

TECHNICAL INFORMATION

CAPACITOR CONTACTORS type

CNNK 10 - CNNK 30, CNKM 40 - CNKM 75

In conformity with: IEC 60947-1, IEC 60947-4

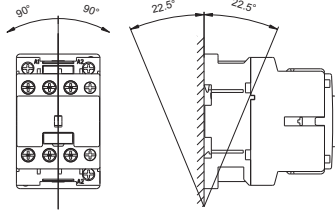
Special contactors for power factor correction

Main characteristics

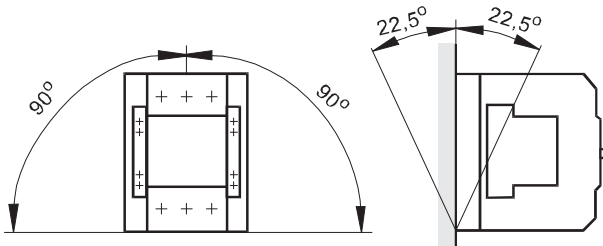
These contactors are equipment with early - make contacts. This special type of contact has the purpose of connecting for a very brief interval, 2-3 ms, during the contactor closing, resistances which limit the connecting current of the capacitors. These resistances are then excluded when the closing operation is complete and the current capacity is conveyed to the main contacts.

Type designation	CNNK 10 20 CNNK 10 11	CNNK 12 20 CNNK 12 11	CNNK 15 20 CNNK 15 11	CNNK 20 10	CNNK 25 10	CNNK 30 10	CNKM 40 00 CNKM 40 22	CNKM 50 00 CNKM 50 22	CNKM 60E 00 CNKM 60E 22	CNKM 60 22	CNKM 75 22	
Capacitor rating at operating voltage 230V kVAr	5	6.7	8.5	11	14	20	25	29	32	34	38	
400V kVAr	10	12.5	15	20	25	30	40	50	60	60	75	
50/60Hz 500-550V kVAr	12.5	15	18	24	30	35	50	60	70	75	88	
660-690V kVAr	15	18	22	30	35	40	58	70	80	92	100	
Rated operational current I _e /AC-6b et 400 V	A	14	18	22	29	36	44	58	72	87	108	
Insulation rating U _i V	690						750			1000		
Permissible ambient temperature °C	- 25 to + 55											
Rated impuls withstand voltage U _{imp} kV	8											
Consumption of electromagnet in cold state with U _n AC operated												
closing VA	62			65			215			310		
p.f.	0,75			0,75			0,6			0,5		
closed VA	7			8			26			26		
p.f.	0,3			0,3			0,29			0,24		
Coil voltage tolerances	0,85 - 1,1 U _n											
Degree of protection	IP 20									IP 00 / IP 20		
Maximum permissible fuse ratings main circuit gL/gG	A	25	35	50	50	63	80	100	125	160	160	160
auxilliary circuit	A	16	16	16	16	16	16	16	16	16	16	16
Frequency of switching operations s/h	240			120			100					
Electrical endurance min.	200.000			150.000	100.000				85.000	100.000	75.000	
Sizes of connecting conductors main circuit												
multi-wire conductor mm ²	1.5-6	1.5-6	1.5-6	2.5-10	6-25	6-25	16-35	16-35	16-50	35-50 (with IP 20) 50-70 (without IP 20)		
multi-wire conductor with cable shoe mm ²												
Terminal screw	M4	M4	M4	M4	M5	M5	M8	M8	M8	M6 (with IP 20) M8 (without IP 20)		
Screw head	PZ2	PZ2	PZ2	PZ2	Hexagon socket							
Tightening torque Nm	1,2	1,2	1,2	1,4	2	2	4	4	4	3,5		
auxiliary circuit multi-wire conductor mm ²	1-2,5											
multi-wire conductor with cable shoe mm ²	0,75-1,5											
Terminal screw	M3,5											
Screw head	Pz1											
Tightening torque Nm	0,8											
Loadability of auxiliary contacts rated continuous current I _{th} ; 35°C	A	10						16				
AC rated operational current I _e /AC15												
for 230V	A	6						10				
400V	A	4						6				
500V	A	2						4				
690V	A	1						2				
Weight kg	0,314	0,316	0,318	0,333	0,41	0,41	1,58	1,58	1,7	2,4	2,45	

