NC8
Series Contactor

1. Application

- NC8-06M-1000 series contactor is mainly used in circuits with AC 50Hz/60Hz, rated voltage up to 690V, and rated current up to 1000A under AC-3/415V (400/380V). They are used for remote connection and disconnection of circuits, and can be combined with appropriate thermal overload relays to form electromagnetic starters to protect circuits from overload. NC8 is suitable for frequently starting and controlling AC motors.
- The NC8-1260 2650 series AC contactor is mainly used in circuits with a rated working voltage of 1000V (1260A to 1140V) and a rated working current of 1260-2650A under the AC-1 usage category, for long-distance connection and disconnection of circuits.

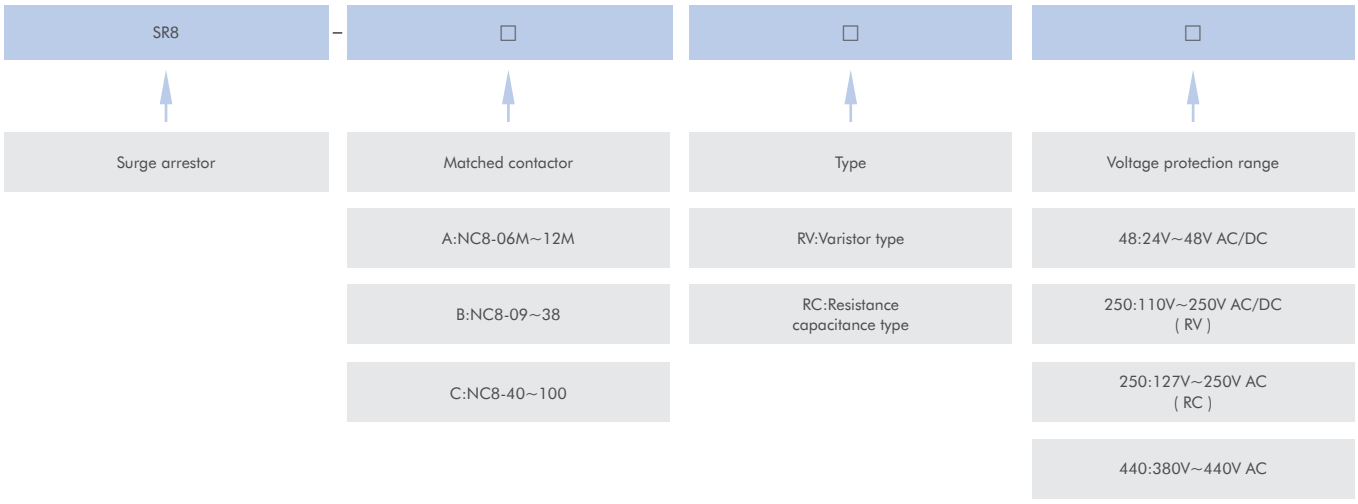
2. Type designation

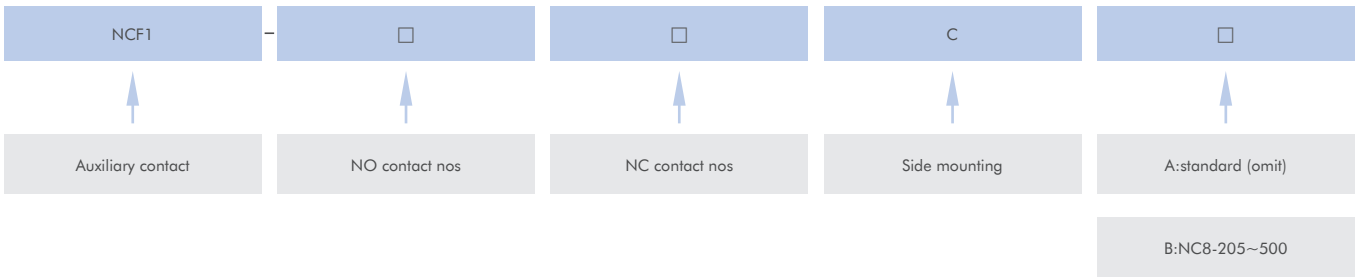
F4	- □	□	
	Auxiliary contact	Nos of normal open contacts	Nos of normal close contacts
F5	□	□	
	Pneumatic timer	T: making time delay	0: time delay range 0.1s~3s
		D: breaking time delay	2: time delay range 0.1s~30s
			4: time delay range 10s~180s
F8	- □	□	
	Auxiliary contact	Nos of normal open contacts	Nos of normal close contacts
NCF8	□	□	
	Auxiliary contact	Nos of normal open contacts	Nos of normal close contacts

Note: 1) Auxiliary contact combination 3P: NC8-06M-12M:10 or 01; NC8-09-38:11(omit) or 22; NC8-40-100:11(omit);

