

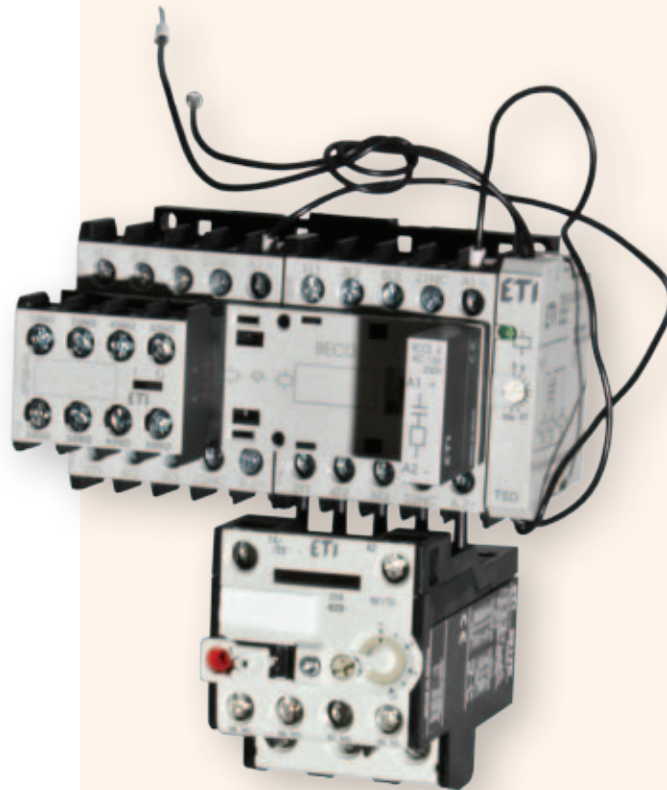
Minijaturni sklopnik CEC

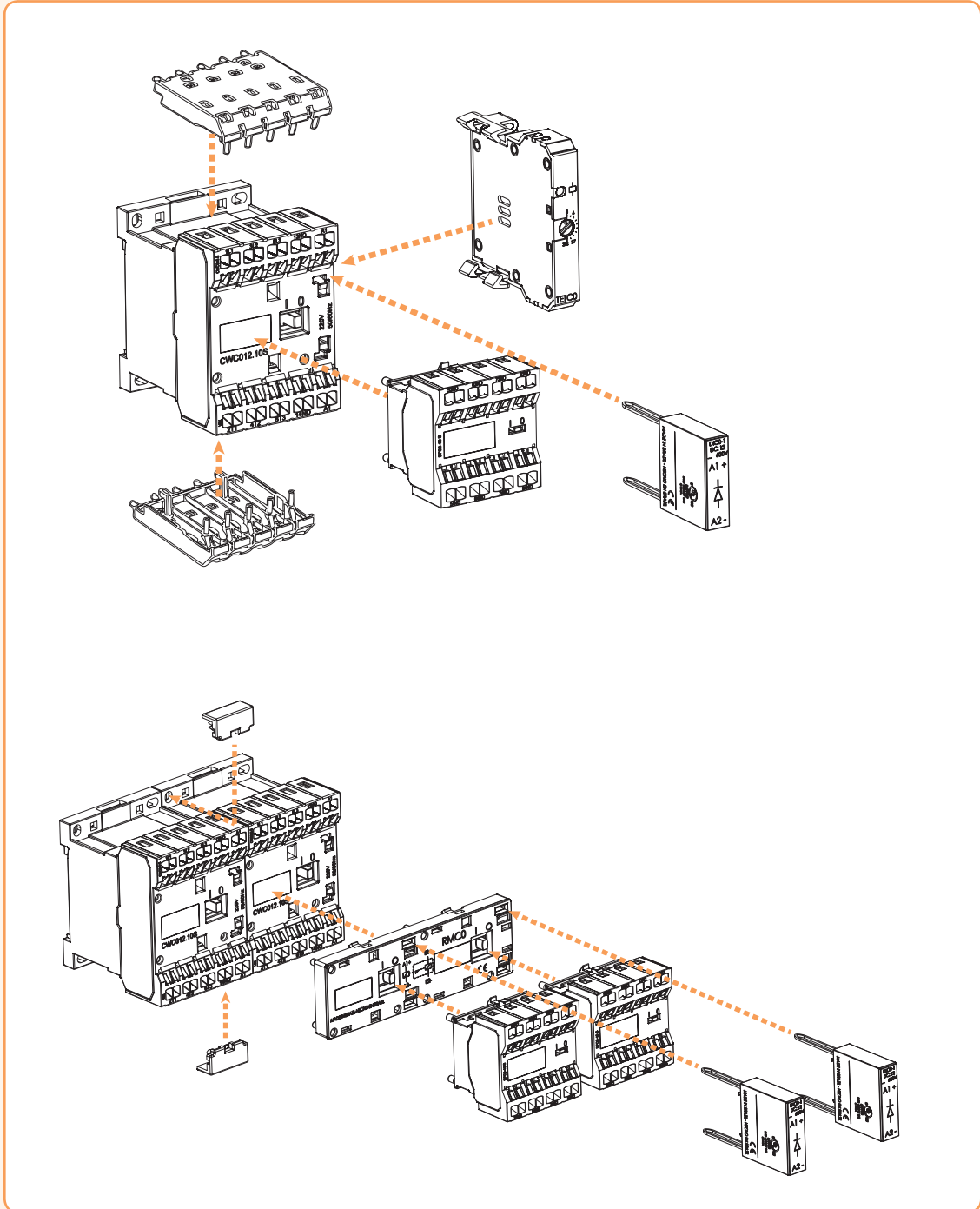
Upotreba:

