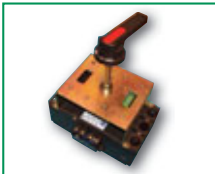
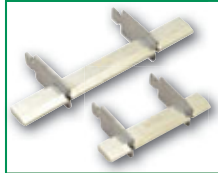



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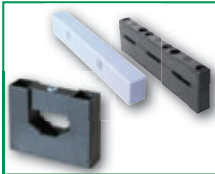
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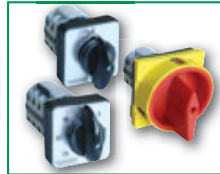
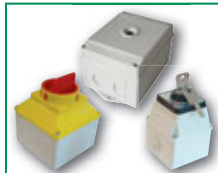
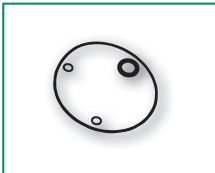
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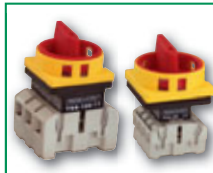
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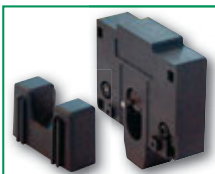
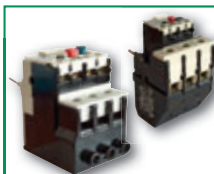
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|                                                                                                        |                                        |                                                                                                           |                           |                                                                                   |                                            |                                                                                                         |                              |
|--------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------|
| <b>U<sub>m</sub></b>                                                                                   | Nazivni radni napon                    | <b>U<sub>e</sub></b>                                                                                      | Nazivni pogonski napon    | <b>I<sub>th</sub></b>                                                             | Nazivna termička struja (A)                |  <b>U<sub>i</sub></b> | Nazivni izolacijski napon    |
| <b>I<sub>e</sub></b>                                                                                   | Nazivna pogonska struja                | <b>I<sub>n</sub></b>                                                                                      | Nazivna struja (A)        | <b>I<sub>cu</sub></b>                                                             | Nazivna pogonska kratkospojna prekidna moć | <b>I<sub>s</sub></b>                                                                                    | Struja utroška               |
|  <b>I<sub>m</sub></b>  | Podešena struja termičkog okidanja (A) | <b>P<sub>e</sub></b>                                                                                      | Priključena snaga         | <b>P<sub>m</sub></b>                                                              | Vlastiti utrošak snage                     | <b>P<sub>s</sub></b>                                                                                    | Pogonska snaga               |
|  <b>P<sub>ON</sub></b> | Snaga utroška za-privlačenje           |  <b>P<sub>HOLD</sub></b> | Snaga utroška za-držanje  |  | Udaljenost za gašenje luka (mm)            |                       | Broj transformatora          |
|                        | Mehanički vijek trajanja               |                          | Električni vijek trajanja |  | Kontakti                                   |                       | Prikaz električnih kontakata |
|                        | Pomoćni kontakti                       |                          | Kabliranje odozdo-odozgo  |  | Kabliranje odozdo                          |                       | kabliranje odozgo            |
|                        | Presjek pogonske osovine               |                          | Razmak nosača             |  | Presjek nosača                             |                       | Broj vijaka                  |
|                        | Preporučeni predosigurač               |                          | Električni kapacitet      |  | Optička signalizacija                      |                       | Područje regulacije vremena  |
|                        | S kućištem IP65                        |                          | Dimenzije (LxWxH)         |  | Max. presjek vodiča                        |                       | Napomena i dopuna            |
|                        | Puni, použeni, savitljivi vod          |                          | Masa                      |                                                                                   |                                            |                                                                                                         |                              |

## Piktogrami za tehničke parametre

|                                                                                    |                                                   |                                                                                                           |                                               |                                                                                                                  |                                              |                                                                                                 |                                                                 |
|------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>U<sub>m</sub></b><br>230 V AC                                                   | Nazivni radni napon                               | <b>U<sub>e</sub></b><br>660 V                                                                             | Nazivni pogonski napon                        |  <b>U<sub>i</sub></b><br>690 V | U <sub>i</sub> -Nazivni izolacijski napon    | <b>U<sub>imp</sub></b><br>6 kV                                                                  | U <sub>imp</sub> -Nazivni podnosivi udarni napon                |
| <b>U<sub>test</sub></b><br>1min<br>1,8 kV                                          | Probni napon                                      | <b>I<sub>th</sub></b><br>1 A                                                                              | Nazivna termička struja (A)                   | <b>I<sub>e</sub></b><br>2 A                                                                                      | Nazivna pogonska struja                      | <b>I<sub>cu</sub></b><br>120 kA <sub>eff</sub>                                                  | I <sub>cs</sub> -Nazivna pogonska kratkospojna prekidna moć     |
| 40/60 Hz                                                                           | Nazivna frekvencija                               | <b>Class Ir</b><br>10A                                                                                    | Razred termičkog okidača                      |  <b>UVR</b>                   | Vrsta okidača: podnaponski                   |  <b>SHT</b> | Vrsta okidača: za radnu struju                                  |
| <b>P<sub>m</sub></b><br>5 VA                                                       | Vlastiti utrošak snage                            |  <b>P<sub>ON</sub></b> | Snaga utroška za-privlačenje                  |  <b>P<sub>HOLD</sub></b>      | Snaga utroška za-držanje                     |             | Preporučeni predosigurač                                        |
|  | Magnetski pogon                                   |                        | Motorni pogon                                 | <b>AC 6b</b>                                                                                                     | Kategorija upotrebe                          |             | Otpornost na vibracije                                          |
|  | Pomoćni kontakti                                  |                        | Stupanj zaštite po ugradnji: ručka isključena |                               | Stupanj zaštite po ugradnji: ručka uključena | <b>IP 65</b>                                                                                    | Stupanj zaštite                                                 |
|  | Rasvjetno tijelo sa zaštitom od dodira I. razreda |                        | Učestalost skapanja/sat                       |                               | Mehanički vijek trajanja                     |             | Električni vijek trajanja                                       |
|  | Duljina                                           |                        | Max. presjek vodiča                           |                               | Montiranje na nosač                          |             | po mogućnosti na vertikalnu plohu; dopušteno je odstupanje ±30° |
| 350 mm                                                                             |                                                   | 2x1-2x6                                                                                                   |                                               | 35x7.5                                                                                                           |                                              |             | Relativna vlažnost                                              |
| 2000 m                                                                             | Nadmorska visina                                  | <b>To</b><br>-5...+40°C                                                                                   | Pogonska temperatura                          | <b>Ta</b><br>-25...+65°C                                                                                         | Temperatura okoline                          |                                                                                                 |                                                                 |

## Kompaktni prekidači, KM

230/400  
V AC

50/60 Hz

U<sub>i</sub>  
690 VU<sub>imp</sub>  
6 kV

3P

T<sub>o</sub>  
-5...+40 °CT<sub>a</sub>  
-5...+55 °C

2000 m

2000 m

Piktogrami

I/O



## Podatci za termičko okidanje pri preopterećenju

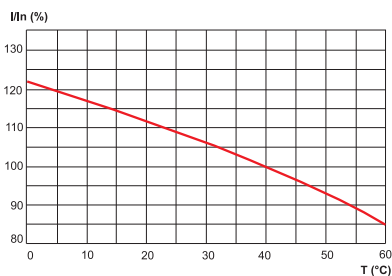
|     |      |  | I <sub>th max.</sub> |      | I <sub>e</sub>         |
|-----|------|--|----------------------|------|------------------------|
| KM1 | 1500 |  | 63 A                 | 8500 | 32 A; 40 A; 50 A; 63 A |
| KM2 | 1500 |  | 100 A                | 8500 | 63 A; 80 A; 100 A      |
| KM3 | 1000 |  | 160 A                | 7000 | 125 A; 140 A; 160 A    |
| KM4 | 1000 |  | 225 A                | 7000 | 180 A; 200 A; 225 A    |
| KM5 | 1000 |  | 350 A                | 7000 | 250 A; 315 A; 350 A    |
| KM6 | 1000 |  | 630 A                | 4000 | 400 A; 500 A; 630 A    |
| KM7 | 1000 |  | 800 A                | 4000 | 630 A; 700 A; 800 A    |

## Podatci za magnetsko okidanje pri kratkom spoju

|     |  | I <sub>th max.</sub> | I <sub>cu</sub> |            |
|-----|--|----------------------|-----------------|------------|
| KM1 |  | 63 A                 | 50 kA           | 0 mm       |
| KM2 |  | 100 A                | 50 kA           | 0 (<50) mm |
| KM3 |  | 160 A                | 50 kA           | 0 (<50) mm |
| KM4 |  | 225 A                | 50 kA           | <50 mm     |
| KM5 |  | 350 A                | 50 kA           | <50 mm     |
| KM6 |  | 630 A                | 50 kA           | 100 mm     |
| KM7 |  | 800 A                | 65 kA           | 100 mm     |

## Utjecaj temperature okoline na krivulju okidanja

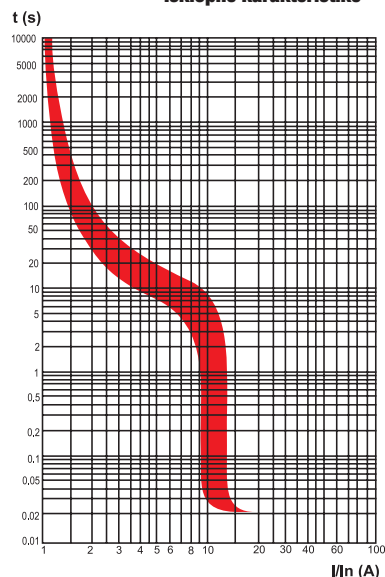
Korekcijski faktor za određivanje granice trajnog opterećenja na cijelom temperaturnom području može se odrediti iz dijagrama. Ukoliko temperatura okruženja oko prekidača prelazi +40°C, za pojedine veličine dopušteno trajno opterećenje može se odrediti primjenom korekcijskog faktora iz sljedeće tablice:

RELEVANT STANDARD  
EN 60947-1RELEVANT STANDARD  
EN 60947-2

## Korekcijski faktor

|     | T <sub>a</sub> |            |            |            |            |
|-----|----------------|------------|------------|------------|------------|
|     | 40 – 45 °C     | 45 – 50 °C | 50 – 55 °C | 55 – 60 °C | 60 – 65 °C |
| KM1 | 1,0            | 0,94       | 0,88       | 0,80       | 0,72       |
| KM2 | 1,0            | 0,95       | 0,89       | 0,84       | 0,76       |
| KM3 | 1,0            | 0,97       | 0,93       | 0,90       | 0,86       |
| KM4 | 1,0            | 0,96       | 0,91       | 0,87       | 0,82       |
| KM5 | 1,0            | 0,94       | 0,87       | 0,81       | 0,73       |
| KM6 | 1,0            | 0,93       | 0,88       | 0,83       | 0,76       |
| KM7 | 1,0            | 0,88       | 0,83       | 0,79       | 0,76       |

## Isključne karakteristike



## Ugrađene jedinice za pomoćne strujne krugove

### Okidač za podnapon

| $U_m$    | $P_m$        |
|----------|--------------|
| 230 V AC | 2,3 – 3,8 VA |

Ova naprava omogućuje okidanje ukoliko na stezaljkama dođe do smanjenja napona na 35-70 % od nazivnog pogonskog napona. Okidač sprječava uklapanje prekidača, ukoliko na stezaljkama napon ne dostigne 35 % od nazivnog pogonskog napona.

### Okidač za radnu struju (shunt)

| $U_m$                         |
|-------------------------------|
| 230 V AC, 400 V AC, 220 V, DC |

Pomoću ove naprave može se prekidač daljinski isključiti, jer ona uzrokuje okidanje ukoliko na stezaljke dovedemo napon koji iznosi 70-110 % od nazivnog napona.

### Pomoćni kontakti

| $U_e$    | $I_e$<br>AC-15 | $U_i$ | $I_{th}$    |
|----------|----------------|-------|-------------|
| 230 V AC | 1,2 A          | 690 V | 10 A gG 3 A |
| 400 V AC | 0,5 A          |       |             |

## Kompaktni prekidači s 1 izmjeničnim pomoćnim kontaktom

| TRACON     | $I_e$ |     | $U_m$    |
|------------|-------|-----|----------|
| KM1-032/1A | 32 A  | SHT | 230 V AC |
| KM1-032/1B | 32 A  | SHT | 400 V AC |
| KM1-032/1C | 32 A  | SHT | 220 V DC |
| KM1-032/2  | 32 A  | UVR | 230 V AC |
| KM1-040/1A | 40 A  | SHT | 230 V AC |
| KM1-040/1B | 40 A  | SHT | 400 V AC |
| KM1-040/1C | 40 A  | SHT | 220 V DC |
| KM1-040/2  | 40 A  | UVR | 230 V AC |
| KM1-050/1A | 50 A  | SHT | 230 V AC |
| KM1-050/1B | 50 A  | SHT | 400 V AC |
| KM1-050/1C | 50 A  | SHT | 220 V DC |
| KM1-050/2  | 50 A  | UVR | 230 V AC |
| KM1-063/1A | 63 A  | SHT | 230 V AC |
| KM1-063/1B | 63 A  | SHT | 400 V AC |
| KM1-063/1C | 63 A  | SHT | 220 V DC |
| KM1-063/2  | 63 A  | UVR | 230 V AC |
| KM2-063/1A | 63 A  | SHT | 230 V AC |
| KM2-063/1B | 63 A  | SHT | 400 V AC |
| KM2-063/1C | 63 A  | SHT | 220 V DC |
| KM2-063/2  | 63 A  | UVR | 230 V AC |
| KM2-080/1A | 80 A  | SHT | 230 V AC |
| KM2-080/1B | 80 A  | SHT | 400 V AC |
| KM2-080/1C | 80 A  | SHT | 220 V DC |
| KM2-080/2  | 80 A  | UVR | 230 V AC |
| KM2-100/1A | 100 A | SHT | 230 V AC |
| KM2-100/1B | 100 A | SHT | 400 V AC |

| TRACON     | $I_e$ |     | $U_m$    |
|------------|-------|-----|----------|
| KM2-100/1C | 100 A | SHT | 220 V DC |
| KM2-100/2  | 100 A | UVR | 230 V AC |
| KM3-125/1A | 125 A | SHT | 230 V AC |
| KM3-125/1B | 125 A | SHT | 400 V AC |
| KM3-125/1C | 125 A | SHT | 220 V DC |
| KM3-125/2  | 125 A | UVR | 230 V AC |
| KM3-140/1A | 140 A | SHT | 230 V AC |
| KM3-140/1B | 140 A | SHT | 400 V AC |
| KM3-140/1C | 140 A | SHT | 220 V DC |
| KM3-140/2  | 140 A | UVR | 230 V AC |
| KM3-160/1A | 160 A | SHT | 230 V AC |
| KM3-160/1B | 160 A | SHT | 400 V AC |
| KM3-160/1C | 160 A | SHT | 220 V DC |
| KM3-160/2  | 160 A | UVR | 230 V AC |
| KM4-180/1A | 180 A | SHT | 230 V AC |
| KM4-180/1B | 180 A | SHT | 400 V AC |
| KM4-180/1C | 180 A | SHT | 220 V DC |
| KM4-180/2  | 180 A | UVR | 230 V AC |
| KM4-200/1A | 200 A | SHT | 230 V AC |
| KM4-200/1B | 200 A | SHT | 400 V AC |
| KM4-200/1C | 200 A | SHT | 220 V DC |
| KM4-200/2  | 200 A | UVR | 230 V AC |
| KM4-225/1A | 225 A | SHT | 230 V AC |
| KM4-225/1B | 225 A | SHT | 400 V AC |
| KM4-225/1C | 225 A | SHT | 220 V DC |
| KM4-225/2  | 225 A | UVR | 230 V AC |

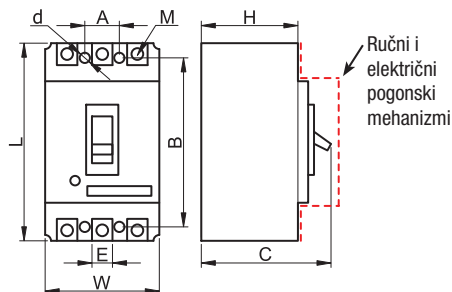
## Kompaktni prekidači s 2 izmjenična pomoćna kontakta

| TRACON     | I <sub>e</sub> |  | U <sub>m</sub> |
|------------|----------------|-----------------------------------------------------------------------------------|----------------|
| KM5-250/1A | 250 A          | SHT                                                                               | 230 V AC       |
| KM5-250/1B | 250 A          | SHT                                                                               | 400 V AC       |
| KM5-250/1C | 250 A          | SHT                                                                               | 220 V DC       |
| KM5-250/2  | 250 A          | UVR                                                                               | 230 V AC       |
| KM5-315/1A | 315 A          | SHT                                                                               | 230 V AC       |
| KM5-315/1B | 315 A          | SHT                                                                               | 400 V AC       |
| KM5-315/1C | 315 A          | SHT                                                                               | 220 V DC       |
| KM5-315/2  | 315 A          | UVR                                                                               | 230 V AC       |
| KM5-350/1A | 350 A          | SHT                                                                               | 230 V AC       |
| KM5-350/1B | 350 A          | SHT                                                                               | 400 V AC       |
| KM5-350/1C | 350 A          | SHT                                                                               | 220 V DC       |
| KM5-350/2  | 350 A          | UVR                                                                               | 230 V AC       |
| KM6-400/1A | 400 A          | SHT                                                                               | 230 V AC       |
| KM6-400/1B | 400 A          | SHT                                                                               | 400 V AC       |
| KM6-400/1C | 400 A          | SHT                                                                               | 220 V DC       |
| KM6-400/2  | 400 A          | UVR                                                                               | 230 V AC       |
| KM6-500/1A | 500 A          | SHT                                                                               | 230 V AC       |
| KM6-500/1B | 500 A          | SHT                                                                               | 400 V AC       |

| TRACON     | I <sub>e</sub> |  | U <sub>m</sub> |
|------------|----------------|------------------------------------------------------------------------------------|----------------|
| KM6-500/1C | 500 A          | SHT                                                                                | 220 V DC       |
| KM6-500/2  | 500 A          | UVR                                                                                | 230 V AC       |
| KM6-630/1A | 630 A          | SHT                                                                                | 230 V AC       |
| KM6-630/1B | 630 A          | SHT                                                                                | 400 V AC       |
| KM6-630/1C | 630 A          | SHT                                                                                | 220 V DC       |
| KM6-630/2  | 630 A          | UVR                                                                                | 230 V AC       |
| KM7-630/1A | 630 A          | SHT                                                                                | 230 V AC       |
| KM7-630/1B | 630 A          | SHT                                                                                | 400 V AC       |
| KM7-630/1C | 630 A          | SHT                                                                                | 220 V DC       |
| KM7-630/2  | 630 A          | UVR                                                                                | 230 V AC       |
| KM7-700/1A | 700 A          | SHT                                                                                | 230 V AC       |
| KM7-700/1B | 700 A          | SHT                                                                                | 400 V AC       |
| KM7-700/1C | 700 A          | SHT                                                                                | 220 V DC       |
| KM7-700/2  | 700 A          | UVR                                                                                | 230 V AC       |
| KM7-800/1A | 800 A          | SHT                                                                                | 230 V AC       |
| KM7-800/1B | 800 A          | SHT                                                                                | 400 V AC       |
| KM7-800/1C | 800 A          | SHT                                                                                | 220 V DC       |
| KM7-800/2  | 800 A          | UVR                                                                                | 230 V AC       |

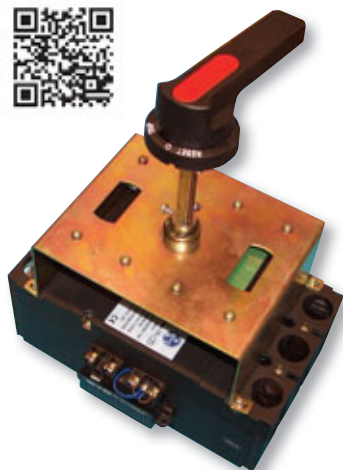
SHT: Shuntni okidač / Okidač za radnu struju UVR: Podnaponski okidač

## Skica dimenzija i montažnih provrta



|  | W<br>(mm) | L<br>(mm) | H<br>(mm) | C<br>(mm) | A<br>(mm) | B<br>(mm) | E<br>(mm) | M<br>(mm) | d<br>(mm) |
|-----------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| KM1                                                                               | 78        | 136       | 74        | 98        | 25        | 117       | 13.5      | M5        | 3.5       |
| KM2                                                                               | 92        | 150       | 80        | 104       | 30        | 129       | 18        | M8        | 4.5       |
| KM3                                                                               | 107       | 165       | 98        | 127       | 35        | 126       | 23        | M8        | 5         |
| KM4                                                                               | 107       | 165       | 98        | 127       | 35        | 126       | 23        | M8        | 5         |
| KM5                                                                               | 150       | 257       | 98        | 155       | 44        | 194       | 32        | M10       | 7         |
| KM6                                                                               | 182       | 270       | 105       | 160       | 58        | 200       | 43        | M12       | 7         |
| KM7                                                                               | 210       | 280       | 98        | 142       | 70        | 243       | 43        | M12       | 7         |

## Ručni pogonski mehanizmi

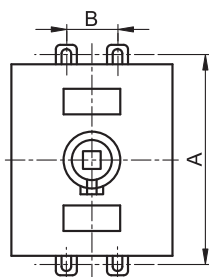


| TRACON |  | A<br>(mm) | B<br>(mm) | H<br>(mm) |  |
|--------|-------------------------------------------------------------------------------------|-----------|-----------|-----------|---------------------------------------------------------------------------------------|
| KM1-HM | KM1                                                                                 | 102       | 25        | 50        | 8 × 8 / 150 mm                                                                        |
| KM2-HM | KM2                                                                                 | 104       | 30        | 53        | 8 × 8 / 150 mm                                                                        |
| KM4-HM | KM3-KM4                                                                             | 142       | 35        | 56        | 8 × 8 / 150 mm                                                                        |
| KM5-HM | KM5                                                                                 | 194       | 138       | 94        | 10 × 10 / 150 mm                                                                      |
| KM6-HM | KM6                                                                                 | 200       | 168       | 96        | 10 × 10 / 150 mm                                                                      |
| KM7-HM | KM7                                                                                 | 240       | 195       | 85        | 10 × 10 / 150 mm                                                                      |

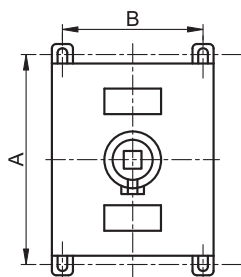
Ručni pogonski mehanizam se ugrađuje na vrata kako bi omogućili upravljanje kompaktnim prekidačima bez otvaranja vrata. Ručni pogon se sastoji od pogonskog dijela na prekidaču, pogonske osovine i ručice koja se montira na vrata, na kojima je označen UKLJ. i ISKLJ položaj prekidača. Pogonska ručica se može plombirati u oba položaja. U uključenom položaju prekidača ručica izvan vrata je mehanički blokirana i vrata se ne mogu otvoriti.



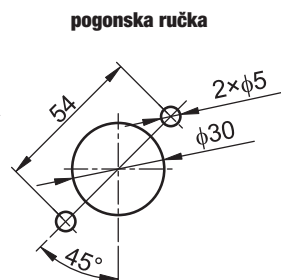
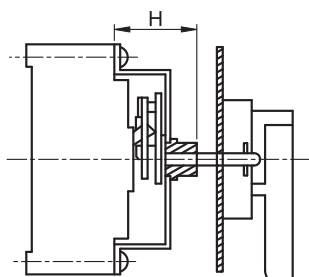
## Provrti za pričvršćivanje



KM5-KM7



KM1-KM4



## Električni pogonski mehanizmi



| TRACON |  |         | $I_s$   | $P_s$  | A<br>(mm) | B<br>(mm) | H<br>(mm) |
|--------|--|---------|---------|--------|-----------|-----------|-----------|
| KM1-PM |  | KM1     | < 5 A   | 1100 W | 102       | 25        | 92        |
| KM2-PM |  | KM2     | < 7 A   | 1540 W | 104       | 30        | 92        |
| KM4-PM |  | KM3-KM4 | < 8,5 A | 1870 W | 142       | 35        | 100       |
| KM5-PM |  | KM5     | < 5,7 A | 1200 W | 194       | 44        | 140       |
| KM6-PM |  | KM6     | < 5,7 A | 1200 W | 200       | 58        | 140       |
| KM7-PM |  | KM7     | < 7,5 A | 2000 W | 240       | 70        | 140       |

Pomoću električnog pogonskog mehanizma tipa KM...PM omogućeno je uključivanje-isključivanje prekidača na licu mjesta ili s daljine električnim putem, pomoću tipkala. Električni pogon se sastoji od pogonskog dijela koji je montiran na prekidač i dopunjuje ga ručica za ručni pogon. Uključivanje-isključivanje prekidača tipa KM1...KM4 izvodi se magnetskim putem, a kod tipova KM5...KM7 primjenjuje se motorni pogon.