NC8-115-1260:22(omit); 4P and NC8-1450-2650: no buit-in auxiliary contact

2) Mini type contactor include NC8-06M, 09M and 12M





3. Technical data

Model		06M		09M		12M		09		12		18		25		32		38		40		50		65	
NC8 series																									
Frame size *		06M~12M						09~18						25~28						40~65					
Types	AC coil	NC8-06M		NC8-09M		NC8-12M		NC8-09		NC8-12		NC8-18		NC8-25		NC8-32		NC8-38		NC8-40		NC8-50		NC8-65	
	DC coil	NC8-06M/Z		NC8-09M/Z		NC8-12M/Z		NC8-09/Z		NC8-12/Z		NC8-18/Z		NC8-25/Z		NC8-32/Z		NC8-38/Z		NC8-40/Z		NC8-50/Z		NC8-65/Z	
	Wide band	-		-		-		NC8-09/W		NC8-12/W		NC8-18/W		NC8-25/W		NC8-32/W		NC8-38/W		NC8-40/W		NC8-50/W		NC8-65/W	
Ratings/IEC/EN60947-4-1		KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A
AC-1		-	20	-	20	-	20	-	25	-	25	-	32	-	40	-	40	-	50	-	60	-	80	-	80
AC-3	220V/230V/240V	1.5	6	2.2	9	4	12	2.2	9	3	12	4	18	5.5	25	7.5	32	9	38	11	40	15	50	18.5	65
	380V/400V	2.2	6	4	9	5.5	12	4	9	5.5	12	7.5	18	11	25	15	32	18.5	38	18.5	40	22	50	30	65
	415V	2.2	6	4	9	5.5	12	4	9	5.5	12	9	18	11	25	15	32	18.5	38	22	40	25	50	37	65
	660V/690V	3	3.8	4	4.9	4	4.9	5.5	6.7	7.5	9	9	10.6	15	17.3	18.5	21.9	18.5	21.9	30	34	33	39	37	42
Ratings /UL508		hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A
Continuous current		-	20	-	20	-	20	-	25	-	25	-	32	-	40	-	40	-	50	-	60	-	80	-	80
Single phase	110/120V	0.3	-	0.5	-	0.75	-	0.5	-	0.75	-	1	-	1.5	-	2	-	2	-	3	-	5	-	5	-
	230/240V	0.75	-	1.5	-	2	-	1	-	2	-	3	-	3	-	5	-	5	-	5	-	7.5	-	10	-
Tripple phase	200/208V	1.5	-	3	-	3	-	3	-	3		5	-	7.5	-	10	-	10	-	10	-	15	-	20	-
	230/240V	1.5	-	3	-	3	-	3	-	3		5	-	7.5	-	10	-	10	-	10	-	15	-	20	-
	460/480V	3	-	5	-	7.5	-	5	-	7.5		10	-	15	-	20	-	20	-	30	-	40	-	50	
	575/600V	3	-	5	-	10	-	7.5	-	10		15	-	20	-	25	-	25	-	30	-	40	-	50	-
Accessories		 Top mounting F8 (NC8-06M~12M)						 2P/4P top mounting F4 (NC8-09~2650)				 Pneumatic timer F5 (NC8-09~2650)				 Side mounting NCF8 (NC8-09~100)				 Side mounting NCF1 (NC8-115~1260)					
Thermal overload relay																									
Bi-metal type		 NR8-16 Setting rang (A) 0.1 ~ 0.14 / 0.14 ~ 0.2 / 0.18 ~ 0.25 / 0.22 ~ 0.32 / 0.28 ~ 0.4 / 0.35 ~ 0.5 / 0.45 ~ 0.63 / 0.55 ~ 0.8 / 0.7 ~ 1 / 0.9 ~ 1.25 / 1.1 ~ 1.6 / 1.4 ~ 2 / 1.8 ~ 2.5 / 2.2 ~ 3.2 / 2.8 ~ 4 / 3.5 ~ 5 / 4.5 ~ 6.3 / 5.5 ~ 8 / 7.5 ~ 10 / 9 ~ 13 / 12 ~ 16						 NR8-38 Setting range (A) 0.1 ~ 0.14 / 0.14 ~ 0.2 / 0.18 ~ 0.25 / 0.22 ~ 0.32 / 0.28 ~ 0.4 / 0.35 ~ 0.5 / 0.45 ~ 0.63 / 0.55 ~ 0.8 / 0.7 ~ 1 / 0.9 ~ 1.25 / 1.1 ~ 1.6 / 1.4 ~ 2 / 1.8 ~ 2.5 / 2.2 ~ 3.2 / 2.8 ~ 4 / 3.5 ~ 5 / 4.5 ~ 6.3 / 5.5 ~ 8 / 7.5 ~ 10 / 9 ~ 13 / 12 ~ 16 / 14 ~ 20 / 18 ~ 24 / 23 ~ 32 / 30 ~ 38						 NR8-100 Setting rang (A) 23 ~ 32 / 30 ~ 40 / 37 ~ 50 / 48 ~ 65 / 55 ~ 70 / 63 ~ 80 / 80 ~ 93 / 80 ~100					
Electronic type		In development						 NRE8-38 Setting rang (A) 0.6~1.2 / 1.2~2.4 / 2~4 / 4~8 / 5~10 / 7~12 / 10~20 / 19~38												 NRE8-100					
Surge arrestor		 SR8-A SR8-A/RV48 24V~48V AC/DC / SR8-A/RV250 110V~250V AC/DC / SR8-A/RV440 380V~440V AC/DC						 SR8-B SR8-B/RC250 127V~250V AC / SR8-B/RC440 380V~440V AC / SR8-B/RV48 24V~48V AC/DC / SR8-B/RV250 110V~250V AC/DC / SR8-B/RV440 380V~440V AC												 SR8-C SR8-C/RC250 127V~250V AC / SR8-C/RC440 380V~440V AC / SR8-C/RV48 24V~48V AC/DC / SR8-C/RV250 110V~250V AC/DC / SR8-C/RC440 380V~440V AC					

	80		100		115		150		170		205		265		300		400		5400	
																				
	80~100				115~170						205~300						400~500			
	NC8-80		NC8-100		NC8-115		NC8-150		NC8-170		NC8-205		NC8-265		NC8-300		NC8-400		NC8-500	
	NC8-80/Z		NC8-100/Z		NC8-115		NC8-150		NC8-170		NC8-205		NC8-265		NC8-300		NC8-400		NC8-500	
	NC8-80/W		NC8-100/W		NC8-115/W		NC8-150/W		NC8-170/W		-		-		-		-		-	
	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A	KW	A
	-	125	-	125	-	200	-	200	-	275	-	300	-	330	-	380	-	450	-	630
	22	80	25	100	37	115	45	150	55	170	63	205	75	265	90	300	132	400	160	500
	37	80	45	100	55	115	75	150	90	170	110	205	132	265	160	300	200	400	250	500
	45	80	45	100	59	115	80	150	100	170	110	205	140	265	160	300	200	400	280	500
	45	49	45	49	80	86	100	107	110	118	132	137	160	185	200	235	300	303	355	354
	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A	hp	A
	-	125	-	125	-	200	-	200	-	275	-	300	-	330	-	380	-	450	-	630
	7.5	-	10	-	10	-	15	-	15	-	15	-	20	-	25	-	30	-	40	-
	20	-	20	-	25	-	30	-	30	-	30	-	40	-	50	-	60	-	75	-
	30	-	30	-	40	-	50	-	50	-	60	-	75	-	100	-	125	-	150	-
	30	-	30	-	40	-	60	-	60	-	75	-	100	-	125	-	150	-	200	-
	60	-	60	-	100	-	125	-	150	-	150	-	200	-	250	-	300	-	400	-
	60	-	60	-	100	-	125	-	150	-	200	-	250	-	300	-	400	-	500	-

Mechanical interlock NCL8-A
(NC8-09~38)

Mechanical interlock NCL8-B
(NC8-40~100)

Mechanical interlock MI-9
(NC8-115~170)

NCL8-C
(NC8-205~1260)

NR8-200

Setting current (A)
80~160
100~200

NR8-630

Setting current (A)
125~250
200~400
315~630

Model		630	800	1000
NC8 series				
Frame size		630-1000		
Types	AC coil	NC8-630	NC8-800	NC8-1000
	DC coil	NC8-630	NC8-800	NC8-1000
	Wide band coil	NC8-630/W	NC8-800/W	NC8-1000/W
Model		NC8-630	NC8-800	NC8-1000
Poles		3		3
Rated current IeAC-3 (Ue ≤ 400V)	θ ≤ 40℃	630	800	1000
Rated current Ie AC-1	θ ≤ 40℃	800	1000	1000
	θ ≤ 60℃	720	850	850
	θ ≤ 70℃	630	750	750
Conventional free airthermal current Ith	θ ≤ 40℃	800	1000	1000
Controlled power AC-3 utilization category (kW)	220/240V	200	250	315
	380/400V	335	450	560
	415V	375	450	630
	440V	400	450	670
	500V	400	450	670
	600/690V	560	630	800
	1000V	400	450	500
Controlled power AC-1 utilization category (kW)	220/230V	350	350	350
	240V	350	350	350
	380/400V	600	600	600
	415V	630	630	630
	440V	670	670	670
	500V	750	750	750
	660/690V	1000	1000	1000
	1000V	-	1500	1500
Accessories		 2P/4P top mounting F4 (NC8-09~2650)	 Pneumatic timer F54 (NC8-09~2650)	 Side mounting NCF8 (NC8-09~100)	 Side mounting NCF1 (NC8-115~1260)
Thermal overload relay				
Electronic type NR8	-	 NR8-630 setting current (A)513-630	-	-

