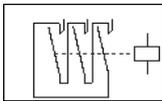




RADE KONCAR CONTACTOR **CNM170**
170A/90kW (AC3, 400V/50Hz); 200A(AC1)

Contactor type			CNM 170		
Mechanical endurance	make/brake operations		x10 ⁶	3	
Insulation rating			V	1000	
Permissible ambient temperature			°C	from -25 to +55	
Consumption of electromagnet in cold state with Un					
AC operated	closing		VA	580	
	P.F.			0,45	
	closed		VA	44	
DC operated	P.F.			0,24	
	closing		W	550	
	closed		W	5	
Coil voltage tolerances				0.85-1.1Un	
duration of making and breaking					
(values are also valid for voltages of electromagnet from 0.8 to 1.1 Un for each in cold and warm state).					
Total breaking time is addition of opening time and duration of electric arc.					
AC operated	closing time		ms	20 to 50	
	opening time		ms	10 to 30	
	duration of electric arc		ms	10 to 15	
DC operated	closing time		ms	20 to 50	
	opening time		ms	22 to 35	
	duration of electric arc		ms	10 to 15	
Frequency of switching operations					
without thermal relay					
	utilization category	AC1	s/h	1000	
		AC2, AC3	s/h	500	
		AC4	s/h	250	
with thermal relay					
			s/h	15	
Resistivity to shocks (square shock)				g/ms	
				10/5.5 and 5/12	
Short-circuit protection					
contactors without overload relays					
Main circuit					
With fuse links					
acc. To IEC 60947-4-1	Type of coord. "1" gl/gG		A	315	
DIN VDE 0660 Part 102	Type of coord. "2"		A	160	
Sizes of connection conductors					
for contact without thermal relay					
main circuit	Rigid solid		mm ²		
		standed	mm ²	-	
	multi-wire conductor with cable shoe		mm ²		-
		standed with cable lug	mm ²		25-70 50-120
	flatbar		mm		15x3 20x3
		protective conductor with cable lug	mm ²		25-70
	Screw				M8
		Screw head			
	Tightening torque		Nm		3.5
auxiliary circuit	single-wire conductor		mm ²	1-2.5	
	multi-wire conductor with cable shoe		mm ²	0.75-1.5	
	Screw			M3.5	

Screw head Tightening torque		Nm	PZ2 0,8
Loadability of auxiliary contacts			
Rated continuous current I _{th} ; 35C		A	16
AC			
rated operational current I _e /AC15	230V	A	6
	400V	A	4
	500V	A	2,5
	690V	A	2,5
DC			
rated operational current I _e /DC1; L/R ≤1ms	24V	A	10
	110V	A	8
	220V	A	2
	440V	A	0,6
	600V	A	0,4
rated operational current I _e /DC13	for 24V	A	10
	110V	A	2,4
	220V	A	1,1
	440V	A	0,32
	600V	A	0,21
Load carrying capacity of the main contacts			
rated continuous current I _{th} ; 35C		A	200
AC1 utilization category			
rated current I _e /AC1		A	200
AC2 and AC3 utilization categories			
	for 230V	kW	55
(slip-ring and cage motors at 50Hz)	400V	kW	90
	690V	kW	132
AC4 utilization category			
(electrical endurance of contacts:120.000)			
rated current	I _e /AC4	A	72
ratings of squirrel-cage motors at 50Hz for			
	230V	kW	21
	400V	kW	37
	500V	kW	48
	690V	kW	64
Load carrying capacity of contactors at swiyching on and off of a.c. capacitors			
	I _e	A	116
(electrical endurance amounts to 0.1 million switching operations)			
ratings of individual capacitors at 50 Hz	for		
through one pole	230V	kvar	45
	400V	kvar	80
	500V	kvar	100
	690V	kvar	80
ratings of capacitor banks			
(minimum inductive reactance between two capacitors switched on in parallel amounts to 6μH;50 Hz)			
	for		
	230V	kvar	37
	400V	kvar	55
	500V	kvar	75
	690V	kvar	60
Application in stator circuit of motor			
intermittent operation AC2			
stator current at duty factor in intermittent periodic duty			
	20%	A	308
	40%	A	245
	60%	A	218
	80%	A	200
Application in rotor circuit of motor			
intermittent operation			
rotor current at duty factor in intermittent periodic duty			
	10%	A	560
	20%	A	487
	40%	A	380
	60%	A	345
	80%	A	316
continuous operation		A	316
permissible voltage of motionless rotor			
	starting	V	2000
	regulation	V	1000
	counter current breaking	V	880
Loadability by direct current			
DC1 utilization category,non-inductive loads LR≤1 ms			
rated operational current I _e 55°C			
through one pole	for 24 V	A	200
	60 V	A	200
	110 V	A	18
	220 V	A	3,4
	440 V	A	0,8
	600 V	A	0,5



through three poles connected in series	for 24 V	A	200
	60 V	A	200
	110 V	A	200
	220 V	A	200
	440 V	A	11,5
	600 V	A	4
utilization categories DC3 to DC5 series and shunt motors ($L/R \leq 15$ ms)			
rated operational current I_e 55° C through one pole	for 24 V	A	16
	60 V	A	7,5
	110 V	A	2,5
	220 V	A	0,6
	440 V	A	0,17
	600 V	A	0,12
through three poles connected in series	for 24 V	A	200
	60 V	A	200
	110 V	A	200
	220 V	A	200
	440 V	A	1,4
	600 V	A	0,75

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