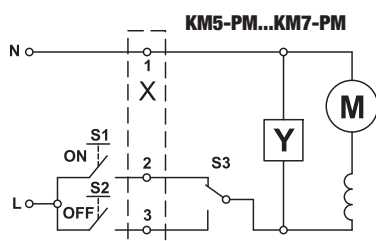
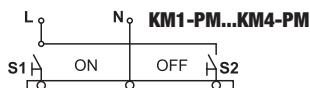


Magnetski pogon



Motorni pogon

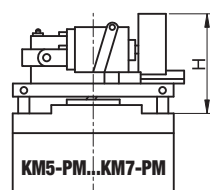
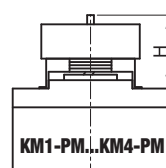
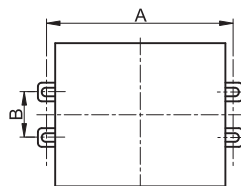
## Električna shema spajanja i skice dimenzija



### Legenda

- M - motor
- Y - električna kočnica
- S3 - mikrosklopka

- X - redna stezaljka
- S1, S2 - tipkalo



## Kompaktni prekidači, MKM

230/400  
V AC

50/60 Hz

500 V

U<sub>imp</sub>  
6 kV

3P

T<sub>o</sub>  
-5...+40°CT<sub>a</sub>  
-25...+65°C

2000 m

2000 m

Piktogrami

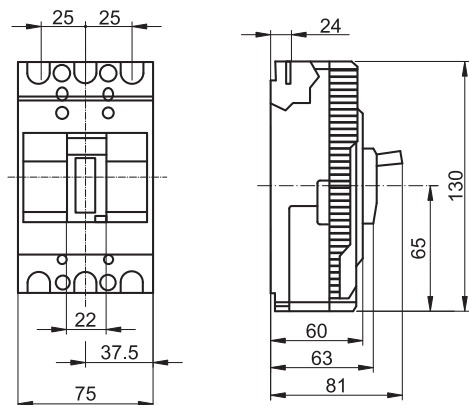
I/O



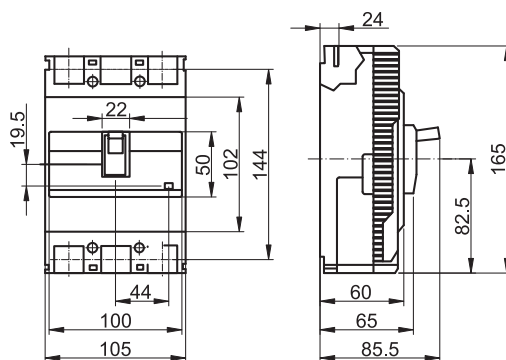
|                                             | MKM1                                    | MKM2               |
|---------------------------------------------|-----------------------------------------|--------------------|
| <b>I<sub>e</sub> (A)</b>                    | 15, 20, 25, 30, 40, 50, 60, 75, 80, 100 | 125, 160, 225, 250 |
| <b>I<sub>cu</sub> (kA<sub>eff</sub>) AC</b> |                                         |                    |
| 220/240 V                                   | 50                                      | 85                 |
| 380 V                                       | 30                                      | 18                 |
| 400 V                                       | 20                                      | 15                 |
| <b>I<sub>cs</sub>/I<sub>cu</sub> (%)</b>    |                                         |                    |
| 220/240 V                                   | 25 %                                    | 50 %               |
| 380 V                                       | 25 %                                    | 50 %               |
| 400 V                                       | 25 %                                    | 50 %               |
| <b>ON-OFF-ON...<br/>sc/h</b>                | × 10                                    | × 5                |
| <b>⚡ (×10<sup>5</sup>)</b>                  | 8.500                                   | 8.500              |
| <b>⚡⌚ (×10<sup>5</sup>)</b>                 | 4.000                                   | 4.000              |
| <b>m</b>                                    | 0,78 kg                                 | 1,3 kg             |

| TRACON         | I <sub>e</sub> | TRACON         | I <sub>e</sub> | TRACON          | I <sub>e</sub> | TRACON          | I <sub>e</sub> |
|----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|----------------|
| <b>MKM1-15</b> | 15 A           | <b>MKM1-40</b> | 40 A           | <b>MKM1-80</b>  | 80 A           | <b>MKM2-225</b> | 225 A          |
| <b>MKM1-20</b> | 20 A           | <b>MKM1-50</b> | 50 A           | <b>MKM1-100</b> | 100 A          | <b>MKM2-250</b> | 250 A          |
| <b>MKM1-25</b> | 25 A           | <b>MKM1-60</b> | 60 A           | <b>MKM2-125</b> | 125 A          |                 |                |
| <b>MKM1-30</b> | 30 A           | <b>MKM1-75</b> | 75 A           | <b>MKM2-160</b> | 160 A          |                 |                |

## Skice dimenzija (MKM1)



## Skice dimenzija (MKM2)



## UČITAJTE ŠIFRU!

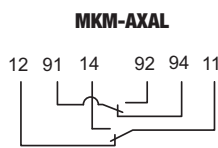
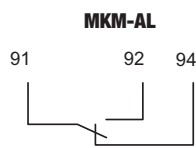
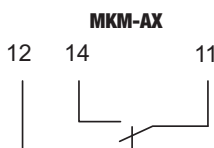
- Pogledajte naše novosti
- Budite u tijeku

**Naša ponuda se brzo i kontinuirano razvija!**  
**Katalog prikazuje stanje u travnju 2019. godine.**  
 Za aktualne informacije posjetite našu  
**web stranicu!**

## Jedinice pomoćnih kontakata i za dojavu pogreške

| Tip                                               | Funkcija                                                                                                                    |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Jedinice pomoćnih kontakata:                      | Daju informaciju o stanju glavnih kontakata kompaktnog prekidača.                                                           |
| Kontaktne jedinice za dojavu pogreške:            | Daju informaciju o okidanju uslijed kratkog spoja, preopterećenja ili rukovanja.                                            |
| Jedinice za dojavu pogreške / pomoćnih kontakata: | Kontaktom jedinicom koja se dobije objedinjavanjem dvaju prednjih jedinica mogu se riješiti kombinirane upravljačke zadaće. |

| TRACON             | Funkcija                                     |                |                      |
|--------------------|----------------------------------------------|----------------|----------------------|
| <b>MKM-AX100</b>   | Pomoćni kontakt                              | <b>MKM1-..</b> | 0,25 mm <sup>2</sup> |
| <b>MKM-AX250</b>   | Pomoćni kontakt                              | <b>MKM2-..</b> | 0,35 mm <sup>2</sup> |
| <b>MKM-AL100</b>   | Kontakt za dojavu pogreške                   | <b>MKM1-..</b> | 0,25 mm <sup>2</sup> |
| <b>MKM-AL250</b>   | Kontakt za dojavu pogreške                   | <b>MKM2-..</b> | 0,35 mm <sup>2</sup> |
| <b>MKM-AXAL100</b> | Kontakt za dojavu pogreške / pomoćni kontakt | <b>MKM1-..</b> | 0,25 mm <sup>2</sup> |
| <b>MKM-AXAL250</b> | Kontakt za dojavu pogreške / pomoćni kontakt | <b>MKM2-..</b> | 0,35 mm <sup>2</sup> |



|                              |                 |                               |                                                                                               |
|------------------------------|-----------------|-------------------------------|-----------------------------------------------------------------------------------------------|
| <b>I<sub>th</sub></b><br>1 A | <b>AC</b><br>15 | <b>I<sub>e</sub></b><br>0,8 A | <br>350 mm |
|------------------------------|-----------------|-------------------------------|-----------------------------------------------------------------------------------------------|



MKM-AX



MKM-AL

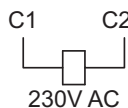


MKM-AXAL

## Okidači za radnu struju

| TRACON              |                | PON<br>ON |                      |
|---------------------|----------------|-----------|----------------------|
| <b>MKM-SHT1-230</b> | <b>MKM1-..</b> | <30 VA    | 0,25 mm <sup>2</sup> |
| <b>MKM-SHT2-230</b> | <b>MKM2-..</b> |           | 0,35 mm <sup>2</sup> |

Pomoću njih se kompaktni prekidači mogu daljinski upravljati. SHT1-230 se može ugraditi na lijevi i desni bok prekidača, dok se SHT2-230 ugrađuje na desni bok prekidača. Jedinica isključuje prekidač već pri 0,7 pogonskog napona. Trajanje pogonskog napona je max. 1s.



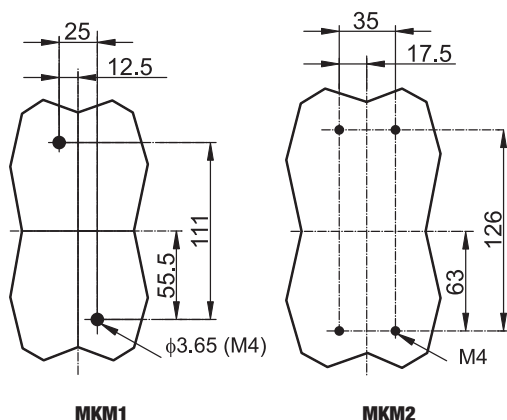
|                                  |
|----------------------------------|
| <b>U<sub>m</sub></b><br>230 V AC |
|----------------------------------|



350 mm



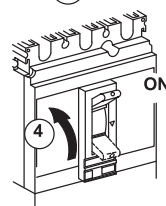
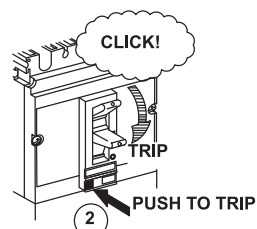
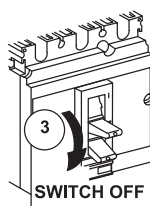
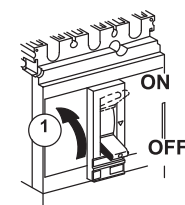
## Montažne rupe



MKM1

MKM2

## Položaji ručke prekidača





## Nožasti osigurači tipa NT



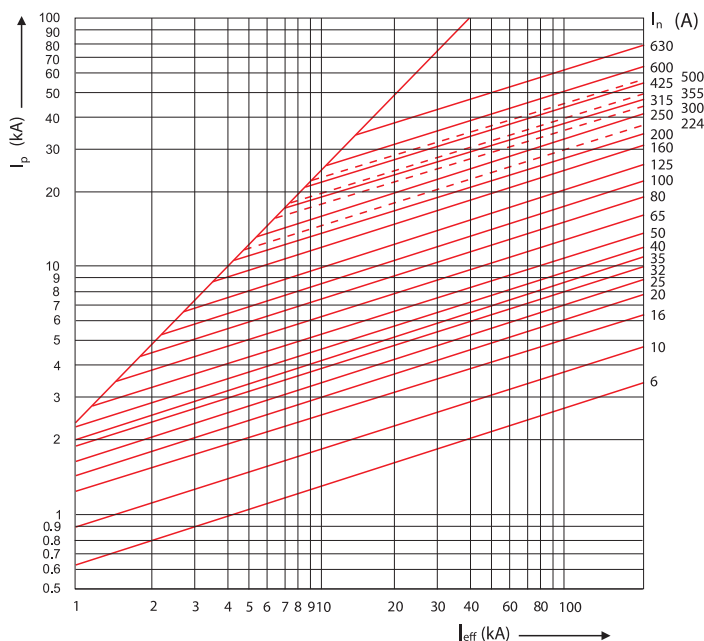
|  | $I_n$     | $P_v$ |
|-----------------------------------------------------------------------------------|-----------|-------|
| 00C                                                                               | 6-160 A   | 7,5 W |
| 00                                                                                | 2-160 A   | 12 W  |
| 0                                                                                 | 6-160 A   | 16 W  |
| 1                                                                                 | 32-250 A  | 23 W  |
| 2                                                                                 | 50-400 A  | 34 W  |
| 3                                                                                 | 160-630 A | 48 W  |

Materijal kućišta: steatit

Materijal topljive niti: bakar (presvučen sa srebrom)

Nožasti osigurači taljenjem uslijed nastale topline u slučaju preopterećenja ili kratkog spoja prekidaju strujni krug i na taj način štite vodove i uređaje iza njih. Njihovom ugradnjom i uporabom postiže se ušteda bez obzira što je nakon svakog prekida umetak potrebno zamijeniti. Prekidna moć im se promjenom umetka lako mijenja i ne zahtijevaju nikakvo održavanje.

NT.. umetci osigurača za opću uporabu, koji prekidnu moć imaju u cijelom području označeni su s „gG”. Ova oznaka po VDE standardu odgovara prijašnjoj oznaci „gL”. Umetci osigurača za zaštitu strujnih krugova motora, koji prekidnu moć imaju samo u dijelu područja, označavaju se s „aM”.



**RELEVANT STANDARD**  
**EN 60269-1**  
**HD 60269-2**

Donji dijagram prikazuje zajamčene karakteristike rastalnih osigurača tipa NT... Na vodoravnoj osi koordinatnog sustava su efektivne vrijednosti neovisne struje kratkog spoja ( $I_{eff}$ ), a na okomitoj osi vršna vrijednost struje ( $I_p$ ). Npr.: u slučaju osigurača za 100 A, ako je vrijednosti neovisne struje kratkog spoja 20 kA, tada vršna vrijednost struje može biti maksimalno 11 kA.

## Izbor tipova

Nožasti osigurači veličine «00C»

| TRACON    |    | I <sub>n</sub> |
|-----------|----|----------------|
| gG        | aM |                |
| NT00C-6   | -  | 6 A            |
| NT00C-10  | -  | 10 A           |
| NT00C-16  | -  | 16 A           |
| NT00C-20  | -  | 20 A           |
| NT00C-25  | -  | 25 A           |
| NT00C-32  | -  | 32 A           |
| NT00C-40  | -  | 40 A           |
| NT00C-50  | -  | 50 A           |
| NT00C-63  | -  | 63 A           |
| NT00C-80  | -  | 80 A           |
| NT00C-100 | -  | 100 A          |
| NT00C-125 | -  | 125 A          |
| NT00C-160 | -  | 160 A          |

Nožasti osigurači veličine «00»

| TRACON   |           | I <sub>n</sub> |
|----------|-----------|----------------|
| gG       | aM        |                |
| -        | NTM00-2   | 2 A            |
| NT00-4   | NTM00-4   | 4 A            |
| NT00-6   | NTM00-6   | 6 A            |
| NT00-10  | NTM00-10  | 10 A           |
| NT00-16  | NTM00-16  | 16 A           |
| NT00-20  | NTM00-20  | 20 A           |
| NT00-25  | NTM00-25  | 25 A           |
| NT00-32  | NTM00-32  | 32 A           |
| NT00-40  | NTM00-40  | 40 A           |
| NT00-50  | NTM00-50  | 50 A           |
| NT00-63  | NTM00-63  | 63 A           |
| NT00-80  | NTM00-80  | 80 A           |
| NT00-100 | NTM00-100 | 100 A          |
| NT00-125 | NTM00-125 | 125 A          |
| NT00-160 | NTM00-160 | 160 A          |

Nožasti osigurači veličine «0»

| TRACON  |          | I <sub>n</sub> |
|---------|----------|----------------|
| gG      | aM       |                |
| NT0-6   | NTM0-6   | 6 A            |
| NT0-10  | NTM0-10  | 10 A           |
| NT0-16  | NTM0-16  | 16 A           |
| NT0-20  | NTM0-20  | 20 A           |
| NT0-25  | NTM0-25  | 25 A           |
| NT0-32  | NTM0-32  | 32 A           |
| NT0-40  | NTM0-40  | 40 A           |
| NT0-50  | NTM0-50  | 50 A           |
| NT0-63  | NTM0-63  | 63 A           |
| NT0-80  | NTM0-80  | 80 A           |
| NT0-100 | NTM0-100 | 100 A          |
| NT0-125 | NTM0-125 | 125 A          |
| NT0-160 | NTM0-160 | 160 A          |

Nožasti osigurači veličine «1»

| TRACON  |          | I <sub>n</sub> |
|---------|----------|----------------|
| gG      | aM       |                |
| NT1-32  | -        | 32 A           |
| NT1-40  | -        | 40 A           |
| NT1-50  | -        | 50 A           |
| NT1-63  | -        | 63 A           |
| NT1-80  | NTM1-80  | 80 A           |
| NT1-100 | NTM1-100 | 100 A          |
| NT1-125 | NTM1-125 | 125 A          |
| NT1-160 | NTM1-160 | 160 A          |
| NT1-200 | NTM1-200 | 200 A          |
| NT1-224 | -        | 224 A          |
| NT1-250 | NTM1-250 | 250 A          |

Nožasti osigurači veličine «2»

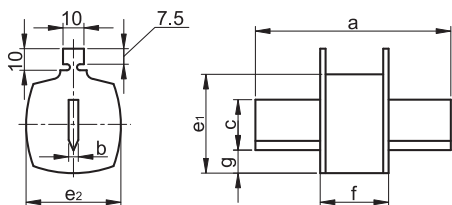
| TRACON  |          | I <sub>n</sub> |
|---------|----------|----------------|
| gG      | aM       |                |
| NT2-50  | -        | 50 A           |
| NT2-63  | -        | 63 A           |
| NT2-80  | -        | 80 A           |
| NT2-100 | -        | 100 A          |
| NT2-125 | NTM2-125 | 125 A          |
| NT2-160 | NTM2-160 | 160 A          |
| NT2-200 | NTM2-200 | 200 A          |
| NT2-224 | NTM2-224 | 224 A          |
| NT2-250 | NTM2-250 | 250 A          |
| -       | NTM2-300 | 300 A          |
| NT2-315 | NTM2-315 | 315 A          |
| NT2-355 | NTM2-355 | 355 A          |
| NT2-400 | NTM2-400 | 400 A          |

Nožasti osigurači veličine «3»

| TRACON  |          | I <sub>n</sub> |
|---------|----------|----------------|
| gG      | aM       |                |
| NT3-160 | -        | 160 A          |
| NT3-200 | -        | 200 A          |
| NT3-315 | NTM3-315 | 315 A          |
| NT3-355 | NTM3-355 | 355 A          |
| NT3-400 | NTM3-400 | 400 A          |
| NT3-425 | NTM3-425 | 425 A          |
| NT3-500 | NTM3-500 | 500 A          |
| NT3-630 | NTM3-630 | 630 A          |

RELEVANT STANDARD  
EN 60269-1  
HD 60269-2

## Skice dimenzija



|  | a (mm)  | f (mm) | g (mm) | c (mm) | e <sub>1</sub> (mm) | e <sub>2</sub> (mm) | b (mm) |
|------------------------------------------------------------------------------------|---------|--------|--------|--------|---------------------|---------------------|--------|
| 00C                                                                                | 78±1.5  | 54-6   | 11.5   | 15     | 45                  | 20                  | 6      |
| 00                                                                                 | 78±1.5  | 54-6   | 11.5   | 15     | 45                  | 29                  | 6      |
| 0                                                                                  | 125±2.5 | 68-8   | 11.5   | 15     | 45                  | 29                  | 6      |
| 1                                                                                  | 135±2.5 | 75-10  | 12     | 21     | 48                  | 48                  | 6      |
| 2                                                                                  | 150±2.5 | 75-10  | 13     | 27     | 58                  | 58                  | 6      |
| 3                                                                                  | 150±2.5 | 75-10  | 14     | 33     | 67                  | 67                  | 6      |



## Osnove za osigurače

| TRACON                                                                           |            |  | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | H<br>(mm) | K<br>(mm) | M<br>(mm) |
|----------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|  | NTA-00C-00 | 00C, 00                                                                           | 120       | 100       | 25        | 8         | 30        | 25        | 60        | 56        | —         | 8         |
|                                                                                  | NTA-0      | 0                                                                                 | 170       | 150       | 25        | 8         | 35        | 30        | 64        | 74        | —         | 8         |
|                                                                                  | NTA-1      | 1                                                                                 | 200       | 175       | 25        | 12        | 49        | 32        | 85        | 80        | 30        | 10        |
|                                                                                  | NTA-2      | 2                                                                                 | 224       | 200       | 25        | 12        | 49        | 32        | 86        | 80        | 30        | 10        |
|                                                                                  | NTA-3      | 3                                                                                 | 235       | 210       | 25        | 12        | 49        | 32        | 88        | 80        | 30        | 12        |
|  | NTA-00/3   | 00C, 00                                                                           | 132       | 100       | —         | 8         | 100       | 24        | 58        | 56,5      | 70        | 8         |

## TRACON



## NTA-00C-00 ... NTA-3:

sastoje se od kontakata i stezaljki učvršćenih na osnovu od samogasivog plastičnog materijala, otpornog na visoku temperaturu

## NTA-00/3:



NTA-00C-00, NTA-0



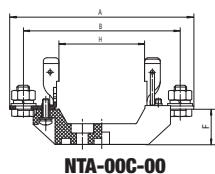
NTA-1, NTA-2



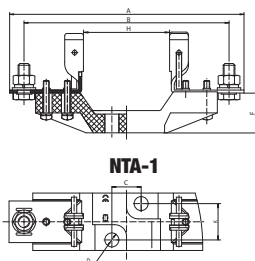
NTA-3



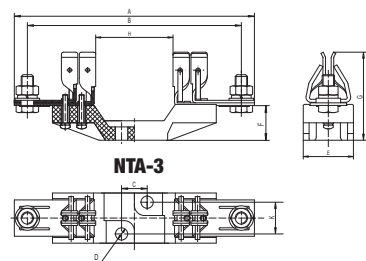
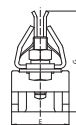
NTA-00/3



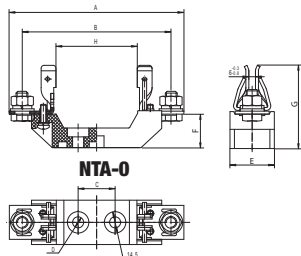
NTA-00C-00



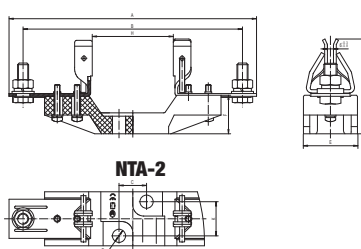
NTA-1



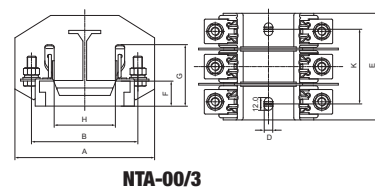
NTA-3



NTA-0



NTA-2

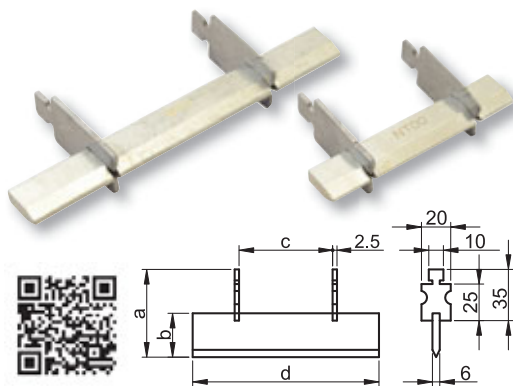


NTA-00/3

## Kratkospojni noževi

| TRACON |  | a<br>(mm) | b<br>(mm) | c<br>(mm) | d<br>(mm) |
|--------|-----------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|
| NTR00  | 00C, 00                                                                           | 45        | 15        | 45±1.5    | 78±1.5    |
| NTR0   | 0                                                                                 | 46        | 15        | 62±3      | 125±2.5   |
| NTR1   | 1                                                                                 | 51        | 20        | 62±3      | 135±2.5   |
| NTR2   | 2                                                                                 | 56        | 25        | 62±3      | 150±2.5   |
| NTR3   | 3                                                                                 | 62        | 32        | 65±3      | 150±2.5   |

Primjenjuju se prvenstveno za rastavljanje nul-vodiča.



## Izolacijska ručica

| TRACON |  |  |
|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| NTK    | 1000 V                                                                            | 00C...3                                                                           |

Uporabom izolacijske ručke mogu se umetki nožastih osigurača jednostavnije umetati i vaditi iz podnožja (dok su bez opterećenja). Mogu se uporabljati za rastavljanje strujnog kruga na odsjeke na potpuno siguran i dobro vidljiv način.



## Reflektori



E1/12-E1/21

## Osigurač-rastavna sklopka za valjkaste osigurače

230/400  
V ACIP  
20

35×7.5

T<sub>a</sub>  
-25...+55°CU<sub>i</sub>  
690 VV0  
UL94

50/60 Hz

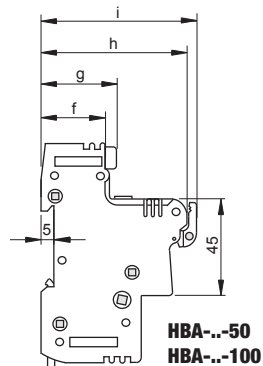
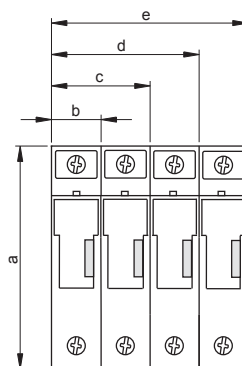
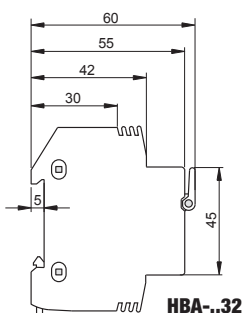
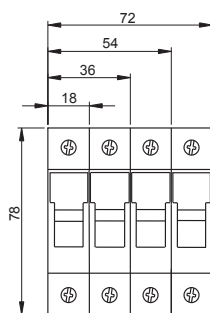
2000 m



- Mogućnost dvostranog spajanja po izboru odozgo ili odozdo.
- Za valjkaste osigurače vrsta gG (opća uporaba) i aM (motori)
- Zakiveno kućište
- U višefaznoj izvedbi
- Nazivna kratkospojna prekidna moć AC 500 V; 100 kA AC 690 V; 50 kA
- Nezapaljivo plastično kućište
- EN 60269 serija

RELEVANT STANDARD  
EN 60947-1RELEVANT STANDARD  
EN 60947-3

| TRACON     | xP | I <sub>n</sub><br>(A) | mm <sup>2</sup> |            |  |
|------------|----|-----------------------|-----------------|------------|--|
| HBA-1P-20  | 1P | 20 A                  | 1,5-6           | 8 × 32 mm  |  |
| HBA-2P-20  | 2P | 20 A                  | 1,5-6           | 8 × 32 mm  |  |
| HBA-3P-20  | 3P | 20 A                  | 1,5-6           | 8 × 32 mm  |  |
| HBA-1P-32  | 1P | 32 A                  | 1,5-6           | 10 × 38 mm |  |
| HBA-2P-32  | 2P | 32 A                  | 1,5-6           | 10 × 38 mm |  |
| HBA-3P-32  | 3P | 32 A                  | 1,5-6           | 10 × 38 mm |  |
| HBA-1P-50  | 1P | 50 A                  | 1,5-25          | 14 × 51 mm |  |
| HBA-2P-50  | 2P | 50 A                  | 1,5-25          | 14 × 51 mm |  |
| HBA-3P-50  | 3P | 50 A                  | 1,5-25          | 14 × 51 mm |  |
| HBA-1P-100 | 1P | 100 A                 | 1,5-25          | 22 × 58 mm |  |
| HBA-2P-100 | 2P | 100 A                 | 1,5-25          | 22 × 58 mm |  |
| HBA-3P-100 | 3P | 100 A                 | 1,5-25          | 22 × 58 mm |  |



|            | a (mm) | b (mm) | c (mm) | d (mm) | e (mm) | f (mm) | g (mm) | h (mm) | i (mm) |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| HBA-...50  | 107    | 27     | 54     | 81     | 108    | 31     | 39     | 72.5   | 77.5   |
| HBA-...100 | 113    | 35.5   | 71     | 106.5  | 142    | 31     | 39     | 72.5   | 77.5   |

## Valjkasti osigurač

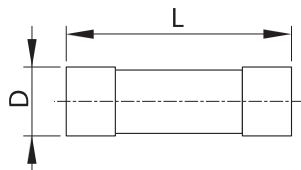
8×32 mm

| TRACON     |             | I <sub>n</sub> |
|------------|-------------|----------------|
| gG         | aM          |                |
| HB-8x32-2  | HBM-8x32-2  | 2 A            |
| HB-8x32-4  | HBM-8x32-4  | 4 A            |
| HB-8x32-6  | HBM-8x32-6  | 6 A            |
| HB-8x32-8  | HBM-8x32-8  | 8 A            |
| HB-8x32-10 | HBM-8x32-10 | 10 A           |
| HB-8x32-16 | HBM-8x32-16 | 16 A           |

14×51 mm

| TRACON      |              | I <sub>n</sub> |
|-------------|--------------|----------------|
| gG          | aM           |                |
| HB-14x51-2  | HBM-14x51-2  | 2 A            |
| HB-14x51-4  | HBM-14x51-4  | 4 A            |
| HB-14x51-6  | HBM-14x51-6  | 6 A            |
| HB-14x51-8  | HBM-14x51-8  | 8 A            |
| HB-14x51-10 | HBM-14x51-10 | 10 A           |
| HB-14x51-16 | HBM-14x51-16 | 16 A           |
| HB-14x51-20 | HBM-14x51-20 | 20 A           |
| HB-14x51-25 | HBM-14x51-25 | 25 A           |
| HB-14x51-32 | HBM-14x51-32 | 32 A           |
| HB-14x51-40 | HBM-14x51-40 | 40 A           |
| HB-14x51-50 | HBM-14x51-50 | 50 A           |

|       | D (mm) | L (mm) |
|-------|--------|--------|
| 8x32  | 8,5    | 31,5   |
| 10x38 | 10,3   | 38     |
| 14x51 | 14,3   | 51     |
| 22x58 | 22,2   | 58     |



RELEVANT STANDARD  
EN 60947-1

RELEVANT STANDARD  
EN 60947-3

10×38 mm

| TRACON      |              | I <sub>n</sub> |
|-------------|--------------|----------------|
| gG          | aM           |                |
| HB-10x38-1  | HBM-10x38-1  | 1 A            |
| HB-10x38-2  | HBM-10x38-2  | 2 A            |
| HB-10x38-4  | HBM-10x38-4  | 4 A            |
| HB-10x38-6  | HBM-10x38-6  | 6 A            |
| HB-10x38-8  | HBM-10x38-8  | 8 A            |
| HB-10x38-10 | HBM-10x38-10 | 10 A           |
| HB-10x38-16 | HBM-10x38-16 | 16 A           |
| HB-10x38-20 | HBM-10x38-20 | 20 A           |
| HB-10x38-25 | HBM-10x38-25 | 25 A           |
| HB-10x38-32 | HBM-10x38-32 | 32 A           |

22×58 mm

| TRACON       |               | I <sub>n</sub> |
|--------------|---------------|----------------|
| gG           | aM            |                |
| HB-22x58-10  | HBM-22x58-10  | 10 A           |
| HB-22x58-16  | HBM-22x58-16  | 16 A           |
| HB-22x58-20  | HBM-22x58-20  | 20 A           |
| HB-22x58-25  | HBM-22x58-25  | 25 A           |
| HB-22x58-32  | HBM-22x58-32  | 32 A           |
| HB-22x58-40  | HBM-22x58-40  | 40 A           |
| HB-22x58-50  | HBM-22x58-50  | 50 A           |
| HB-22x58-63  | HBM-22x58-63  | 63 A           |
| HB-22x58-80  | HBM-22x58-80  | 80 A           |
| HB-22x58-100 | HBM-22x58-100 | 100 A          |



## UČITAJTE ŠIFRU!

- Pogledajte naše novosti
- Budite u tijeku

Naša ponuda se brzo i kontinuirano razvija!  
Katalog prikazuje stanje u travnju 2019. godine.  
Za aktualne informacije posjetite našu  
web stranicu!