Model	1260	1450	1700	2100	2650
					
	1260	1450-2100			2650
	NC8-1260	NC8-1450	NC8-1700	NC8-2100	NC8-2650
	NC8-1260	NC8-1450	NC8-1700/Z	NC8-2100/Z	NC8-2650/Z
	NC8-1260/W	NC8-1450/W	NC8-1700/W	NC8-2100/W	NC8-2650/W
	NC8-1260	NC8-1450	NC8-1700	NC8-2100	NC8-2650
	3	3	3	3	3
	-	-	-	-	-
	1260	1450	1700	2100	2650
	1060	1450	1700	2100	2650
	900	1080	1300	1500	1900
	1260	1450	1700	2100	2650
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	420	490	570	700	840
	420	510	600	780	920
	730	850	1000	1200	1450
	760	900	1050	1300	1580
	810	940	1100	1350	1680
	920	1070	1250	1550	1910
	1260	1450	1700	2100	2520
	1840	2150	2500	3100	3820
	 2P/4P top mounting F4 (NC8-09~2650)	 Pneumatic timerF5 (NC8-09~2650)	 Side mounting NCF8 (NC8-09~100)	 Side mounting NCF1 (NC8-115~1260)	
	-	-	-	-	-

4. Main technical parameters

Model			NC8-06M	NC8-09M	NC8-12M	NC8-09	NC8-12	NC8-18	NC8-25	NC8-32	NC8-38	NC8-40
Ith(A)			20	20	20	25	25	32	40	50	50	60
Insulation voltage(V)			690									
Rated impulsed withstand voltage (kV)			6									8
Rated making capacity			10×Ie(AC-3) or 12×Ie(AC-4)									
Rated breaking capacity			8×Ie(AC-3) or 10×Ie(AC-4)									
Average resistance per pole (mΩ)Ith50Hz			2.5	2.5	2.5	2.5	2.5	2.5	2	2	2	1.5
Power consumption per pole (W)		AC-3	0.09	0.2	0.36	0.2	0.36	0.81	1.25	2	2.88	2.4
		AC-1	1	1	1	1.56	1.56	2.56	3.2	5	5	5.4
Short time withstand current (A) start from cold status, θ ≤ 40℃		Continue 1s	90	90	120	210	210	240	380	380	430	810
		Continue 10s	48	72	96	72	96	144	200	256	304	320
		Continue 1min	36	36	48	61	61	84	120	120	150	208
		Continue10min	18	18	24	30	30	40	50	50	60	84
Rated current (A)	220V/230V 240V	AC-3	6	9	12	9	12	18	25	32	38	40
		AC-4										
	380V/400V	AC-3	6	9	12	9	12	18	25	32	38	40
		AC-4			9						32	
	415V	AC-3	6	9	12	9	12	18	25	32	38	40
		AC-4			9						32	
	660V/690V	AC-3	3.8	4.9	4.9	6.7	9	10.6	17.3	21.9	21.9	34
		AC-4				4.9	4.9	6.7	14	17.3	17.3	
Motor power	AC-3(kW)	220/230V/240V	1.5	2.2	3	2.2	3	4	5.5	7.5	9	11
		380V/400V	2.2	4	5.5	4	5.5	7.5	11	15	18.5	18.5
		415V	2.2	4	5.5	4	5.5	9	11	15	18.5	22
		660V/690V	3	4	4	5.5	7.5	9	15	18.5	18.5	30
	1PH(HP)	110/120V	0.3	0.5	0.75	0.5	0.75	1	1.5	2	2	3
		230/240V	0.75	1.5	2	1	2	3	3	5	5	5
	3PH(HP)	200/208V	1.5	3	3	3	3	5	7.5	10	10	10
		230/240V	1.5	3	3	3	3	5	7.5	10	10	10
		460/480V	3	5	7.5	5	7.5	10	15	20	20	30
		575/600V	3	5	10	7.5	10	15	20	25	25	30
Operating frequency (times/h at 415V)		AC-3	1200									
		AC-4	300									120
Electrical life (415V@10k times		AC-3	120									
		AC-4	Refer to the electrical life curve									
Mechanical life(10k)			1000									800
Main contact configuration			3 NO/4 NO/2 NO+2 NC									
SCPD fuse(gG)		Type 2	20	20	20	20	25	32	50	63	63	63
		Model	NR8-11.5			NR8-38						
Thermal overload relay		Setting current range	0.1~0.16 0.16~0.25 0.25~0.4 0.4~0.63 0.63~1 1~1.6 1.6~2.5 2.5~4 4~6 5.5~8 7~10 9~13			0.1~0.14 0.14~0.2 0.18~0.25 0.22~0.32 0.28~0.4 0.35~0.5 0.45~0.63 0.55~0.8 0.7~1 0.9~1.25 1.1~1.6 1.4~2 1.8~2.5 2.2~3.2 2.8~4 3.5~5 4.5~6.3 5.5~8 7.5~10 9~13 12~16 14~20 18~24 23~32 30~38					
Nos of AUX		3P	1 NO or 1 NC			1 NO+1 NC or 2 NO+2 NC						
		4P	No built in AUX									

	NC8-50	NC8-65	NC8-80	NC8-100	NC8-115	NC8-150	NC8-170	NC8-205	NC8-265	NC8-300	NC8-400	NC8-500
	80	80	125	125	200	200	275	300	330	380	450	630
	690							1000				
	8											
	10×Ie(AC-3) or 12×Ie(AC-4)											
	8×Ie(AC-3) or 10×Ie(AC-4)											
	1.5	1.5	1	1.2	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4
	3.75	6.3	6.4	12	7.9	13.5	17.3	21	35	36	64	100
	9.6	9.6	15.6	18.7	24	24	45.3	45	54.4	57.7	81	158.7
	810	900	990	1100	1150	1500	1700	2050	2650	3000	4000	5000
	400	520	640	800	920	1200	1360	1640	2120	2400	3200	4000
	208	260	320	400	575	600	680	820	1060	1200	1600	2000
	84	110	135	135	250	300	340	410	530	600	800	1000
	50	65	80	100	115	150	170	205	265	300	400	500
	50	65	80	100	115	150	170 150	205	265	300	400	500
	50	65	80	100	115	150	170 150	205	265	300	400	500
	39	42	49	49	86	107	118 107	137	185	235	303	354
	15	18.5	22	25	37	45	55	63	75	90	132	160
	22	30	37	45	55	75	90	110	132	160	200	250
	25	37	45	45	59	80	100	110	140	160	200	250
	33	37	45	45	80	100	110	132	160	200	300	355
	5	5	7.5	10	10	15	15	15	20	25	30	40
	7.5	10	20	20	25	30	30	30	40	50	60	75
	15	20	30	30	40	50	60	60	75	100	125	150
	15	20	30	30	40	60	60	75	100	125	150	200
	40	50	60	60	100	125	150	150	200	250	300	400
	40	50	60	60	100	125	150	200	250	300	400	500
	1200				1200(NC8-115/W~170/W:900)			600			300	
	120							30				
	120							100			80	
	Refer to electrical life curve											
	800				600							
	3 NO /4 NO/ 2 NO+2 NC				3 NO							
	80	80	100	125	224	224	315	315	400	425	500	800
	NR8-100				NR8-200			NR8-630				
	23~32 30~40 37~50 48~65	55~70 63~80 80~93 80~100			80~160 100~200			125~250 200~400 315~630				
	1 NO+1 NC				2 NO+2 NC			2 NO+2 NC				
	No built in AUX				-							