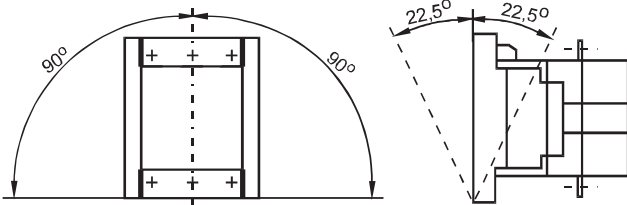
POSSIBLE INSTALLATION POSITION



**CNNK 10, CNNK 12, CNNK 15,
CNNK 20, CNNK 25, CNNK 30**

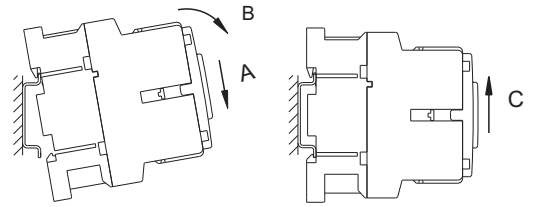


CNKM 40; CNKM 50, CNKM 60E

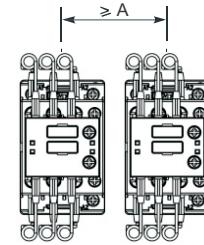
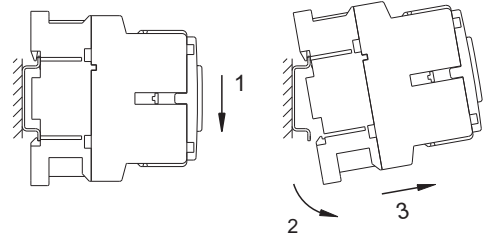


CNKM 60, CNKM 75

Mounting, of a contactor, steps: A,B and C.



Unmounting, of a contactor, steps: 1, 2 and 3.



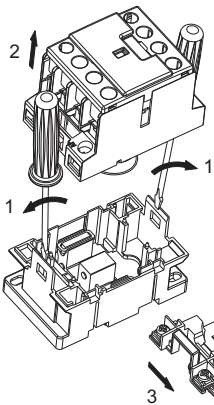
A= 60 - CNNK 10, CNNK 12,
CNNK 15, CNNK 20,
CNNK 25, CNNK 30

A=100 - CNKM 40 00, CNKM 50 00, CNKM 60E 00

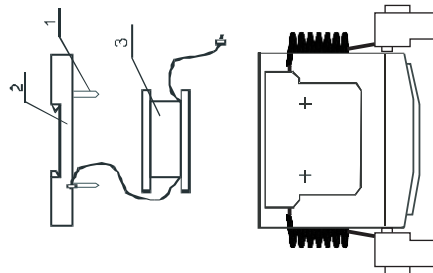
A=124 - CNKM 40 22, CNKM 50 22, CNKM 60E 22

A=145 - CNKM 60, CNKM 75

REPLACEMENT OF THE COIL

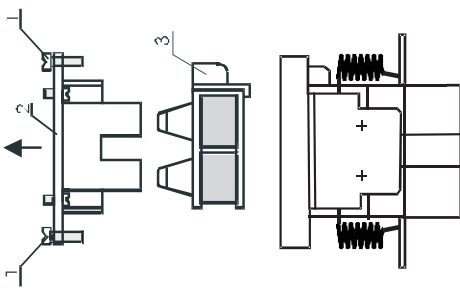


**CNNK 10; CNNK 12;
CNNK 15; CNNK 20;
CNNK 25; CNNK 30**



CNKM 40; CNKM 50, CNKM 60E

Unscrew pos.1
Lift the upper
part pos.2
Replace the coil
pos.3

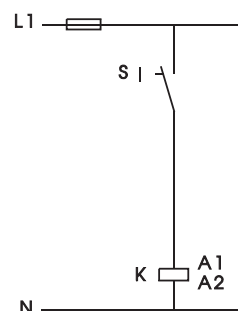


CNKM 60, CNKM 75

Undo the screws
pos.1:
lift the plate pos.2;
replace the coil
pos.3

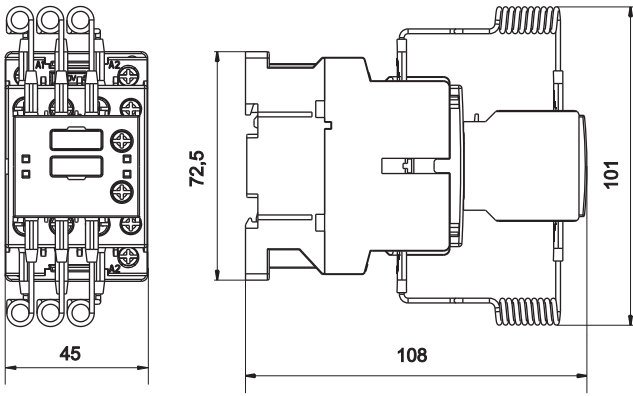
CONTROL DIAGRAM

With permanent button "TK"

