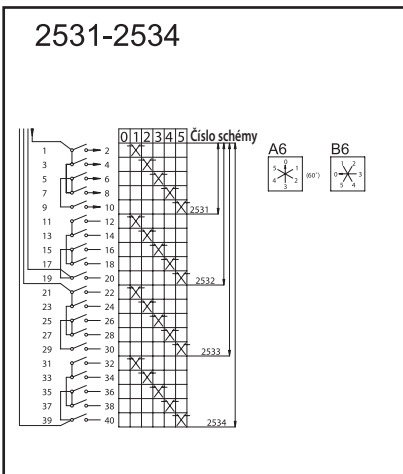
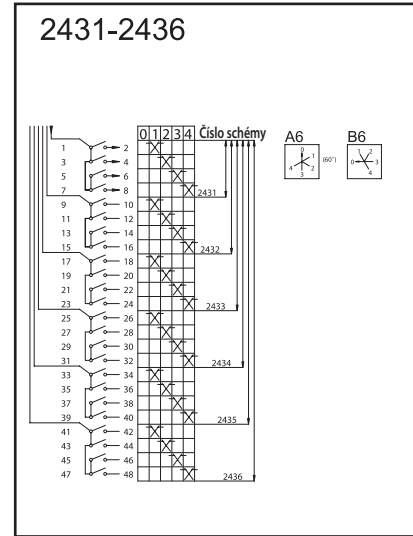
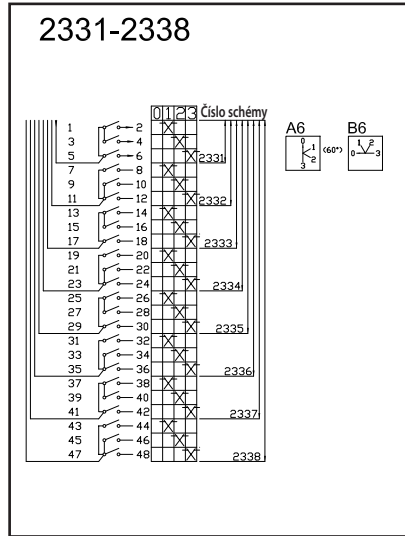
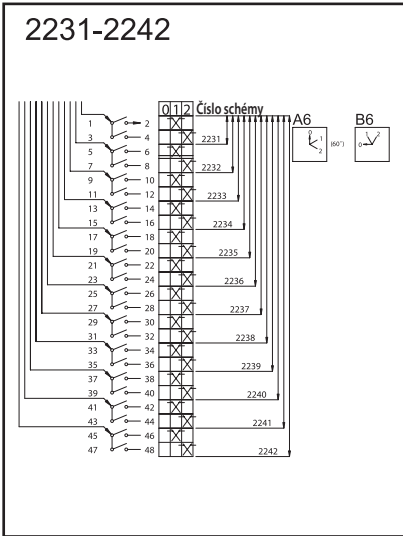
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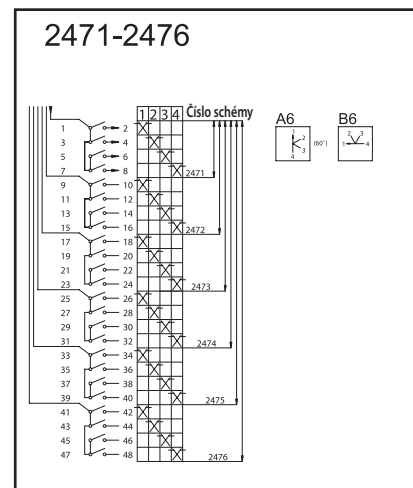
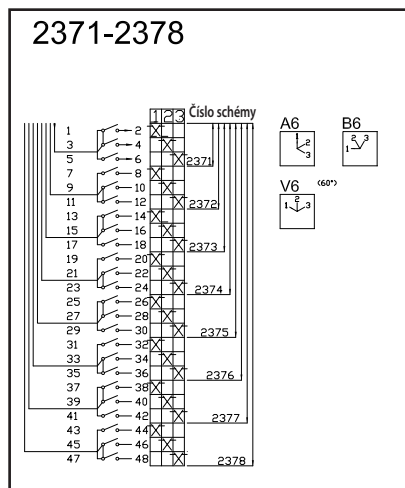
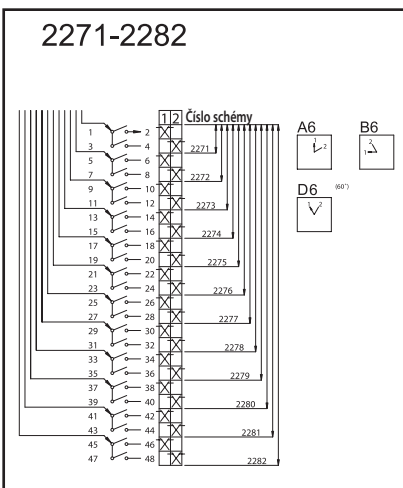