Minijaturni sklopnici se upotrebljavaju za daljinsko upravljanje i zaštitu (zajedno sa prekostrujnim relejima) električnih motora i drugih električnih potrošača nazivne snage do 7,5kW (kod 400V AC3 kategorije).

Glavna prednosti:

- AC-3 kategorija upotrebe do 16A.
- MAC i DC sklopnici su iste veličine, što omogućava lakše i fleksibilnije projektiranje i montažu.
- Nazivni napon izolacije 690V.
- Znatno manja potrošnja i zagrijavanje omogućava direktnu kompatibilnost sa elektronskim upravljačkim sistemima
- Kompletna linija dodataka, kompaktna izrada omogućava brzu montažu.
- Gušenje udarnog napona (kao opcija)
- Zaštita od direktnog dodira sa čelone strane IP20
- Upravljački naponi 24VAC, 48VAC, 110VAC, 230VAC, 400VAC







Minijaturni motorski sklopnik CEC07; 18A(AC1); 7A,3kW(AC3 400V)				
tip	šifra	shema veza	težina [g]	pakiranje [kom]
CEC07.10-24V-50/60Hz	004641050		180	1
CEC07.10-42V-50/60Hz	004641051			
CEC07.10-48V-50/60Hz	004641052			
CEC07.10-110V-50/60Hz	004641053			
CEC07.10-230V-50/60Hz	004641054			
CEC07.10-400V-50/60Hz	004641055			
CEC07.10-24VDC	004641100			
CEC07.10-48VDC	004641130			
CEC07.10-110VDC	004641131			
CEC07.10-220VDC	004641132			
CEC07.01-24V-50/60Hz	004641056		180	1
CEC07.01-42V-50/60Hz	004641057			
CEC07.01-48V-50/60Hz	004641058			
CEC07.01-110V-50/60Hz	004641059			
CEC07.01-230V-50/60Hz	004641060			
CEC07.01-400V-50/60Hz	004641061			
CEC07.01-24VDC	004641101			
CEC07.01-48VDC	004641133			
CEC07.01-110VDC	004641134			
CEC07.01-220VDC	004641135			