## Vodoravni osigurači-rastavne sklopke za montažne ploče



Detaljne tehničke parametre i dimenzije KETO rastavnih sklopki s nožastim osiguračem od proizvođača Jean Müller i COSMO sustava sabirnica, te njihovog dopunskog pribora možete naći u katalogu ili web trgovini TRACON-a. Dimenzije i detaljne tehničke parametre rastavnih sklopki s nožastim osiguračem možete naći na web stranici [www.traconelectric.com!](http://www.traconelectric.com!)

- priključivanje vijcima (A) ili stezaljkama (B)
- 1-, 2-, 3- i 4-polna izvedba
- 4 veličine za nožaste osigurače 00, 1, 2 i 3
- moguća je naknadna instalacija, univerzalni načini priključivanja



| TRACON        |    | $I_n$ |    |   | mm <sup>2</sup>    | L<br>(mm) | W<br>(mm) | H<br>(mm) | $U_i$   | $U_e$            |
|---------------|----|-------|----|---|--------------------|-----------|-----------|-----------|---------|------------------|
| KETO-00-1/F   | 1P | 160   | 00 | A | max. 95, M10       | 204       | 50        | 84        | 800 VAC | 690 VAC, 440 VDC |
| KETO-00-1/R95 |    |       |    | B | 1,5-95             | 204       | 50        | 84        | 800 VAC | 690 VAC, 440 VDC |
| KETO-1-1/F    | 3P | 250   | 1  | A | max. 150, M10      | 306       | 69        | 117       | 800 VAC | 690 VAC, 440 VDC |
| KETO-3-1/F    |    |       |    | A | max. 300, M10      | 306       | 91        | 143       | 800 VAC | 690 VAC, 440 VDC |
| KETO-00-3/F   | 3P | 160 A | 00 | A | max. 95, 1×M8/2×M5 | 204       | 106       | 84        | 800 VAC | 690 VAC, 440 VDC |
| KETO-00-3/R95 |    |       |    | B | 1,5-95             | 204       | 106       | 84        | 800 VAC | 690 VAC, 440 VDC |
| KETO-1-3/F    | 3P | 250 A | 1  | A | max. 150, M10      | 306       | 184       | 117       | 800 VAC | 690 VAC, 440 VDC |
| KETO-1-3/R150 |    |       |    | B | 35-150             | 306       | 184       | 117       | 800 VAC | 690 VAC, 440 VDC |
| KETO-2-3/F    | 3P | 400 A | 2  | A | max. 240, M10      | 306       | 210       | 117       | 800 VAC | 690 VAC, 440 VDC |
| KETO-2-3/R300 |    |       |    | B | 95-300             | 306       | 210       | 117       | 800 VAC | 690 VAC, 440 VDC |
| KETO-3-3/F    | 3P | 630 A | 3  | A | max. 300, M10      | 306       | 250       | 117       | 800 VAC | 690 VAC, 440 VDC |
| KETO-3-3/R300 |    |       |    | B | 95-300             | 306       | 250       | 117       | 800 VAC | 690 VAC, 440 VDC |

## ZATRAŽITE NAŠ KETO KATALOG OD SLUŽBE ZA KUPCE ILI KOMERCIJALISTA!



### SVEOBUHVAJTNA PONUDA!

- priključne stezaljke
- nosači za redanje 00
- zaštite od dodira
- adapteri za montažne nosače, 00-1
- elementi za lokote, 00-3
- pokazivači stanja
- nadzori osigurača
- zaštita od krađe struje
- tehnički parametri
- nacrti dimenzija



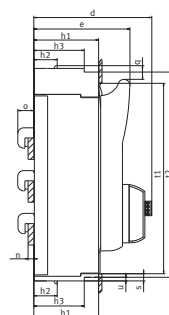
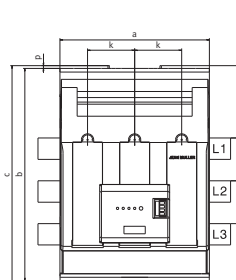
## Vodoravni osigurači-rastavne sklopke za montažu na sabirnice

Mogu se lagano instalirati i naknadno na već izvedene 3-polne sustave sabirnice s razmakom 60 i 100 mm. Elementi za pričvršćivanje smješteni iza nosača priključnu kontaktnu površinu pritišću na sabirnice i time osim pogonski sigurnog pridržavanja omogućuju ujedno i napajanje rastavne sklopke.

- 3-polno priključivanje na sabirnice/vijcima/stezaljkama
- razmak nosača 60 i 100 mm
- debljina nosača 5-10 mm
- za nožaste osigurače veličine 00C, 00, 1, 2 i 3



| TRACON                        |        | $I_n$ |    | $a \times b$ |   |                    | mm <sup>2</sup> | L<br>(mm) | W<br>(mm) | H<br>(mm) |
|-------------------------------|--------|-------|----|--------------|---|--------------------|-----------------|-----------|-----------|-----------|
| <b>KETO-00-3/60/AOU/F</b>     | 60 mm  | 160 A | 00 | 20-30 × 5-10 | A | max. 95, 1×M8/2×M5 |                 | 204       | 106       | 109       |
| <b>KETO-00-3/60/AOU/R95</b>   | 60 mm  | 160 A | 00 | 20-30 × 5-10 | B | 1,5-95             |                 | 204       | 106       | 109       |
| <b>KETO-00-3/60/AOU/R95T*</b> | 60 mm  | 160 A | 00 | 20-30 × 5-10 | B | 1,5-95             |                 | 204       | 106       | 109       |
| <b>KETO-1-3/60/AOU/F</b>      | 60 mm  | 250 A | 1  | 20-30 × 5-10 | A | max. 150, M10      |                 | 306       | 184       | 117       |
| <b>KETO-1-3/60/AOU/R150</b>   | 60 mm  | 250 A | 1  | 20-30 × 5-10 | B | 35-150             |                 | 306       | 184       | 117       |
| <b>KETO-2-3/60/AOU/F</b>      | 60 mm  | 400 A | 2  | 20-30 × 5-10 | A | max. 240, M10      |                 | 306       | 210       | 135       |
| <b>KETO-2-3/60/AOU/R300</b>   | 60 mm  | 400 A | 2  | 20-30 × 5-10 | B | 95-300             |                 | 306       | 210       | 135       |
| <b>KETO-3-3/60/AOU/F</b>      | 60 mm  | 630 A | 3  | 20-30 × 5-10 | A | max. 300, M10      |                 | 306       | 250       | 143       |
| <b>KETO-3-3/60/AOU/R300</b>   | 60 mm  | 630 A | 3  | 20-30 × 5-10 | B | 95-300             |                 | 306       | 250       | 143       |
| <b>KETO-1-3/100/AOU/F</b>     | 100 mm | 250 A | 1  | 20-50 × 5-10 | A | max. 150, M10      |                 | 306       | 184       | 146       |
| <b>KETO-2-3/100/AOU/F</b>     | 100 mm | 400 A | 2  | 20-50 × 5-10 | A | max. 240, M10      |                 | 306       | 210       | 144       |
| <b>KETO-3-3/100/AOU/F</b>     | 100 mm | 630 A | 3  | 20-50 × 5-10 | A | max. 300, M10      |                 | 306       | 250       | 152       |



Tvrtka Jean Müller na tržištu sklopnih aparata jake struje ima odlučujuću ulogu od 1897. godine. Njeni pouzdani i kvalitetni proizvodi priznati su na cijelom svijetu, sada se u tu kakvoću možete i Vi uvjeriti.

## Okomiti osigurači-rastavne sklopke za 185 mm-ski sustav sabirnica

500/690  
V AC220/400  
V DC40/60 Hz  
  $U_i$   
1 kVIP10  
IP20  
 $T_a$   
-25...+55°C Piktogrami

I/O

Glavne značajke:

Spajanje kabela odozdo ili odozgo može se odabrati okretanjem aparata za 180 stupnjeva.

Za mjerenje napona izvedeni su kontrolni provrti na poklopcu aparata.

## Izvedba za isklapanje po polovima

| TRACON           | $I_n$ |  |  mm <sup>2</sup> | L<br>(mm) | W<br>(mm) | H<br>(mm) |  |
|------------------|-------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------|-----------|-----------|-------------------------------------------------------------------------------------|
| SL00-3X/185/F    | 160 A | 00                                                                                | Max. 95                                                                                           | 662       | 50        | 135,5     |  |
| SL00-3X/185/KU00 | 160 A | 00                                                                                | 10 – 95                                                                                           | 662       | 50        | 135,5     |  |
| SL1-3X/3A        | 250 A | 1                                                                                 | 25 – 150                                                                                          | 762       | 99        | 194       |  |
| SL1-3X/9/KM2G-F  | 250 A | 1                                                                                 | 25 – 240                                                                                          | 762       | 99        | 194       |  |
| SL2-3X/3A        | 400 A | 2                                                                                 | 25 – 240                                                                                          | 762       | 99        | 194       |  |
| SL2-3X/9/KM2G-F  | 400 A | 2                                                                                 | 25 – 240                                                                                          | 762       | 99        | 194       |  |
| SL3-3X/3A        | 630 A | 3                                                                                 | 25 – 300                                                                                          | 762       | 99        | 194       |  |
| SL3-3X/9/KM2G-F  | 630 A | 3                                                                                 | 25 – 240                                                                                          | 762       | 99        | 194       |  |

## Izvedba za istodobno isklapanje 3 pola

| TRACON            | $I_n$ |  |  mm <sup>2</sup> | L<br>(mm) | W<br>(mm) | H<br>(mm) |    |
|-------------------|-------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------|-----------|-----------|---------------------------------------------------------------------------------------|
| SL00-3X3/185/F    | 160 A | 00                                                                                | Max. 95                                                                                           | 662       | 50        | 150       |    |
| SL00-3X3/185/KU00 | 160 A | 00                                                                                | 10 – 95                                                                                           | 662       | 50        | 150       |   |
| SL1-3X3/3A        | 250 A | 1                                                                                 | 25 – 150                                                                                          | 762       | 99        | 202       |  |
| SL1-3X3/9/KM2G-F  | 250 A | 1                                                                                 | 25 – 240                                                                                          | 762       | 99        | 202       |  |
| SL2-3X3/3A        | 400 A | 2                                                                                 | 25 – 240                                                                                          | 762       | 99        | 202       |  |
| SL2-3X3/9/KM2G-F  | 400 A | 2                                                                                 | 25 – 240                                                                                          | 762       | 99        | 202       |  |
| SL3-3X3/3A        | 630 A | 3                                                                                 | 25 – 300                                                                                          | 762       | 99        | 202       |  |
| SL3-3X3/9/KM2G-F  | 630 A | 3                                                                                 | 25 – 240                                                                                          | 762       | 99        | 202       |  |

Ručka za uklanjanje

- Duga ručka za sigurno i brzo uklanjanje
- Mogućnost zaključavanja bilo kojeg pola u ON i OFF položaju (pri izvedbi s isklapanjem po polovima također)

Mjerenje i kontrola

- Sigurno mjerenje napona na kontaktu osnove osigurača kroz kontrolne provrte

Montaža

- Sigurna montaža pod naponom također zahvaljujući zaštiti kontakata od slučajnog dodira
- Zamjenjive ušice za pričvršćivanje na sabirnice



## Dopunski pribor za izvedbu sustava sabirnica s razmakom 100 i 185 mm

**Držač sabirnice SH100/185 (za sustave s razmakom 100 i 185 mm)**



Držači sabirnice pogodni su za pričvršćivanje sabirnica s razmakom 100 i 185 mm, pomoću njih može se formirati optimalni sustav sabirnica za okomite osigurače-rastavne sklopke, također. Dopunjeni s elementima za maskiranje može se izvesti sustav sabirnica koji je potpuno zaštićen od dodira.

### Tehnički parametri:

- Broj polova: 3
- Vijci za pričvršćivanje: M12
- Širina sabirnice: 100 mm
- Razmak između nosača: 100 ili 185 mm
- Dimenzije: 38×442×25 mm  
(širina × visina × debljina)

**Vijčana maska za sabirnice H-SL123/662 (za sustave s razmakom 185 mm)**



Pomoću okomite, prednje maske za sabirnice mogu se izolirati nosači s prednje strane radi zaštite od dodira u 3-faznim sustavima sabirnica s razmakom 185 mm.

### Tehnički parametri:

- Broj polova: 3
- Vijci za pričvršćivanje: plastični, s ušicom
- Širina sabirnice: 100 mm
- Razmak između nosača: 185 mm
- Dimenzije: 100×662×2 mm  
(širina × visina × debljina)

**Bezvičajna maska za sabirnice H-RF (za sustave s razmakom 100 i 185 mm)**



Ima istu funkciju kao vijčana maska za sabirnice, samo se način montaže razlikuje. Maska se na sabirnicu može postaviti laganim pritiskom.

Uporaba alata nije potrebna.

### Tehnički parametri:

- Broj polova: 3
- Vijci za pričvršćivanje: plastični, s ušicom
- Širina sabirnice: 100 mm
- Razmak između nosača: 100 ili 185 mm
- Dimenzije: 99×572×36 mm  
(širina × visina × debljina)

**Bočna zaštita za držače sabirnica HW-SH/185 (s razmakom 185 mm)**



Pomoću nje može se izolirati držač sabirnice SH100/185 s bočne strane. Sustavi sabirnice širine 185 mm montirani na držače SH100/185 mogu se potpuno zaštititi s prednje strane ako se bočna zaštita dopuni prednjom vijčanom ili bezvičajnom maskom.

### Tehnički parametri:

- Broj polova: 3
- Vijci za pričvršćivanje: plastični, s ušicom
- Razmak između nosača: 185 mm
- Dimenzije: 25×442×38 mm  
(širina × visina × debljina)

## Dopunski pribor za izvedbu sustava sabirnica s razmakom 185 mm



**Adapter AL-SL00/42 za izdizanje aparata veličine 00, 00C**

Pomoću njega aparat veličine 00, 00C može se poravnati s aparatima veličine 1-2-3. Time razvodni ormar poprima estetičniji izgled, a rukovanje ugrađenim aparatima postaje jednostavnije.

### Tehnički parametri:

- Broj polova: 3
- Veličina aparata: 00, 00C
- Vijci za pričvršćivanje: M12
- Širina sabirnice: 100 mm
- Razmak između nosača: 185 mm
- Dimenzije: 99×450×42 mm  
(širina × visina × debljina)



**SK-L/SL00/15**

**Stezaljka sabirnice SK-L/SL00 za aparate veličine 00, 00C**

Pomoću njih aparati tipa SL00 se brže postavljaju na sabirnicu.

### Tehnički parametri:

- Materijal: pokositreni bakar
- Veličina aparata: 00, 00C
- Vijci za pričvršćivanje: M12
- Debljina nosača: 5-10 mm



## 60 mm-ski COSMO sustav sabirnica



Cjelovito rješenje za izgradnju sustava sabirnica s 60 mm-skim razmakom uporabom sljedećih elemenata.

### Glavne značajke:

- Široka primjenjivost
- Kratko vrijeme instaliranja
- Manje ožičenja
- Lagana montaža
- Univerzalne dimenzije



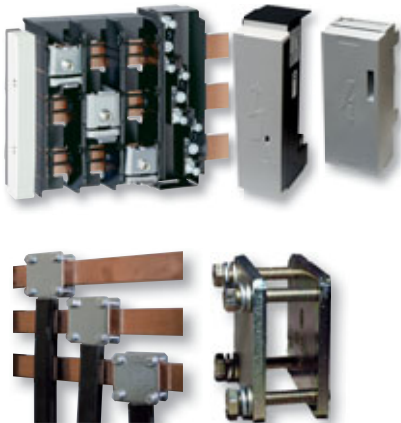
## Držači sabirnica i njihove zaštite (60 mm-ski razmak)



| TRACON            | Izvedba                              |
|-------------------|--------------------------------------|
| <b>SST-60/1</b>   | Držać sabirnice, 1-polni             |
| <b>SST-60/3</b>   | Držać sabirnice, 3-polni             |
| <b>SST-60/4</b>   | Držać sabirnice, 4-polni             |
| <b>A-SST-60/3</b> | Bočna zaštita za 3-polnu sabirnicu   |
| <b>A-SST-60/4</b> | Bočna zaštita za 4-polnu sabirnicu   |
| <b>SAD60/3</b>    | Prednja zaštita za 3-polnu sabirnicu |
| <b>SAD60/4</b>    | Prednja zaštita za 4-polnu sabirnicu |

Dvodjeljni izolatori s ugrađenim držačem razmaka služe za ugradnju sabirnica debljine 5 i 10 mm, širine 20-30 mm. Zaštite pokrivaju sve tri faze, te se na nosače mogu postaviti laganim pritiskom. Mogu se pomicati međusobno ih prekrivajući, čime se postižu zaštite različitih širina bez rezanja.

## Odcjepni moduli (60 mm-ski razmak)



| TRACON                    | Izvedba i odcjep (širina x debljina)                                       |
|---------------------------|----------------------------------------------------------------------------|
| <b>AM-60/250/3</b>        | do 250A, 1,5mm <sup>2</sup> -70mm <sup>2</sup>                             |
| <b>AM-60/250/3/120-5</b>  | do 250A, 16mm <sup>2</sup> -120mm <sup>2</sup> , za nosač debljine 5 mm    |
| <b>AM-60/250/3/120-10</b> | do 250A, 16mm <sup>2</sup> -120mm <sup>2</sup> , za nosač debljine 10 mm   |
| <b>AM-60/630/3</b>        | do 630A, 70mm <sup>2</sup> -300mm <sup>2</sup> , za nosač debljine 5/10 mm |
| <b>PK30/34X10</b>         | za nosač širine 30 mm i pločasti nosač 34×10 mm                            |
| <b>PK40/34X10</b>         | za nosač širine 40 mm i pločasti nosač 34×10 mm                            |
| <b>PK50/34X10</b>         | za nosač širine 50 mm i pločasti nosač 34×10 mm                            |
| <b>PK50/54X10</b>         | za nosač širine 50 mm i pločasti nosač 54×10 mm                            |
| <b>PK60/34X10</b>         | za nosač širine 60 mm i pločasti nosač 34×10 mm                            |
| <b>PK60/54X10</b>         | za nosač širine 60 mm i pločasti nosač 54×10 mm                            |

Pogodni su za napajanje sabirnica, kao i za odcjepljivanje kabela. AM... moduli sadržavaju zaštitu od dodira i namijenjeni su za odcjepljivanje kabela sa sabirnica. PK... moduli su izvedeni bez zaštite, njihovi stezni vijci sabirnice odcjepa pritišću na glavni nosač.

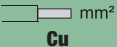
## Odcjepne stezaljke



| TRACON             |                     |                        |
|--------------------|---------------------|------------------------|
| 5 mm               | 10 mm               | mm <sup>2</sup>        |
| <b>LAK5/1,5-16</b> | <b>LAK10/1,5-16</b> | 1,5-16 mm <sup>2</sup> |
| <b>LAK5/1,5-35</b> | <b>LAK10/1,5-35</b> | 1,5-35 mm <sup>2</sup> |
| <b>LAK5/1,5-50</b> | <b>LAK10/1,5-50</b> | 1,5-50 mm <sup>2</sup> |
| <b>LAK5/16-70</b>  | <b>LAK10/16-70</b>  | 16-70 mm <sup>2</sup>  |
| <b>LAK5/16-120</b> | <b>LAK10/16-120</b> | 16-120 mm <sup>2</sup> |
| <b>LAK5/16-185</b> | <b>LAK10/16-185</b> | 16-185 mm <sup>2</sup> |

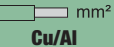


## Vijčana stezaljka

| TRACON     |  mm <sup>2</sup><br>Cu |  a x b | X  |  |
|------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>S00</b> | 6-50                                                                                                    | 9×5 mm, Cu                                                                              | 2 × M5                                                                              | 00 <b>KETO, SL..</b>                                                              |
| <b>S1</b>  | 25-150                                                                                                  | 18×10 mm, Cu                                                                            | 2 × M6                                                                              | 1 <b>KETO</b>                                                                     |
| <b>S2</b>  | 25-240                                                                                                  | 19×10 mm, Cu                                                                            | 2 × M8                                                                              | 2 <b>KETO</b>                                                                     |
| <b>S3</b>  | –                                                                                                       | 21×15 mm, Cu                                                                            | 2 × M8                                                                              | 3 <b>KETO</b>                                                                     |



## Prizmatična stezaljka

| TRACON       |  mm <sup>2</sup><br>Cu/Al | X  |  |
|--------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>P0070</b> | 1×10 - 70                                                                                                  | 2 × M5                                                                              | 00 <b>KETO, SL..</b>                                                              |
| <b>P0095</b> | 1×10 - 95                                                                                                  | 2 × M5                                                                              | 1 <b>KETO, SL..</b>                                                               |
| <b>P1</b>    | 1×70 - 150                                                                                                 | 2 × M6                                                                              | 1 <b>KETO</b>                                                                     |
| <b>P2</b>    | 1×120 - 240                                                                                                | 2 × M8                                                                              | 2 <b>KETO</b>                                                                     |
| <b>P3</b>    | 1×120 - 300                                                                                                | 2 × M8                                                                              | 3 <b>KETO</b>                                                                     |
| <b>P12</b>   | 2×70 - 95                                                                                                  | 2 × M6                                                                              | 1 <b>KETO</b>                                                                     |
| <b>P22</b>   | 2×120 - 150                                                                                                | 2 × M8                                                                              | 2 <b>KETO</b>                                                                     |
| <b>P32</b>   | 2×120 - 240                                                                                                | 2 × M8                                                                              | 3 <b>KETO</b>                                                                     |



P..



P.2

## V-stezaljka

| TRACON               |  mm <sup>2</sup><br>Cu/Al |  a x b |  |
|----------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>KM2G-F</b>        | 25-240 mm <sup>2</sup> Cu/Al                                                                               | –                                                                                       | 1, 2, 3 <b>L/SL..</b>                                                             |
| <b>KM2G</b>          | 25-300 mm <sup>2</sup> Cu/Al                                                                               | –                                                                                       | 1, 2, 3 <b>L/SL..</b>                                                             |
| <b>KM2G-F/A30-40</b> | 25-240 mm <sup>2</sup> Cu/Al                                                                               | 30-40 mm                                                                                | 1, 2, 3 <b>L/SL..</b>                                                             |
| <b>KM2G/A30-40</b>   | 25-300 mm <sup>2</sup> Cu/Al                                                                               | 30-40 mm                                                                                | 1, 2, 3 <b>L/SL..</b>                                                             |



KM2G../A30-40



KM2G..

## U-stezaljka

| TRACON                   |  mm <sup>2</sup><br>Cu/Al |  a x b |  |
|--------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>KU00/1/2X/A30-40*</b> | 2×10-95 mm <sup>2</sup> Cu/Al                                                                                | 30-40 mm                                                                                  | 00 <b>L/SL..</b>                                                                    |
| <b>KU00</b>              | 10-95 mm <sup>2</sup> Cu/Al                                                                                  | –                                                                                         | 00 <b>L/SL..</b>                                                                    |
| <b>KU00/2</b>            | 1×95/2×50 mm <sup>2</sup> Cu/AL                                                                              | –                                                                                         | 00 <b>L/SL..</b>                                                                    |



KU00/1/2x A30-40



KU00

\* Izvedba s ušicom za priključivanje, montira se na nosač.

Radi pouzdanog i pogonski sigurnog rada u elektroenergetskom sustavu sve su Jean Müllerove osigurač-rastavne sklopke opremljene posebno oblikovanim nožastim kontaktima. Zahvaljujući optimalnom lučnom opterećenju oblik vrha kontakata skraćuje vrijeme trajanja električnog luka i time smanjuje erodaciju kontaktne površine. Ravna površina sredine kontakata osigurava odgovarajuću kontaktnu površinu uz minimalne gubitke snage. Oblik donjeg dijela kontakata štiti aparate od zavarivanja kontakata tijekom sklapanja u kratkom spoju, pa tako nazivna prekidna moć rastavnih sklopki u kratkom spoju može dostići i 110 kA!





**Industrijske teretne sklopke**

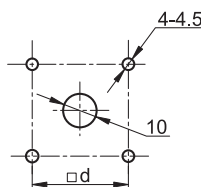
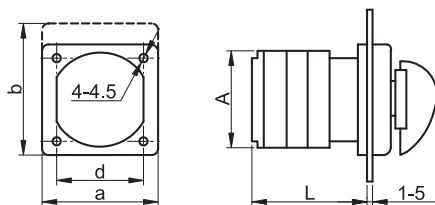

Piktogrami

**I/O**

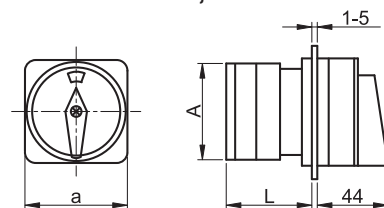

|                                                                                                       |                                                                                                                                                                        | TK-20       | TK-25      | TK-32      | TK-63     | TK-125      | TK-160    |           |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|------------|-----------|-------------|-----------|-----------|
| <b>I<sub>th</sub> (A)</b>                                                                             |                                                                                                                                                                        | 20          | 25         | 32         | 63        | 125         | 160       |           |
| <b>P<sub>e</sub> (kW)</b>                                                                             | 400 V~                                                                                                                                                                 | AC-23A      | 7,5        | 11         | 15        | 30          | 45        | 75        |
|                                                                                                       |                                                                                                                                                                        | AC-2        | 7,5        | 11         | 15        | 30          | 45        | 55        |
|                                                                                                       |                                                                                                                                                                        | <b>AC-3</b> | <b>5,5</b> | <b>7,5</b> | <b>11</b> | <b>18,5</b> | <b>30</b> | <b>37</b> |
|                                                                                                       |                                                                                                                                                                        | AC-4        | 1,5        | 3          | 5,5       | 7,5         | 12        | 15        |
| <b>I<sub>e</sub> (A)</b>                                                                              | 400 V~                                                                                                                                                                 | AC-21A      | 20         | 25         | 32        | 63          | 100       | 150       |
|                                                                                                       |                                                                                                                                                                        | AC-22A      | 20         | 25         | 32        | 63          | 100       | 150       |
|                                                                                                       |                                                                                                                                                                        | AC-23A      | 15         | 22         | 30        | 37          | 90        | 135       |
|                                                                                                       |                                                                                                                                                                        | AC-2        | 15         | 22         | 30        | 37          | 90        | 135       |
|                                                                                                       |                                                                                                                                                                        | <b>AC-3</b> | <b>11</b>  | <b>15</b>  | <b>22</b> | <b>36</b>   | <b>75</b> | <b>95</b> |
|                                                                                                       |                                                                                                                                                                        | AC-4        | 3,5        | 6,5        | 11        | 15          | 30        | 55        |
|                                                                                                       |                                                                                                                                                                        | AC-15       | 4          | 5          | 6         | -           | -         | -         |
|                                                                                                       |                                                                                                                                                                        | 240 V =     | DC-13      | 1          | 1,5       | 4           | -         | -         |
|                                                                                                       |  (×10 <sup>5</sup> )                                                                  | 5           | 5          | 3          | 1,5       | 1,5         | 1,5       |           |
|  (×10 <sup>5</sup> ) | 3                                                                                                                                                                      | 3           | 1,2        | 1          | 1         | 1           |           |           |
|                      | 200                                                                                                                                                                    | 150         | 100        | 60         | 30        | 30          |           |           |
|  mm <sup>2</sup>     | <br> | 1×2,5       | 1×4,0      | 1×6,0      | 1×25      | 1×50        | 1×70      |           |
|                                                                                                       |                                                                                                                                                                        | 2×1,5       | 2×1,5      | 2×4,0      | 2×10      | 2×25        | 2×35      |           |
|                                                                                                       |                                                                                                                                                                        | 1×2,5       | 1×4,0      | 1×4,0      | 1×16      | 1×35        | 1×50      |           |
|                                                                                                       |                                                                                                                                                                        | 2×1,5       | 2×1,5      | 2×2,5      | 2×6       | 2×10        | 2×16      |           |
| <b>I<sub>cw</sub> (1s, A)</b>                                                                         |                                                                                                                                                                        | 200         | 250        | 400        | 600       | 600         | 800       |           |
|  (A)               |                                                                                                                                                                        | 20          | 25         | 32         | 63        | 125         | 160       |           |

**Skice dimenzija i montažnih rupa**

TK..., TKV..., TKB..., TKM..., TKU..., TKI-F



TKF..., TKFL...