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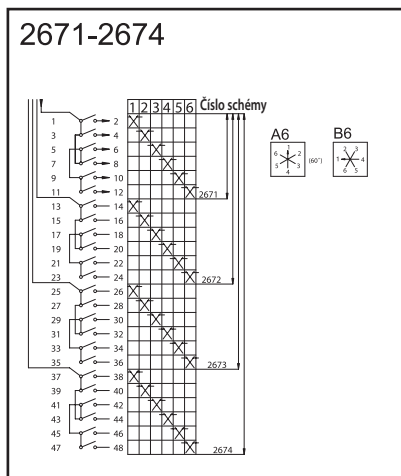
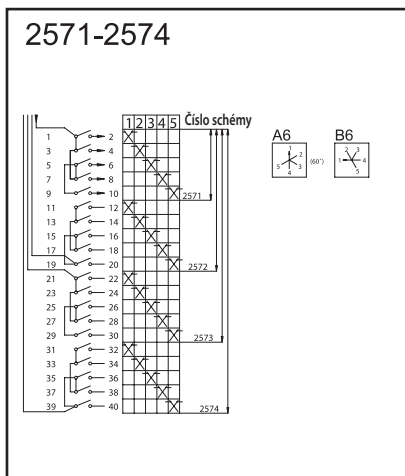
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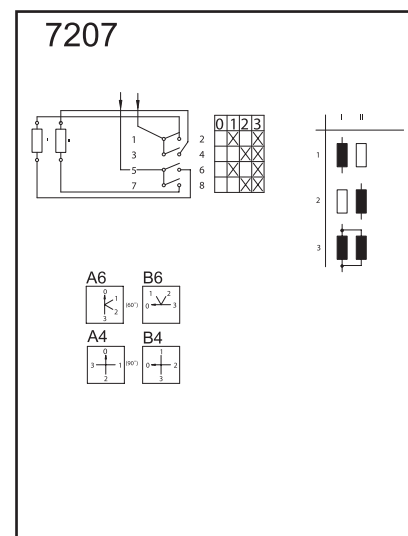
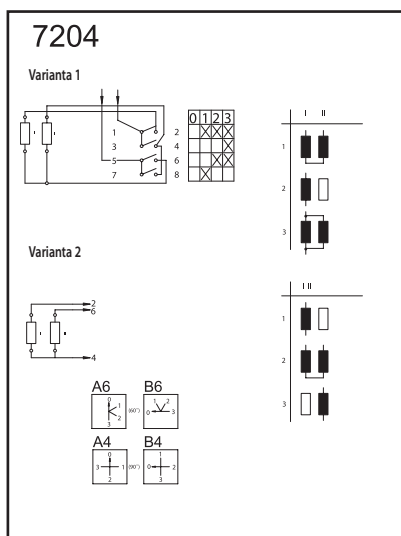
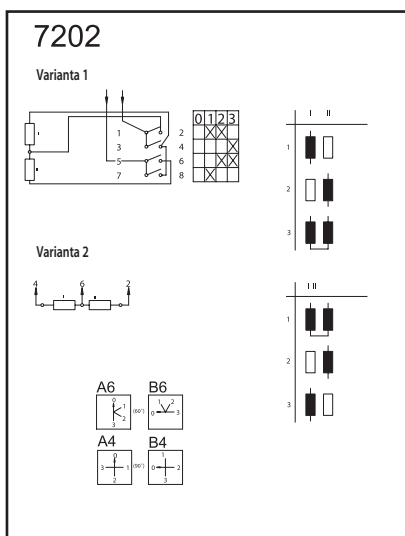