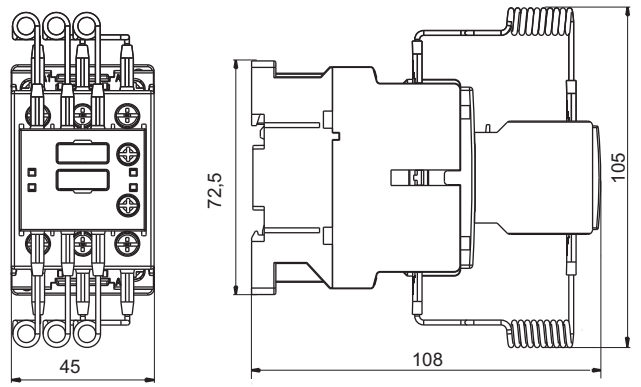


DIMENSION DRAWINGS (mm)

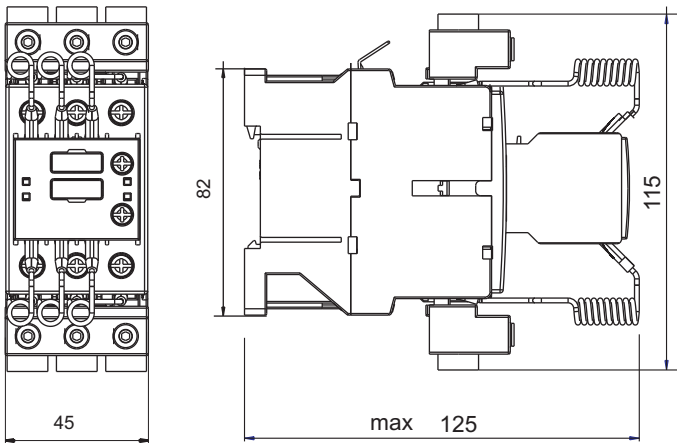
CNNK 10; CNNK 12; CNNK 15



CNNK 20

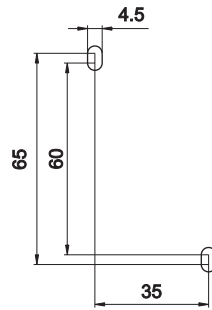


CNNK 25; CNNK 30

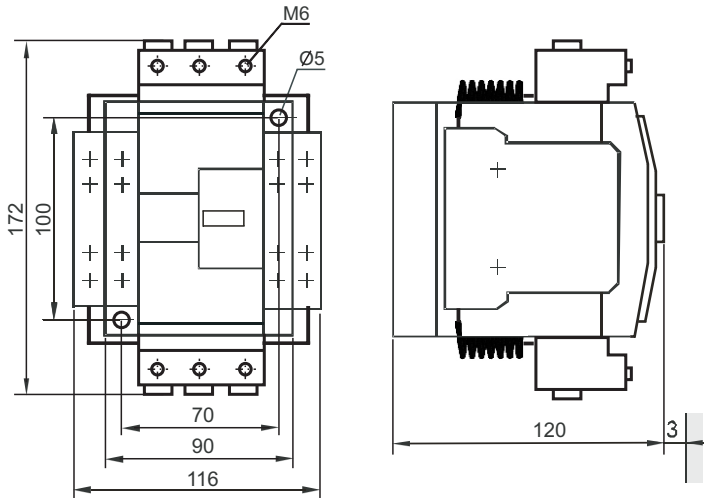
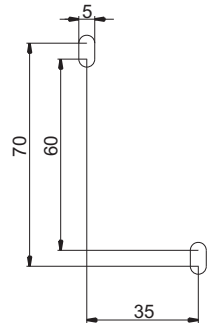


Drilling plan (mm)