Dimenzije vidi u tablici izbora! (I/22-I/27.)

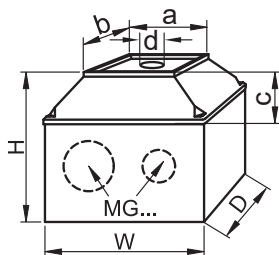

**UČITAJTE ŠIFRU!**

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- Budite u tijeku

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**Katalog prikazuje stanje u travnju 2019. godine.**  
 Za aktualne informacije posjetite našu  
 web stranicu!

## Kučišta

| TRACON     |                                                                                   |  |                                                                                   | D<br>(mm) | W<br>(mm) | H<br>(mm) | a×b<br>(mm)         | C<br>(mm) | d<br>(mm) |  | IP..  |
|------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------|-----------|-----------|---------------------|-----------|-----------|------------------------------------------------------------------------------------|-------|
| TK/T1+F1/  |  | +                                                                                 |  | 68        | 68        | 64        | 48 × 48             | 25        | 9,5       | 2 × MG-20                                                                          | IP 44 |
| TK/T2+F1/  |  | +                                                                                 |  | 68        | 68        | 72        | 48 × 48             | 25        | 9,5       | 2 × MG-20                                                                          | IP 44 |
| TK/T2+F2/  |  | +                                                                                 |  | 68        | 68        | 80        | 48 × 48             | 32        | 22        | 2 × MG-20                                                                          | IP 44 |
| TK/T3+F3/  |  | +                                                                                 |  | 112       | 112       | 108       | 64 × 64             | 35        | 11,5      | <div>2 × MG-25</div> <div>2 × MG-32</div>                                          | IP 44 |
| TK/T3+F3S/ |  | +                                                                                 |  | 112       | 112       | 108       | 64 × 64             | 35        | 11,5      | <div>2 × MG-25</div> <div>2 × MG-32</div>                                          | IP 44 |
| TKTS-01    |  | +                                                                                 |  | 110       | 83        | 69        | 48 × 48/<br>64 × 64 | 22        | 9,5       | 2 × (2 × MG-20)                                                                    | IP 65 |
| TKTS-02    |  | +                                                                                 |  | 120       | 113       | 87        | 48 × 48/<br>64 × 64 | 25        | 9,5       | 2 × (2 × MG-25)                                                                    | IP 65 |
| TKTS-03    |  | +                                                                                 |  | 200       | 140       | 109       | 64 × 64/<br>88 × 88 | 30        | 11,5      | <div>2 × MG-25</div> <div>2 × MG-32</div>                                          | IP 65 |

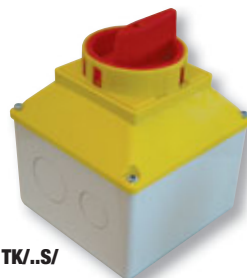


RELEVANT STANDARD  
EN 60947-3

TKTS-..



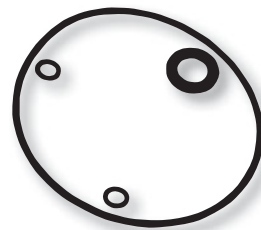
TK../S/



TK../

## Kompleti za brtvljenje

| TRACON   |                         |
|----------|------------------------------------------------------------------------------------------------------------|
| TKT-65   | TK-20..., TK-25..., TKV-20..., TKV-25..., TKB-20..., TKB-25..., TKM-20..., TKM-25..., TKF-20..., TKF-25... |
| TKT-65/2 | TK-32..., TK-63..., TKV-32..., TKV-63..., TKB-32..., TKB-63..., TKM-32..., TKM-63..., TKF-32..., TKF-63... |
| TKT-65/3 | TKFL-..                                                                                                    |
| TKT-65/4 | TKFK-..                                                                                                    |

IP  
65

## Adapter

| TRACON |                         |
|--------|------------------------------------------------------------------------------------------------------------|
| TKA    | TK-20..., TK-25..., TKV-20..., TKV-25..., TKB-20..., TKB-25..., TKM-20..., TKM-25..., TKF-20..., TKF-25... |



35×7.5



RELEVANT STANDARD  
EN 60947-3

## TRACON

IP 42



+



+

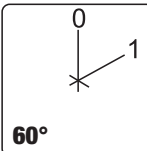


+

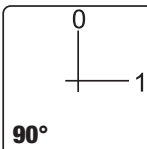


## Teretne sklopke «UKL-ISK»

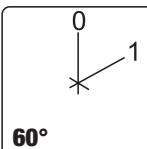
|          |           |             |           |           |
|----------|-----------|-------------|-----------|-----------|
| TK-206/2 | TK-206/2T | TK-206/2T65 | 20 A / 2P | TK/T1+F1/ |
| TK-256/2 | TK-256/2T | TK-256/2T65 | 25 A / 2P | TK/T1+F1/ |



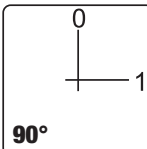
|          |           |             |           |           |
|----------|-----------|-------------|-----------|-----------|
| TK-209/2 | TK-209/2T | TK-209/2T65 | 20 A / 2P | TK/T1+F1/ |
| TK-259/2 | TK-259/2T | TK-259/2T65 | 25 A / 2P | TK/T1+F1/ |



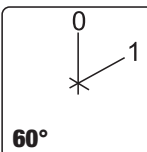
|          |           |             |            |           |
|----------|-----------|-------------|------------|-----------|
| TK-206/3 | TK-206/3T | TK-206/3T65 | 20 A / 3P  | TK/T1+F1/ |
| TK-256/3 | TK-256/3T | TK-256/3T65 | 25 A / 3P  | TK/T2+F1/ |
| TK-326/3 | TK-326/3T | TK-326/3T65 | 32 A / 3P  | TK/T3+F3/ |
| TK-636/3 | TK-636/3T | TK-636/3T65 | 63 A / 3P  | TK/T3+F3/ |
| TK-126/3 | -         | TK-126/3T65 | 125 A / 3P | TKTS-03   |
| TK-166/3 | -         | TK-166/3T65 | 160 A / 3P | TKTS-03   |



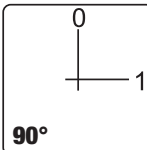
|          |           |             |            |           |
|----------|-----------|-------------|------------|-----------|
| TK-209/3 | TK-209/3T | TK-209/3T65 | 20 A / 3P  | TK/T1+F1/ |
| TK-259/3 | TK-259/3T | TK-259/3T65 | 25 A / 3P  | TK/T2+F1/ |
| TK-329/3 | TK-329/3T | TK-329/3T65 | 32 A / 3P  | TK/T3+F3/ |
| TK-639/3 | TK-639/3T | TK-639/3T65 | 63 A / 3P  | TK/T3+F3/ |
| TK-129/3 | -         | TK-129/3T65 | 125 A / 3P | TKTS-03   |
| TK-169/3 | -         | TK-169/3T65 | 160 A / 3P | TKTS-03   |



|          |           |             |            |           |
|----------|-----------|-------------|------------|-----------|
| TK-206/4 | TK-206/4T | TK-206/4T65 | 20 A / 4P  | TK/T1+F1/ |
| TK-256/4 | TK-256/4T | TK-256/4T65 | 25 A / 4P  | TK/T2+F1/ |
| TK-326/4 | TK-326/4T | TK-326/4T65 | 32 A / 4P  | TK/T3+F3/ |
| TK-636/4 | TK-636/4T | TK-636/4T65 | 63 A / 4P  | TK/T3+F3/ |
| TK-126/4 | -         | TK-126/4T65 | 125 A / 4P | TKTS-03   |
| TK-166/4 | -         | TK-166/4T65 | 160 A / 4P | TKTS-03   |

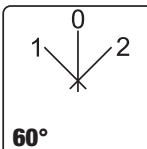


|          |           |             |            |           |
|----------|-----------|-------------|------------|-----------|
| TK-209/4 | TK-209/4T | TK-209/4T65 | 20 A / 4P  | TK/T1+F1/ |
| TK-259/4 | TK-259/4T | TK-259/4T65 | 25 A / 4P  | TK/T2+F1/ |
| TK-329/4 | TK-329/4T | TK-329/4T65 | 32 A / 4P  | TK/T3+F3/ |
| TK-639/4 | TK-639/4T | TK-639/4T65 | 63 A / 4P  | TK/T3+F3/ |
| TK-129/4 | -         | TK-129/4T65 | 125 A / 4P | TKTS-03   |
| TK-169/4 | -         | TK-169/4T65 | 160 A / 4P | TKTS-03   |

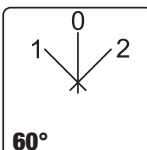


## Izborne sklopke

|           |            |              |              |           |
|-----------|------------|--------------|--------------|-----------|
| TKV-206/3 | TKV-206/3T | TKV-206/3T65 | 20 A / 2×3P  | TK/T2+F1/ |
| TKV-256/3 | -          | TKV-256/3T65 | 25 A / 2×3P  | TKTS-02   |
| TKV-326/3 | TKV-326/3T | TKV-326/3T65 | 32 A / 2×3P  | TK/T3+F3/ |
| TKV-636/3 | -          | TKV-636/3T65 | 63 A / 2×3P  | TKTS-03   |
| TKV-126/3 | -          | -            | 125 A / 2×3P | -         |
| TKV-166/3 | -          | -            | 160 A / 2×3P | -         |



|           |            |              |              |           |
|-----------|------------|--------------|--------------|-----------|
| TKV-206/4 | -          | TKV-206/4T65 | 20 A / 2×4P  | TKTS-01   |
| TKV-256/4 | -          | TKV-256/4T65 | 25 A / 2×4P  | TKTS-02   |
| TKV-326/4 | TKV-326/4T | TKV-326/4T65 | 32 A / 2×4P  | TK/T3+F3/ |
| TKV-636/4 | -          | -            | 63 A / 2×4P  | -         |
| TKV-126/4 | -          | -            | 125 A / 2×4P | -         |
| TKV-166/4 | -          | -            | 160 A / 2×4P | -         |



|             |   | <div><div><div>102</div><div>1x</div><div>2x</div><div>3x</div></div></div>       | L<br>(mm) | A<br>(mm) | a<br>(mm) | b<br>(mm) | d<br>(mm) | <div><div><div>1357</div><div>2468</div></div></div>                                             |                                                                                                                            |                                                                                       |
|-------------|---|-----------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 0° 60°      |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x |                                                                                   |           |           |           |           |           | <div><div><div>1</div><div>3</div></div></div>                                                   |                                         |                                                                                       |
| 3-4         | x |                                                                                   |           |           |           |           |           | <div><div><div>2</div><div>4</div></div></div>                                                   |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 28        | 43,5      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 28        | 43,5      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 0° 90°      |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x |                                                                                   |           |           |           |           |           | <div><div><div>1</div><div>3</div></div></div>                                                   |                                         |                                                                                       |
| 3-4         | x |                                                                                   |           |           |           |           |           | <div><div><div>2</div><div>4</div></div></div>                                                   |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 33        | 45,3      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 33        | 45,3      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 0° 60°      |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x |                                                                                   | 41,2      | 43        | 48        | 48        | 36        | <div><div><div>1</div><div>3</div><div>5</div></div></div>                                       |                                         |                                                                                       |
| 3-4         | x |                                                                                   | 48,6      | 45,2      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
| 5-6         | x |                                                                                   | 54,8      | 58        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 72,2      | 66        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 84        | 84        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 97        | 88        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
| 0° 90°      |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x |  | 41,2      | 43        | 48        | 48        | 36        | <div><div><div>1</div><div>3</div><div>5</div></div></div>                                       |                                         |                                                                                       |
| 3-4         | x |                                                                                   | 48,6      | 45,2      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
| 5-6         | x |                                                                                   | 54,8      | 58        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 72,2      | 66        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   |           | 84        | 84        | 88        | 88        | 68                                                                                               |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 97        | 88        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
| 0° 60°      |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x |                                                                                   | 41,2      | 43        | 48        | 48        | 36        | <div><div><div>1</div><div>3</div><div>5</div><div>7</div></div></div>                           |                                        |                                                                                       |
| 3-4         | x |                                                                                   | 48,6      | 45,2      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
| 5-6         | x |                                                                                   | 54,8      | 58        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
| 7-8         | x |                                                                                   | 72,2      | 66        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 84        | 84        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 97        | 88        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
| 0° 90°      |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x |                                                                                   | 41,2      | 43        | 48        | 48        | 36        | <div><div><div>1</div><div>3</div><div>5</div><div>7</div></div></div>                           |                                       |                                                                                       |
| 3-4         | x |                                                                                   | 48,6      | 45,2      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
| 5-6         | x |                                                                                   | 54,8      | 58        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
| 7-8         | x |                                                                                   | 72,2      | 66        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 84        | 84        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
|             |   |                                                                                   | 97        | 88        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
| -60° 0° 60° |   |                                                                                   |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x |                                                                                   | 50,8      | 43        | 48        | 48        | 36        | <div><div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div><div>12</div></div></div> |                                       |                                                                                       |
| 3-4         | x |                                                                                   | 61,4      | 45,2      | 48        | 48        | 36        |                                                                                                  |                                                                                                                            |                                                                                       |
| 5-6         | x |                                                                                   | 67,6      | 58        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
| 7-8         | x |                                                                                   | 93,7      | 66        | 64        | 64        | 48        |                                                                                                  |                                                                                                                            |                                                                                       |
| 9-10        | x |                                                                                   | 110       | 84        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
| 11-12       | x |                                                                                   | 130       | 88        | 88        | 88        | 68        |                                                                                                  |                                                                                                                            |                                                                                       |
| -60° 0° 60° |   | -60° 0° 60°                                                                       |           |           |           |           |           |                                                                                                  |                                                                                                                            |                                                                                       |
| 1-2         | x | 9-10                                                                              | x         | 60,4      | 43        | 48        | 48        | 36                                                                                               | <div><div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div><div>12</div><div>14</div><div>16</div></div></div> |  |
| 3-4         | x | 11-12                                                                             | x         | 74,2      | 45,2      | 48        | 48        | 36                                                                                               |                                                                                                                            |                                                                                       |
| 5-6         | x | 13-14                                                                             | x         | 80,4      | 58        | 64        | 64        | 48                                                                                               |                                                                                                                            |                                                                                       |
| 7-8         | x | 15-16                                                                             | x         | 115,2     | 66        | 64        | 64        | 48                                                                                               |                                                                                                                            |                                                                                       |
|             |   |                                                                                   |           | 136       | 84        | 88        | 88        | 68                                                                                               |                                                                                                                            |                                                                                       |
|             |   |                                                                                   |           | 163       | 88        | 88        | 88        | 68                                                                                               |                                                                                                                            |                                                                                       |

## TRACON

IP 42



+



+

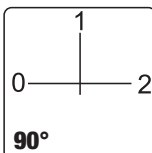
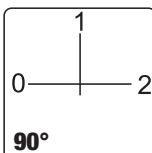
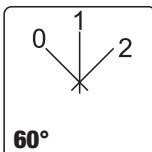
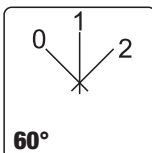
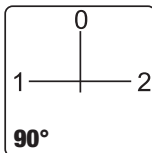
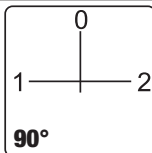


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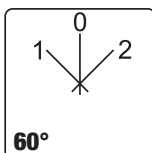
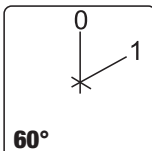
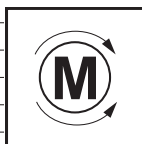
## Izborne sklopke

|           |            |              |              |           |
|-----------|------------|--------------|--------------|-----------|
| TKV-209/3 | TKV-209/3T | TKV-209/3T65 | 20 A / 2×3P  | TK/T2+F1/ |
| TKV-259/3 | -          | TKV-259/3T65 | 25 A / 2×3P  | TKTS-02   |
| TKV-329/3 | TKV-329/3T | TKV-329/3T65 | 32 A / 2×3P  | TK/T3+F3/ |
| TKV-639/3 | -          | TKV-639/3T65 | 63 A / 2×3P  | TKTS-03   |
| TKV-129/3 | -          | -            | 125 A / 2×3P | -         |
| TKV-169/3 | -          | -            | 160 A / 2×3P | -         |
| TKV-209/4 | -          | TKV-209/4T65 | 20 A / 2×4P  | TKTS-01   |
| TKV-259/4 | -          | TKV-259/4T65 | 25 A / 2×4P  | TKTS-02   |
| TKV-329/4 | TKV-329/4T | TKV-329/4T65 | 32 A / 2×4P  | TK/T3+F3/ |
| TKV-639/4 | -          | -            | 63 A / 2×4P  | -         |
| TKV-129/4 | -          | -            | 125 A / 2×4P | -         |
| TKV-169/4 | -          | -            | 160 A / 2×4P | -         |
| TKB-206/3 | TKB-206/3T | TKB-206/3T65 | 20 A / 2×3P  | TK/T2+F1/ |
| TKB-256/3 | -          | TKB-256/3T65 | 25 A / 2×3P  | TKTS-02   |
| TKB-326/3 | TKB-326/3T | TKB-326/3T65 | 32 A / 2×3P  | TK/T3+F3/ |
| TKB-636/3 | -          | TKB-636/3T65 | 63 A / 2×3P  | TKTS-03   |
| TKB-126/3 | -          | -            | 125 A / 2×3P | -         |
| TKB-166/3 | -          | -            | 160 A / 2×3P | -         |
| TKB-206/4 | -          | TKB-206/4T65 | 20 A / 2×4P  | TKTS-01   |
| TKB-256/4 | -          | TKB-256/4T65 | 25 A / 2×4P  | TKTS-02   |
| TKB-326/4 | TKB-326/4T | TKB-326/4T65 | 32 A / 2×4P  | TK/T3+F3/ |
| TKB-636/4 | -          | -            | 63 A / 2×4P  | -         |
| TKB-126/4 | -          | -            | 125 A / 2×4P | -         |
| TKB-166/4 | -          | -            | 160 A / 2×4P | -         |
| TKB-209/3 | TKB-209/3T | TKB-209/3T65 | 20 A / 2×3P  | TK/T2+F1/ |
| TKB-259/3 | -          | TKB-259/3T65 | 25 A / 2×3P  | TKTS-02   |
| TKB-329/3 | TKB-329/3T | TKB-329/3T65 | 32 A / 2×3P  | TK/T3+F3/ |
| TKB-639/3 | -          | TKB-639/3T65 | 63 A / 2×3P  | TKTS-03   |
| TKB-129/3 | -          | -            | 125 A / 2×3P | -         |
| TKB-169/3 | -          | -            | 160 A / 2×3P | -         |
| TKB-209/4 | -          | TKB-209/4T65 | 20 A / 2×4P  | TKTS-01   |
| TKB-259/4 | -          | TKB-259/4T65 | 25 A / 2×4P  | TKTS-02   |
| TKB-329/4 | TKB-329/4T | TKB-329/4T65 | 32 A / 2×4P  | TK/T3+F3/ |
| TKB-639/4 | -          | -            | 63 A / 2×4P  | -         |
| TKB-129/4 | -          | -            | 125 A / 2×4P | -         |
| TKB-169/4 | -          | -            | 160 A / 2×4P | -         |



## Motorske sklopke

|          |           |             |         |           |
|----------|-----------|-------------|---------|-----------|
| TKM-20/Q | TKM-20/QT | TKM-20/QT65 | 5,5 kW  | TK/T1+F1/ |
| TKM-25/Q | TKM-25/QT | TKM-25/QT65 | 7,5 kW  | TK/T2+F1/ |
| TKM-32/Q | TKM-32/QT | TKM-32/QT65 | 11 kW   | TK/T3+F3/ |
| TKM-63/Q | TKM-63/QT | TKM-63/QT65 | 18,5 kW | TK/T3+F3/ |
| TKM-12/Q | -         | TKM-12/QT65 | 30 kW   | TKTS-03   |
| TKM-16/Q | -         | TKM-16/QT65 | 37 kW   | TKTS-03   |
| TKM-20/N | TKM-20/NT | TKM-20/NT65 | 5,5 kW  | TK/T2+F1/ |
| TKM-25/N | -         | TKM-25/NT65 | 7,5 kW  | TKTS-02   |
| TKM-32/N | TKM-32/NT | TKM-32/NT65 | 11 kW   | TK/T3+F3/ |
| TKM-63/N | -         | TKM-63/NT65 | 18,5 kW | TKTS-03   |
| TKM-12/N | -         | -           | 30 kW   | -         |
| TKM-16/N | -         | -           | 37 kW   | -         |



|  |     |     | L<br>(mm) | A<br>(mm) | a<br>(mm) | b<br>(mm) | d<br>(mm) |   |    |
|----------------------------------------------------------------------------------|-----|-----|-----------|-----------|-----------|-----------|-----------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| -90°                                                                             | 0°  | 90° |           |           |           |           |           |                                                                                   |                                                                                       |
| 1-2                                                                              | x   |     | 50,8      | 43        | 48        | 48        | 36        |  |    |
| 3-4                                                                              |     | x   | 61,4      | 45,2      | 48        | 48        | 36        |  |                                                                                       |
| 5-6                                                                              | x   |     | 67,6      | 58        | 64        | 64        | 48        |  |                                                                                       |
| 7-8                                                                              |     | x   | 93,7      | 66        | 64        | 64        | 48        |  |                                                                                       |
| 9-10                                                                             | x   |     | 110       | 84        | 88        | 88        | 68        |  |                                                                                       |
| 11-12                                                                            |     | x   | 130       | 88        | 88        | 88        | 68        |  |                                                                                       |
| -90°                                                                             | 0°  | 90° | -90°      | 0°        | 90°       |           |           |                                                                                   |    |
| 1-2                                                                              | x   |     | 9-10      | x         |           | 60,4      | 43        | 48                                                                                | 36                                                                                    |
| 3-4                                                                              |     | x   | 11-12     |           | x         | 74,2      | 45,2      | 48                                                                                | 36                                                                                    |
| 5-6                                                                              | x   |     | 13-14     | x         |           | 80,4      | 58        | 64                                                                                | 48                                                                                    |
| 7-8                                                                              |     | x   | 15-16     |           | x         | 115,2     | 66        | 64                                                                                | 48                                                                                    |
|                                                                                  |     |     |           |           |           | 136       | 84        | 88                                                                                | 68                                                                                    |
|                                                                                  |     |     |           |           |           | 163       | 88        | 88                                                                                | 68                                                                                    |
| -60°                                                                             | 0°  | 60° | -60°      | 0°        | 60°       |           |           |                                                                                   |    |
| 1-2                                                                              | x   |     | 9-10      | x         |           | 60,4      | 43        | 48                                                                                | 36                                                                                    |
| 3-4                                                                              |     | x   | 11-12     |           | x         | 74,2      | 45,2      | 48                                                                                | 36                                                                                    |
| 5-6                                                                              | x   |     | 13-14     | x         |           | 80,4      | 58        | 64                                                                                | 48                                                                                    |
| 7-8                                                                              |     | x   | 15-16     |           | x         | 115,2     | 66        | 64                                                                                | 48                                                                                    |
|                                                                                  |     |     |           |           |           | 136       | 84        | 88                                                                                | 68                                                                                    |
|                                                                                  |     |     |           |           |           | 163       | 88        | 88                                                                                | 68                                                                                    |
| -90°                                                                             | 0°  | 90° | -90°      | 0°        | 90°       |           |           |                                                                                   |    |
| 1-2                                                                              | x   |     | 9-10      | x         |           | 60,4      | 43        | 48                                                                                | 36                                                                                    |
| 3-4                                                                              |     | x   | 11-12     |           | x         | 74,2      | 45,2      | 48                                                                                | 36                                                                                    |
| 5-6                                                                              | x   |     | 13-14     | x         |           | 80,4      | 58        | 64                                                                                | 48                                                                                    |
| 7-8                                                                              |     | x   | 15-16     |           | x         | 115,2     | 66        | 64                                                                                | 48                                                                                    |
|                                                                                  |     |     |           |           |           | 136       | 84        | 88                                                                                | 68                                                                                    |
|                                                                                  |     |     |           |           |           | 163       | 88        | 88                                                                                | 68                                                                                    |
| -90°                                                                             | 0°  | 90° | -90°      | 0°        | 90°       |           |           |                                                                                   |   |
| 1-2                                                                              | x   |     | 9-10      | x         |           | 60,4      | 43        | 48                                                                                | 36                                                                                    |
| 3-4                                                                              |     | x   | 11-12     |           | x         | 74,2      | 45,2      | 48                                                                                | 36                                                                                    |
| 5-6                                                                              | x   |     | 13-14     | x         |           | 80,4      | 58        | 64                                                                                | 48                                                                                    |
| 7-8                                                                              |     | x   | 15-16     |           | x         | 115,2     | 66        | 64                                                                                | 48                                                                                    |
|                                                                                  |     |     |           |           |           | 136       | 84        | 88                                                                                | 68                                                                                    |
|                                                                                  |     |     |           |           |           | 163       | 88        | 88                                                                                | 68                                                                                    |
| 0                                                                                | 60° |     |           |           |           |           |           |                                                                                   |  |
| 1-2                                                                              | x   |     |           |           |           | 41,2      | 43        | 48                                                                                | 36                                                                                    |
| 3-4                                                                              | x   |     |           |           |           | 48,6      | 45,2      | 48                                                                                | 36                                                                                    |
| 5-6                                                                              | x   |     |           |           |           | 54,8      | 58        | 64                                                                                | 48                                                                                    |
|                                                                                  |     |     |           |           |           | 72,2      | 66        | 64                                                                                | 48                                                                                    |
|                                                                                  |     |     |           |           |           | 84        | 84        | 88                                                                                | 68                                                                                    |
|                                                                                  |     |     |           |           |           | 97        | 88        | 88                                                                                | 68                                                                                    |
| -60°                                                                             | 0°  | 60° | -60°      | 0°        | 60°       |           |           |                                                                                   |  |
| 1-2                                                                              | x   | x   |           |           |           | 50,8      | 43        | 48                                                                                | 36                                                                                    |
| 3-4                                                                              | x   | x   |           |           |           | 61,4      | 45,2      | 48                                                                                | 36                                                                                    |
| 5-6                                                                              | x   |     |           |           |           | 67,6      | 58        | 64                                                                                | 48                                                                                    |
| 7-8                                                                              |     | x   |           |           |           | 93,7      | 66        | 64                                                                                | 48                                                                                    |
| 9-10                                                                             |     | x   |           |           |           | 111       | 84        | 88                                                                                | 68                                                                                    |
| 11-12                                                                            | x   |     |           |           |           | 130       | 88        | 88                                                                                | 68                                                                                    |
|                                                                                  |     |     |           |           |           |           |           |                                                                                   |  |
| 1-2                                                                              | x   | x   |           |           |           | 50,8      | 43        | 48                                                                                | 36                                                                                    |
| 3-4                                                                              | x   | x   |           |           |           | 61,4      | 45,2      | 48                                                                                | 36                                                                                    |
| 5-6                                                                              | x   |     |           |           |           | 67,6      | 58        | 64                                                                                | 48                                                                                    |
| 7-8                                                                              |     | x   |           |           |           | 93,7      | 66        | 64                                                                                | 48                                                                                    |
| 9-10                                                                             |     | x   |           |           |           | 111       | 84        | 88                                                                                | 68                                                                                    |
| 11-12                                                                            | x   |     |           |           |           | 130       | 88        | 88                                                                                | 68                                                                                    |





## TRACON

IP 42



+



+

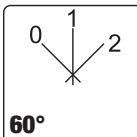
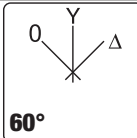