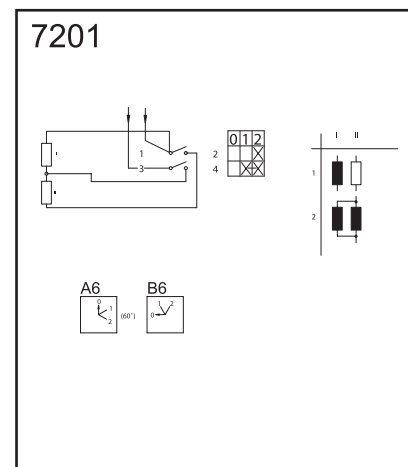
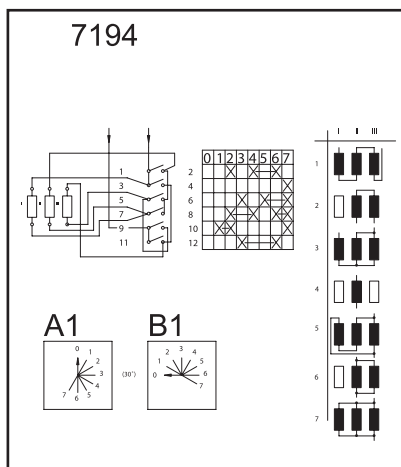
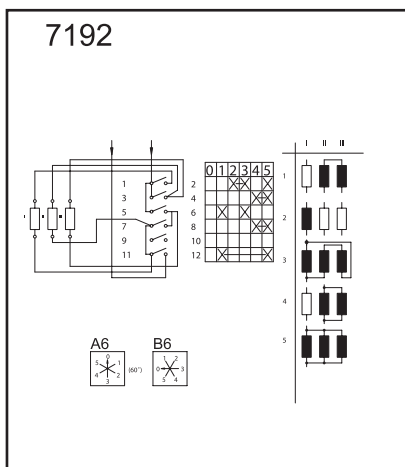
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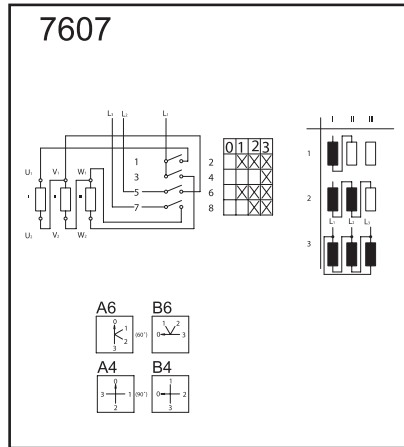
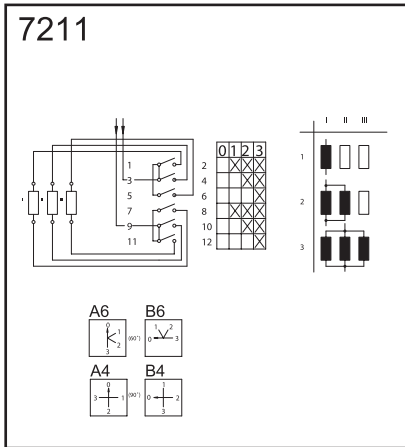
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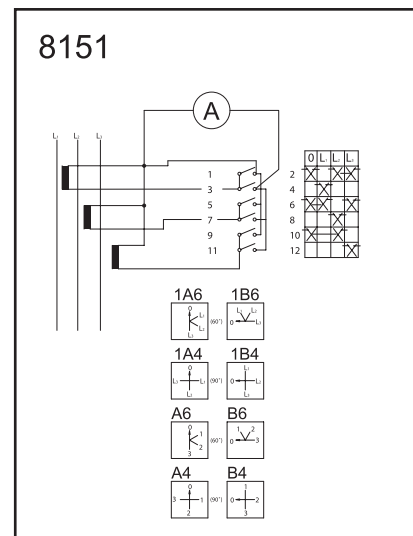
