

# CEM CK

## CONTACTORS FOR CAPACITOR BANKS CEM CK



# Contactors for capacitor banks CEM CK



**Application**

Contactors for capacitor switching were specially designed for power factor correction capacitor operation (utilization category AC-6b). CEM10CK and bigger contactors (up to CEM70CK) include early make contact block with precharging resistors.

Capacitors are pre-charged through resistors that reduce the peak current to the contactor when the contactors are switched on.

After the pre-charge, the main contactors close allowing passage of rated current. Capacitor contactors series are selected according to the power of the capacitor. For group and central compensation system, when three phase reactor is not used, it's recommended selection of contactor with a higher degree of nominal value for the appropriate capacitor value.

**Advantages:**

- Mounting on DIN rails or mounting plates
- Technical specification according to IEC 60947-1, IEC 60947-4
- Built-in pre-charge resistors
- High reliability
- Reduced dimensions
- Standard control voltage 230V AC
- resistant to temperatures up to +55 °C without reducing the nominal value
- all moving parts of the contactor are covered so the manipulation with the operating mode indicator (ON / OFF) is prevented

**Contactors for capacitor banks CEM CK 2,5-30 kVAr (230V-50Hz)**

			CEM2,5CK.01	CEM5CK.01	CEM7,5CK.00	CEM10CK.02	CEM12,5CK.02	CEM15CK.02	CEM20CK.01	CEM25CK.01	CEM30CK.01		
Capacitor rating at operating voltage 50/60Hz	230V	kVAr	1,4	2,8	4	5	6,7	8,5	11	14	20		
	400-440V	kVAr	2,5	5	7,5	10	12,5	15	20	25	30		
	500-550V	kVAr	3	5,5	9	12,5	15	18	24	30	35		
	660-690V	kVAr	3,7	7,5	11	15	18	22	30	35	40		
Rated operational current Ie/AC-6b et 400V		A	3,6	7,2	11	14	18	22	29	36	44		
Insulation rating Ui		V	690						690				
Permissible ambient temperature		°C	- 25 to + 55						- 25 to + 55				
Rated impuls withstand voltage Uimp		kV	8						8				
Consumption of electromagnet in cold state with Un AC operated	closing	VA	62						62		65		
	p.f.		0,75						0,75		0,75		
	closed	VA	7						7		8		
	p.f.		0,3						0,3		0,3		
Coil voltage tolerances			0,85 - 1,1 Un										
Degree of protection			IP 20										
Maximum permissible fuse ratings	main circuit gL/gG	A	20	25	40	25	35	50	50	63	80		
	auxiliary circuit	A	16	20	25	16	16	16	16	16	16		
Frequency of switching operations		s/h	240						240		120		
Electrical endurance		min.	100.000						200.000		150.000		100.000
Sizes of connecting conductors - main circuit	multi-wire conductor	mm <sup>2</sup>	1,5-6	1,5-6	2,5-10								
	multi-wire conductor with cable shoe	mm <sup>2</sup>	1,5-6	1,5-6	2,5-10	1,5-6		2,5-10			6-25		
Terminal screw			M4									M5	
Screw head			PZ2									Hexagon socket	
Tightening torque		Nm	1,2	1,2	1,4	1,2	1,2	1,2	1,4	1,6	2		
- auxiliary circuit	multi-wire conductor	mm <sup>2</sup>	1-2,5										
	multi-wire conductor with cable shoe	mm <sup>2</sup>	0,75-1,5										
Terminal screw			M3,5										
Screw head			PZ2										
Tightening torque		Nm	0,8										
Loadability of auxiliary contacts rated continuous current		Ith; 35°C	A						10				
AC rated operational current Ie/AC15	for 230V	A							6				
	400V	A							4				
	500V	A							2				
	690V	A							1				
Code			004643803	004643804	004643805	004643806	004643807	004643808	004643809	004643810	004643811		