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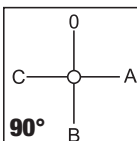
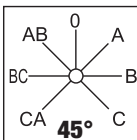
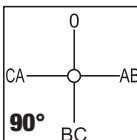
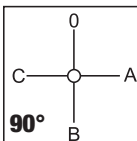
## Motorske sklopke

|          |           |             |                   |           |
|----------|-----------|-------------|-------------------|-----------|
| TKM-20/C | -         | TKM-20/CT65 | Y-Δ 5,5 kW        | TKTS-01   |
| TKM-25/C | -         | TKM-25/CT65 | Y-Δ 7,5 kW        | TKTS-02   |
| TKM-32/C | TKM-32/CT | TKM-32/CT65 | Y-Δ 11 kW         | TK/T3+F3/ |
| TKM-63/C | -         | -           | Y-Δ 18,5 kW       | -         |
| TKM-12/C | -         | -           | Y-Δ 30 kW         | -         |
| TKM-16/C | -         | -           | Y-Δ 37 kW         | -         |
| TKM-20/D | -         | TKM-20/DT65 | Dahlander 5,5 kW  | TKTS-01   |
| TKM-25/D | -         | TKM-25/DT65 | Dahlander 7,5 kW  | TKTS-02   |
| TKM-32/D | TKM-32/DT | TKM-32/DT65 | Dahlander 11 kW   | TK/T3+F3/ |
| TKM-63/D | -         | -           | Dahlander 18,5 kW | -         |
| TKM-12/D | -         | -           | Dahlander 30 kW   | -         |
| TKM-16/D | -         | -           | Dahlander 37 kW   | -         |



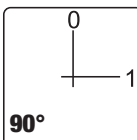
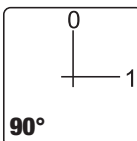
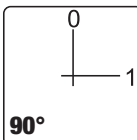
## Preklopke za instrumente

|       |   |   |                                                  |   |
|-------|---|---|--------------------------------------------------|---|
| TKU-F | - | - | Voltmetarska preklopka za fazni napon            | - |
| TKU-V | - | - | Voltmetarska preklopka za linijski napon         | - |
| TKU-K | - | - | Voltmetarska preklopka za linijski i fazni napon | - |
| TKI-F | - | - | Ampermetarska preklopka za faznu struju          | - |



## Glavne sklopke

|         |           |             |  |           |            |
|---------|-----------|-------------|--|-----------|------------|
| TKF-20  | TKF-20T   | TKF-20T65   |  | 20 A / 4P | TK/T3+F3/  |
| TKF-25  | TKF-25T   | TKF-25T65   |  | 25 A / 4P | TK/T3+F3/  |
| TKF-32  | TKF-32T   | TKF-32T65   |  | 32 A / 4P | TK/T3+F3/  |
| TKF-63  | TKF-63T   | TKF-63T65   |  | 63 A / 4P | TK/T3+F3/  |
| TKFK-20 | TKFK-20T  | TKFK-20T65  |  | 20 A / 4P | TK/T2+F2/  |
| TKFK-25 | TKFK-25T  | TKFK-25T65  |  | 25 A / 4P | TK/T2+F2/  |
| TKFK-32 | -         | -           |  | 32 A / 4P | -          |
| TKFK-63 | -         | -           |  | 63 A / 4P | -          |
| TKFL-20 | TKFL-20TS | TKFL-20T65S |  | 20 A / 4P | TK/T3+F3S/ |
| TKFL-25 | TKFL-25TS | TKFL-25T65S |  | 25 A / 4P | TK/T3+F3S/ |
| TKFL-32 | TKFL-32TS | TKFL-32T65S |  | 32 A / 4P | TK/T3+F3S/ |
| TKFL-63 | TKFL-63TS | TKFL-63T65S |  | 63 A / 4P | TK/T3+F3S/ |



| <div> <div>102</div> <div>1x x</div> <div>2x x</div> <div>3x x</div> </div> |     |     |       |    |     | L    | A      | a    | b      | d     | <div> <div>1 3 5 7</div> <div>2 4 6 8</div> </div>                                                                                                                                                                                           |  |  |
|-----------------------------------------------------------------------------|-----|-----|-------|----|-----|------|--------|------|--------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| -60°                                                                        | 0°  | 60° | -60°  | 0° | 60° | (mm) | (mm)   | (mm) | (mm)   | (mm)  |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   | x   | 9-10  | x  |     | 57   | 44     | 48   | 48     | 36    | <div> <div>9 14 7</div> <div>U<sub>2</sub> V<sub>2</sub> W<sub>2</sub></div> <div>L<sub>1</sub> 2</div> <div>L<sub>2</sub> 8</div> <div>L<sub>3</sub> 15</div> <div>U<sub>1</sub> V<sub>1</sub> W<sub>1</sub></div> <div>3 1 16</div> </div> |  |  |
| 3-4                                                                         | x   | x   | 11-12 | x  |     | 70   | 46     | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         | x   |     | 13-14 |    | x   | 78   | 58     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   |     | 15-16 | x  | x   | 112  | 66     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     | 138  | 84     | 88   | 88     | 68    |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     | 163  | 88     | 88   | 88     | 68    | <div> <div>9 14 7</div> <div>1U 1W 1V</div> <div>L<sub>1</sub> 2</div> <div>L<sub>2</sub> 8</div> <div>L<sub>3</sub> 15</div> <div>2U 2W 2V</div> <div>3 16 1</div> </div>                                                                   |  |  |
| -60°                                                                        | 0°  | 60° | -60°  | 0° | 60° | 57   | 44     | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   | x   | 9-10  | x  |     | 70   | 46     | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 3-4                                                                         | x   |     | 11-12 | x  |     | 78   | 58     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         | x   |     | 13-14 | x  |     | 112  | 66     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   |     | 15-16 | x  |     | 138  | 84     | 88   | 88     | 68    |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     | 163  | 88     | 88   | 88     | 68    | <div> <div>L1 A 1 2</div> <div>L2 B 5 6</div> <div>L3 C 3 4</div> <div>N N 9 10</div> </div>                                                                                                                                                 |  |  |
| 0                                                                           | A   | B   | C     |    |     | 50,8 | 43     | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   |     |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 3-4                                                                         |     |     | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         |     | x   |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 9-10                                                                        | x   | x   | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     |      |        |      |        |       | <div> <div>L2 B 1 2</div> <div>L1 A 5 6</div> <div>L3 C 7 8</div> <div>11 12</div> </div>                                                                                                                                                    |  |  |
| 0                                                                           | AB  | BC  | CA    |    |     | 50,8 | 43     | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   | x   |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         |     |     | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   |     |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 11-12                                                                       |     | x   | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     |      |        |      |        |       | <div> <div>L3 C 1 2</div> <div>L2 B 5 6</div> <div>L1 A 7 8</div> <div>9 10</div> <div>11 12</div> </div>                                                                                                                                    |  |  |
| CA                                                                          | BC  | AB  | 0     | A  | B   | C    |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   |     |       |    |     | x    |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 3-4                                                                         | x   |     |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         |     |     |       |    | x   |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   | x   |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 9-10                                                                        | x   |     | x     |    | x   |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 11-12                                                                       |     | x   |       | x  | x   | x    |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     |      |        |      |        |       | <div> <div>L1 L2 L3</div> <div>9 10 13 14 15 16</div> <div>1 2 3 4 5 6</div> </div>                                                                                                                                                          |  |  |
| 0                                                                           | A   | B   | C     |    |     | 60,4 | 43     | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   | x   | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         | x   | x   | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   | x   | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 9-10                                                                        |     | x   |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 13-14                                                                       | x   |     |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 15-16                                                                       |     |     | x     |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
| 0°                                                                          | 90° |     |       |    |     |      |        |      |        |       | <div> <div>1 3 5 7</div> <div>2 4 6 8</div> </div>                                                                                                                                                                                           |  |  |
| 1-2                                                                         | x   |     |       |    |     | 41,2 | 43     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 3-4                                                                         | x   |     |       |    |     | 48,6 | 45,2   | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         | x   |     |       |    |     | 54,8 | 58     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   |     |       |    |     | 72,2 | 66     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     |      |        |      |        |       | <div> <div>1 3 5 7</div> <div>2 4 6 8</div> </div>                                                                                                                                                                                           |  |  |
| 0°                                                                          | 90° |     |       |    |     | 41,2 | 43     | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   |     |       |    |     | 48,6 | 45,2   | 48   | 48     | 36    |                                                                                                                                                                                                                                              |  |  |
| 3-4                                                                         | x   |     |       |    |     | 75   | 58/105 | 64   | 64/112 | 48/96 |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         | x   |     |       |    |     | 93   | 66/105 | 64   | 64/122 | 48/96 |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   |     |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |
|                                                                             |     |     |       |    |     |      |        |      |        |       | <div> <div>1 3 5 7</div> <div>2 4 6 8</div> </div>                                                                                                                                                                                           |  |  |
| 0°                                                                          | 90° |     |       |    |     | 44,2 | 43     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 1-2                                                                         | x   |     |       |    |     | 52,1 | 45,2   | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 3-4                                                                         | x   |     |       |    |     | 54,8 | 58     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 5-6                                                                         | x   |     |       |    |     | 72,2 | 66     | 64   | 64     | 48    |                                                                                                                                                                                                                                              |  |  |
| 7-8                                                                         | x   |     |       |    |     |      |        |      |        |       |                                                                                                                                                                                                                                              |  |  |



## Rastavne sklopke

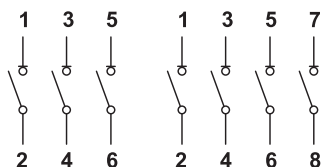


Piktogrami

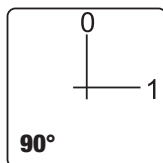
I/O

|                                   |             | TS-20      | TS-32      | TS-40     | TS-63       | TS-80     | TS-100    |
|-----------------------------------|-------------|------------|------------|-----------|-------------|-----------|-----------|
| <b>I<sub>th</sub></b> (A)         |             | 20         | 32         | 40        | 63          | 80        | 100       |
| <b>P<sub>e</sub></b> (kW), 400 V~ | AC-23A      | 7,5        | 11         | 15        | 22          | 30        | 37        |
|                                   | <b>AC-3</b> | <b>5,5</b> | <b>7,5</b> | <b>11</b> | <b>18,5</b> | <b>22</b> | <b>30</b> |
| ( <b>×10<sup>6</sup></b> )        |             | 5          | 5          | 3         | 1,5         | 1,5       | 1,5       |
| ( <b>×10<sup>6</sup></b> )        |             | 3          | 3          | 1,2       | 1           | 1         | 1         |
| sc/h                              |             | 200        | 150        | 100       | 60          | 30        | 30        |
| mm <sup>2</sup>                   |             | 1×2,5      | 1×4,0      | 1×6,0     | 1×25        | 1×50      | 1×70      |
|                                   |             | 2×1,5      | 2×1,5      | 2×4,0     | 2×10        | 2×25      | 2×35      |
|                                   |             | 1×2,5      | 1×4,0      | 1×4,0     | 1×16        | 1×35      | 1×50      |
|                                   |             | 2×1,5      | 2×1,5      | 2×2,5     | 2×6         | 2×10      | 2×16      |
| <b>I<sub>cw</sub></b> (1s, A)     |             | 180        | 264        | 360       | 516         | 684       | 840       |
|                                   |             | 20 A gG    | 35 A gG    | 50 A gG   | 63 A gG     | 80 A gG   | 100 A gG  |

## Shema spajanja



## Prednja ploča



## Glavne značajke

- pogodne su za uklapanje i isklapanje pod teretom i za rastavljanje
- mogu se upotrijebiti kao motorske sklopke, glavne sklopke, rastavne sklopke i sigurnosne sklopke
- tijelo sklopke je izvedeno od samogasivog (UL94-V0), izolacijskog materijala velike mehaničke čvrstoće
- podnose velika električna i mehanička opterećenja
- imaju kontakte s dvostrukim prekidanjem
- brzo uklapanje i isklapanje bez obzira na ručni pogon
- dijelovi pod naponom zaštićeni su od slučajnog dodira

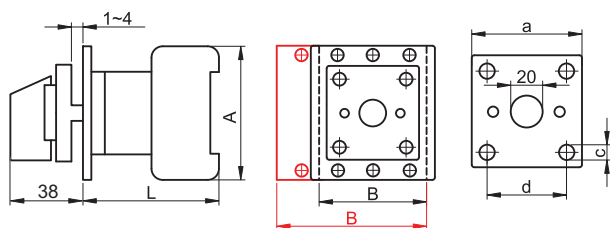


RELEVANT STANDARD  
EN 60947-3



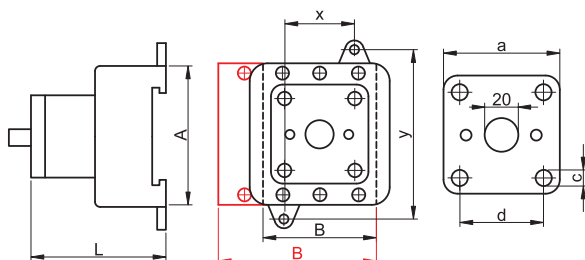
## Rastavna sklopka

| TRACON  |          |            |            |           |   | L<br>(mm) | A<br>(mm) | B<br>(mm) | a<br>(mm) | d<br>(mm) | c<br>(mm) |
|---------|----------|------------|------------|-----------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| IP 42   |          | +          | IP 44      |           | + | IP 65     |           |           |           |           |           |
| TS-20/3 | TS-20/3T | TS-20/3T65 | 20 A / 3P  | TK/T3+F3/ |   | 61        | 54        | 42        | 64        | 48        | 4.2       |
| TS-32/3 | TS-32/3T | TS-32/3T65 | 32 A / 3P  |           |   | 61        | 54        | 42        | 64        | 48        | 4.2       |
| TS-40/3 | TS-40/3T | TS-40/3T65 | 40 A / 3P  |           |   | 67        | 64        | 50        | 64        | 48        | 4.2       |
| TS-63/3 | TS-63/3T | TS-63/3T65 | 63 A / 3P  |           |   | 67        | 64        | 50        | 64        | 48        | 4.2       |
| TS-80/3 | -        | TS-80/3T65 | 80 A / 3P  | TKTS-03   |   | 82        | 80        | 70        | 64        | 48        | 4.2       |
| TS-10/3 | -        | TS-10/3T65 | 100 A / 3P | TKTS-03   |   | 82        | 80        | 70        | 88        | 68        | 5.2       |
| TS-20/4 | TS-20/4T | TS-20/4T65 | 20 A / 4P  | TK/T3+F3/ |   | 61        | 54        | 55.5      | 64        | 48        | 4.2       |
| TS-32/4 | TS-32/4T | TS-32/4T65 | 32 A / 4P  |           |   | 61        | 54        | 55.5      | 64        | 48        | 4.2       |
| TS-40/4 | TS-40/4T | TS-40/4T65 | 40 A / 4P  |           |   | 67        | 64        | 66        | 64        | 48        | 4.2       |
| TS-63/4 | TS-63/4T | TS-63/4T65 | 63 A / 4P  |           |   | 67        | 64        | 66        | 64        | 48        | 4.2       |
| TS-80/4 | -        | -          | 80 A / 4P  | -         |   | 82        | 80        | 92.5      | 64        | 48        | 4.2       |
| TS-10/4 | -        | -          | 100 A / 4P | -         |   | 82        | 80        | 92.5      | 88        | 68        | 5.2       |



## Rastavna sklopka sa spojkom za vrata

| TRACON   |            |  | L<br>(mm) | A<br>(mm) | B<br>(mm) | a<br>(mm) | d<br>(mm) | c<br>(mm) | x<br>(mm) | y<br>(mm) |
|----------|------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TS-20/3K | 20 A / 3P  |  | 50        | 54        | 42        | 64        | 48        | 4.2       | 22        | 62        |
| TS-32/3K | 32 A / 3P  |  | 50        | 54        | 42        | 64        | 48        | 4.2       | 22        | 62        |
| TS-40/3K | 40 A / 3P  |  | 61        | 64        | 50        | 64        | 48        | 4.2       | 25        | 70        |
| TS-63/3K | 63 A / 3P  |  | 61        | 64        | 50        | 64        | 48        | 4.2       | 25        | 70        |
| TS-80/3K | 80 A / 3P  |  | 68        | 80        | 70        | 64        | 48        | 4.2       | 25        | 90        |
| TS-10/3K | 100 A / 3P |  | 68        | 80        | 70        | 88        | 68        | 5.2       | 25        | 90        |
| TS-20/4K | 20 A / 4P  |  | 50        | 54        | 55.5      | 64        | 48        | 4.2       | 22        | 62        |
| TS-32/4K | 32 A / 4P  |  | 50        | 54        | 55.5      | 64        | 48        | 4.2       | 22        | 62        |
| TS-40/4K | 40 A / 4P  |  | 61        | 64        | 66        | 64        | 48        | 4.2       | 25        | 70        |
| TS-63/4K | 63 A / 4P  |  | 61        | 64        | 66        | 64        | 48        | 4.2       | 25        | 70        |
| TS-80/4K | 80 A / 4P  |  | 68        | 80        | 92.5      | 64        | 48        | 4.2       | 25        | 90        |
| TS-10/4K | 100 A / 4P |  | 68        | 80        | 92.5      | 88        | 68        | 5.2       | 25        | 90        |



Spojka omogućuje sigurnosno zatvaranje vrata razvodnog ormara. Vrata se mogu otvoriti samo ako je sklopka u položaju „0” ili „OFF”!

Duljina osovine spojke je 150 mm.

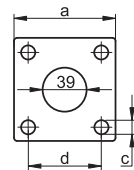
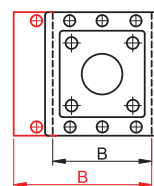
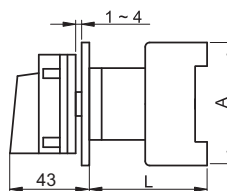
Po posebnoj narudžbi mogućnost pribavljanja osovine duljine 300 mm.

Pričvršćivanje odostraga pomoću 2 vijka ili na nosač 35/7,5 mm prema normi EN50022.

## Sigurnosna rastavna sklopka

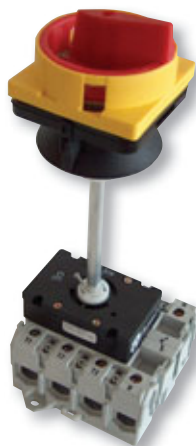
| TRACON   |           |              |            |            |      | L<br>(mm) | A<br>(mm) | B<br>(mm) | a<br>(mm) | d<br>(mm) | c<br>(mm) |
|----------|-----------|--------------|------------|------------|------|-----------|-----------|-----------|-----------|-----------|-----------|
| IP 42    |           | +            | IP44       | +          | IP65 |           |           |           |           |           |           |
| TSS-20/3 | TSS-20/3T | TSS-20/3T65S | 20 A / 3P  | TK/T3+F3/  |      | 61        | 54        | 42        | 64        | 48        | 4.2       |
| TSS-32/3 | TSS-32/3T | TSS-32/3T65S | 32 A / 3P  |            |      | 61        | 54        | 42        | 64        | 48        | 4.2       |
| TSS-40/3 | TSS-40/3T | TSS-40/3T65S | 40 A / 3P  | TK/T3+F3S/ |      | 67        | 64        | 50        | 64        | 48        | 4.2       |
| TSS-63/3 | TSS-63/3T | TSS-63/3T65S | 63 A / 3P  |            |      | 67        | 64        | 50        | 64        | 48        | 4.2       |
| TSS-80/3 | -         | TSS-80/3T65  | 80 A / 3P  | TKTS-03    |      | 82        | 80        | 70        | 64        | 48        | 4.2       |
| TSS-10/3 | -         | TSS-10/3T65  | 100 A / 3P | TKTS-03    |      | 82        | 80        | 70        | 88        | 68        | 5.2       |
| TSS-20/4 | TSS-20/4T | TSS-20/4T65S | 20 A / 4P  |            |      | 61        | 54        | 55.5      | 64        | 48        | 4.2       |
| TSS-32/4 | TSS-32/4T | TSS-32/4T65S | 32 A / 4P  | TK/T3+F3S/ |      | 61        | 54        | 55.5      | 64        | 48        | 4.2       |
| TSS-40/4 | TSS-40/4T | TSS-40/4T65S | 40 A / 4P  |            |      | 67        | 64        | 66        | 64        | 48        | 4.2       |
| TSS-63/4 | TSS-63/4T | TSS-63/4T65S | 63 A / 4P  | TK/T3+F3/  |      | 67        | 64        | 66        | 64        | 48        | 4.2       |
| TSS-80/4 | -         | -            | 80 A / 4P  | -          |      | 82        | 80        | 92.5      | 64        | 48        | 4.2       |
| TSS-10/4 | -         | -            | 100 A / 4P | -          |      | 82        | 80        | 92.5      | 88        | 68        | 5.2       |

Kućišta se mogu naručiti i sa žutim poklopcem.



Rastavna sklopka se može zaključati u položaju "OFF", mogućnost montaže na prednju ploču, ili se primjenjuje samostalno u kućištu.

## Sigurnosna rastavna sklopka s lokotom i spojkom za vrata



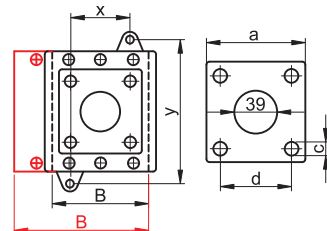
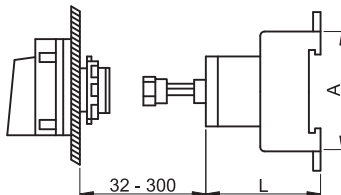
| TRACON    |  | L<br>(mm) | A<br>(mm) | B<br>(mm) | a<br>(mm) | d<br>(mm) | c<br>(mm) | x<br>(mm) | y<br>(mm) |
|-----------|-----------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TSS-20/3K | 20 A / 3P                                                                         | 50        | 54        | 42        | 64        | 48        | 4.2       | 22        | 62        |
| TSS-32/3K | 32 A / 3P                                                                         | 50        | 54        | 42        | 64        | 48        | 4.2       | 22        | 62        |
| TSS-40/3K | 40 A / 3P                                                                         | 61        | 64        | 50        | 64        | 48        | 4.2       | 25        | 70        |
| TSS-63/3K | 63 A / 3P                                                                         | 61        | 64        | 50        | 64        | 48        | 4.2       | 25        | 70        |
| TSS-80/3K | 80 A / 3P                                                                         | 68        | 80        | 70        | 64        | 48        | 4.2       | 25        | 90        |
| TSS-10/3K | 100 A / 3P                                                                        | 68        | 80        | 70        | 88        | 68        | 5.2       | 25        | 90        |
| TSS-20/4K | 20 A / 4P                                                                         | 50        | 54        | 55.5      | 64        | 48        | 4.2       | 22        | 62        |
| TSS-32/4K | 32 A / 4P                                                                         | 50        | 54        | 55.5      | 64        | 48        | 4.2       | 22        | 62        |
| TSS-40/4K | 40 A / 4P                                                                         | 61        | 64        | 66        | 64        | 48        | 4.2       | 25        | 70        |
| TSS-63/4K | 63 A / 4P                                                                         | 61        | 64        | 66        | 64        | 48        | 4.2       | 25        | 70        |
| TSS-80/4K | 80 A / 4P                                                                         | 68        | 80        | 92.5      | 64        | 48        | 4.2       | 25        | 90        |
| TSS-10/4K | 100 A / 4P                                                                        | 68        | 80        | 92.5      | 88        | 68        | 5.2       | 25        | 90        |

Spojka omogućuje sigurnosno zatvaranje vrata razvodnog ormara. Vrata se mogu otvoriti samo ako je sklopka u položaju „0” ili „OFF”!

Duljina osovine spojke je 150 mm.

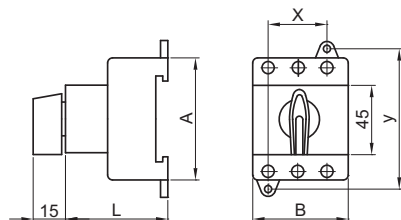
Po posebnoj narudžbi mogućnost pribavljanja osovine duljine 300 mm.

Pričvršćivanje odostraga pomoću 2 vijka ili na nosač 35/7,5 mm prema normi EN50022.



## Rastavna sklopka s lokotom, za redanje

| TRACON   |  | L<br>(mm) | A<br>(mm) | B<br>(mm) | x<br>(mm) | y<br>(mm) |
|----------|-----------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|
| TSM-20/3 | 20 A / 3P                                                                         | 50        | 54        | 42        | 22        | 62        |
| TSM-32/3 | 32 A / 3P                                                                         | 50        | 54        | 42        | 22        | 62        |
| TSM-20/4 | 20 A / 4P                                                                         | 50        | 54        | 55.5      | 22        | 62        |
| TSM-32/4 | 32 A / 4P                                                                         | 50        | 54        | 55.5      | 22        | 62        |



RELEVANT STANDARD  
EN 60947-3

Mogućnost postavljanja na prednju ploču u standardni izrez 45 mm. Pričvršćivanje odostraga pomoću 2 vijka ili na nosač 35/7,5 mm prema normi EN50022. Ručica se može zaključati u položaju „OFF”!

## EVOMS Rastavna sklopka s lokotom, za redanje

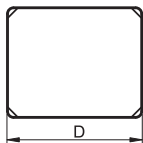
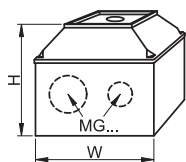
| TRACON     | Ith<br>(40 °C) |
|------------|----------------|
| EVOMS16/3  | 16 A/3P        |
| EVOMS20/3  | 20 A/3P        |
| EVOMS25/3  | 25 A/3P        |
| EVOMS40/3  | 40 A/3P        |
| EVOMS80/3  | 80 A/3P        |
| EVOMS100/3 | 100 A/3P       |
| EVOMS125/3 | 125 A/3P       |



F/21

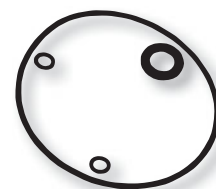
## Kućišta

| TRACON     |                                                                                         | W<br>(mm) | H<br>(mm) | D<br>(mm) |  | IP..  |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|-------------------------------------------------------------------------------------|-------|
| TK/T3+F3/  |  +  | 112       | 108       | 112       | 2 × MG-25<br>2 × MG-32                                                              | IP 44 |
| TK/T3+F3S/ |  +  | 112       | 108       | 112       | 2 × MG-25<br>2 × MG-32                                                              | IP 44 |
| TKTS-03    |  +  | 140       | 109       | 200       | 2 × MG-25<br>2 × MG-32                                                              | IP 44 |



## Komplet za brtvljenje

| TRACON   |  |
|----------|-------------------------------------------------------------------------------------|
| TKT-65/2 | TS-20/3, TS-32/3, TS-40/3, TS-63/3, TS-20/4, TS-32/4, TS-40/4, TS-63/4              |
| TKT-65/3 | TSS-20/3, TSS-32/3, TSS-40/3, TSS-63/3, TSS-20/4, TSS-32/4, TSS-40/4, TSS-63/4      |





## Sklopnici (kontaktori)

230/400  
V ACTa  
-25...+55°Cmax.  
±30°AC  
1AC  
3AC  
4AC  
15AC  
6b

Piktogrami

I/O

## TRACON

## TR1K..

AC-1, AC-3, AC-15

24 V AC, 48 V AC, 110 V AC,  
230 V AC, 400 V AC

## TR1D..

AC-1, AC-3, AC-4

24 V AC, 48 V AC, 110 V AC,  
230 V AC, 400 V AC

## TR1E..

AC-1, AC-3, AC-4

24 V AC, 48 V AC,  
230 V AC, 400 V AC

Um

Ie

6...12 A/AC-3

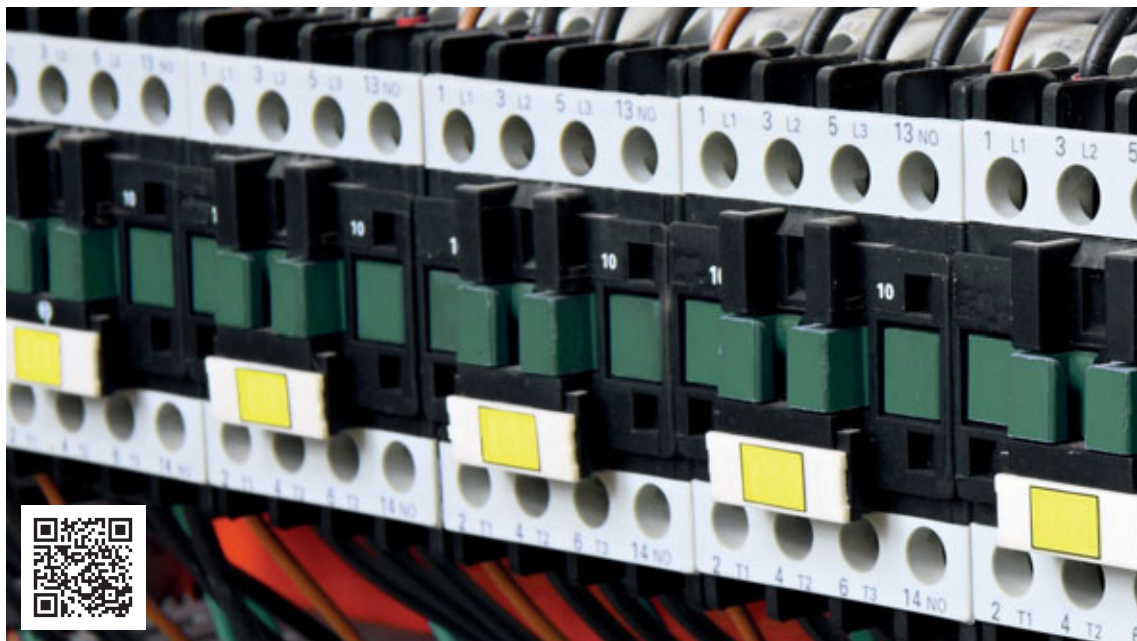
9...95 A/AC-3

115...620 A/AC-3



Sklopnici samostalno ili dopunjeni sa zaštitom (npr. termički relej) namijenjeni su za daljinsko upravljanje, uključivanje i isključivanje električnih motora i drugih niskonaponskih uređaja. Ovi aparati dopunjeni raznim elementima mogu se prilagoditi za brojne automatizirane radnje. Na prednju stranu mogu se montirati pomoćni kontakti i vremenska jedinica, a na bočnu pomoćni kontakti. Pomoću tako opremljenih aparata moguće je rješavati i zadatke pomoćnih strujnih krugova. Pogonski namoti sklopnika izvedeni su isključivo za izmjenični napon u 5 veličina. Kontaktore valja izabrati prema svrsi uporabe i kategoriji primjene (vidi: DODATAK).