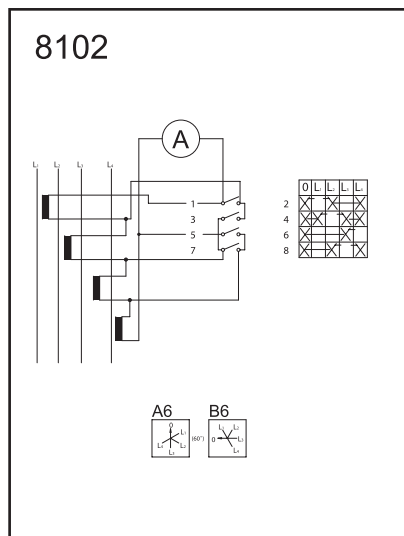
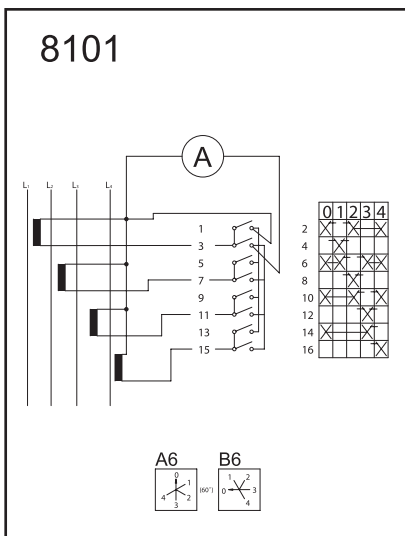
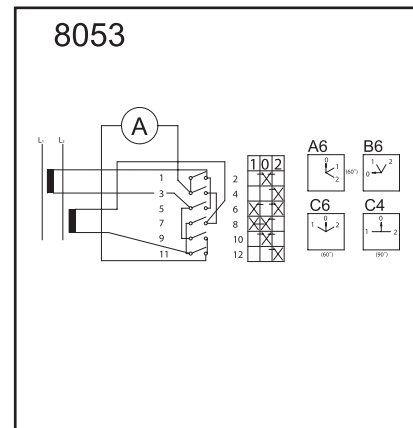
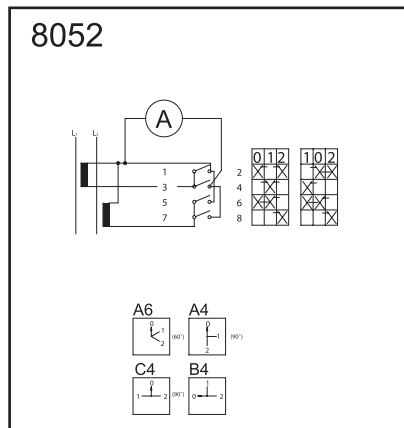
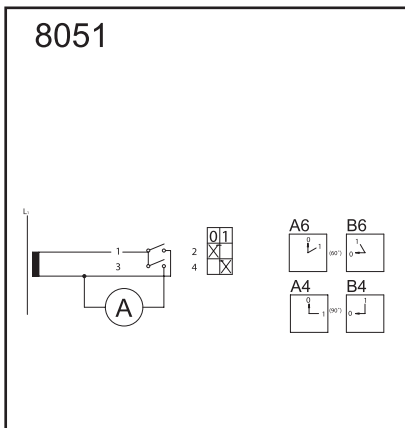
SPÍNAČE PRE RADENIE ODPOROV



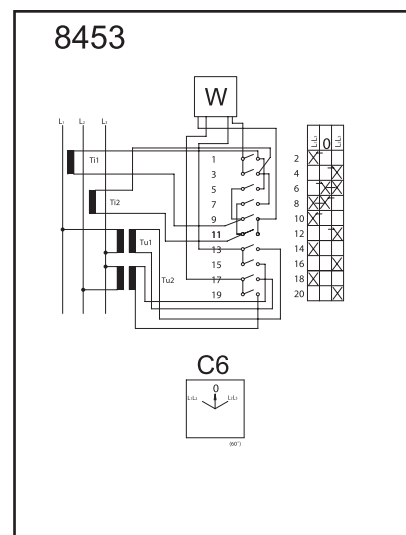
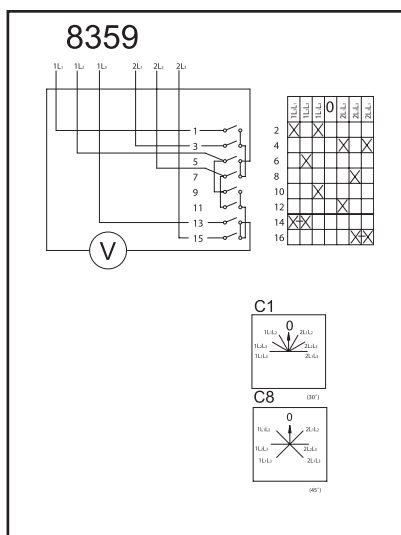