Minijaturni motorski sklopnik CEC09; 20A(AC1); 9A,4kW(AC3, 400V)				
tip	šifra	shema veza	težina [g]	pakiranje [kom]
CEC09.10-24V-50/60Hz	004641062		180	1
CEC09.10-42V-50/60Hz	004641063			
CEC09.10-48V-50/60Hz	004641064			
CEC09.10-110V-50/60Hz	004641065			
CEC09.10-230V-50/60Hz	004641066			
CEC09.10-400V-50/60Hz	004641067			
CEC09.10-24VDC	004641102			
CEC09.10-48VDC	004641136			
CEC09.10-110VDC	004641137			
CEC09.10-220VDC	004641138			
CEC09.01-24V-50/60Hz	004641068		180	1
CEC09.01-42V-50/60Hz	004641069			
CEC09.01-48V-50/60Hz	004641070			
CEC09.01-110V-50/60Hz	004641071			
CEC09.01-230V-50/60Hz	004641072			
CEC09.01-400V-50/60Hz	004641073			
CEC09.01-24VDC	004641103			
CEC09.01-48VDC	004641139			
CEC09.01-110VDC	004641140			
CEC09.01-220VDC	004641141			

Minijaturni motorski sklopnik CEC012; 22A(AC1); 12A,5,5kW(AC3 400V)

tip	šifra	shema veza	težina [g]	pakiranje [kom]
CEC012.10-24V-50/60Hz	004641074		180	1
CEC012.10-42V-50/60Hz	004641075			
CEC012.10-48V-50/60Hz	004641076			
CEC012.10-110V-50/60Hz	004641077			
CEC012.10-230V-50/60Hz	004641078			
CEC012.10-400V-50/60Hz	004641079			
CEC012.10-24VDC	004641104		218	1
CEC012.10-48VDC	004641142			
CEC012.10-110VDC	004641143			
CEC012.10-220VDC	004641144			
CEC012.01-24V-50/60Hz	004641080			
CEC012.01-42V-50/60Hz	004641081			
CEC012.01-48V-50/60Hz	004641082		180	1
CEC012.01-110V-50/60Hz	004641083			
CEC012.01-230V-50/60Hz	004641084			
CEC012.01-400V-50/60Hz	004641085			
CEC012.01-24VDC	004641105			
CEC012.01-48VDC	004641145			
CEC012.01-110VDC	004641146		218	1
CEC012.01-220VDC	004641147			


Minijaturni motorski sklopnik CEC016; 22A(AC1); 16A,7,5kW(AC3 400V)

tip	šifra	shema veza	težina [g]	pakiranje [kom]
CEC016.10-24V-50/60Hz	004641086		180	1
CEC016.10-42V-50/60Hz	004641087			
CEC016.10-48V-50/60Hz	004641088			
CEC016.10-110V-50/60Hz	004641089			
CEC016.10-230V-50/60Hz	004641090			
CEC016.10-400V-50/60Hz	004641091			
CEC016.10-24VDC	004641106		218	1
CEC016.10-48VDC	004641148			
CEC016.10-110VDC	004641149			
CEC016.10-220VDC	004641150			
CEC016.01-24V-50/60Hz	004641092			
CEC016.01-42V-50/60Hz	004641093			
CEC016.01-48V-50/60Hz	004641094		180	1
CEC016.01-110V-50/60Hz	004641095			
CEC016.01-230V-50/60Hz	004641096			
CEC016.01-400V-50/60Hz	004641097			
CEC016.01-24VDC	004641107			
CEC016.01-48VDC	004641151			
CEC016.01-110VDC	004641152		218	1
CEC016.01-220VDC	004641153			