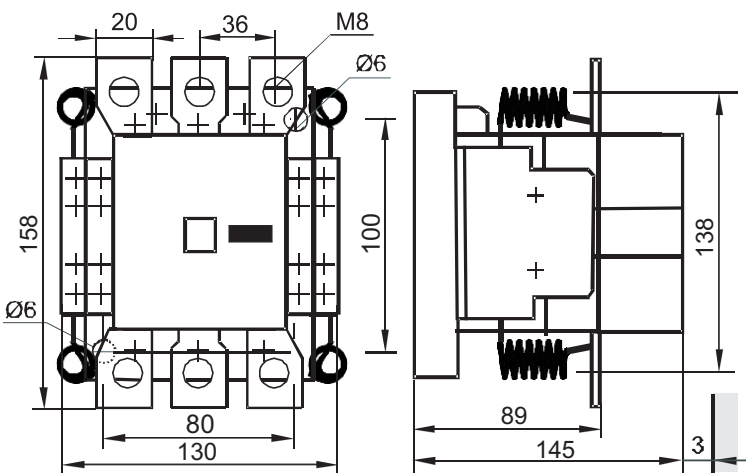
CNNK 10; CNNK 12;
CNNK 15; CNNK 20



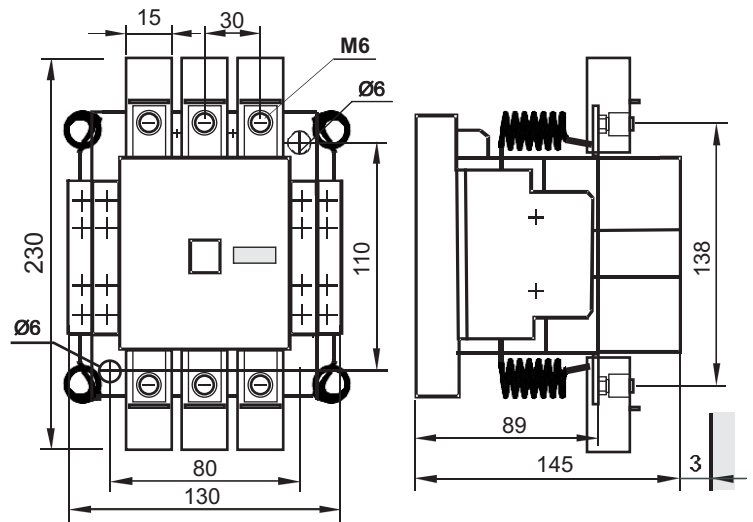
CNNK 25; CNNK 30



CNKM 40, CNKM 50; CNKM 60E

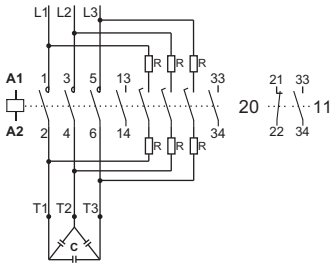


CNKM 60 and CNKM 75 without IP 20

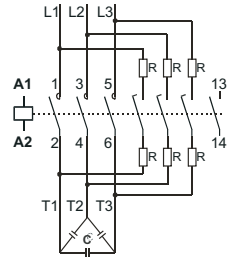


CNKM 60 and CNKM 75 with IP 20

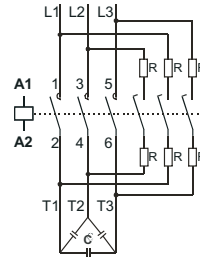
CONNECTION DIAGRAMS AND TERMINAL MARKINGS FOR SINGLE COMPENSATION



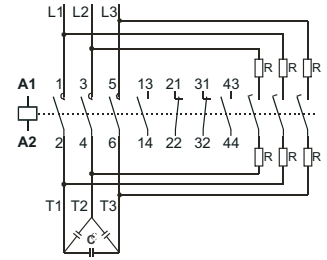
**CNNK 10; CNNK 12
CNNK 15**



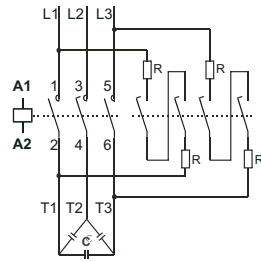
**CNNK 20 10; CNNK 25 10
CNNK 30 10**



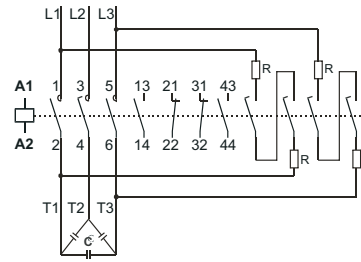
**CNKM 40 00
CNKM 50 00**



**CNKM 40 22
CNKM 50 22**



CNKM 60E 00



**CNKM 60E 22
CNKM 60 22
CNKM 75 22**

VERY IMPORTANT NOTE:

For single compensation air coils or 3 - phase reactors (coils with magnetic core and air gap) are not necessary.

When the contactor is used for group compensation it's recommendable to use appropriate 3-phase filter circuit reactors (coils with magnetic core and air gap).

This will reduce the value of higher harmonics and will prevent resonant current to prevail.

At single compensation the power of selected contactor is according to capacitor rated power.

At group and central compensation, when reactors are not in use, one step higher rating of the contactor is recommendable.



Before switch the contactor in the circuit, capacitor must be discharged (the voltage at the terminals must be < 50 V).

During exploitation, current value must not exceed the declared values.

CONNECTION DIAGRAM FOR GROUP (CENTRAL) COMPENSATION

380/400 V / 50Hz