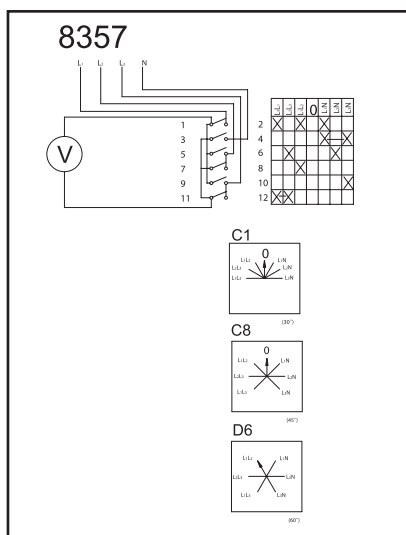
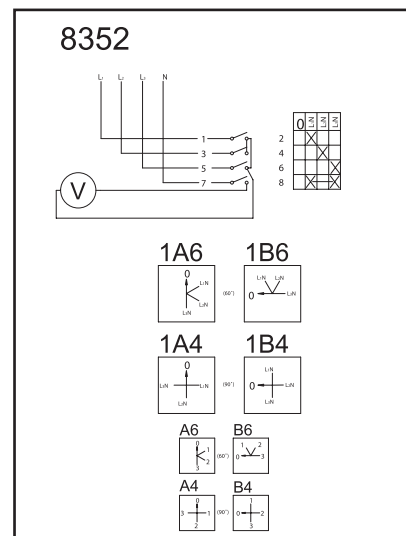
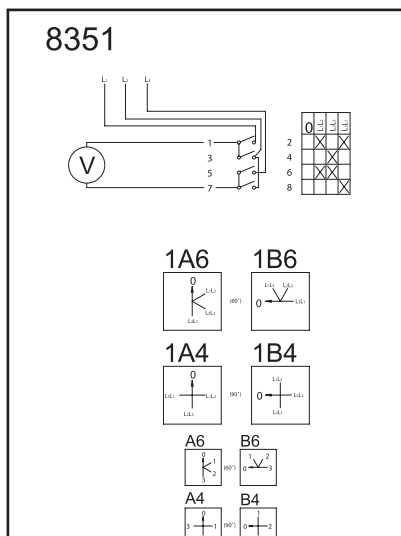
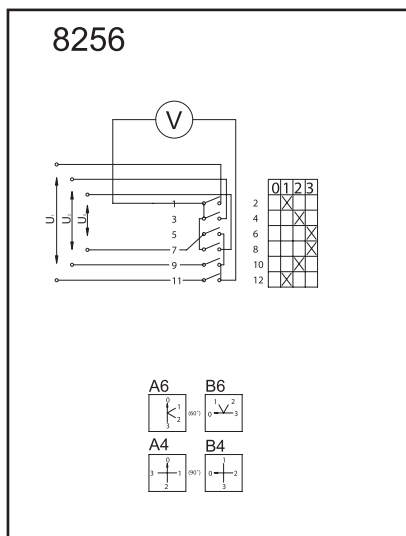
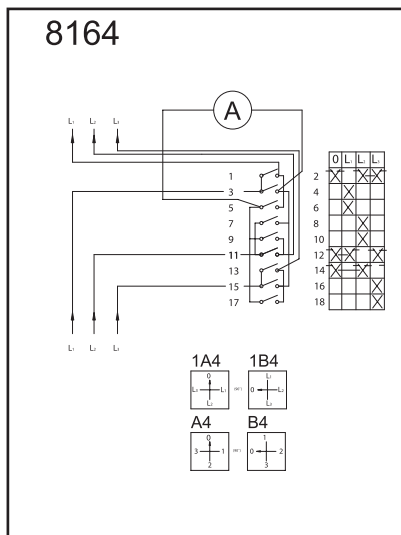
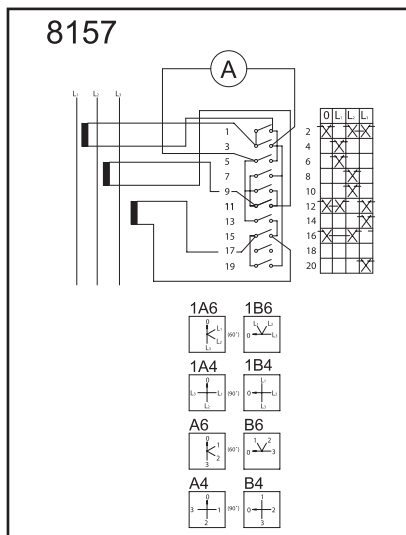
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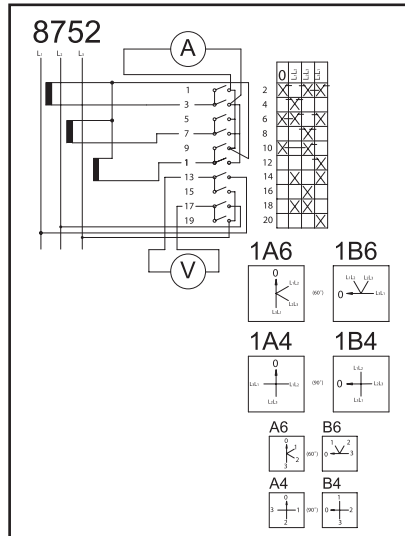