## Capacitor duty contactors

### Contactors for capacitor banks CEM CK 40-70 kVAr (230V-50Hz)

			CEM40CK.01	CEM50CK.01	CEM60CK.01	CEM70CK.01
Capacitor rating at operating voltage 50/60Hz	230V	kVAr	25	29	32	35
	400-440V	kVAr	40	50	60	70
	500-550V	kVAr	50	60	70	75
	660-690V	kVAr	58	70	80	90
Rated operational current Ie/AC-6b et 400 V	A	58	72	87	101	
Insulation rating Ui	V	1000				
Permissible ambient temperature	°C	- 25 to + 55				
Rated impuls withstand voltage Uimp	kV	8				
Consumption of electromagnet in cold state with Un AC operated	closing	VA	155		204	
	p.f.		0,6		0,54	
	closed	VA	12		16	
	p.f.		0,29		0,26	
Coil voltage tolerances		0,85 - 1,1 Un				
Degree of protection		IP 20				
Maximum permissible fuse ratings	main circuit gL/gG	A	100	125	160	160
	auxiliary circuit	A	16	16	16	16
Frequency of switching operations	s/h	100				
Electrical endurance	min.	100.000			75.000	
Sizes of connecting conductors - main circuit	multi-wire conductor	mm <sup>2</sup>	16-35		16-50	25-50
	multi-wire conductor with cable shoe	mm <sup>2</sup>				
Terminal screw		M6			M8	
Screw head		PZ2			Hexagon socket	
Tightening torque	Nm	3 - 4			4 - 4,5	
- auxiliary circuit	multi-wire conductor	mm <sup>2</sup>	1-2,5			
	multi-wire conductor with cable shoe	mm <sup>2</sup>	0,75-1,5			
Terminal screw		M3,5				
Screw head		PZ2				
Tightening torque	Nm	0,8				
Loadability of auxiliary contacts rated continuous current	Ith; 35°C	A	16			
AC rated operational current Ie/AC15	for 230V	A	10			
	400V	A	6			
	500V	A	4			
	690V	A	2			
Code		004643812	004643813	004643814	004643815	

Type	Code No.	Rated oper. power 400/440V [kVAr]	Aux. contacts (included)	Weight [kg]	Packaging [pcs]
*CEM2,5CK.01-230V-50Hz	004643803	2,5	1NC	0,25	1/50
*CEM5CK.01-230V-50Hz	004643804	5	1NC	0,26	1/50
*CEM7,5CK.00-230V-50Hz	004643805	7,5	N/A	0,27	1/50
CEM10CK.02-230V-50Hz	004643806	10	2NC	0,32	1/50
CEM12,5CK.02-230V-50Hz	004643807	12,5	2NC	0,32	1/50
CEM15CK.02-230V-50Hz	004643808	15	2NC	0,325	1/50
CEM20CK.01-230V-50Hz	004643809	20	1NC	0,34	1/50
CEM25CK.01-230V-50Hz	004643810	25	1NC	0,465	1/45
CEM30CK.01-230V-50Hz	004643811	30	1NC	0,53	1/23
CEM40CK.01-230V-50Hz	004643812	40	1NC	0,945	1/23
CEM50CK.01-230V-50Hz	004643813	50	1NC	0,945	1/23
CEM60CK.01-230V-50Hz	004643814	60	1NC	0,97	1/23
CEM70CK.01-230V-50Hz	004643815	70	1NC	1,4	1/10

Possible to add additional auxiliary contacts BCMLE11 on both sides of contactor  
 \*CEM2,5CK...7,5CK are without precharging circuit (no early make contacts+ resistors)

### Auxiliary contact block - lateral - for CEM2,5CK to CEM70CK

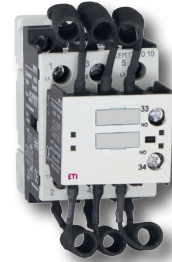
Type	Code No.	Description	For use with	Weight [g]	Packaging [pcs]
BCMLE11	004643802	1NO + 1NC	CEM2,5CK...70CK	0,05	2/560