Minijaturni pomoćni sklopnik CECA0; 10A (AC15, 230V)

tip	šifra	shema veza	težina [g]	pakiranje [kom]
CECA0.22-24V-50/60Hz	004641160		180	1
CECA0.22-230V-50/60Hz	004642390			
CECA0.31-24V-50/60Hz	004641161			
CECA0.31-230V-50/60Hz	004642391			
CECA0.13-24V-50/60Hz	004641162			
CECA0.13-230V-50/60Hz	004642392			
CECA0.40-24V-50/60Hz	004641163			
CECA0.40-230V-50/60Hz	004642393			
CECA0.04-24V-50/60Hz	004641164			
CECA0.04-230V-50/60Hz	004642394			
CECA0.22-24VDC	004646010		218	1
CECA0.22-220VDC	004641170			
CECA0.31-24VDC	004646011			
CECA0.31-220VDC	004641171			
CECA0.13-24VDC	004646012			
CECA0.13-220VDC	004641172			
CECA0.40-24VDC	004646013			
CECA0.40-220VDC	004641173			
CECA0.04-24VDC	004646014			
CECA0.04-220VDC	004641174			

Četveropolni minijaturni sklopnik

tip	šifra	shema veza	težina [g]	pakiranje [kom]
CEC07.4P-230V-50/60Hz	004641200		180	1
CEC09.4P-230V-50/60Hz	004641201			
CEC012.4P-230V-50/60Hz	004641202			
CEC016.4P-230V-50/60Hz	004641203			
CEC07.4P-24VDC	004641210			
CEC09.4P-24VDC	004641211			
CEC012.4P-24VDC	004641212		180	1
CEC016.4P-24VDC	004641213			
CEC07.PR-230V-50/60Hz	004641204			
CEC09.PR-230V-50/60Hz	004641205			
CEC012.PR-230V-50/60Hz	004641206			
CEC016.PR-230V-50/60Hz	004641207			
CEC07.PR-24V-DC	004641214		180	1
CEC09.PR-24V-DC	004641215			
CEC012.PR-24V-DC	004641216			
CEC016.PR-24V-DC	004641217			



Ograničavač prenapona

tip	šifra	napon	shema veza	težina [g]	pakiranje [kom]
RCCE-1	004641720	12-24V 50/60Hz		6	1
RCCE-2	004641721	24-48V 50/60Hz			
RCCE-3	004641722	48-127V 50/60Hz			
RCCE-4	004641723	127-250V 50/60Hz			
RCCE-5	004641724	250-380V 50/60Hz			
RCCE-6	004641725	380-510V 50/60Hz			
VRCE-1	004641726	12-48V AC/12-60V DC		6	1
VRCE-2	004641727	50-127V AC/60-180V DC			
VRCE-3	004641728	130-275V AC/180-300V DC			
VRCE-4	004641729	277-380V AC/300-510V DC			
VRCE-5	004641730	400-510V AC			
DICE-1	004641731	12-600V DC		6	1


Mehanička blokada

tip	šifra	težina [g]	pakiranje [kom]
BECO	004643603	15	1

For use with CEC


Modul za povezivanje na štampane ploče

tip	šifra	težina [g]	pakiranje [kom]
CECO	004642720	126	1

For use with CEC





Primjer upotrebe EFCO i RCCE

Blok pomoćnih kontakata								
tip	šifra	shema veza	za upotrebu sa	težina [g]	pakiranje [kom]			
EFCO-20	004641520		CECO 3 polni	28	1			
EFCO-11	004641521							
EFCO-02	004641522							
EFCO-40	004641523							
EFCO-22	004641524							
EFCO-04	004641525							
EFCO-31	004641526							
EFCO-13	004641527							
EFCA-20	004641530					CECA0	28	1
EFCA-11	004641531							
EFCA-02	004641532							
EFCA-40	004641533							
EFCA-22	004641534							
EFCA-04	004641535							
EFCA-31	004641536							
EFCA-13	004641537							
EFCA-20	004641540		CECO 4 polni	28	1			
EFCA-11	004641541							
EFCA-02	004641542							
EFCA-40	004641543							
EFCA-22	004641544							
EFCA-04	004641545							
EFCA-31	004641546							
EFCA-13	004641547							