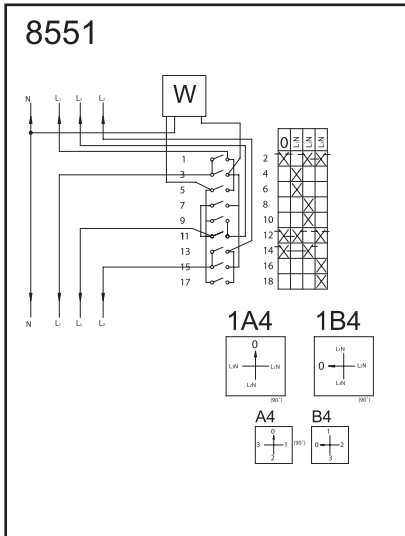
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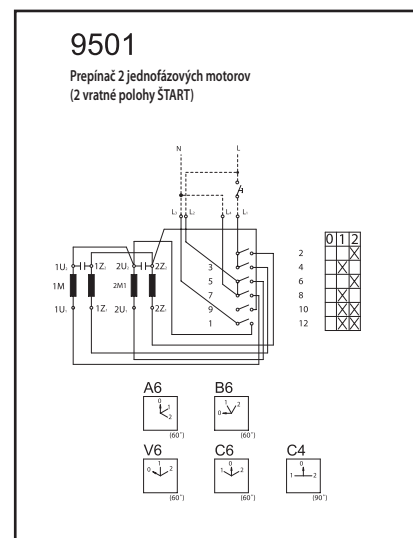
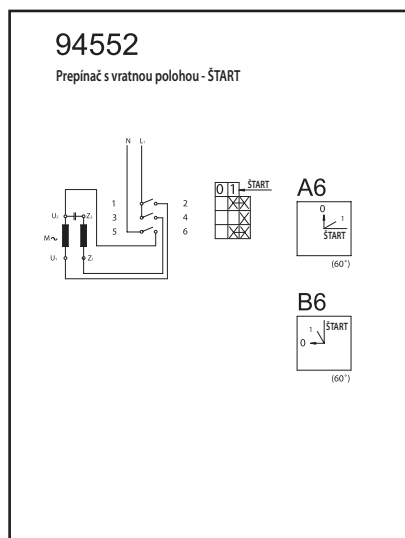
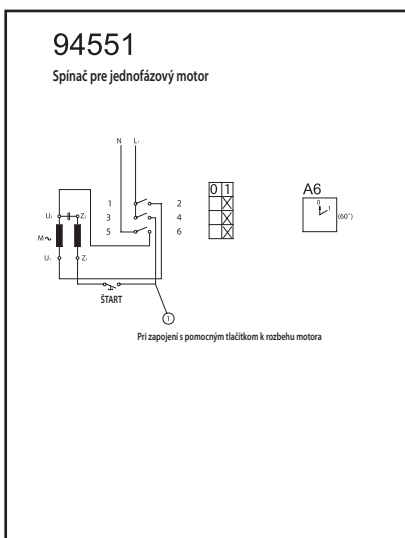
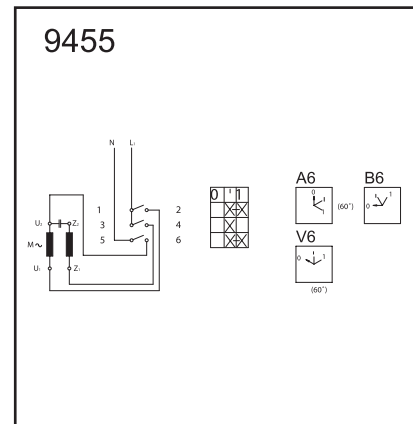
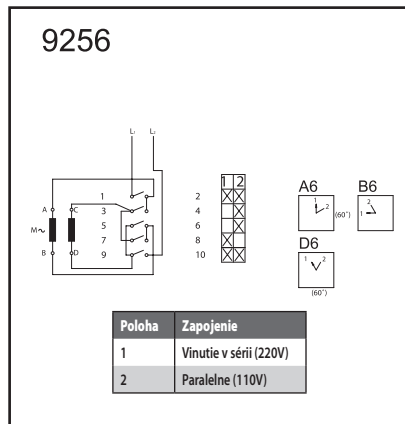
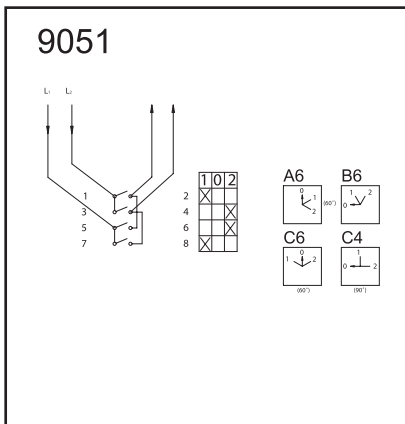
