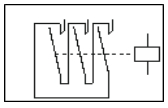
RADE KONCAR CONTACTOR **CNM400**
400A/160kW (AC3, 400V/50Hz); 400A(AC1)

Contactor type				**CNM 400**
Mechanical endurance	make/brake operations		$x10^6$	3
Insulation rating			V	1000
Permissible ambient temperature			^oC	from -25 to +55
Consumption of electromagnet in cold state with Un				
AC operated	closing		VA	1340
	P.F.			0,41
	closed		VA	84
	P.F.			0,25
DC operated	closing		W	1180
	closed		W	8
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	30 to 100
	opening time		ms	15 to 30
	duration of electric arc		ms	10 to 15
Frequency of switching operations without thermal reley				
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	10/5.6 and 5/12
Short-circuit protection of contactors without overload relays **Main circuit** With fuse links				
acc. To IEC 60947-4-1	Type of coord. "1" gl/gG		A	630
DIN VDE 0660 Part 102	Type of coord. "2"		A	500
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	2x150
	flatbar		mm	2x25x3
	protective conductor with cable lug		mm^2	50-120
	Screw			M10
	Screw head			
	Tightening torque		Nm	4
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			PZ2
Tightening torque		Nm	0,8
Loadability of auxiliary contacts of contactors CNN + BP5;CNM			
Reated continuous current Ith ; 35C		A	16
AC			
rated operational current Ie/AC15	230V	A	6
	400V	A	4
	500V	A	2,5
	690V	A	2,5
DC			
rated operational current Ie/DC1; L/R ≤1ms	24V	A	10
	110V	A	8
	220V	A	2
	440V	A	0,6
	600V	A	0,4
rated operational current Ie/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 continuus current ith ; 35C		A	400
AC1 utilization category			
rated current Ie/AC1; 55C		A	400
AC2 and AC3 utilization categories	for 230V	kW	115
(slip-ring and cage motors at 50Hz)	**400V**	**kW**	**220**
	690V	kW	355
AC4 utilization category			
(electrical endurance of contacts:120.000			
rated curent	Ie/AC4	A	150
ratings of squirrel-cage motors at 50Hz for	230V	kW	37,5
	400V	**kW**	**69**
	500V	kW	85,5
	690V	kW	106
Load carrying capacity of contactors at			
swiyching on and off of a.c. capacitors	Ie	A	
(electrical endurance amounts to 0.1 milion switching operations)			
ratings of individual capacitors at 50 Hz for	230V	kvar	115
through one pole	400V	kvar	200
	500V	kvar	265
	690V	kvar	200
ratings of capacitor banks			
(minimum inductive reactance between two capacitors			
switched on in parallel amounts to 6µH;50 Hz			
for	230V	kvar	85
	400V	kvar	150
	500V	kvar	195
	690V	kvar	150
Application in stator circuit of motor			
intermitent operation AC2			
stator current at duty factor in intermitent periodic duty			
	20%	A	617
	40%	A	490
	60%	A	436
	80%	A	400
Application in rotor circuit of motor			
intermittent operation			
rotor current at duty factor in intermittent periodic duty			
	10%	A	1075
	20%	A	975
	40%	A	775
	60%	A	689
	80%	A	632
continuous operation		A	632
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 Ie 55°C			
through one pole	for 24 V	A	400
	60 V	A	330
	110 V	A	33
	220 V	A	3,8
	440 V	A	0,9
	600 V	A	0,6

through three poles connected in series	for 24 V	A	400
	60 V	A	400
	110 V	A	400
	220 V	A	400
	440 V	A	11
	600 V	A	5,2
utilization categories DC3 to DC5 series and shunt motors (L/R ≤ 15 ms)			
rated operational current Ie 55° C through one pole	for 24 V	A	35
	60 V	A	11
	110 V	A	3
	220 V	A	0,6
	440 V	A	0,18
	600 V	A	0,12
through three poles connected in series	for 24 V	A	400
	60 V	A	400
	110 V	A	400
	220 V	A	400
	440 V	A	1,4
	600 V	A	0,75

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