Elektronski vremenski relej

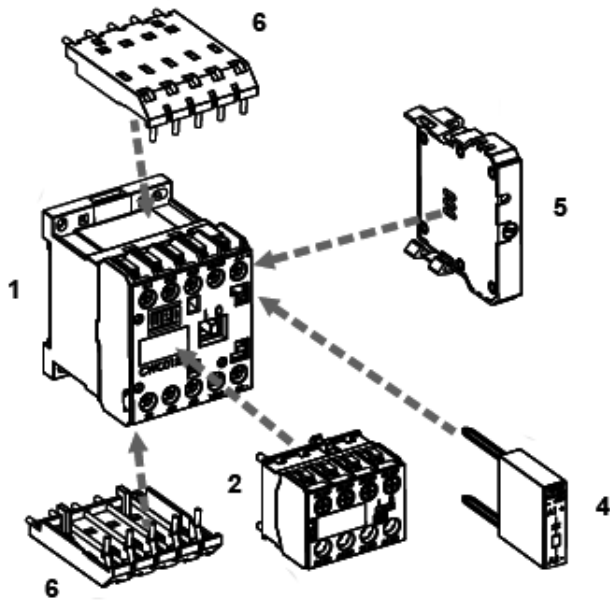
tip	šifra	vrijeme	napon napajanja	težina [g]	pakiranje [kom]
Kašnjenje kod uklopa					
TOE-3-24-240	004642730	0,3-3 sec	24-240V AC/DC	126	1
TOE-10-24-240	004642731	1-10 sec			
TOE-30-24-240	004642732	3-30 sec			
TOE-60-24-240	004642733	6-60 sec			
TOE-100-24-240	004642734	10-100 sec			
TOE-300-24-240	004642735	30-300 sec			
TOE-1800-24-240	004642736	180-1800 sec			
Kašnjenje kod isklopa					
TOD-3-24-60	004642740	0,3-3 sec	24-60V AC/DC	126	1
TOD-10-24-60	004642741	1-10 sec			
TOD-30-24-60	004642742	3-30 sec			
TOD-60-24-60	004642743	6-60 sec			
TOD-100-24-60	004642744	10-100 sec			
TOD-300-24-60	004642745	30-300 sec			
TOD-1800-24-60	004642746	180-1800 sec			
TOD-3-100-240	004642747	0,3-3 sec	110-240V AC/DC	126	1
TOD-10-100-240	004642748	1-10 sec			
TOD-30-100-240	004642749	3-30 sec			
TOD-60-100-240	004642750	6-60 sec			
TOD-100-100-240	004642751	10-100 sec			
TOD-300-100-240	004642752	30-300 sec			
TOD-1800-100-240	004642753	180-1800 sec			
Zvezda - trougao					
TSD-30-24-28	004642760	3-30 sec	24-48V AC	126	1
TSD-30-110-130	004642761		110-130V AC		
TSD-30-220-240	004642762		220 - 240V AC		