Kontaktor smije biti priključen samo na sinusni izmjenični napon bez istosmjerne komponente. Za primjenu u elektroničkim upravljačkim krugovima ili ako pogonski napon sadrži više harmonike, o filtriranju treba povesti računa prije puštanja kontaktora u pogon.

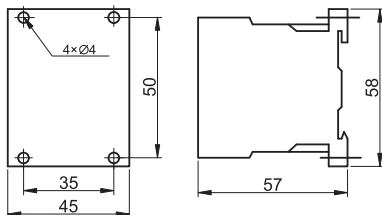


## Pomoćni sklopnici (6 A...12 A)

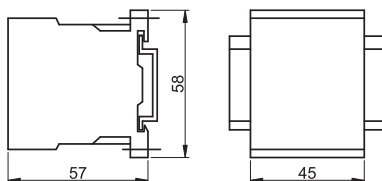
|                 |              |                                      |                                      |                                |                         |                        |                           |                                |                                   |               |                                     |                  |                        |
|-----------------|--------------|--------------------------------------|--------------------------------------|--------------------------------|-------------------------|------------------------|---------------------------|--------------------------------|-----------------------------------|---------------|-------------------------------------|------------------|------------------------|
| 230/400<br>V AC | <b>690 V</b> | <b>U<sub>e</sub></b><br><b>660 V</b> | <b>I<sub>th</sub></b><br><b>20 A</b> | ON-OFF-ON...<br>sc/h<br>×4.800 | <b>3×10<sup>6</sup></b> | <b>×10<sup>6</sup></b> | [mm <sup>2</sup> ]<br>1-4 | <b>P<sub>ON</sub></b><br>30 VA | <b>P<sub>HOLD</sub></b><br>4,5 VA | <b>35×7.5</b> | <b>T<sub>a</sub></b><br>-25...+55°C | <b>max. ±30°</b> | <b>IP</b><br><b>20</b> |
|-----------------|--------------|--------------------------------------|--------------------------------------|--------------------------------|-------------------------|------------------------|---------------------------|--------------------------------|-----------------------------------|---------------|-------------------------------------|------------------|------------------------|

|                           |                  | U <sub>m</sub> | TRACON     |            |            |
|---------------------------|------------------|----------------|------------|------------|------------|
|                           |                  |                | 6A/AC-3    | 9A/AC-3    | 12A/AC-3   |
|                           |                  | 24 V~          | -          | TR1K0904B7 | TR1K1204B7 |
|                           |                  | 48 V~          | -          | TR1K0904E7 | TR1K1204E7 |
|                           |                  | 110 V~         | -          | TR1K0904F7 | TR1K1204F7 |
|                           |                  | 230 V~         | -          | TR1K0904   | TR1K1204   |
|                           |                  | 400 V~         | -          | TR1K0904V7 | TR1K1204V7 |
|                           |                  |                |            |            |            |
|                           |                  | 24 V~          | TR1K0610B7 | TR1K0910B7 | TR1K1210B7 |
|                           |                  | 48 V~          | TR1K0610E7 | TR1K0910E7 | TR1K1210E7 |
|                           |                  | 110 V~         | TR1K0610F7 | TR1K0910F7 | TR1K1210F7 |
|                           |                  | 230 V~         | TR1K0610   | TR1K0910   | TR1K1210   |
|                           |                  | 400 V~         | TR1K0610V7 | TR1K0910V7 | TR1K1210V7 |
|                           |                  |                |            |            |            |
|                           |                  | 24 V~          | TR1K0601B7 | TR1K0901B7 | TR1K1201B7 |
|                           |                  | 48 V~          | TR1K0601E7 | TR1K0901E7 | TR1K1201E7 |
|                           |                  | 110 V~         | TR1K0601F7 | TR1K0901F7 | TR1K1201F7 |
|                           |                  | 230 V~         | TR1K0601   | TR1K0901   | TR1K1201   |
|                           |                  | 400 V~         | TR1K0601V7 | TR1K0901V7 | TR1K1201V7 |
|                           |                  |                |            |            |            |
|                           |                  | 24 V~          | -          | TR1K0908B7 | -          |
|                           |                  | 48 V~          | -          | TR1K0908E7 | -          |
|                           |                  | 110 V~         | -          | TR1K0908F7 | -          |
|                           |                  | 230 V~         | -          | TR1K0908   | -          |
|                           |                  | 400 V~         | -          | TR1K0908V7 | -          |
|                           |                  |                |            |            |            |
| <b>I<sub>e</sub> (A)</b>  | AC-1             |                | 20         | 20         | 20         |
|                           | <b>AC-3</b>      |                | <b>6</b>   | <b>9</b>   | <b>12</b>  |
|                           | AC15             |                | 2          | 3          | 4          |
| <b>P<sub>e</sub> (kW)</b> | 220/230 V        | AC-3           | 1,5        | 2,2        | 3          |
|                           | <b>380/400 V</b> | <b>AC-3</b>    | <b>2,2</b> | <b>4</b>   | <b>5,5</b> |
|                           | 415 V            | AC-3           | 2,2        | 4          | 5,5        |
|                           | 500 V, 660/690 V | AC-3           | 3          | 4          | 4          |
|                           |                  |                | 10 A aM    | 10 A aM    | 16 A aM    |

## Dimenzije i montažna shema



Postavljanje na  
montažnu ploču



Postavljanje na  
nosač  
(35×7,5 mm)



RELEVANT STANDARD  
EN 60947-4-1

RELEVANT STANDARD  
EN 60947-1

## Sklopnici opće namjene tipa TR1D (9 A ... 32 A)

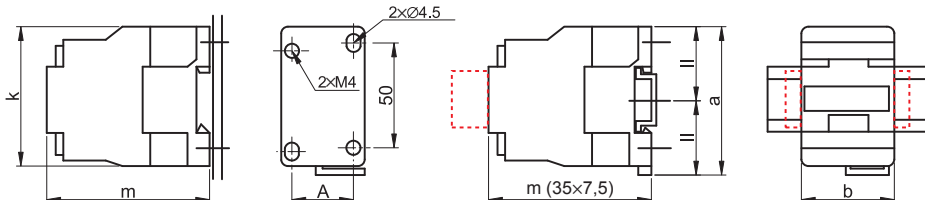
230/400  
V ACU<sub>i</sub>  
660 VU<sub>e</sub>  
660 VON-OFF-ON-  
sc/h  
x3.6003x10<sup>6</sup>x10<sup>6</sup>AUX (mm<sup>2</sup>)  
1-4Ta  
-25...+55°Cmax.  
±30°IP  
20

Piktogrami

I/O

| U <sub>m</sub>        |           | TRACON     |            |            |            |            |
|-----------------------|-----------|------------|------------|------------|------------|------------|
|                       |           | 9A/AC-3    | 12A/AC-3   | 18A/AC-3   | 25A/AC-3   | 32A/AC-3   |
|                       | 24 V~     | TR1D0910B7 | TR1D1210B7 | TR1D1810B7 | TR1D2510B7 | TR1D3210B7 |
|                       | 48 V~     | TR1D0910E7 | TR1D1210E7 | TR1D1810E7 | TR1D2510E7 | TR1D3210E7 |
|                       | 110 V~    | TR1D0910F7 | TR1D1210F7 | TR1D1810F7 | TR1D2510F7 | TR1D3210F7 |
|                       | 230 V~    | TR1D0910   | TR1D1210   | TR1D1810   | TR1D2510   | TR1D3210   |
|                       | 400 V~    | TR1D0910V7 | TR1D1210V7 | TR1D1810V7 | TR1D2510V7 | TR1D3210V7 |
|                       | 24 V~     | TR1D0901B7 | TR1D1201B7 | TR1D1801B7 | TR1D2501B7 | TR1D3201B7 |
|                       | 48 V~     | TR1D0901E7 | TR1D1201E7 | TR1D1801E7 | TR1D2501E7 | TR1D3201E7 |
|                       | 110 V~    | TR1D0901F7 | TR1D1201F7 | TR1D1801F7 | TR1D2501F7 | TR1D3201F7 |
|                       | 230 V~    | TR1D0901   | TR1D1201   | TR1D1801   | TR1D2501   | TR1D3201   |
|                       | 400 V~    | TR1D0901V7 | TR1D1201V7 | TR1D1801V7 | TR1D2501V7 | TR1D3201V7 |
| I <sub>e</sub> (A)    | AC-1      | 25         | 25         | 32         | 40         | 50         |
|                       | AC-3      | 9          | 12         | 18         | 25         | 32         |
| P <sub>e</sub> (kW)   | AC-4      | 3,5        | 5          | 7,7        | 8,5        | 12         |
|                       | 220/230 V | AC-3       | 2,2        | 3          | 4          | 7,5        |
|                       | 380/400 V | AC-3       | 4          | 5,5        | 7,5        | 15         |
|                       | 380/400 V | AC-4       | 4          | 2,5        | 3          | 4,5        |
|                       | 415 V     | AC-3       | 4          | 5,5        | 9          | 15         |
| I <sub>aux</sub> (A)  |           | 5          | 5          | 5          | 5          | 5          |
|                       |           | 10 A aM    | 16 A aM    | 20 A aM    | 32 A aM    | 40 A aM    |
|                       |           | 4          | 4          | 6          | 10         | 10         |
| P <sub>ON</sub><br>   |           | 60 VA      | 60 VA      | 60 VA      | 90 VA      | 90 VA      |
| P <sub>HOLD</sub><br> |           | 7 VA       | 7 VA       | 7 VA       | 7,5 VA     | 7,5 VA     |

## Dimenzije i montažna shema



Postavljanje na montažnu ploču

Postavljanje na nosač (35×7,5 mm)



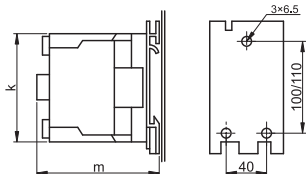
| TRACON     | TR1D09.. | TR1D12.. | TR1D18.. | TR1D25.. | TR1D32.. |
|------------|----------|----------|----------|----------|----------|
| m (mm)     | 80       | 80       | 85       | 93       | 98       |
| A (mm)     | 35       | 35       | 35       | 44       | 44       |
| k (mm)     | 71       | 71       | 71       | 80       | 80       |
| a (mm)     | 74       | 74       | 74       | 84       | 84       |
| b (mm)     | 46       | 46       | 47       | 57       | 57       |
| m (35×7,5) | 82       | 82       | 87       | 95       | 100      |

## Sklopnici opće namjene tipa TR1D (40 A ... 95 A)

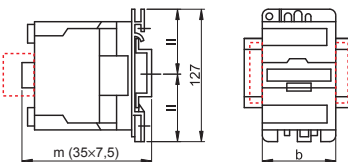
|                 |                               |                               |                                    |                         |                       |                                    |                                     |                     |                 |                   |            |
|-----------------|-------------------------------|-------------------------------|------------------------------------|-------------------------|-----------------------|------------------------------------|-------------------------------------|---------------------|-----------------|-------------------|------------|
| 230/400<br>V AC | <b>U<sub>i</sub></b><br>660 V | <b>U<sub>e</sub></b><br>660 V | <b>ON-OFF-ON</b><br>sc/h<br>×3.600 | <b>3×10<sup>6</sup></b> | <b>10<sup>6</sup></b> | <b>AUX (mm<sup>2</sup>)</b><br>1-4 | <b>T<sub>a</sub></b><br>-25...+55°C | <b>max.</b><br>±30° | <b>IP</b><br>20 | <b>Piktogrami</b> | <b>I/O</b> |
|-----------------|-------------------------------|-------------------------------|------------------------------------|-------------------------|-----------------------|------------------------------------|-------------------------------------|---------------------|-----------------|-------------------|------------|

|                            |                  | U <sub>m</sub> | TRACON      |            |            |            |            |
|----------------------------|------------------|----------------|-------------|------------|------------|------------|------------|
|                            |                  |                | 40A/AC-3    | 50A/AC-3   | 65A/AC-3   | 80A/AC-3   | 95A/AC-3   |
|                            | 24 V~            |                | TR1D4011B7  | TR1D5011B7 | TR1D6511B7 | TR1D8011B7 | TR1D9511B7 |
|                            | 48 V~            |                | TR1D4011E7  | TR1D5011E7 | TR1D6511E7 | TR1D8011E7 | TR1D9511E7 |
|                            | 110 V~           |                | TR1D4011F7  | TR1D5011F7 | TR1D6511F7 | TR1D8011F7 | TR1D9511F7 |
|                            | 230 V~           |                | TR1D4011    | TR1D5011   | TR1D6511   | TR1D8011   | TR1D9511   |
|                            | 400 V~           |                | TR1D4011V7  | TR1D5011V7 | TR1D6511V7 | TR1D8011V7 | TR1D9511V7 |
| <b>I<sub>e</sub> (A)</b>   | AC-1             |                | 60          | 80         | 80         | 125        | 125        |
|                            | <b>AC-3</b>      |                | <b>40</b>   | <b>50</b>  | <b>65</b>  | <b>80</b>  | <b>95</b>  |
|                            | AC-4             |                | 18,5        | 24         | 28         | 37         | 44         |
| <b>P<sub>e</sub> (kW)</b>  | 220/230 V        | AC-3           | 11          | 15         | 18,5       | 22         | 25         |
|                            | <b>380/400 V</b> | <b>AC-3</b>    | <b>18,5</b> | <b>22</b>  | <b>30</b>  | <b>37</b>  | <b>45</b>  |
|                            | 380/400 V        | AC-4           | 5,5         | 7,5        | 9          | 10         | 15         |
|                            | 415 V            | AC-3           | 22          | 25         | 37         | 45         | 45         |
|                            | 500 V            | AC-3           | 22          | 30         | 37         | 55         | 55         |
|                            | 660/690 V        | AC-3           | 30          | 33         | 37         | 45         | 45         |
|                            | 1000 V           | AC-3           | -           | 30         | 37         | 45         | 45         |
| <b>I<sub>aux</sub> (A)</b> |                  |                | 5           | 5          | 5          | 5          | 5          |
|                            |                  |                | 50 A aM     | 50 A aM    | 63 A aM    | 80 A aM    | 100 A aM   |
|                            |                  |                | 25          | 25         | 25         | 50         | 50         |
|                            |                  |                | 200 VA      | 200 VA     | 200 VA     | 200 VA     | 200 VA     |
|                            |                  |                | 20 VA       | 20 VA      | 20 VA      | 20 VA      | 20 VA      |

## Dimenzije i montažna shema



Postavljanje na montažnu ploču



Postavljanje na nosač (35×7,5 mm)



| TRACON            | TR1D40.. | TR1D50.. | TR1D65.. | TR1D80.. | TR1D95.. |
|-------------------|----------|----------|----------|----------|----------|
| <b>m (mm)</b>     | 114      | 114      | 114      | 125      | 125      |
| <b>k (mm)</b>     | 107      | 107      | 107      | 123      | 123      |
| <b>b (mm)</b>     | 75       | 75       | 75       | 85       | 85       |
| <b>m (35×7,5)</b> | 116      | 116      | 116      | 127      | 127      |



I/40



I/41



I/41



I/41



I/43

## Kombinacije motorske zaštitne sklopke u kućištu tipa TEMS

| TRACON    | $P_e$<br>(kW), AC-3* | $I_e$<br>(A), AC-3* | $U_m$  |  |  |  |
|-----------|----------------------|---------------------|--------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| TEMS1-091 | 1,5                  | 3,5                 | 400 V~ | 9 A / AC-3                                                                        | 2,5 – 4 A                                                                          | 6 A aM                                                                              |
| TEMS1-092 | 2,2                  | 5                   | 400 V~ | 9 A / AC-3                                                                        | 4 – 6 A                                                                            | 10 A aM                                                                             |
| TEMS1-093 | 3                    | 6,3                 | 400 V~ | 9 A / AC-3                                                                        | 5,5 – 8 A                                                                          | 10 A aM                                                                             |
| TEMS1-094 | 4                    | 8,5                 | 400 V~ | 9 A / AC-3                                                                        | 7 – 10 A                                                                           | 16 A aM                                                                             |
| TEMS1-121 | 5                    | 11,5                | 400 V~ | 12 A / AC-3                                                                       | 9 – 13 A                                                                           | 16 A aM                                                                             |
| TEMS1-181 | 7,5                  | 15,5                | 400 V~ | 18 A / AC-3                                                                       | 12 – 18 A                                                                          | 20 A aM                                                                             |
| TEMS2-251 | 11                   | 22                  | 400 V~ | 25 A / AC-3                                                                       | 17 – 25 A                                                                          | 25 A aM                                                                             |
| TEMS2-321 | 15                   | 30                  | 400 V~ | 32 A / AC-3                                                                       | 23 – 32 A                                                                          | 40 A aM                                                                             |
| TEMS3-401 | 18,5                 | 37                  | 400 V~ | 40 A / AC-3                                                                       | 30 – 40 A                                                                          | 40 A aM                                                                             |
| TEMS3-501 | 22                   | 44                  | 400 V~ | 50 A / AC-3                                                                       | 37 – 50 A                                                                          | 63 A aM                                                                             |
| TEMS3-651 | 25                   | 57                  | 400 V~ | 65 A / AC-3                                                                       | 48 – 65 A                                                                          | 80 A aM                                                                             |
| TEMS3-801 | 37                   | 72,5                | 400 V~ | 80 A / AC-3                                                                       | 55 – 70 A                                                                          | 80 A aM                                                                             |
| TEMS3-802 | 37                   | 72,5                | 400 V~ | 80 A / AC-3                                                                       | 63 – 80 A                                                                          | 80 A aM                                                                             |
| TEMS3-951 | 45                   | 85                  | 400 V~ | 95 A / AC-3                                                                       | 80 – 93 A                                                                          | 100 A aM                                                                            |

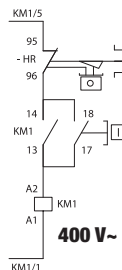
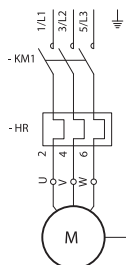
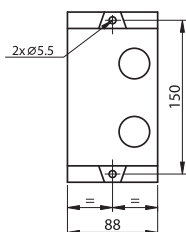
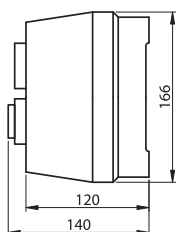
\* Parametri se odnose na 3-fazne kavezne motore u spoju trokut.

Aparat se sastoji od jednog upravljačkog sklopika i jednog termičkog nadstrujnog releja, ima zeleno tipkalo ON i crveno OFF, te dvodjelno kućište od plastike ili čelične ploče. Tehnički parametri sklopika i nadstrujnog zaštitnog releja određuju koliko snagu može kombinacija podnijeti pri pokretanju motora. S termičkim nadstrujnim relejom može se odrediti razina strujne zaštite koja odgovara tehničkim parametrima motora. S tipkalima ON i OFF može se motor uključiti ili isključiti. Kućište omogućuje mehaničku zaštitu naprave i zaštitu od strujnog udara. Kućište se može jednostavno montirati s pomoću otvora za pričvršćivanje na dnu. Uvođenje kabela je omogućeno kroz otvore na bočnoj ili stražnjoj strani kućišta. Upravljački krug je tvornički spojen, a sklopik i termički relej su zajedno ugrađeni. Aparat je po priključivanju spojnih kabela spreman za pogon. Ove aparate treba opremiti vanjskom zaštitom od kratkog spoja!

## Tehnički parametri i izbor tipova TEMS1



| TRACON                                                                                  |       | TEMS1-091 | TEMS1-092 | TEMS1-093 | TEMS1-094 | TEMS1-121 | TEMS1-181 |
|-----------------------------------------------------------------------------------------|-------|-----------|-----------|-----------|-----------|-----------|-----------|
| I <sub>e</sub> (A), AC-3                                                                | 400 V | 3,5       | 5         | 6,3       | 8,5       | 11,5      | 15,5      |
|                                                                                         | 660 V | 2,7       | 3,8       | 4,8       | 6,6       | 8,9       | 12        |
| I <sub>th</sub> (A)                                                                     | 400 V | 25        | 25        | 25        | 25        | 25        | 32        |
| P <sub>e</sub> (kW), AC-3                                                               | 400 V | 1,5       | 2,2       | 3         | 4         | 5,5       | 7,5       |
|                                                                                         | 660 V | 5,5       | 5,5       | 5,5       | 5,5       | 7,5       | 10        |
| <div><div><div>AUX</div><div></div><div></div></div><div>I<sub>th</sub> (A)</div></div> |       | 6         | 6         | 6         | 6         | 6         | 6         |
| <div><div></div><div>P<sub>m</sub> (VA)</div></div>                                     | AC-15 | 300       | 300       | 300       | 300       | 300       | 300       |
|                                                                                         | DC-13 | 30        | 30        | 30        | 30        | 30        | 30        |



Za uvođenje kabela napajanja na poklopcu donjeg dijela plastičnog kućišta se nalaze perforirani otvori koji odgovaraju brtvljenim uvednicama: 2 kom. PG13,5; a na donjem dijelu 1 kom. PG16 i 1 kom. PG13,5.

## Tehnički parametri i izbor tipova TEMS2

|                 |                                                                                                |                                                                                                           |                                                                                                           |                                                                                                                          |              |
|-----------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------|
| <b>400 V AC</b> |  <b>660 V</b> |  <b>3x10<sup>6</sup></b> |  <b>8x10<sup>5</sup></b> | <b>T<sub>a</sub></b>  <b>0...+55 °C</b> | <b>IP 55</b> |
|-----------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------|



Piktogrami

I/O

| TRACON                          | TEMS2-251                   | TEMS2-321      |
|---------------------------------|-----------------------------|----------------|
| <b>I<sub>e</sub> (A), AC-3</b>  | <b>400 V</b> 22<br>660 V 18 | <b>30</b> 21,3 |
| <b>I<sub>th</sub> (A)</b>       | 400 V 40                    | 50             |
| <b>P<sub>e</sub> (kW), AC-3</b> | <b>400 V</b> 11<br>660 V 15 | <b>15</b> 18,5 |
| <b>I<sub>th</sub> (A)</b>       | 6                           | 6              |
| <b>P<sub>m</sub> (VA)</b>       | AC-15 300<br>DC-13 30       | 300 30         |

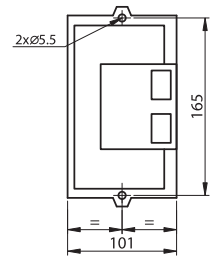
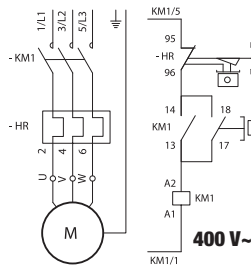
RELEVANT STANDARD  
**EN 60529**

RELEVANT STANDARD  
**EN 60695-2-1**

RELEVANT STANDARD  
**EN 60439**



Za uvođenje kabela napajanja na poklopcu donjeg dijela plastičnog kućišta se nalaze perforirani otvori koji odgovaraju brtvljenim uvodnicama: 2 kom. PG13,5; a na donjem dijelu 1 kom. PG16 i 1 kom. PG13,5.



## Tehnički parametri i izbor tipova TEMS3

|                 |                                                                                                 |                                                                                                            |                                                                                                            |                                                                                                                           |              |
|-----------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------|
| <b>400 V AC</b> |  <b>660 V</b> |  <b>3x10<sup>6</sup></b> |  <b>6x10<sup>5</sup></b> | <b>T<sub>a</sub></b>  <b>0...+55 °C</b> | <b>IP 55</b> |
|-----------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------|



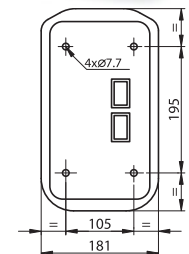
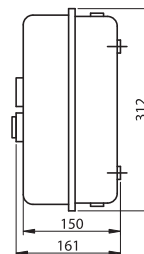
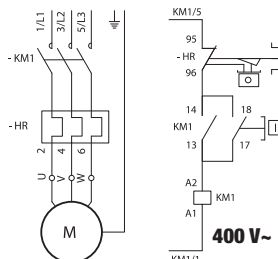
Piktogrami

I/O



| TRACON                          | TEMS3-401                     | TEMS3-501    | TEMS3-651    | TEMS3-801      | TEMS3-951    |
|---------------------------------|-------------------------------|--------------|--------------|----------------|--------------|
| <b>I<sub>e</sub> (A), AC-3</b>  | <b>400 V</b> 37<br>660 V 34,6 | <b>44</b> 39 | <b>60</b> 42 | <b>72,5</b> 49 | <b>85</b> 49 |
| <b>I<sub>th</sub> (A)</b>       | 400 V 60                      | 80           | 80           | 125            | 125          |
| <b>P<sub>e</sub> (kW), AC-3</b> | <b>400 V</b> 18,5<br>660 V 30 | <b>22</b> 33 | <b>30</b> 37 | <b>37</b> 45   | <b>45</b> 55 |
| <b>I<sub>th</sub> (A)</b>       | 6                             | 6            | 6            | 6              | 6            |
| <b>P<sub>m</sub> (VA)</b>       | AC-15 300<br>DC-13 30         | 300 30       | 300 30       | 300 30         | 300 30       |

Isklopni pomoćni kontakt koji se nalazi na sklopniku izvedenom u plastičnom kućištu mogu se primijeniti i za signaliziranje i upravljačke zadatke. Za uvođenje kabela napajanja na poklopcu donjeg dijela plastičnog kućišta se nalaze perforirani otvori koji odgovaraju brtvljenim uvodnicama: 1 kom. PG29 i 1 kom. PG13,5; a na donjem dijelu 2 kom. PG29 i 1 kom. PG13,5.