Model			NC8-630	NC8-800	NC8-1000	NC8-1260	NC8-1450	NC8-1700	NC8-2100	NC8-2650
Conventional free air thermal current Ith			800	1000	1000	1260	1450	1700	2100	2650
Insulation voltage Ui(V)			1000			1140	1000			
Rated working voltage(Ue)(V) max.			1000			1140	1000			
Rated impulse withstand voltage (Uimp)		Coil (kV)	8				12			
Rated making capacity GB14048 (IEC60947-4-1)		Current (A)	10×I(AC-3) or 12×I(AC-4)			1.5×I(AC-1)				
Rated breaking capacity GB14048 (IEC60947-4-1)		Current (A)	8×I(AC-3) or 10×I(AC-4)			1.5×I(AC-1)				
Short time withstand current (A) θ ≤ 40℃		10s	5050	5500	10000	8000	8000	10000	10000	12000
		30s	4400	4600	7500	5200	6000	7500	7500	9000
		1min	3400	3600	5500	4000	4500	5500	5500	7000
		3min	2200	2600	4200	3000	4000	4200	4200	6000
		10min	1600	1700	3000	2000	2600	3000	3000	4000
Rated current (A)	AC-3(Ue≤400V)	θ ≤ 40℃	630	800	1000	-	-	-	-	-
	AC-1	θ ≤ 40℃	800	1000	1000	1260	1450	1700	2100	2650
		θ ≤ 60℃	720	850	850	1060	1450	1700	2100	2650
		θ ≤ 70℃	630	750	750	900	1080	1300	1500	1900
Motor power	AC-4 (kW)	220/240V	75	75	80	-	-	-	-	-
		380/400V	110	132	150	-	-	-	-	-
		660/690V	185	200	220	-	-	-	-	-
		1000V	150	200	200	-	-	-	-	-
	AC-3 (kW)	220/240V	200	250	315	-	-	-	-	-
		380/400V	335	450	560	-	-	-	-	-
		415V	375	450	630	-	-	-	-	-
		440V	400	450	670	-	-	-	-	-
		500V	400	450	670	-	-	-	-	-
		660/690V	560	630	800	-	-	-	-	-
		1000V	400	450	500	-	-	-	-	-
	AC-1 (kW)	220/230V	350	350	350	420	490	570	700	840
		240V	350	350	350	420	510	600	780	920
		380/400V	600	600	600	730	850	1000	1200	1450
		415V	630	630	630	760	900	1050	1300	1580
		440V	670	670	670	810	940	1100	1350	1680
		500V	400	450	670	-	-	-	-	-
		660/690V	1000	1000	1000	1260	1450	1700	2100	2520
		1000V	-	1500	1500	1840	2150	2500	3100	3820
Electrical life(10k)380/400V		AC-3	65	65	50	-	-	-	-	-
		Times/h	300	300	120	-	-	-	-	-
		AC-1	-	-	-	60	60	40	40	40
		Times/h	600	600	300	-	200	-	-	-
Mechanical life(10k)			150	150	150	100	80	80	80	50
Max. times/h≤60℃			600	600	600	600	600	600	600	600
Main contact configuration			3 NO							
SCPD fuse		Ⅰ type	800	800	1000	1500	-	-	-	-
		Ⅱ type	800	800	1000	1500	RSG-3	RSG-5	RSG-5	RSG-6
Matched TOR		Model	NR8-630	-	-	-	-	-	-	-
		Setting range	315-630	-	-	-	-	-	-	-
Nos of AUX			2NO+2NC				-	-	-	-

4.1 Working environment

Overvoltage vategory		Ⅲ
Pollution degree		3
Standard		GB/T14048.1、GB/T14048.4、IEC/EN60947-1、IEC/EN60947-4-1
Certification		NC8-06M-500:CCC，CE，UL，KEMA;NC8-630-2650:CCC，CE
IP degree		IP20 top side (NC8-06M-100);IP10(NC8-40/4～100/4，NC8-40/22～100/22，NC8-115～170)
Temperature	Working	-5 ℃～+40 ℃ , with an average value not exceeding+35 ℃ within 24 hours. If not used within this range, please refer to the Appendix for abnormal working environment temperature usage. NC8-06M-500 extreme working environment temperature is -25 ℃～+70 ℃
	Storage	-25℃～+55℃，can be +70℃ in a short period (24h)
Altitude (m)		≤2000m，if exceed 2000m, please refer to the derating table below
Atmosphere condition		When the maximum temperature is+40 ℃ , the relative humidity of the air does not exceed 50%. Higher relative humidity can be allowed at lower temperatures, such as reaching 90% at 20 ℃ .
Installation		The inclination between the installation surface and the vertical surface shall not be greater than ± 5 °, and NC8-06M-500 shall not be greater than ± 22.5 °
Shock and vibration		The product should be installed and used in a place without obvious shaking, shock, and vibration

Model			**NC8-06M-500**
Impact resistance 1/2 sine wave	Switch off	1/2 sine wave =18ms	30
	Switch on	1/2 sine wave=11ms	15
Seismic resistance 5-300Hz	Switch off	-	4
	Switch on	-	4

4.2. Connection capability

Circuit	Model			NC8-06M	NC8-09M	NC8-12M	NC8-09	NC8-12	NC8-18	NC8-25	NC8-32	NC8-38
Main circuit	Cable (mm^2)	Prefabricated cable	1 strip	1~2.5			1~4		1.5~6	2.5~10		
			2 strips	1~2.5			1~2.5		1~4	2.5~6		
		Stiff cable	1 strip	-			1~4		1.5~4	2.5~10		
			2 strips	-			1~4		1.5~4	2.5~10		
	Screw size			M3			M3.5			M4		
	Tighten torque(N.m)			0.8			1.2			2		
Control circuit	Cable (mm^2)	Prefabricated cable	1 strip	1~2.5			1~2.5					
			2 strips	1~2.5			1~2.5					
		Stiff cable	1 strip	-			1~2.5					
			2 strips	-			1~2.5					
	Screw size			M3			M3.5					
	Tighten torque(N.m)			0.8			1.2					

Circuit	Model			NC8-630	NC8-800	NC8-1000	NC8-1260	NC8-1450	NC8-1700	NC8-2100	NC8-2650
Main circuit	Hard wire	1 strip(mm^2)		-	-	-	-	-	-	-	-
	Without terminal	1 strip(mm^2)		-	-	-	-	-	-	-	-
	Copper bar	2 strips(mm)		50*5	60*5		50*10(or use adapter bar)	100*5			100*10
	Screw	Dimeter(mm)		Φ10	Φ12						
	Tighten torque	N.n		14-24	35-45						
Control circuit	Cable (mm^2)	Prefabricated cable	1 strip	1~4							
			2 strips	1~2.5							
		Hard wire	1 strip	1~4							
			2 strips	1~4							
	Screw size			M3.5							
	Tighten torque(N.m)			1.2							

4.3. Coil data

Model		NC8-06M	NC8-09M	NC8-12M	NC8-09	NC8-12	NC8-18	NC8-25	NC8-32	NC8-38
Coil voltage (V)	AC 50Hz，50Hz/60Hz	24、36、48、110、127、220、230、240、380、400、415								
	DC	24、48、110、125、220								
	Wide band	AC/DC：24~60，48~130，100~250								
Operating range	Pull in (hot)	(85%~110%)Us；+40℃								
	Release (cold)	AC: (20%-75%)Us，DC：(10%-75%)Us；-5℃；								
AC coil average power (VA)	Start	≤40			≤80(W ≤60)			≤80(W ≤60)		
	Keep	≤7			≤9.5(W ≤5.1)			≤11.4(W ≤5.1)		
Heat dissipation	AC	1~4			-					
	DC	-			-					
Main contact acting time (ms)	ON	10~18			12~25(W:45~55)					
	OFF	4~16			5~20(W:45~55)					