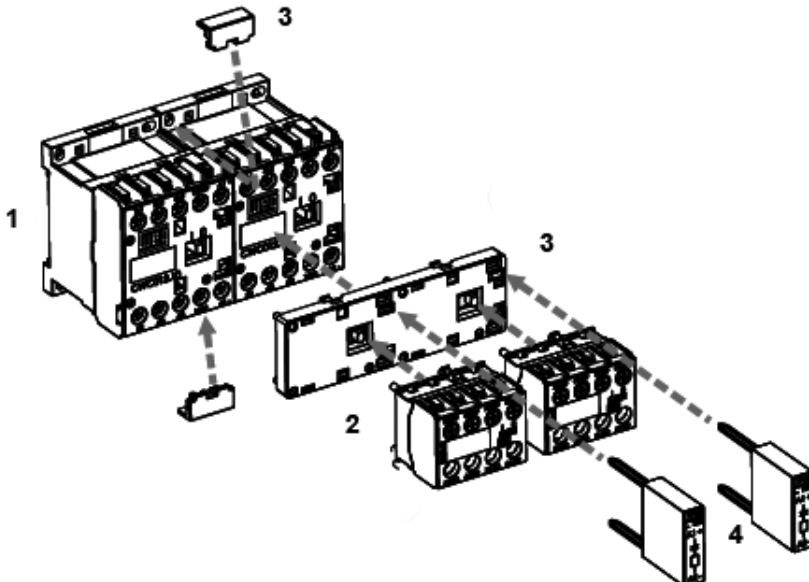
Minijaturni sklopnik CE i CEC

Tehnički podaci								
Tip		CE07	CEC07	CEC09	CEC012	CEC016	CECA0	CAE04
Standardi		IEC/EN 60 947, DIN VDE 0660, UL, CSA						
Nazivni izolacijski napon U_i po IEC/EN 60947, DIN VDE 0660	V	415 V			690 V			415 V
Nazivni izolacijski napon U_i					4 kV			
Nazivna radna frekvencija					25 - 400 Hz			
Stupanj zaštite								
Glavni strujni krug					IP20			
Upravljački strujni krug i pomoćni kontakti					IP20			
Temperatura okoline								
Temperatura djelovanja					-55 ... +80°C			
Temperatura skladištenja					-55 ... +80°C			
Nadmorska visina								
Normalne vrijednosti					< 3000 m			
90% I_n /80% U_n					3000 ... 4000 m			
80% I_n /75% U_n					4000 ... 5000 m			
Stupanj napona/ stupanj zagađenja					III/3			
Klimatska otpornost								
					IEC 60 680-2			
Glavni strujni krug		3		3			4	4
Broj polova		400-415 V			690 V			400-415 V
Nazivni napon djelovanja U_e								
Konv. term. struja I_{th} kod < 55°C		16 A	18 A	20 A	22 A	22 A	10 A	16 A
Nazivna radna struja I_n /AC-1								
AC3 opterećenje								
Nazivna radna moć	230 V	kW	1,5	1,5	2,2	3	4	-
	400/415 V	kW	3	3	4	5,5	7,5	-
	440 V	kW	-	3,7	4,5	5,5	7,5	-
	500 V	kW	-	3,7	4,5	5,5	7,5	-
	690 V	kW	-	3,7	5,5	7,5	7,5	-
AC4 opterećenje								
Nazivna radna struja I_n AC-4 ($U_e \leq 440V$)			2,8	3,5	4,5	5		
Kratko-spojne vrijednosti, maks. osigurač gG (A)								
		16	20	20	25	25	6	6
Maks. električka radna frekvencija								
AC-1	Ops/h	50			300		-	-
AC-3	Ops/h	300			600		-	-
AC-4	Ops/h	250			300		-	-
bez opterećenja	Ops/h	2000			2500		2500	2500
životni vijek - mehanički	Ops x 10 ⁶				10			
životni vijek - električki	Ops x 10 ⁶	0,8	1,4	1,3	1,2	1,1	1	1
Maksimalan broj pomoćnih kontakata		-			5		-	-
Nazivna radna struja I_n								
AC-15	220-230 V	A	-	-	-	-	10	6
	380-400 V	A	-	-	-	-	6	4
	415 V	A	-	-	-	-	5	-
	500 V	A	-	-	-	-	4	-
	690 V	A	-	-	-	-	2	-
DC-13	24 V	A	-	-	-	-	6,0	2,5
	48 V	A	-	-	-	-	4,0	1,5
	110 V	A	-	-	-	-	2	0,7
	220 V	A	-	-	-	-	0,7	0,35
Pouzdanost pomoćnih kontakata								
Broj vodiča i presjek	mm ²				1 x / 2 x (0,5...2,5)		U_e min=17 V, I_e min=5 mA	U_e min=24 V, I_e min=30 mA
Momenat pritezanja	Nm	0,8			1...1,5			0,8