CEM 2,5CK, CEM 5CK



CEM 10CK, CEM 12,5CK, CEM 15CK



CEM 20CK



CEM 30CK

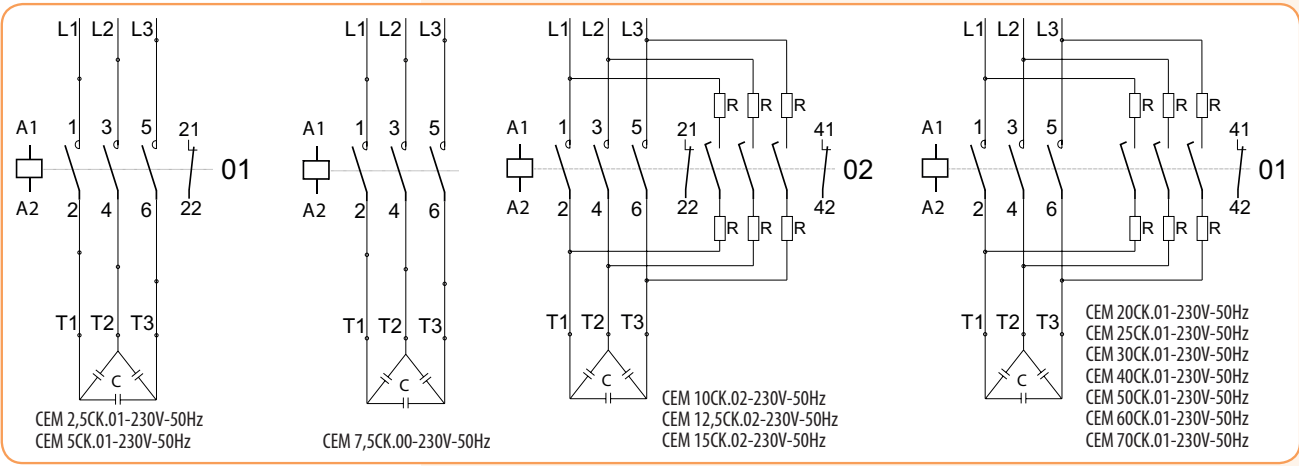


CEM 40CK, CEM 50CK, CEM 60CK