SPÍNAČE PRE MERACIE PRÍSTROJE – AMPÉRMETRE, VOLTMETRE, WATTMETRE



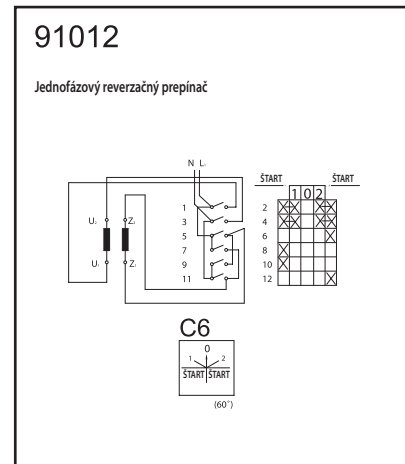
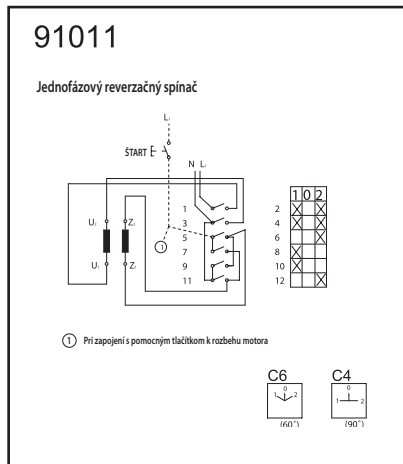
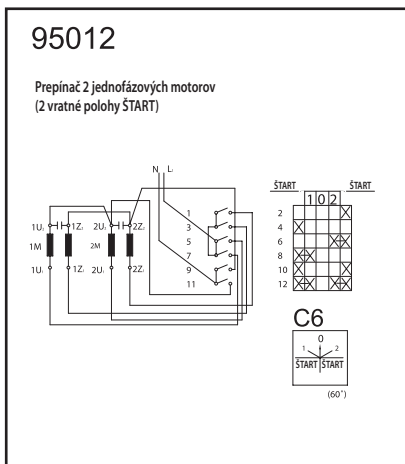
SPÍNAČE PRE MERACIE PRÍSTROJE – AMPÉRMETRE, VOLTMETRE, WATTMETRE



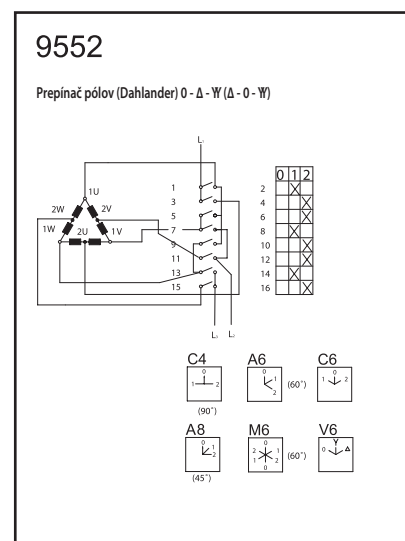
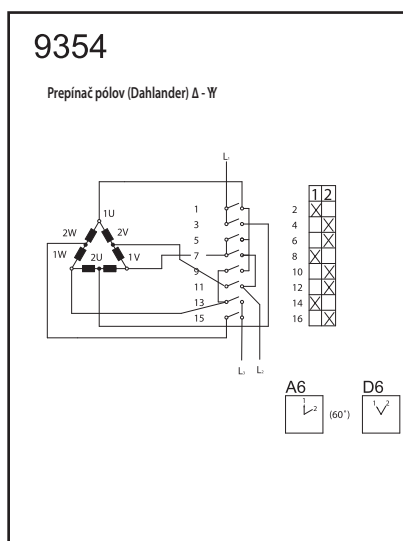