Model		NC8-630	NC8-800	NC8-1000	NC8-1260	NC8-1450	NC8-1700	NC8-2100	NC8-2650
Coil voltage (V)(Us)	AC coil	AC/DC：48，110/127，220/230/240，380/400/415				380/400			
	DC coil	-				DC220~250			
	Wide band	AC/DC：100-250V，250-500V				AC/DC：100-250V			
Voltage range (Us) θ ≤ 60℃	Pull in	Normal coil：(85%~110%)Us；wide band coil：85%Usmin-110%Usmax							
	Release	Normal coil：AC:10%-75%Us，DC：10%-75%Us；wide band coil：AC:10%Usmax-75%Usmin，DC：10%Usmax-75%Usmin							
Power consumption	Pull in (VA)	Normal coil：850，wide band coil：1500				2200			
	Keep (VA)	Normal coil：18，wide band coil：18				36	36	36	45
	Heat dissipation (W)	25	25	25	25	2×18	2×18	2×18	2×25
Main contact acting time(ms)	ON	200	200	200	200	-			
	OFF	100	100	100	100	-			

	NC8-40	NC8-50	NC8-65	NC8-80	NC8-100	NC8-115	NC8-150	NC8-170	NC8-205	NC8-265	NC8-300	NC8-400	NC8-500
	10~2.5			16~25		10~95			-				
	4~16			10~35		10~50			-				
	-			-		10~95			50~240				
	-			-		10~50			50~240				
	M8					M10			M10				
	6					10			14				
	1~2.5					1~4			1~4				
	1~2.5					1~2.5			1~2.5				
	1~2.5					1~4			1~4				
	1~2.5					1~4			1~4				
	M3.5					M3.5			M3.5				
	1.2					1.2			1.2				

	NC8-40	NC8-50	NC8-65	NC8-80	NC8-100	NC8-115	NC8-150	NC8-170	NC8-205	NC8-265	NC8-300	NC8-400	NC8-500
	24、36、48、110、127、220、230、240、380、400、415					AC/DC							
	24、48、110、220					110~127、220~240、380~415							
	AC/DC：24~60，48~130，100~250					100~250							
	(85%~110%)Us；+40℃					(85%~110%)Us；+40℃							
	AC:(20%-75%)Us，DC：(10%-75%)Us；-5℃；					(10%-75%)Us；-5℃；							
	≤300(W ≤100)			≤330(W ≤100)		600~900(W ≤300)			300~600			500~800	
	≤34.2(W ≤10)			≤36.6(W ≤10)		6~10(W ≤10)			6~11			7~12	
	4~7			5~8		5~9			5~10			6~11	
	-			-		-			5~10			6~11	
	15~25(W：90~110)			15~30(W：90~110)		15~30(W：130~140)			30~95			45~100	
	6~15(W：100~120)			8~17(W：100~120)		40~50(W：110~120)			40~80			60~100	

4.4. Main parameters and features of the accessories

F4	Matched product	Model type		F4-20	F4-11	F4-02	F4-40	F4-31	F4-22	F4-13	F4-04
	NC8-09~500	Contactnos	NO	2	1	0	4	3	2	1	0
			NC	0	1	2	0	0	2	3	1
F8	Matched product	Model type		F8-20	F8-11	F8-02	F8-40	F8-31	F8-22	F8-13	F8-04
	NC8-06M~12M	Cxontactnos	NO	2	1	0	4	3	2	1	0
			NC	0	1	2	0	0	2	3	1
NCF8	Matched product	Model type		NCF8-11							
	NC8-09~100	Contactnos	NO	1							
			NC	1							
NCF1	Matched product	Model type		NCF1-11C(/B)							
	NC8-115~500	Contactnos	NO	1							
			NC	1							
F5	Matched prouct	Model type		F5-T0	F5-T2	F5-T4	F5-D0	F5-D2	F5-D4		
	NC8-09~500	Contactnos	NO	1	1	1	1	1	1		
			NC	1	1	1	1	1	1		
		Delay range (s)		0.1~3	0.1~3	10~180	0.1~3	0.1~3	10~180		
SR8	NC8-06M 12M	SR8-A									
	NC8-09~38	SR8-B									
	NC8-40~100	SR8-C									
Rated working voltage (V)				F8、NCF8：AC up to 690V，DC up to220V							
				F4、NCF1：AC up to 400V，DC up to 220V							
				F5：AC up to 660V，DC up to 220V							
Rated insulation voltage (V)				F8、NCF8、F4、NCF1：690							
				F5：660							
Conventional free air thermal current (A)				10							
Rate making capacity				10xIe(AC-15) or 1xIe(DC-13)							
SCPD				gG fuse：10A							
Controlled capacity		AC-15		F8、NCF8：AC220/230/240/3A；AC380V/400V/415V/1.9A；AC600V/660V/690V/1.2A							
				F4、NCF1：AC220V/230V/2.7A；AC380V/400V/1.5A							
				F5：AC660V/380V 0.52A/0.95A							
		DC-13		F8、NCF8：DC125V/0.55A；DC220V/0.27A							
				F4、NCF1：DC220V/0.3A							
				F5：DC220V/0.15A							
Standard				GB/T 14048.5、IEC 60947-5-1							
Certificate				CCC，UL，CE							
IP degree				IP20(front side)							
Cable (mm^2)	Flexible cable without cold pressed terminal		1 strip	1~4							
			2 strips	1~4							
	Flexible cable with cold pressed terminal		1 strip	1~4							
			2 strips	1~2.5							
	Hard cable		1 strip	1~4							
			2 strips	1~4							
Tightening screw size				M3.5							
Tightening torque N·m				1.2							

Note：All accessories have the same environmental requirements as the contactor body.

5. Derivatives

Name		Overview
Capacitor contactor	※	

Star-delta starter

Pneumatic timer

Name	Overview
Capacitor contactor ※	
Reverse contactor 	
DOL starter 	

Note: ※ stands for in development

6. Overall and mounting dimensions

Figure 1 NC8-06M(/Z)~12M(/Z)

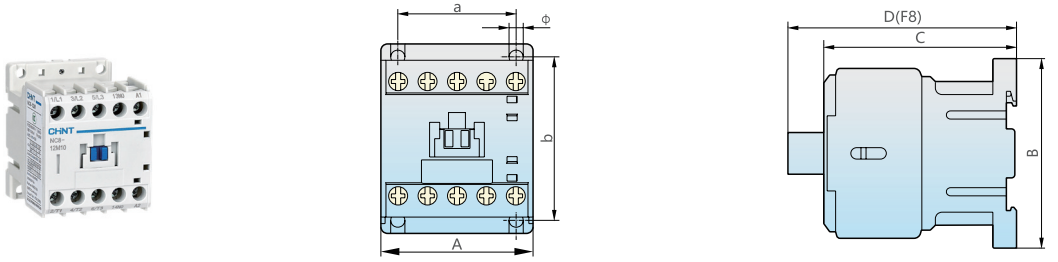


Figure 2 NC8-09(/Z)(/W)~38(/Z)(/W)