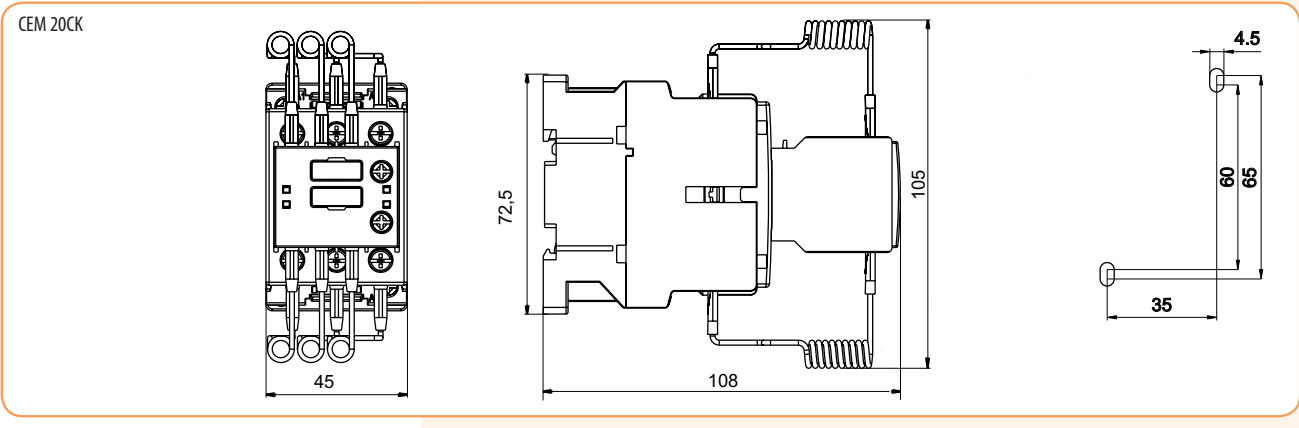
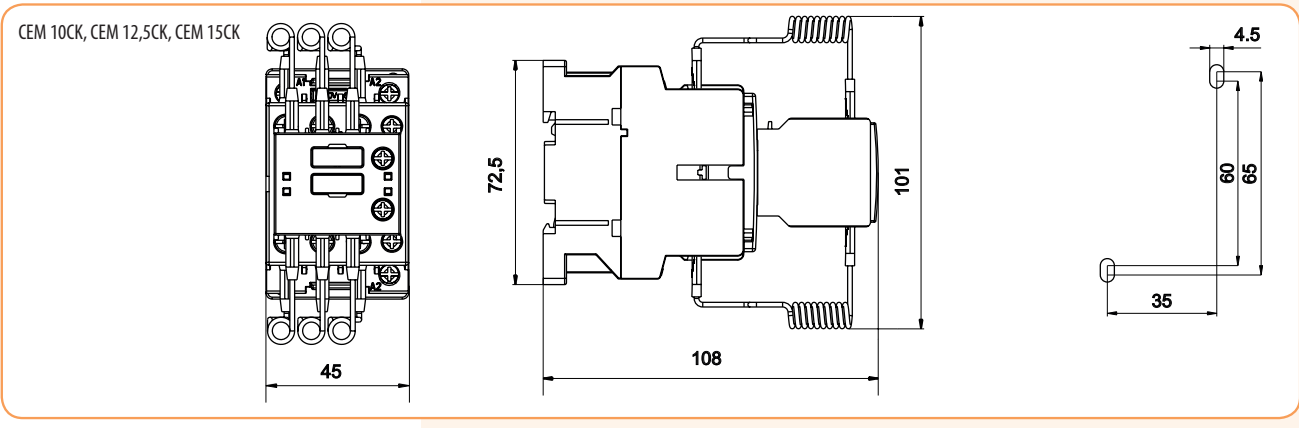
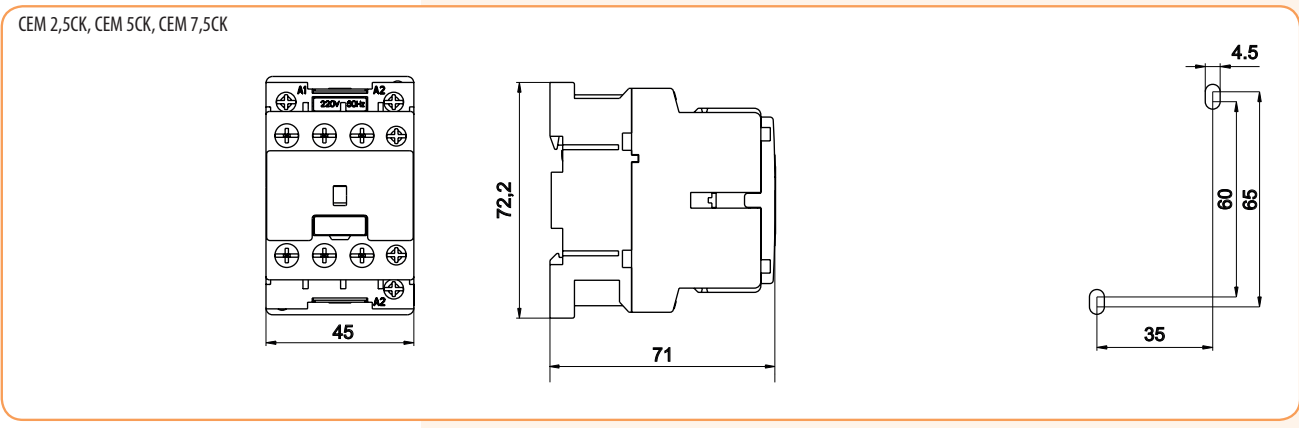