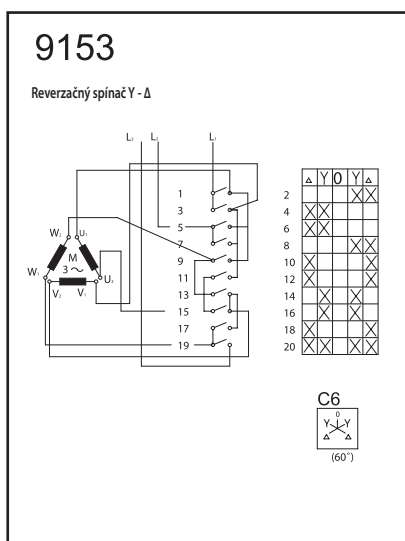
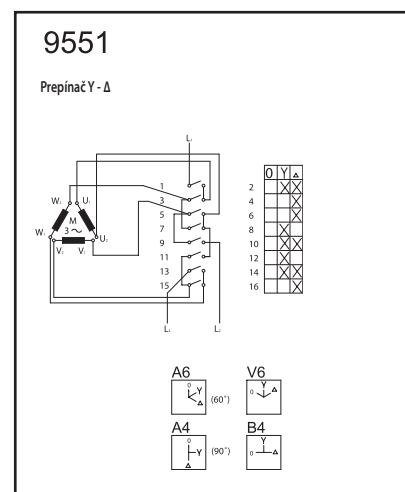
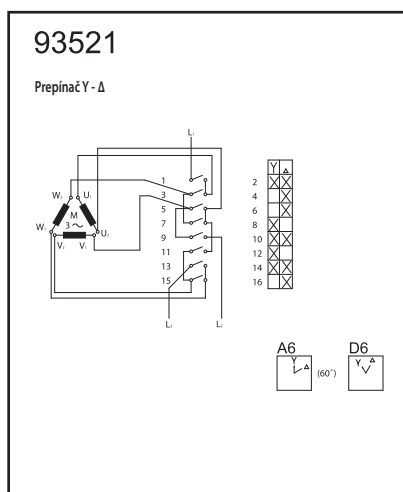
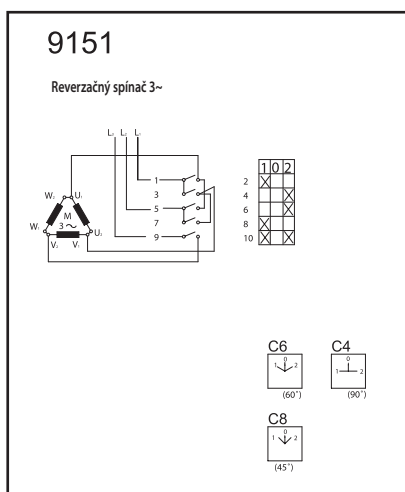
SPÍNAČE PRE JEDNOFÁZOVÉ MOTORY



SPÍNAČE PRE JEDNOFÁZOVÉ MOTORY



SPÍNAČE PRE 3-FÁZOVÉ ASYNCHRÓNNE MOTORY



SPÍNAČE PRE 3-FÁZOVÉ ASYNCHRÓNNE MOTORY