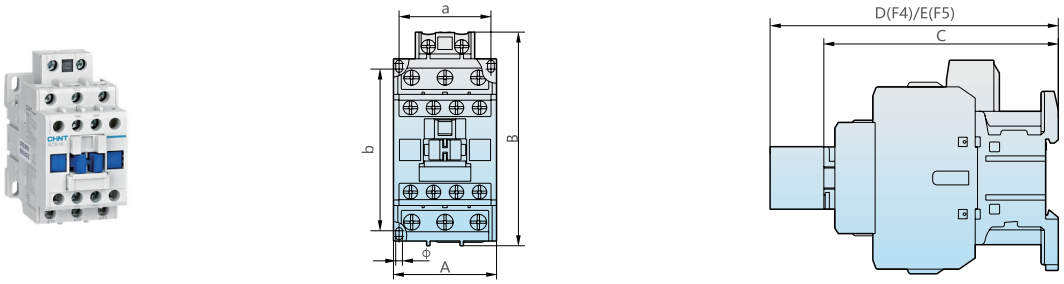


Figure 3 NC8-09/4(/Z)(/W)~38/4(/Z)(/W)、NC8-09/22(/Z)(/W)~38/22(/Z)(/W)

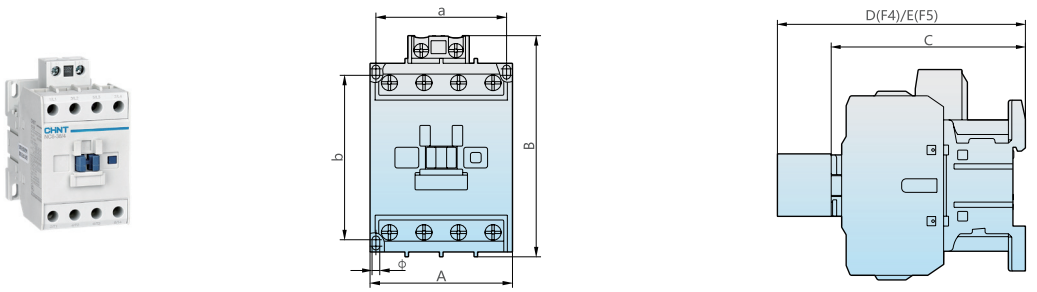


Figure 4 NC8-40(/Z)(/W)~100(/Z)(/W)

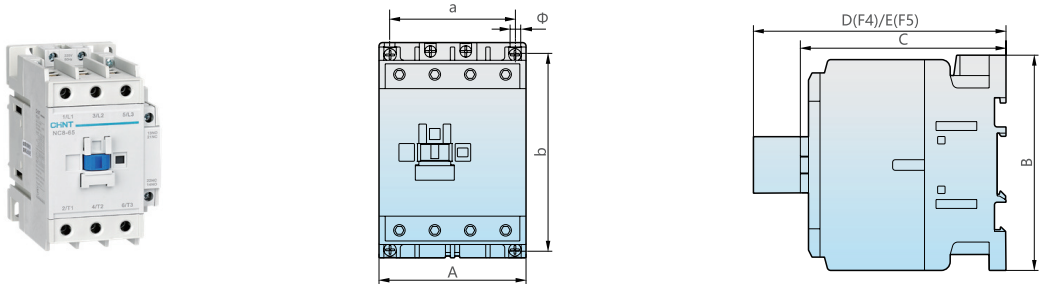


Figure 5 NC8-40/4(/Z)(/W)~100/4(/Z)(/W)

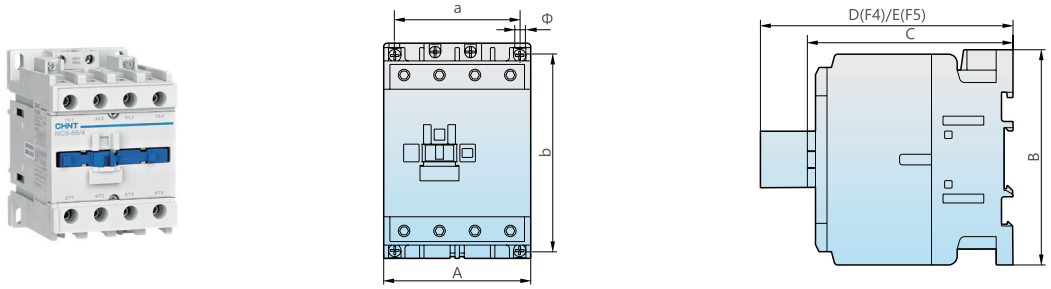


Figure 6 NC8-115(/W)~170(/W)

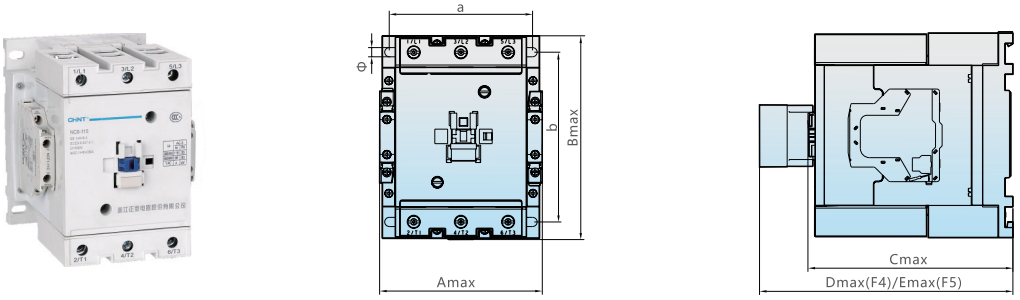


Figure 7 NC8-205~500

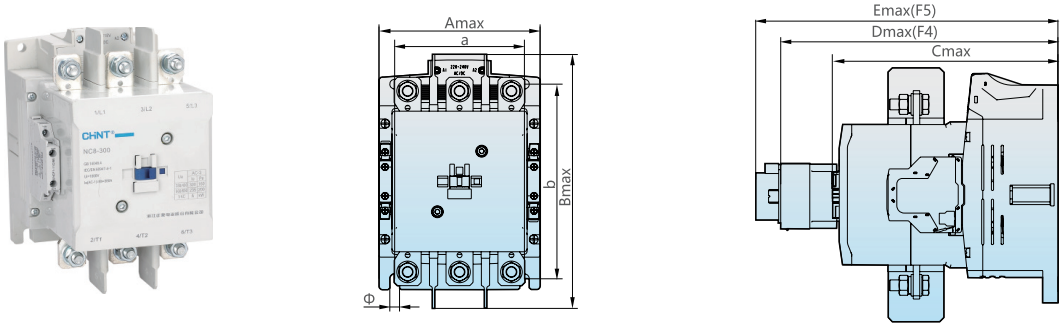
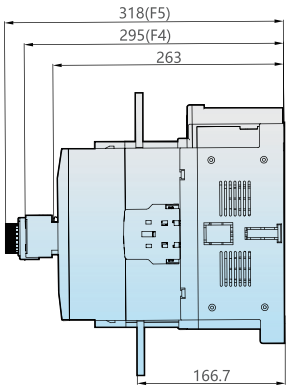
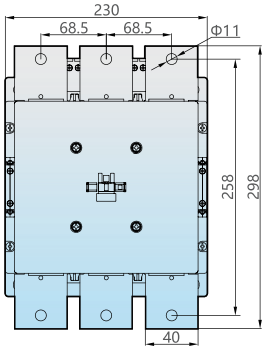