Tehnički podaci				CE07	CEC07	CEC09	CEC012	CEC016	CECA0	CAE04
Tip										
Priključne stezaljke				1 x / 2 x (0,5...2,5)						
mm ²										
										
Momenat pritezanja				Nm	0,8		1...1,5			0,8
Upravljački strujni krug										
Potrošnja snage na svicima	AC	Zatvaranje	VA	20			30			20
		Cosp					0,8			
	Rad	VA	3,3...5,5			2...3				3,3...5,5
		Cosp		0,2			0,27			
	DC	W	-			2,6...3,7				-
Vreme preklapanja	Zatvaranje/Otvaranje (AC)		ms	9...30 / 5...25			8...20 / 6...13			9...30 / 5...25
	Zatvaranje/Otvaranje (DC)		ms	-			35...45 / 7...12			-
Nazivni napon svitka			V	12-660 VAC			12-660 VAC / 12-440 VDC			12-660 VAC
Granice rada svitka							0,85...1,1			



- 1 - minijturni sklopnik
- 2 - blok pomoćnih kontakata
- 3 - mehanička blokada
- 4 - odvodnik prenapona
- 5 - vremenski relej
- 6 - modul za povezivanje na štampane ploče



Blokovi sa pomoćnim kontaktima			
Standard		IEC 60947-5-1, IEC 60947-4-1	
Nazivni izolacioni napon U_i	IEC, VDE 0660		1000
Nazivni radni napon U_e	IEC, VDE 0660	(V)	690
Konvencionalna termička struja (I_m)		A	10
Nazivna radna struja (I_e)			
AC-15 (IEC 60947-5-1)	$U_e \leq 240V$	(A)	10
	380-400V	(A)	6
	415-440V	(A)	6
	500V	(A)	4
	660-690V	(A)	-
UL, CSA 1)			A600
DC-13 (IEC 60947-5-1)	24V	(A)	1,5
	60V	(A)	0,5
	110V	(A)	0,4
	220-240V	(A)	0,4
UL, CSA 1)			Q600
Maks. predosigurač gL/gG		(A)	10
Pouzdanost kontakata		(V / mA)	17 / 5
Električka trajnost		c. op.	1.000.000
Mehanička trajnost		c. op.	10.000.000
Broj vodiča i presjek	Finožični bez spojnice (mm ²)	mm ²	2x (0,5...2,5)
Momenat pritezanja		Nm	0,8...1,5

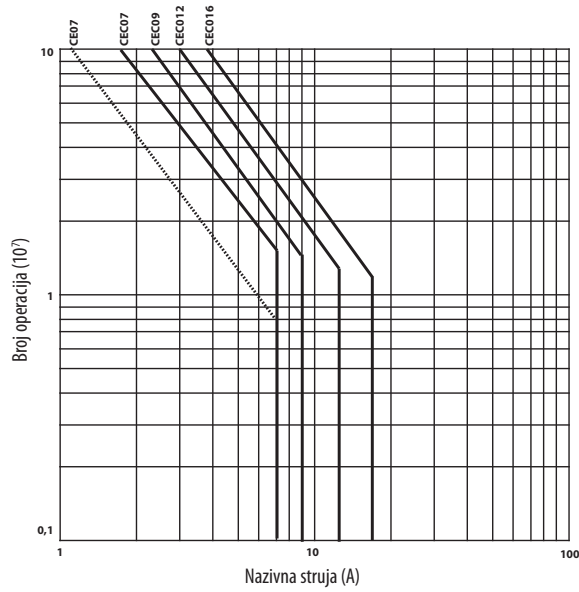
Tehnički podaci - vremenski blokovi TOE, TOD, TSD