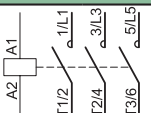
## Sklopnici za velike struje

|                 |                                                                                                                        |                                      |                                                                                                                             |                                                                                                                              |                                                                                                    |                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------|
| <b>400 V AC</b> |  <b>U<sub>i</sub></b><br><b>660 V</b> | <b>U<sub>e</sub></b><br><b>660 V</b> |  <b>AUX (mm<sup>2</sup>)</b><br><b>1-4</b> |  <b>T<sub>a</sub></b><br><b>-25...+55°C</b> |  <b>max. 130°</b> | <b>IP</b><br><b>20</b> |
|-----------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------|



Piktogrami

I/O

|                                                                                                                                                                                            |                  | U <sub>m</sub> | TRACON           |                  |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|------------------|------------------|------------------|
|                                                                                                                                                                                            |                  |                | 115A/AC-3        | 150A/AC-3        | 170A/AC-3        |
|                                                                                                           |                  | 24 V~          | <b>TR1E115B7</b> | <b>TR1E150B7</b> | <b>TR1E170B7</b> |
|                                                                                                                                                                                            |                  | 48 V~          | <b>TR1E115E7</b> | <b>TR1E150E7</b> | <b>TR1E170E7</b> |
|                                                                                                                                                                                            |                  | 230 V~         | <b>TR1E115</b>   | <b>TR1E150</b>   | <b>TR1E170</b>   |
|                                                                                                                                                                                            |                  | 400 V~         | <b>TR1E115V7</b> | <b>TR1E150V7</b> | <b>TR1E170V7</b> |
|                                                                                                                                                                                            |                  |                |                  |                  |                  |
| <b>I<sub>e</sub> (A)</b>                                                                                                                                                                   | AC-1             |                | 250              | 250              | 250              |
|                                                                                                                                                                                            | <b>AC-3</b>      |                | <b>115</b>       | <b>150</b>       | <b>170</b>       |
| <b>P<sub>e</sub> (kW)</b>                                                                                                                                                                  | AC-4             |                | 40               | 50               | 60               |
|                                                                                                                                                                                            | 220/230 V        |                | 30               | 40               | 55               |
|                                                                                                                                                                                            | <b>380/400 V</b> |                | <b>55</b>        | <b>75</b>        | <b>90</b>        |
|                                                                                                                                                                                            | 415 V            |                | 59               | 80               | 100              |
|                                                                                                                                                                                            | 500 V            |                | 75               | 90               | 110              |
|                                                                                                                                                                                            | 660/690 V        |                | 80               | 100              | 110              |
|                                                                                                                                                                                            | 1000 V           |                | 65               | 65               | 100              |
|  mm <sup>2</sup>                                                                                           |                  |                | 95               | 120              | 150              |
|                                                                                                            |                  |                | × 1800           | × 1800           | × 1800           |
|  /  (× 10 <sup>3</sup> ) |                  |                | 30 / 6           | 30 / 6           | 30 / 6           |
|  /  (VA)                 |                  |                | 550 / 45         | 550 / 45         | 805 / 55         |



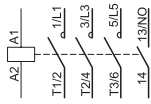
I/40



I/41

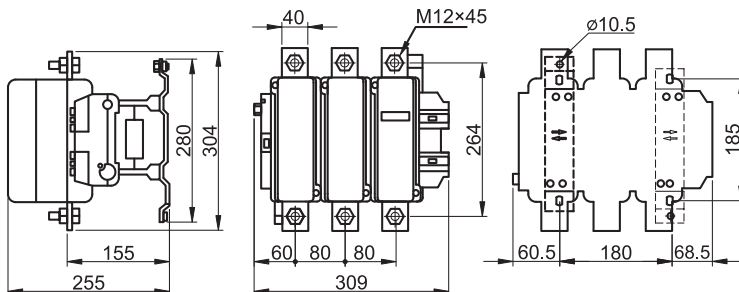
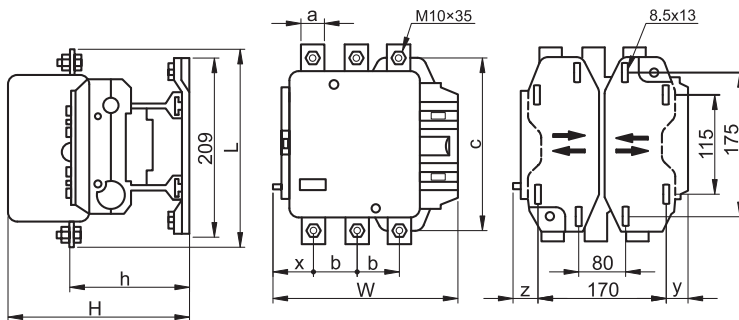
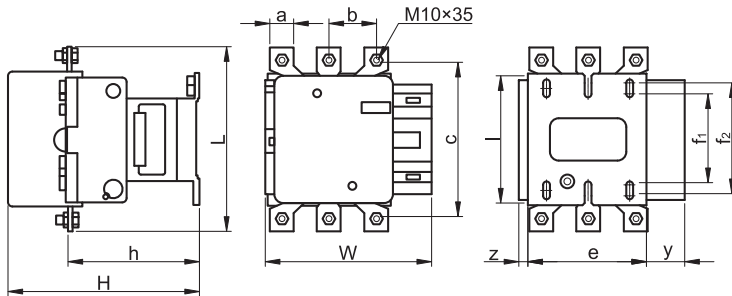
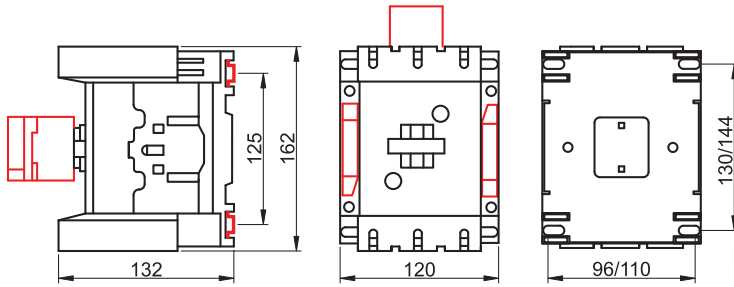


I/41

|                                                                                                                                                                                                |                  | U <sub>m</sub> | TRACON           |                  |                  |                  |                  |                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|------------------|------------------|------------------|------------------|------------------|-------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                |                  |                | 205A/AC-3        | 245A/AC-3        | 300A/AC-3        | 410A/AC-3        | 475A/AC-3        | 620A/AC-3                                                                                       |
|                                                                                                              |                  | 24 V~          | <b>TR1E205B7</b> | <b>TR1E245B7</b> | <b>TR1E300B7</b> | <b>TR1E410B7</b> | <b>TR1E475B7</b> | <b>TR1E620B7</b>                                                                                |
|                                                                                                                                                                                                |                  | 48 V~          | <b>TR1E205E7</b> | <b>TR1E245E7</b> | <b>TR1E300E7</b> | <b>TR1E410E7</b> | <b>TR1E475E7</b> | <b>TR1E620E7</b>                                                                                |
|                                                                                                                                                                                                |                  | 230 V~         | <b>TR1E205</b>   | <b>TR1E245</b>   | <b>TR1E300</b>   | <b>TR1E410</b>   | <b>TR1E475</b>   | <b>TR1E620</b>                                                                                  |
|                                                                                                                                                                                                |                  | 400 V~         | <b>TR1E205V7</b> | <b>TR1E245V7</b> | <b>TR1E300V7</b> | <b>TR1E410V7</b> | <b>TR1E475V7</b> | <b>TR1E620V7</b>                                                                                |
|                                                                                                                                                                                                |                  |                |                  |                  |                  |                  |                  |                                                                                                 |
| <b>I<sub>e</sub> (A)</b>                                                                                                                                                                       | AC-1             |                | 275              | 315              | 400              | 500              | 700              | 1000                                                                                            |
|                                                                                                                                                                                                | <b>AC-3</b>      |                | <b>205</b>       | <b>245</b>       | <b>300</b>       | <b>410</b>       | <b>475</b>       | <b>620</b>                                                                                      |
| <b>P<sub>e</sub> (kW)</b>                                                                                                                                                                      | AC-4             |                | 70               | 80               | 100              | 140              | 160              | 210                                                                                             |
|                                                                                                                                                                                                | 220/230 V        |                | 63               | 75               | 100              | 110              | 147              | 200                                                                                             |
|                                                                                                                                                                                                | <b>380/400 V</b> |                | <b>110</b>       | <b>132</b>       | <b>160</b>       | <b>200</b>       | <b>250</b>       | <b>335</b>                                                                                      |
|                                                                                                                                                                                                | 415 V            |                | 110              | 132              | 180              | 220              | 280              | 375                                                                                             |
|                                                                                                                                                                                                | 500 V            |                | 129              | 160              | 200              | 257              | 355              | 400                                                                                             |
|                                                                                                                                                                                                | 660/690 V        |                | 129              | 160              | 220              | 280              | 335              | 450                                                                                             |
|                                                                                                                                                                                                | 1000 V           |                | 100              | 147              | 160              | 185              | 335              | 450                                                                                             |
|  mm <sup>2</sup>                                                                                             |                  |                | 185              | 240              | 240              | 2×150            | 2×240            |  2×60×5 mm |
|                                                                                                              |                  |                | × 1800           | × 1800           | × 1800           | × 900            | × 900            | × 900                                                                                           |
|  /  (× 10 <sup>3</sup> ) |                  |                | 30 / 5           | 30 / 5           | 30 / 5           | 10 / 3           | 10 / 3           | 10 / 2                                                                                          |
|  /  (VA)                 |                  |                | 805 / 55         | 700 / 8          | 700 / 8          | 1150 / 12        | 1150 / 16        | 1730 / 20                                                                                       |

Nadstrujna zaštita kontaktora tipa TR1E prikazana je na I/45. strani!

## Skice dimenzija



TR1E115 ... TR1E170



TR1E205 ... TR1E300



TR1E410, TR1E475

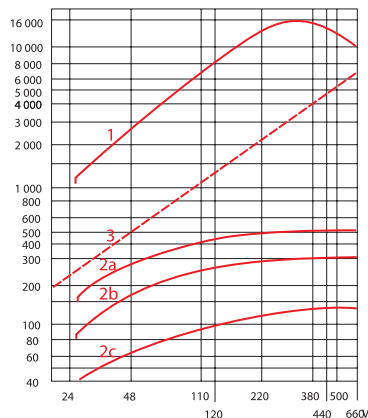
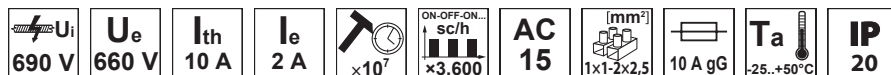


TR1E620



| TRACON  | W<br>(mm) | H<br>(mm) | L<br>(mm) | a<br>(mm) | b<br>(mm) | c<br>(mm) | l<br>(mm) | e<br>(mm) | x<br>(mm) | f1<br>(mm) | f2<br>(mm) | h<br>(mm) | y<br>(mm) | z<br>(mm) |
|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|
| TR1E205 | 170       | 181       | 175       | 20        | 40        | 156       | 137       | 80        | -         | 106        | 120        | 114       | 44        | 15        |
| TR1E245 | 170       | 182       | 196       | 25        | 48        | 172       | 137       | 80        | -         | 106        | 120        | 113       | 44        | 15        |
| TR1E300 | 215       | 217       | 205       | 25        | 48        | 180       | 145       | 96        | -         | 110        | 122        | 145       | 38        | 20,5      |
| TR1E410 | 215       | 222       | 205       | 25        | 48        | 180       | -         | -         | 45        | -          | -          | 148       | 23,5      | 15        |
| TR1E475 | 235       | 225       | 235       | 30        | 55        | 210       | -         | -         | 43        | -          | -          | 140       | 44        | 15        |

## Jedinice pomoćnih kontakata



Električni vijek trajanja u ovisnosti od uklopne snage (AC15)

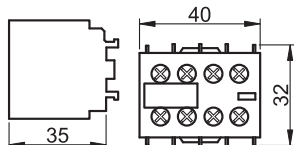
|                   | U <sub>e</sub> |        |                |                |                |        |        |
|-------------------|----------------|--------|----------------|----------------|----------------|--------|--------|
|                   | 24 V           | 48 V   | 110 V<br>127 V | 220 V<br>230 V | 380 V<br>400 V | 440 V  | 600 V  |
| 10 <sup>6</sup>   | 150 VA         | 300 VA | 400 VA         | 480 VA         | 500 VA         | 500 VA | 500 VA |
| 3×10 <sup>6</sup> | 80 VA          | 170 VA | 250 VA         | 290 VA         | 320 VA         | 320 VA | 320 VA |
| 10 <sup>7</sup>   | 30 VA          | 65 VA  | 90 VA          | 120 VA         | 130 VA         | 130 VA | 130 VA |

## Legenda

- 1: granica prekidne moći  
 2a: 10<sup>6</sup> pogonskih ciklusa  
 2b: 3×10<sup>6</sup> pogonskih ciklusa  
 2c: 10<sup>7</sup> pogonskih ciklusa  
 3: granica ugrijavanja

## Jedinice pomoćnih kontakata za prednju stranu

## Za pomoćne sklopnike TR1K



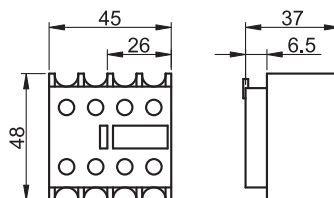
## TRACON



|         |                 |
|---------|-----------------|
| TR5KN02 | 2 × NC          |
| TR5KN04 | 4 × NC          |
| TR5KN11 | 1 × NO + 1 × NC |
| TR5KN13 | 1 × NO + 3 × NC |
| TR5KN20 | 2 × NO          |
| TR5KN22 | 2 × NO + 2 × NC |
| TR5KN31 | 3 × NO + 1 × NC |
| TR5KN40 | 4 × NO          |



## Za sklopnike TR1D i TR1E



## TRACON



|         |                 |
|---------|-----------------|
| TR6DN02 | 2 × NC          |
| TR6DN04 | 4 × NC          |
| TR6DN11 | 1 × NO + 1 × NC |
| TR6DN13 | 1 × NO + 3 × NC |
| TR6DN20 | 2 × NO          |
| TR6DN22 | 2 × NO + 2 × NC |
| TR6DN31 | 3 × NO + 1 × NC |
| TR6DN40 | 4 × NO          |

TR6-DN40  
TR5-KN40

|    |       |
|----|-------|
| 54 | 53/NO |
| 64 | 63/NO |
| 74 | 73/NO |
| 84 | 83/NO |

TR6-DN31  
TR5-KN31

|    |       |
|----|-------|
| 54 | 53/NO |
| 62 | 61/NC |
| 74 | 73/NO |
| 84 | 83/NO |

TR6-DN22  
TR5-KN22

|    |       |
|----|-------|
| 54 | 53/NO |
| 62 | 61/NC |
| 72 | 71/NC |
| 84 | 83/NO |

TR6-DN13  
TR5-KN13

|    |       |
|----|-------|
| 54 | 53/NO |
| 62 | 61/NC |
| 72 | 71/NC |
| 82 | 81/NC |

TR6-DN04  
TR5-KN04

|    |       |
|----|-------|
| 52 | 51/NC |
| 62 | 61/NC |
| 72 | 71/NC |
| 82 | 81/NC |

TR6-DN20  
TR5-KN20

|    |       |
|----|-------|
| 54 | 53/NO |
| 64 | 63/NO |

TR6-DN11  
TR5-KN11

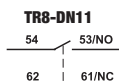
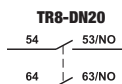
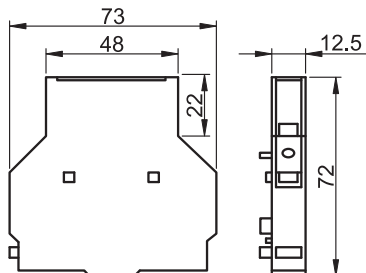
|    |       |
|----|-------|
| 54 | 53/NO |
| 62 | 61/NC |

TR6-DN02  
TR5-KN02

|    |       |
|----|-------|
| 52 | 51/NC |
| 62 | 61/NC |

# Jedinice bočnih pomoćnih kontakata za sklopnike TR1D/F09 ... TR1D/F65, TR1E115..170

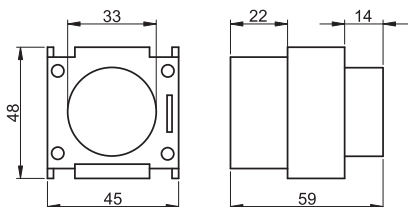
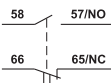
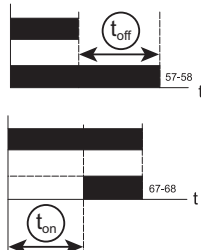
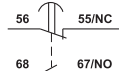
**TRACON**

**TR8-DN20**
 $2 \times \text{NO}$ 
**TR8-DN11**
 $1 \times \text{NC} + 1 \times \text{NO}$ 

**TR8-DN20**

**TR8-DN11**

## Vremenske jedinice za sklopnike TR1D/E

**TRACON**

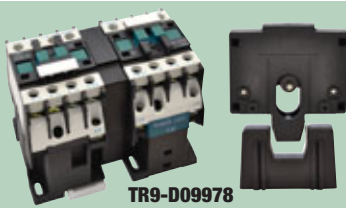
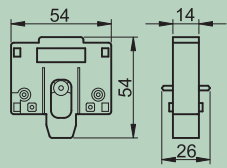
**TR7DT2**
 $1 \times \text{NC} + 1 \times \text{NO}$ 
 $0.1-30 \text{ s}$ 
**TR7DR2**
 $1 \times \text{NC} + 1 \times \text{NO}$ 
 $0.1-30 \text{ s}$ 

**TR7DR2**

**TR7DT2**


## Mehanički zasuni

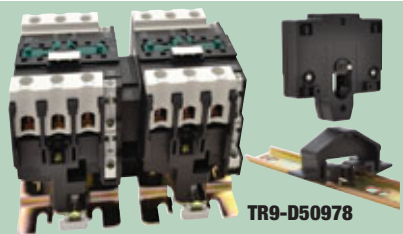
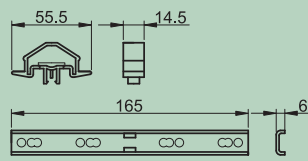
**TRACON**

**TR9-D09978**
 $9-32 \text{ A}$ 
**TR9-D50978**
 $40-95 \text{ A}$ 

Ugrađuju se između dvije magnetske sklopke i sprječavaju njihovo istodobno privlačenje. Mogu se primijeniti u izmjenjivačima smjera bez električnog zasuna, pri sigurnosnom uklapanju s pomoćnom sklopkom i u spojevima zvijezda-trokut.


**TR9-D09978**


Od 9 - 32 A stabilnu vezu među dvjema magnetskim sklopkama možemo riješiti odstočnikom koji se postavlja na sklopnik s bočne strane.

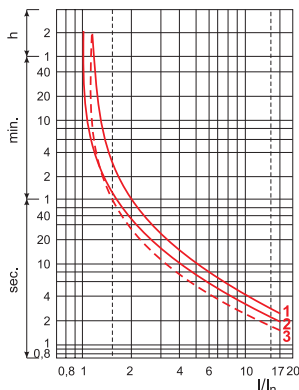
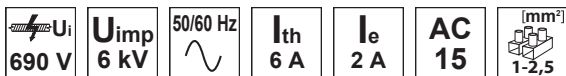

**TR9-D50978**


Od 40 - 95 A pouzdanu vezu osigurava odstočnik na pomoćnom nosaču koji se vijcima pričvršćuje na montažnu ploču na dnu magnetske sklopke.



## Termički nadstrujni releji

### Električni parametri za kontakte releja



|       | $U_e$  |        |        |        |        |
|-------|--------|--------|--------|--------|--------|
|       | 24 V   | 48 V   | 110 V  | 230 V  | 400 V  |
| $P_e$ | 100 VA | 200 VA | 400 VA | 600 VA | 600 VA |

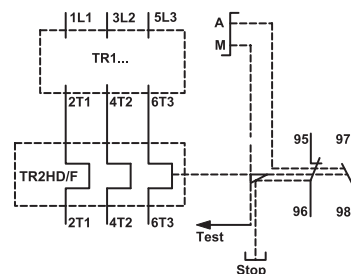
#### Legenda

- 1: 3-fazno opterećenje, iz hladnog stanja
- 2: 2-fazno opterećenje, iz hladnog stanja
- 3: 3-fazno opterećenje, kroz duže vrijeme pri neprekidnom opterećenju (toplo stanje)

Termički releji za nadstrujnu zaštitu su suvremene naprave za zaštitu elektromotora od preopterećenja korištenih u različitim električnim postrojenjima. Djelovanje naprave je inverznog karaktera, tj. što je struja u strujnom krugu motora veća, prekidanje se događa za kraće vrijeme. Igličasti konektori od bakra, koji služe za ulaze zaštitnih releja, treba spojiti na 2T1, 4T2 i 6T3 stezaljke sklopnika.

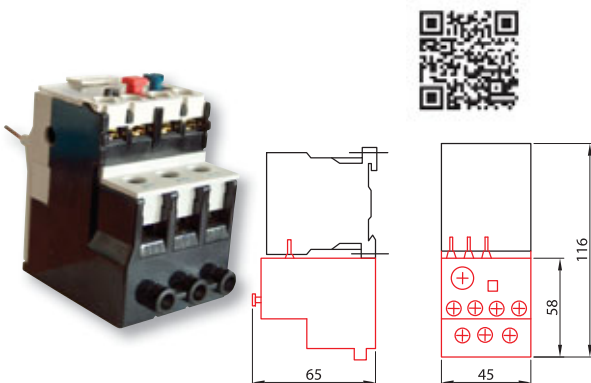
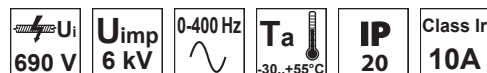
Podešavanje termičkog releja se postiže pomoću ručice ispod prozirnog poklopca, koji se po potrebi može plombirati. Na istom mjestu se nalazi i TEST dugme za provjeru ispravnosti strujnog kruga releja, te ručica za izbor vrste rada: ručni ili automatski rad. Crveno STOP dugme za isklapanje releja nalazi se izvan poklopca.

Termički relej za nadstrujnu zaštitu ima jedan NC kontakt i jedan električki neovisan NO kontakt, te indikator za označavanje isključenog stanja.



A: vraća se automatski  
M: ručno se podešava

## Za sklopnik tipa TR1K



| TRACON    | $I_{th}$      | $mm^2$ |         |
|-----------|---------------|--------|---------|
| TR2HK0301 | 0.1 – 0.16 A  |        | 1.5 – 4 |
| TR2HK0302 | 0.16 – 0.25 A |        |         |
| TR2HK0303 | 0.25 – 0.4 A  |        |         |
| TR2HK0304 | 0.4 – 0.63 A  |        |         |
| TR2HK0305 | 0.63 – 1 A    |        |         |
| TR2HK0306 | 1 – 1.6 A     |        |         |
| TR2HK0307 | 1.6 – 2.5 A   |        |         |
| TR2HK0308 | 2.5 – 4 A     |        |         |
| TR2HK0310 | 4 – 6 A       |        |         |
| TR2HK0312 | 5.5 – 8 A     |        |         |
| TR2HK0314 | 7 – 10 A      |        |         |
| TR2HK0316 | 9 – 13 A      |        |         |



## Za sklopnik tipa TR1D

| TRACON    | $I_{th}$     | $mm^2$ |          |
|-----------|--------------|--------|----------|
| TR2HD1304 | 0,4 – 0,63 A |        | 2.5 – 10 |
| TR2HD1305 | 0,63 – 1 A   |        |          |
| TR2HD1306 | 1 – 1,6 A    |        |          |
| TR2HD1307 | 1,6 – 2,5 A  |        |          |
| TR2HD1308 | 2,5 – 4 A    |        |          |
| TR2HD1310 | 4 – 6 A      |        |          |
| TR2HD1312 | 5,5 – 8 A    |        |          |
| TR2HD1314 | 7 – 10 A     |        |          |
| TR2HD1316 | 9 – 13 A     |        |          |
| TR2HD1321 | 12 – 18 A    |        |          |
| TR2HD1322 | 17 – 25 A    |        | 4 – 35   |
| TR2HF2353 | 23 – 32 A    |        |          |
| TR2HF2355 | 28 – 36 A    |        |          |
| TR2HD3353 | 23 – 32 A    |        |          |
| TR2HD3355 | 30 – 40 A    |        |          |
| TR2HD3357 | 37 – 50 A    |        |          |
| TR2HD3359 | 48 – 65 A    |        |          |
| TR2HD3361 | 55 – 70 A    |        |          |
| TR2HD3363 | 63 – 80 A    |        |          |
| TR2HD3365 | 80 – 93 A    |        |          |

$U_i$   
690 V

$U_{imp}$   
6 kV

0-400 Hz

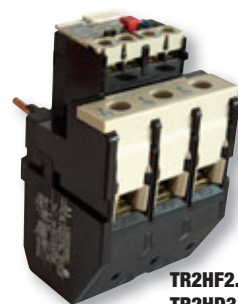
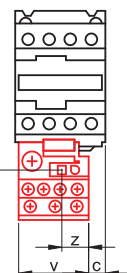
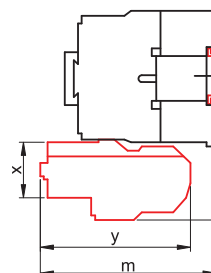
$T_a$   
-30...+55°C

IP  
20

Class Ir  
10A



TR2HD1..

TR2HF2..  
TR2HD3..

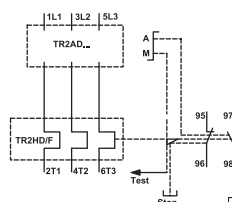
| TRACON       | a (mm) | b (mm) | c (mm) | m (mm) | x (mm) | y (mm) | v (mm) | z (mm) |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|
| TR1D09...D18 | 81     | 50     | 0      | 98     | 47     | 92     | 44     | 17     |
| TR1D25       | 86     | 55     | 10.7   | 108    | 47     | 92     | 44     | 17     |
| TR1D32       | 86     | 55     | 8.1    | 109    | 47     | 92     | 44     | 17     |
| TR1D40...D65 | 111    | 72.4   | 4.5    | 119    | 54     | 109    | 70     | 30     |
| TR1D80...D95 | 115.5  | 76.9   | 9.5    | 124    | 54     | 109    | 70     | 30     |

## Adapter za termičke releje

| TRACON |                      |               |
|--------|----------------------|---------------|
| TR2AD1 | TR2HD13..            | 46×78×86 mm   |
| TR2AD3 | TR2HF23.., TR2HD33.. | 73×103×120 mm |

RELEVANT STANDARD  
EN 60947-1

RELEVANT STANDARD  
EN 60947-4-1



A: vraća se automatski  
M: ručno se podešava

35×7.5



## EVOHK instalacijski sklopnici



F/23



## Izbor sklopnika i termičkih releja

Sijedeće tablice mogu pružiti pomoć pri izboru sklopnika i termičkog releja za zaštitu motora na osnovu njegovih pogonskih parametara. Snage i struje prikazane u tablici odnose se na motor spojen u trokut.