Figure 8 NC8-630





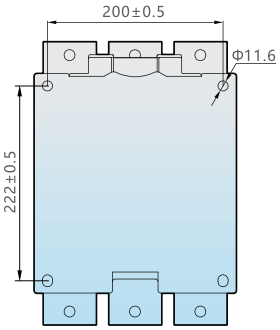
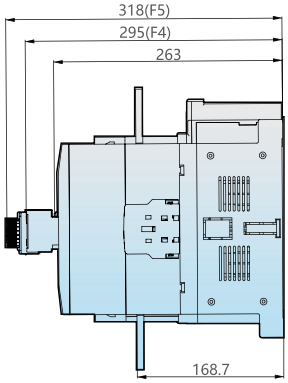
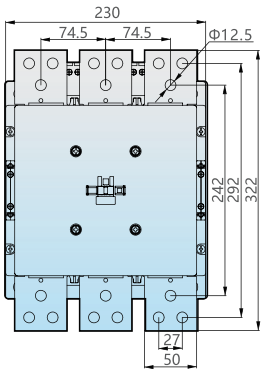


Figure 9 NC8-800





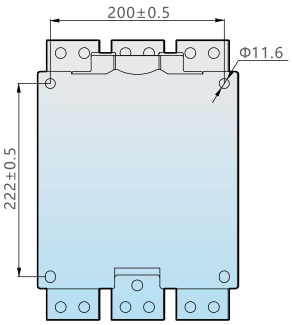
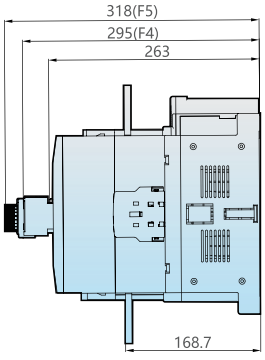
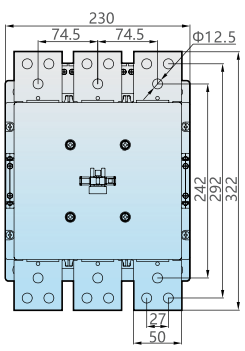