Ulazi	Nazivni izolacijski napon (U_i)	V	300	
	Nazivni napon napajanja (U_e)	1 - 2	V	24...240 V AC/DC 50/60 Hz (TOE)
				24...60 V AC/DC 50/60 Hz (TOD)
				100...60 V AC/DC 50/60 Hz (TOD)
				220-240 V AC 50/60 Hz (TSD)
				110-130 V AC (TSD)
	Napon upravljanja (U_c) (samo TOD)	2 - B1	V	24...60 V AC/DC 50/60 Hz (TOD) 100...240 V AC/DC 50/60 Hz (TOD)
Granice rada			0,85 - 1,1 x U_c -> AC 0,8 - 1,25 x U_c -> DC	
	Potrošnja	mA	≤ 5	
Podešavanje vremena	Min. vrijeme za Reset	ms	100	
	Min. vrijeme za upravljanje (samo TOD)	ms	50	
	Tačnost podešavanja (% pune vrijednosti)	%	+/-5	
	Ponovljivost	%	+/-1	
	Vrijeme preklapanja Y - Δ	ms	50	

Diagrami - vremenski blokovi

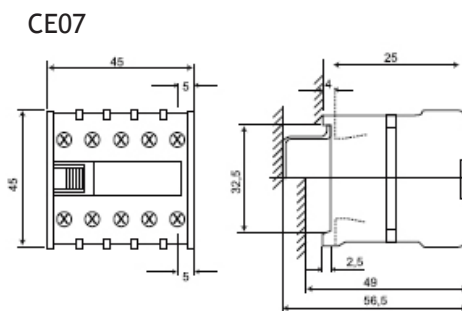
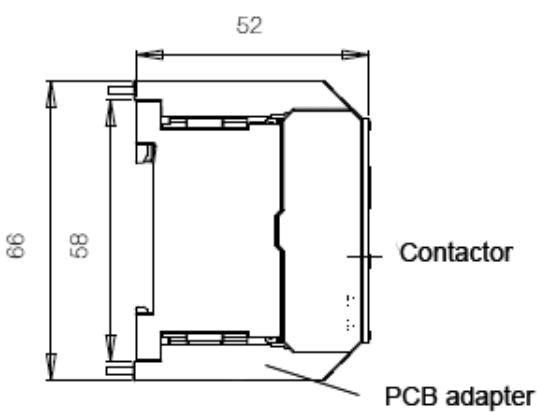
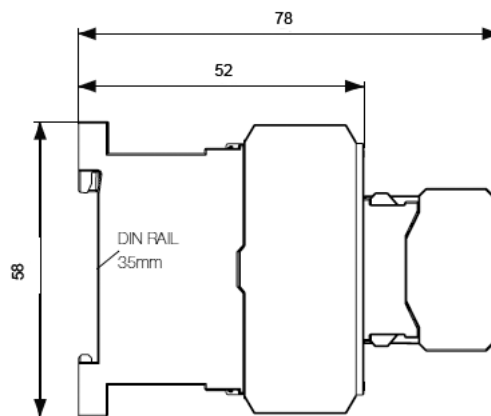
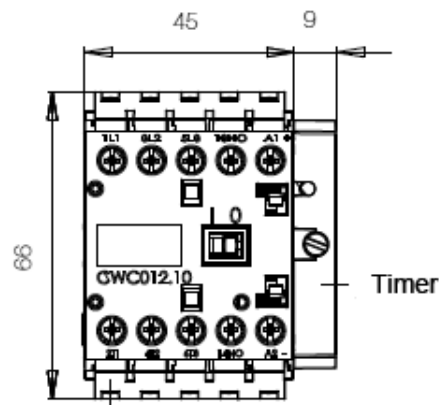
Funkcija	Kašnjenje kod uklopa TOE		Kašnjenje kod isklopa TOD		Zvezda / trougao TSD	
Diagram funkcije						
LED svijetli						
LED ne svijetli						
Šema veza	Priključci		Priključci		Priključci	
	1		(+)1		1	
	2		B1		2	
			(-)2		D	
			B2		Y	

Diagram



Dimenzije

CEC - Dimenzije sa PCB adapterom



Montaža