### Primjeri za izbor pomoćnog sklopnika TR1K i termičkog releja

|  |        |  |           |  |  |  |         |
|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|---------|
| Pe (kW)                                                                           | Ie (A) |                                                                                   |           |                                                                                   |  | aM                                                                                  | gG (gL) |
| –                                                                                 | 0,1    | TR1K06                                                                            | TR2HK0301 | 0,1 – 0,16                                                                        |  | 1                                                                                   | 2       |
| 0,06                                                                              | 0,16   | TR1K06                                                                            | TR2HK0302 | 0,16 – 0,25                                                                       |  | 1                                                                                   | 2       |
| 0,08                                                                              | 0,25   | TR1K06                                                                            | TR2HK0303 | 0,25 – 0,4                                                                        |  | 1                                                                                   | 2       |
| 0,1                                                                               | 0,4    | TR1K06                                                                            | TR2HK0304 | 0,4 – 0,63                                                                        |  | 2                                                                                   | 4       |
| 0,3                                                                               | 1,0    | TR1K06                                                                            | TR2HK0305 | 0,63 – 1                                                                          |  | 2                                                                                   | 4       |
| 0,4                                                                               | 1,0    | TR1K06                                                                            | TR2HK0306 | 1 – 1,6                                                                           |  | 2                                                                                   | 4       |
| 0,8                                                                               | 2,0    | TR1K06                                                                            | TR2HK0307 | 1,6 – 2,5                                                                         |  | 4                                                                                   | 6       |
| 1,1                                                                               | 2,6    | TR1K06                                                                            | TR2HK0308 | 2,5 – 4                                                                           |  | 6                                                                                   | 10      |
| 1,5                                                                               | 3,5    | TR1K06                                                                            | TR2HK0308 | 2,5 – 4                                                                           |  | 6                                                                                   | 10      |
| 2,2                                                                               | 5,0    | TR1K06                                                                            | TR2HK0310 | 4 – 6                                                                             |  | 10                                                                                  | 16      |
| 3,0                                                                               | 6,3    | TR1K06                                                                            | TR2HK0312 | 5,5 – 8                                                                           |  | 10                                                                                  | 16      |
| 4,0                                                                               | 8,5    | TR1K09                                                                            | TR2HK0314 | 7 – 10                                                                            |  | 10                                                                                  | 20      |
| 5,0                                                                               | 11     | TR1K12                                                                            | TR2HK0316 | 9 – 13                                                                            |  | 16                                                                                  | 25      |

### Primjeri za izbor sklopnika TR1D i termičkog releja

|  |        |  |           |  |  |  |         |
|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|---------|
| Pe (kW)                                                                           | Ie (A) |                                                                                   |           |                                                                                   |  | aM                                                                                  | gG (gL) |
| 0,1                                                                               | 0,4    | TR1D09                                                                            | TR2HD1304 | 0,4-0,63                                                                          |  | 2                                                                                   | 4       |
| 0,3                                                                               | 1,0    | TR1D09                                                                            | TR2HD1305 | 0,63-1                                                                            |  | 2                                                                                   | 4       |
| 0,4                                                                               | 1,0    | TR1D09                                                                            | TR2HD1306 | 1-1,6                                                                             |  | 2                                                                                   | 4       |
| 0,8                                                                               | 2,0    | TR1D09                                                                            | TR2HD1307 | 1,6-2,5                                                                           |  | 4                                                                                   | 6       |
| 1,1                                                                               | 2,6    | TR1D09                                                                            | TR2HD1308 | 2,5-4,0                                                                           |  | 6                                                                                   | 10      |
| 1,5                                                                               | 3,5    | TR1D09                                                                            | TR2HD1308 | 2,5-4,0                                                                           |  | 6                                                                                   | 10      |
| 2,2                                                                               | 5,0    | TR1D09                                                                            | TR2HD1310 | 4,0-6,0                                                                           |  | 10                                                                                  | 16      |
| 3,0                                                                               | 6,3    | TR1D09                                                                            | TR2HD1312 | 5,5-8                                                                             |  | 10                                                                                  | 16      |
| 4,0                                                                               | 8,5    | TR1D09                                                                            | TR2HD1314 | 7,0-10,0                                                                          |  | 10                                                                                  | 20      |
| 5,0                                                                               | 11,0   | TR1D12                                                                            | TR2HD1316 | 9-13,0                                                                            |  | 16                                                                                  | 25      |
| 7,5                                                                               | 15,5   | TR1D18                                                                            | TR2HD1321 | 12,0-18,0                                                                         |  | 20                                                                                  | 35      |
| 9,0                                                                               | 18,0   | TR1D18                                                                            | TR2HD1321 | 12,0-18,0                                                                         |  | 25                                                                                  | 35      |
| 11,0                                                                              | 22,0   | TR1D25                                                                            | TR2HD1322 | 17,0-25,0                                                                         |  | 25                                                                                  | 50      |
| 15,0                                                                              | 30,0   | TR1D40                                                                            | TR2HD3353 | 23,0-32,0                                                                         |  | 40                                                                                  | 63      |
| 18,0                                                                              | 40,0   | TR1D40                                                                            | TR2HD3355 | 30-40,0                                                                           |  | 50                                                                                  | 63      |
| 22,0                                                                              | 44,0   | TR1D50                                                                            | TR2HD3357 | 37,0-50,0                                                                         |  | 63                                                                                  | 80      |
| 25,0                                                                              | 57,0   | TR1D65                                                                            | TR2HD3359 | 48-65,0                                                                           |  | 80                                                                                  | 100     |
| 30,0                                                                              | 60,0   | TR1D65                                                                            | TR2HD3361 | 55,0-70,0                                                                         |  | 80                                                                                  | 100     |
| 37,0                                                                              | 72,0   | TR1D80                                                                            | TR2HD3363 | 63,0-80,0                                                                         |  | 80                                                                                  | 125     |
| 45,0                                                                              | 93,0   | TR1D95                                                                            | TR2HD3365 | 80-93,0                                                                           |  | 100                                                                                 | 125     |

### Kombinacija za motorske pokretače

Uporabom sklopnika TR1D, pomoćnih kontakata, vremenske jedinice i termičkog releja mogu se izvesti razne kombinacije, npr. automatske motorske sklopke zvijezda-trokut, odn. pokretači motora. Motorski pokretač Y-Δ se sastoji od 3 sklopnika, 2 pomoćna kontakta, 1 vremenske jedinice i 1 termičkog releja.

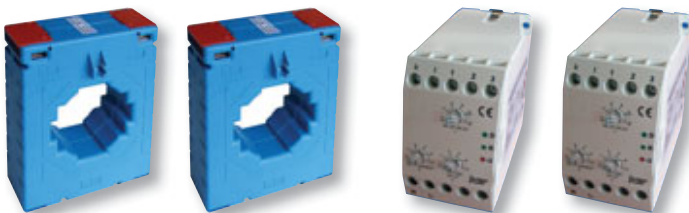
U PRILOGU se pruža pomoć u projektiranju, izboru elemenata, izradi skica i shema spojeva.

## Nadstrujna zaštita električnih uređaja upravljanih sklopnicima za velike struje

Pouzdana nadstrujna zaštita električnih uređaja u industriji, upravljanih sklopnicima za velike struje može se riješiti s pomoću tzv. nadstrujne kombinacije, na indirektnan način. Senzorska naprava za rad nadstrujne kombinacije izvedena je zaštitnim relejima za rast struje 0-5 A po svim fazama. Na sekundar strujnog transformatora treba spojiti ulaz releja koji je osjetljiv na rast struje. Ukoliko se pomoćni kontakti zaštitnih releja svih faza redno spoje i struja u bilo kojoj fazi poraste iznad odabrane vrijednosti, te u toj fazi uklopi relej, prekida se upravljački strujni krug sklopnika za velike struje, štiteći time uređaj od nadstruja. Napominjemo, da ovo rješenje nije u skladu sa standardnom krivuljom motorske zaštite.

### Raspored konektora

|     |                       |
|-----|-----------------------|
| L,N | Napon napajanja       |
| k,l | Strujni transformator |
| 1   | NO isklonpi kontakt   |
| 2   | CO zajednički kontakt |
| 3   | NC uklopni kontakt    |

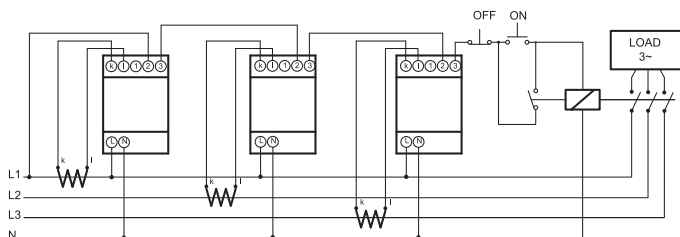


### Elementi nadstrujne zaštite

| TRACON         | Naziv                                                 | Broj elemenata     | Strana |
|----------------|-------------------------------------------------------|--------------------|--------|
| TFKV-AKA05     | Zaštitni relej za rast struje                         | 3 kom. (1 po fazi) | J/21   |
| AVBS, AV...-SH | Niskonaponski strujni transformator za 5A u sekundaru | 3 kom. (1 po fazi) | L/26   |

### Napomena

- Zaštitna naprava vršnu struju pokretanja koja nastaje pri uključivanju motora ne uzima u obzir unutar vremena podešenog između 0,5-8 s.
- Ako se mjerena vrijednost struje razlikuje od regulirane vrijednosti, izlaz releja će na kraju podešenog vremena kašnjenja promijeniti svoje stanje.
- Ako se vrijednost struje sekundara strujnog transformatora unutar vremena kašnjenja podešenog između 0,5-15 s vrati na pode še nu razinu struje, stanje izlaza releja se neće promijeniti.
- Za trofazne mreže vrijeme kašnjenja zaštitnih releja pojedinih faza treba postaviti na istu vrijednost!

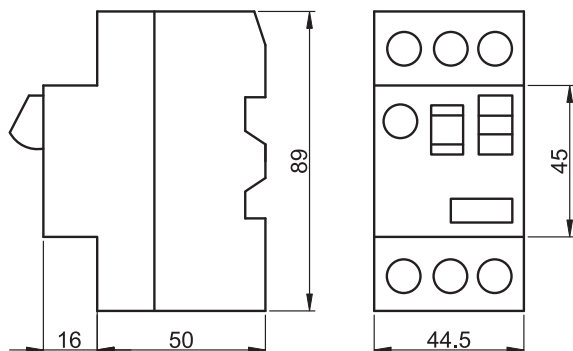


|  |  |  |        |  (A) |      |      |      |      |        |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------|------|------|------|------|--------|
|                                                                                    |                                                                                     | min                                                                                 | max    | 0,5                                                                                     | 1    | 2    | 3    | 4    | 5      |
| —                                                                                  | —                                                                                   | 0,5 A                                                                               | 5 A    | 0,5 A                                                                                   | 1 A  | 2 A  | 3 A  | 4 A  | 5 A    |
| 100/5A                                                                             | TR1E115                                                                             | 10 A                                                                                | 100 A  | 10 A                                                                                    | 20   | 40   | 60   | 80   | 100 A  |
| 120/5A                                                                             | TR1E115                                                                             | 12 A                                                                                | 120 A  | 12 A                                                                                    | 24   | 48   | 72   | 96   | 120 A  |
| 125/5A                                                                             | TR1E150                                                                             | 12,5 A                                                                              | 125 A  | 12,5 A                                                                                  | 25   | 50   | 75   | 100  | 125 A  |
| 150/5A                                                                             | TR1E170                                                                             | 15 A                                                                                | 150 A  | 15 A                                                                                    | 30   | 60   | 90   | 120  | 150 A  |
| 200/5A                                                                             | TR1E205                                                                             | 20 A                                                                                | 200 A  | 20 A                                                                                    | 40   | 80   | 120  | 160  | 200 A  |
| 250/5A                                                                             | TR1E245                                                                             | 25 A                                                                                | 250 A  | 25 A                                                                                    | 50   | 100  | 150  | 200  | 250 A  |
| 300/5A                                                                             | TR1E300                                                                             | 30 A                                                                                | 300 A  | 30 A                                                                                    | 60   | 120  | 180  | 240  | 300 A  |
| 400/5A                                                                             | TR1E410                                                                             | 40 A                                                                                | 400 A  | 40 A                                                                                    | 80   | 160  | 240  | 320  | 400 A  |
| 500/5A                                                                             | TR1E475                                                                             | 50 A                                                                                | 500 A  | 50 A                                                                                    | 100  | 200  | 300  | 400  | 500 A  |
| 600/5A                                                                             | TR1E620                                                                             | 60 A                                                                                | 600 A  | 60 A                                                                                    | 120  | 240  | 360  | 480  | 600 A  |
| 750/5A                                                                             | —                                                                                   | 75 A                                                                                | 750 A  | 75 A                                                                                    | 150  | 300  | 450  | 600  | 750 A  |
| 800/5A                                                                             | —                                                                                   | 80 A                                                                                | 800 A  | 80 A                                                                                    | 160  | 320  | 480  | 640  | 800 A  |
| 1000/5A                                                                            | —                                                                                   | 100 A                                                                               | 1000 A | 100 A                                                                                   | 200  | 400  | 600  | 800  | 1000 A |
| 1500/5A                                                                            | —                                                                                   | 150 A                                                                               | 1500 A | 150 A                                                                                   | 300  | 600  | 900  | 1200 | 1500 A |
| 2000/5A                                                                            | —                                                                                   | 200 A                                                                               | 2000 A | 200 A                                                                                   | 400  | 800  | 1200 | 1600 | 2000 A |
| 2500/5A                                                                            | —                                                                                   | 250 A                                                                               | 2500 A | 250 A                                                                                   | 500  | 1000 | 1500 | 2000 | 2500 A |
| 3000/5A                                                                            | —                                                                                   | 300 A                                                                               | 3000 A | 300 A                                                                                   | 600  | 1200 | 1800 | 2400 | 3000 A |
| 4000/5A                                                                            | —                                                                                   | 400 A                                                                               | 4000 A | 400 A                                                                                   | 800  | 1600 | 2400 | 3200 | 4000 A |
| 5000/5A                                                                            | —                                                                                   | 500 A                                                                               | 5000 A | 500 A                                                                                   | 1000 | 2000 | 3000 | 4000 | 5000 A |

## Motorske zaštitne sklopke na ručni pogon

|                 |                               |                                |          |               |               |                                  |             |  |              |                                     |                               |                        |                                   |
|-----------------|-------------------------------|--------------------------------|----------|---------------|---------------|----------------------------------|-------------|--|--------------|-------------------------------------|-------------------------------|------------------------|-----------------------------------|
| <b>400 V AC</b> | <b>U<sub>i</sub></b><br>690 V | <b>U<sub>imp</sub></b><br>6 kV | 50/60 Hz | $\times 10^5$ | $\times 10^5$ | ON-OFF-ON<br>sc/h<br>$\times 25$ | <b>AC 3</b> |  | <b>IP 20</b> | <b>T<sub>a</sub></b><br>-25...+55°C | (mm <sup>2</sup> )<br>2x1-2x6 | <b>Class Ir</b><br>10A | <b>P<sub>m</sub></b><br>2,5 VA AC |
|-----------------|-------------------------------|--------------------------------|----------|---------------|---------------|----------------------------------|-------------|--|--------------|-------------------------------------|-------------------------------|------------------------|-----------------------------------|

| TRACON  | I <sub>e</sub> | P <sub>e</sub> |        |        |        |
|---------|----------------|----------------|--------|--------|--------|
|         |                |                |        | aM (A) | gG (A) |
| TGV2-01 | 0,1 - 0,16 A   | —              | 1,5 A  | —      | 1      |
| TGV2-02 | 0,16 - 0,25 A  | 0,06 kW        | 2,4 A  | —      | 1      |
| TGV2-03 | 0,25 - 0,4 A   | 0,09 kW        | 5 A    | 1      | 2      |
| TGV2-04 | 0,4 - 0,63 A   | 0,18 kW        | 8 A    | 1      | 2      |
| TGV2-05 | 0,63 - 1 A     | 0,37 kW        | 13 A   | 1      | 2      |
| TGV2-06 | 1 - 1,6 A      | 0,55 kW        | 22,5 A | 2      | 4      |
| TGV2-07 | 1,6 - 2,5 A    | 0,75 kW        | 33,5 A | 4      | 6      |
| TGV2-08 | 2,5 - 4 A      | 1,5 kW         | 51 A   | 6      | 10     |
| TGV2-10 | 4 - 6,3 A      | 2,2 kW         | 78 A   | 10     | 16     |
| TGV2-14 | 6 - 10 A       | 4 kW           | 138 A  | 10     | 20     |
| TGV2-16 | 9 - 14 A       | 5,5 kW         | 170 A  | 16     | 25     |
| TGV2-20 | 13 - 18 A      | 7,5 kW         | 223 A  | 20     | 32     |
| TGV2-21 | 17 - 23 A      | 11 kW          | 327 A  | 25     | 50     |
| TGV2-22 | 20 - 25 A      | 11 kW          | 327 A  | 25     | 50     |
| TGV2-32 | 24 - 32 A      | 15 kW          | 416 A  | 40     | 63     |



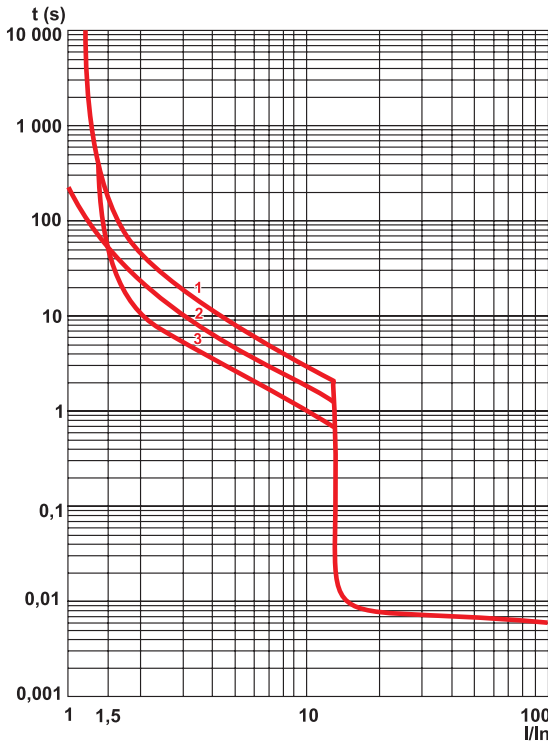
RELEVANT STANDARD  
EN 60947-4-1

RELEVANT STANDARD  
EN 60947-1



Motorske zaštitne sklopke su namijenjene za trofazna opterećenja, prvenstveno za uklopavanje i isklapanje elektromotora, odnosno za njihovu zaštitu od preopterećenja. Okidanje se može postići magnetskim okidačem za kratke spojeve ili termičkim okidačem za preopterećenja. Može se uklopiti i isklapati običnom mehaničkom konstrukcijom na ručni pogon i zaključati u isklapljenom položaju. Nazivna pogonska struja štite-nog motora može se regulirati kontinuirano u zadanom području. Sklopke za zaštitu motora mogu se s dopunskom opremom (dojavljivačima pogrešaka, pomoćnim kontaktima, okidačima, kućištem, itd.) prilagoditi za daljinsko upravljanje i za primjenu u raznim upravljačkim uređajima.

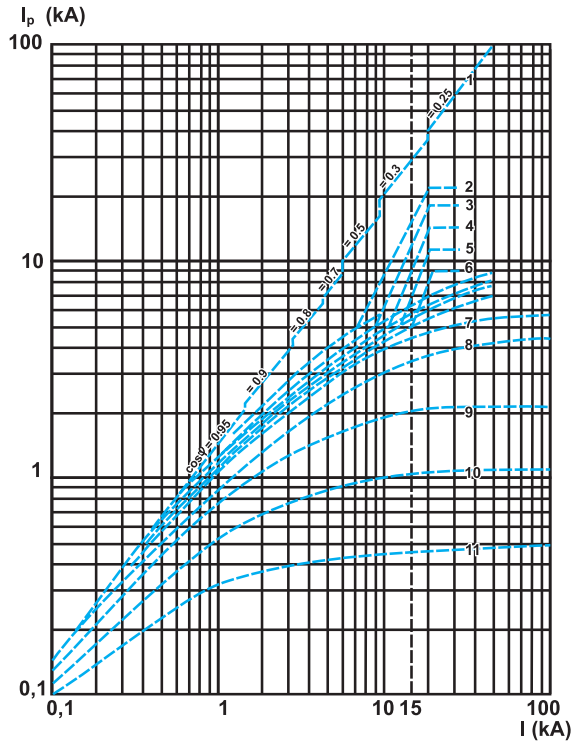
### Krivulja isklapanja



#### Legenda

- 1:** 3-fazno opterećenje, iz hladnog stanja
- 2:** 2-fazno opterećenje, iz hladnog stanja
- 3:** 3-fazno opterećenje, neprekidno kroz duže vrijeme (toplo stanje)

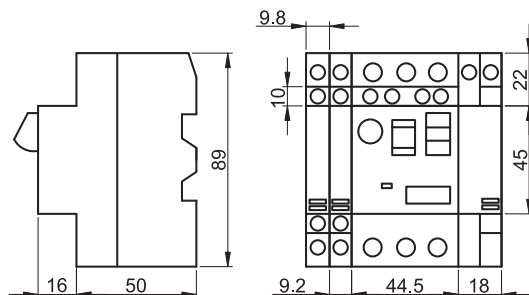
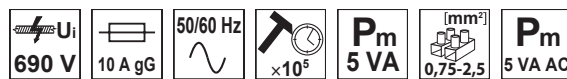
### Krivulja strujnog ograničenja



#### Legenda

- |                      |                   |                      |
|----------------------|-------------------|----------------------|
| <b>1:</b> $I_{pmax}$ | <b>5:</b> 13-18 A | <b>9:</b> 2.5-4 A    |
| <b>2:</b> 24-32 A    | <b>6:</b> 9-14 A  | <b>10:</b> 1.6-2.5 A |
| <b>3:</b> 20-25 A    | <b>7:</b> 6-10 A  | <b>11:</b> 1-1.6 A   |
| <b>4:</b> 17-23 A    | <b>8:</b> 4-6.3 A |                      |

### Dopunska oprema



Motorske zaštitne sklopke se mogu s dopunskom opremom (dojavljivačima pogreške, pomoćnim kontaktima, okidačima, kućištem) prilagoditi za daljinsko upravljanje i za primjenu u raznim upravljačkim uređajima. Ugradnjom u kućište omogućuje se njihova samostalna uporaba, jer se time povećava stupanj zaštite na IP41 ili IP55.



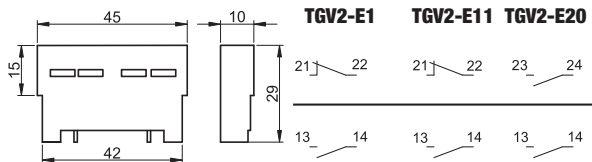
## Pomoćni kontakti na prednjoj strani

| $U_e$ (V)    |      | 24    | 48   | 60   | 230 |
|--------------|------|-------|------|------|-----|
| $I_e$ (A)    | AC15 | 2     | 1,25 | –    | 0,5 |
|              | DC13 | 1     | 0,3  | 0,15 | –   |
| $I_{th}$ (A) |      | 2,5 A |      |      |     |

| TRACON |  NC<br> NO |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |             |
|-----------------|-------------|
| <b>TGV2-E1</b>  | 1×NC / NO*  |
| <b>TGV2-E11</b> | 1×NC + 1×NO |
| <b>TGV2-E20</b> | 2×NO        |

\*ovisno o položaju kontakt može biti i isklupni i uklopni.



Pomoćni kontakti signaliziraju da li je sklopka uklopljena ili isklupljena. Uz njihovu pomoć moguće je obavljati upravljačke i signalizirajuće funkcije. Pomoćni kontakt na prednju stranu se može namjestiti nakon skidanja prednje ploče.

## Bočni pomoćni kontakti



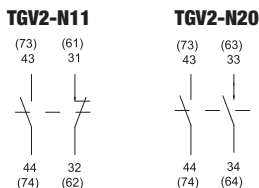
| $U_e$ (V) |  | 24 | 48 | 110 | 230 | 400 |
|-----------|--|----|----|-----|-----|-----|
|-----------|--|----|----|-----|-----|-----|

|           |      |   |   |     |     |   |
|-----------|------|---|---|-----|-----|---|
| $I_e$ (A) | AC15 | – | 6 | 4,5 | 3   | 2 |
|           | DC13 | 6 | 5 | 1,3 | 0,5 | – |

|              |  |     |  |  |  |  |
|--------------|--|-----|--|--|--|--|
| $I_{th}$ (A) |  | 6 A |  |  |  |  |
|--------------|--|-----|--|--|--|--|

| TRACON |  NC<br> NO |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |             |
|-----------------|-------------|
| <b>TGV2-N11</b> | 1×NC + 1×NO |
| <b>TGV2-N20</b> | 2×NO        |



Pomoćni kontakti signaliziraju da li je sklopka uklopljena ili isklupljena. Uz njihovu pomoć moguće je obavljati upravljačke i signalizirajuće funkcije.

## Dojavljivač kratkog spoja



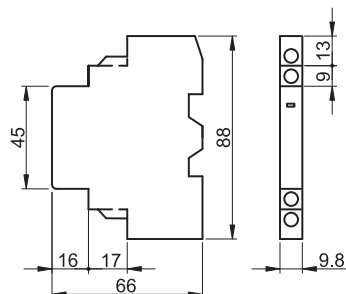
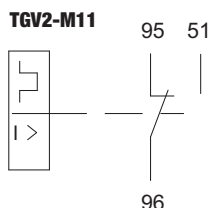
| $U_e$ (V) |  | 24 | 48 | 60 |
|-----------|--|----|----|----|
|-----------|--|----|----|----|

|           |      |     |     |      |
|-----------|------|-----|-----|------|
| $I_e$ (A) | AC15 | 1,5 | 1   | –    |
|           | DC13 | 1   | 0,3 | 0,15 |

|              |  |       |  |  |
|--------------|--|-------|--|--|
| $I_{th}$ (A) |  | 2,5 A |  |  |
|--------------|--|-------|--|--|

| TRACON |  NC<br> NO<br> CO |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

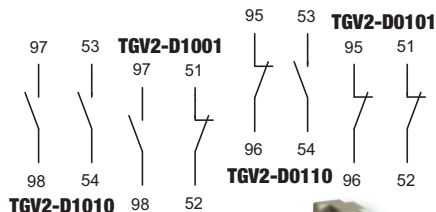
|                 |      |
|-----------------|------|
| <b>TGV2-M11</b> | 1×CO |
|-----------------|------|



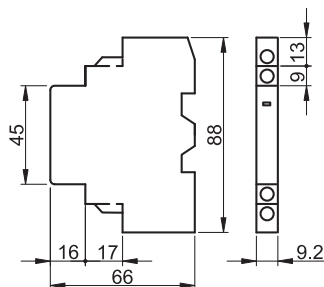
U slučaju kvara na štichenom motoru signaliziraju vrstu pogreške (kratki spoj, nadstruja).

## Dojavljivači preopterećenja

| TRACON            | AUX  |      |
|-------------------|------|------|
| <b>TGV2-D1010</b> | 1×NO | 1×NO |
| <b>TGV2-D1001</b> | 1×NC | 1×NO |
| <b>TGV2-D0110</b> | 1×NO | 1×NC |
| <b>TGV2-D0101</b> | 1×NC | 1×NC |



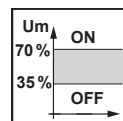
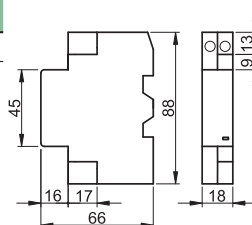
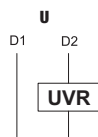
| AUX          |          |     |      |     |    |     |     |  |
|--------------|----------|-----|------|-----|----|-----|-----|--|
| $U_e$ (V)    | 24       | 48  | 60   | 24  | 48 | 230 | 400 |  |
| $I_e$ (A)    | AC15 1.5 | 1   | —    | —   | 6  | 3   | 2   |  |
|              | DC13 1   | 0.3 | 0.15 | 6   | 5  | 0.5 | —   |  |
| $I_{th}$ (A) | 2.5 A    |     |      | 6 A |    |     |     |  |



## Podnaponski okidači

| TRACON           | $U_m$        | $P_m$     |
|------------------|--------------|-----------|
| <b>TGV2-U225</b> | 220-240 V AC | max. 5 VA |
| <b>TGV2-U385</b> | 400-415 V AC | max. 5 VA |

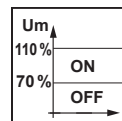
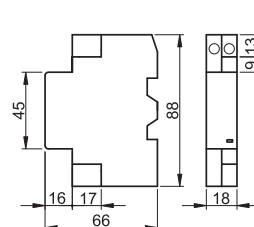
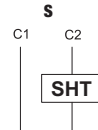
Podnaponski okidač isklapa zaštitnu sklopku i sprječava njeno ponovno uklapanje ako se pogonski napon smanji između 35-70 % od nazivne vrijednosti.



## Okidači radne struje

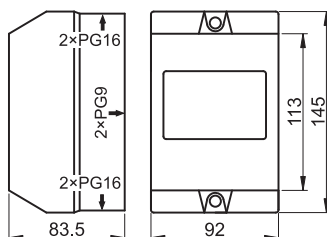
| TRACON           | $U_m$        | $P_m$     |
|------------------|--------------|-----------|
| <b>TGV2-S225</b> | 220-240 V AC | max. 5 VA |
| <b>TGV2-S385</b> | 400-415 V AC | max. 5 VA |

Okidač za radnu struju (shunt) izaziva okidanje zaštitne sklopke ako na njegov namot priključimo napon od 70-110 % nazivne vrijednosti. Time obavlja funkciju daljinskog upravljanja.



## Kućišta

| TRACON         | IP..  |
|----------------|-------|
| <b>TGV2-T1</b> | IP 41 |
| <b>TGV2-T2</b> | IP 55 |



TGV2-T1

TGV2-T2