CEM 70CK

Connection diagrams

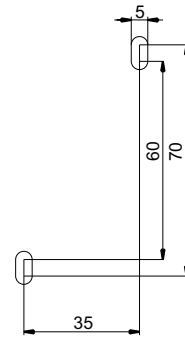
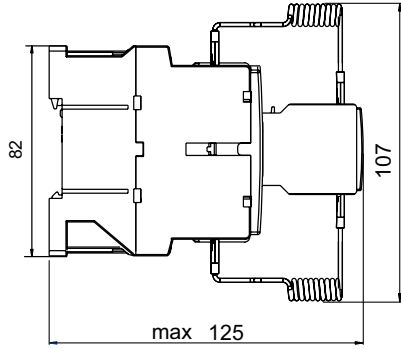
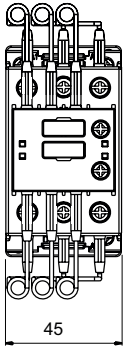


Dimensions

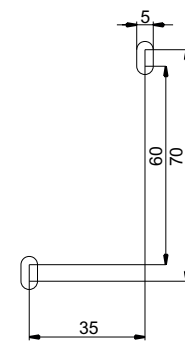
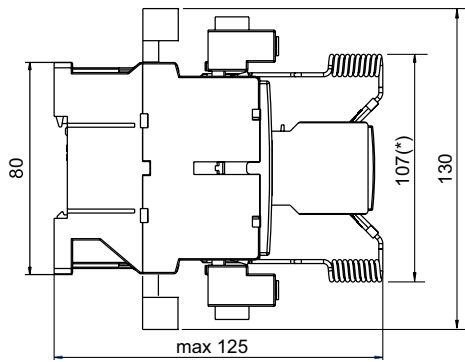
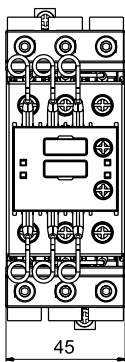


Capacitor duty contactors

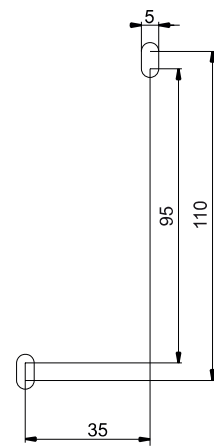
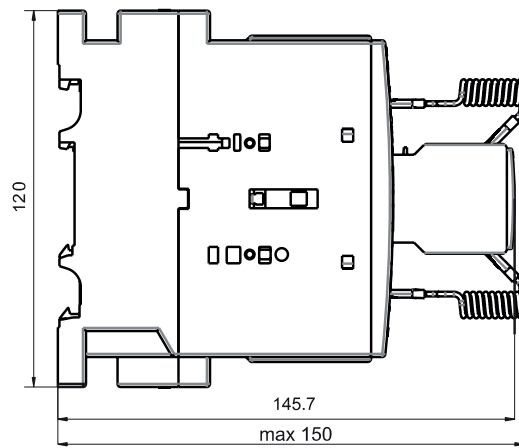
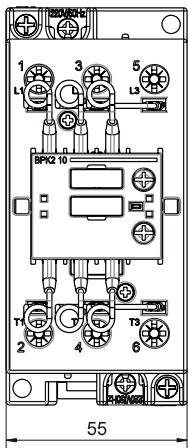
CEM 25CK



CEM 30CK



CEM 40CK, CEM 50CK, CEM 60CK



CEM 70CK