Figure 10 NC8-1000





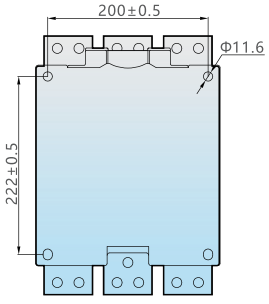


Figure 11 NC8-1260

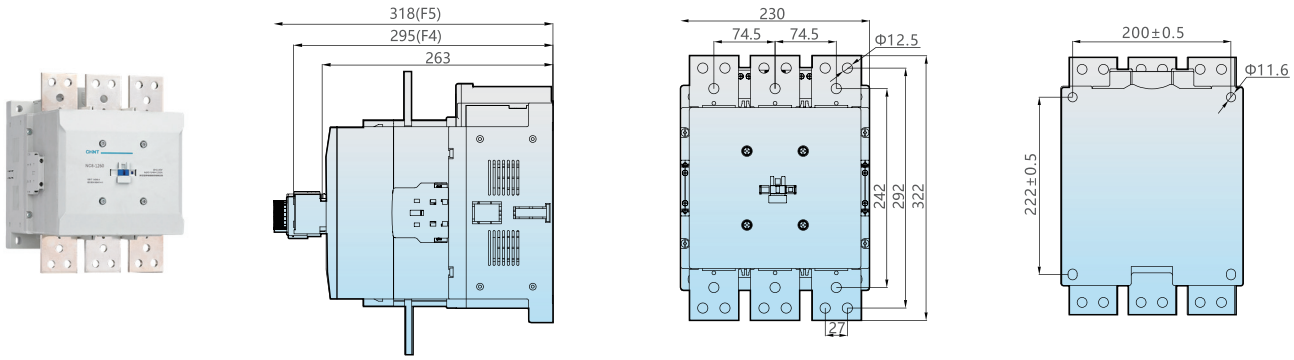


Figure 12 NC8-1450~2100

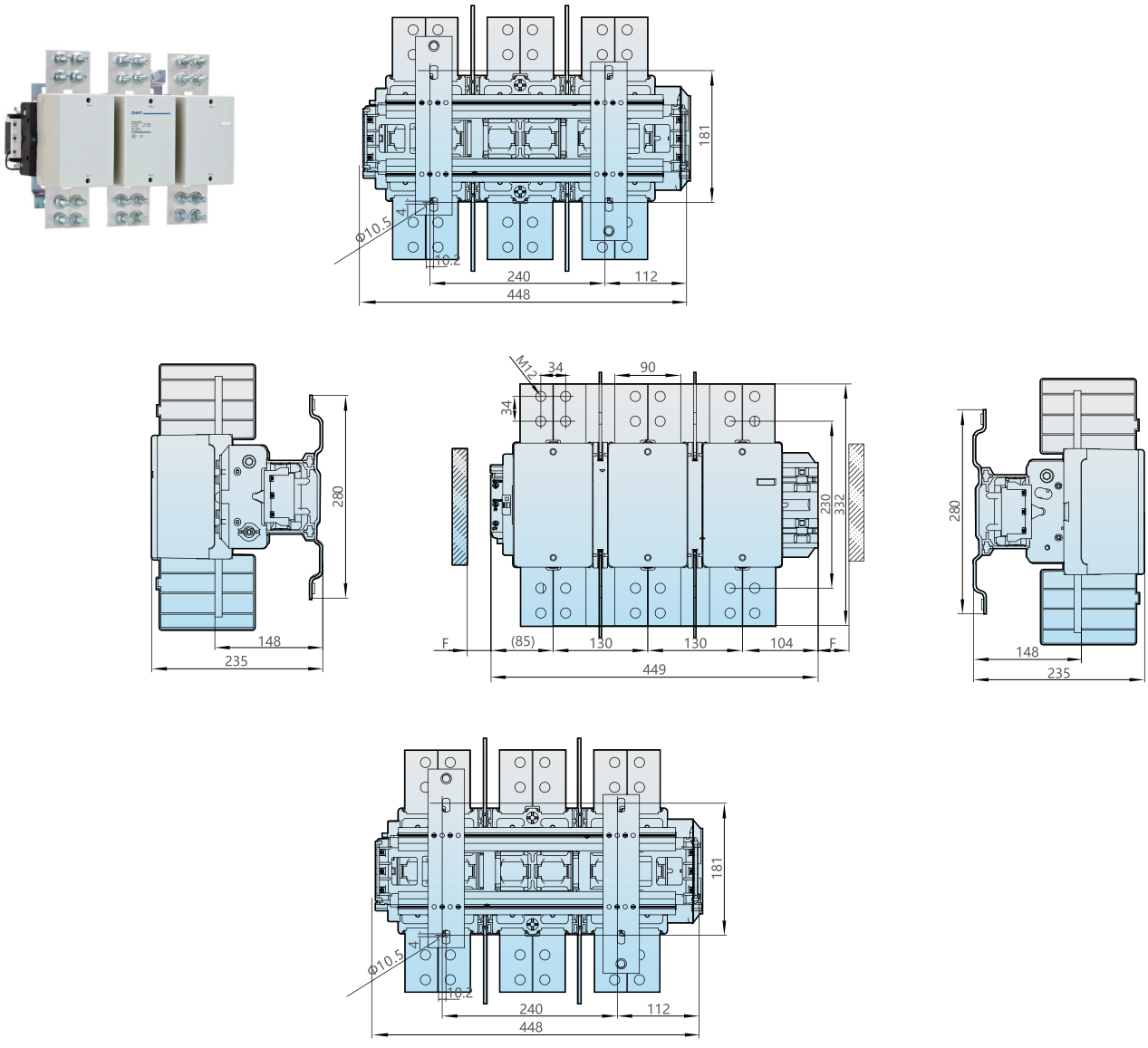
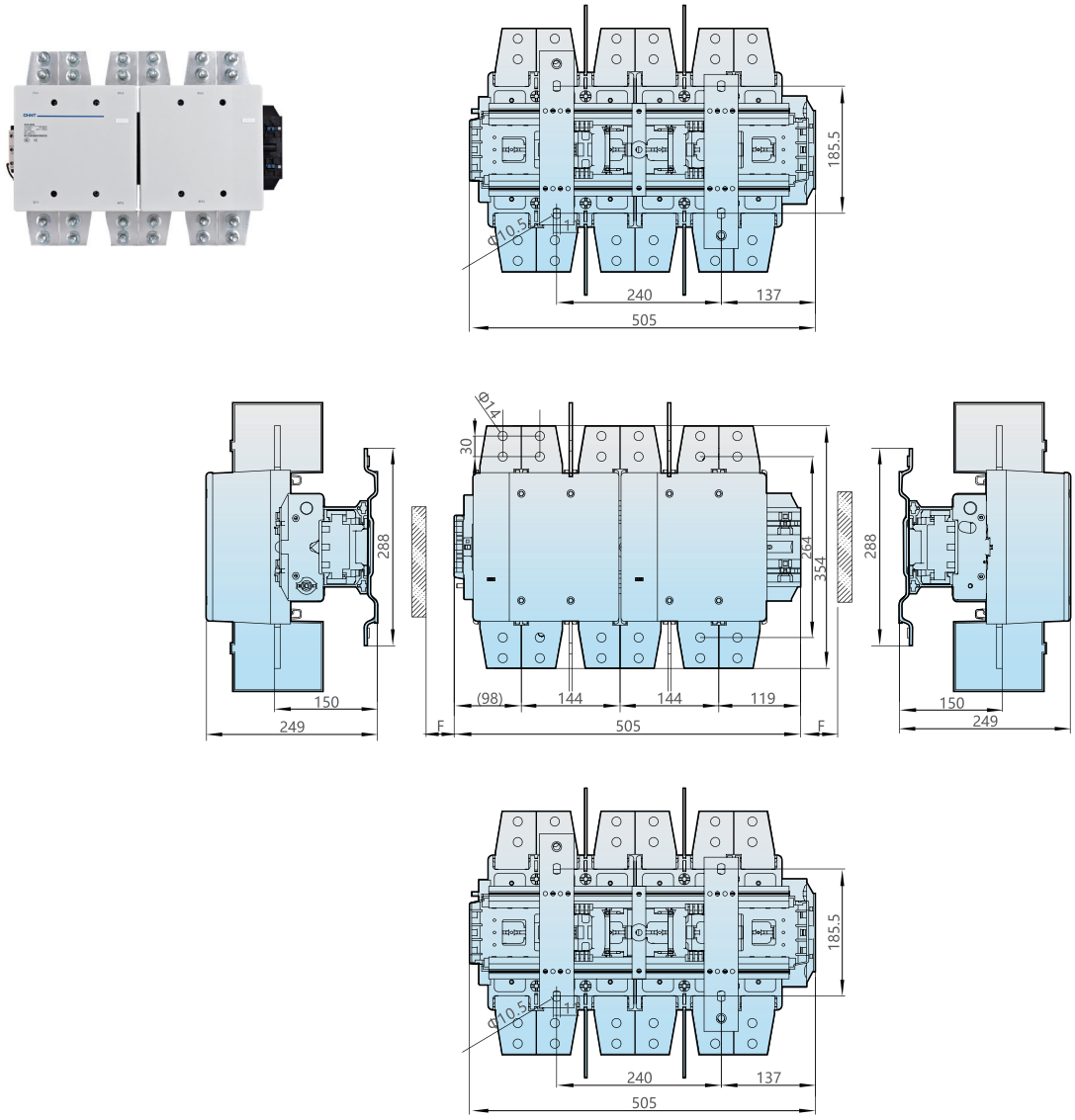


Figure 13 NC8-2650

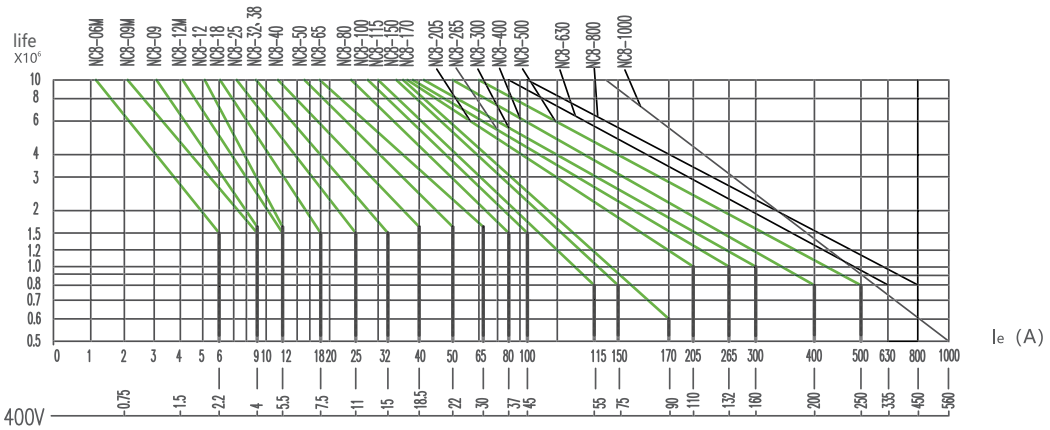


Model	Amax	Bmax	Cmax	Dmax	110Emax	Fmax(F5)	a	b	Φ
NC8-06M~12M	45	59	58	94	/	/	35±0.28	50±0.32	4.2
NC8-06M/4~12M/4	45	59	58	94	/	/	35±0.28	50±0.32	4.2
NC8-06M/22~12M/22	45	59	58	94	/	/	35±0.28	50±0.32	4.2
NC8-06M/Z~12M/Z	45	59	70	106	/	/	35±0.28	50±0.32	4.2
NC8-06M/4/Z~12M/4/Z	45	59	70	106	/	/	35±0.28	50±0.32	4.2
NC8-06M/22/Z~12M/22/Z	45	59	70	106	/	/	35±0.28	50±0.32	4.2
NC8-09~18(/W)	45	90	90	123	145	/	35±0.3	55~63	4.4
NC8-09/4~18/4(/W)	45.5	92	82	115	137	/	35±0.3	55~63	4.4
NC8-09/22~18/22(/W)	45.5	92	82	115	137	/	35±0.3	55~63	4.4
NC8-09/Z~18/Z	45	87	123	156	178	/	35±0.28	55~63	4.4
NC8-09/4/Z~18/4/Z	45	87	118	151	172	/	35±0.28	55~63	4.4
NC8-09/22/Z~18/22/Z	45	87	118	151	172	/	35±0.28	55~63	4.4
NC8-25~38(/W)	45	100	105	139	160	/	35±0.3	60~70	4.4
NC8-25/Z~38/Z	45	97	141	174	195	/	35±0.28	60~70	4.4
NC8-25/4~38/4(/W)	57	100	90	123	145	/	46±0.32	60~70	4.4
NC8-25/22~38/22(/W)	57	100	90	123	145	/	46±0.32	60~70	4.4
NC8-25/4/Z~38/4/Z	57	97	125	158	180	/	46±0.28	60~70	4.4
NC8-25/22/Z~38/22/Z	57	97	125	158	180	/	46±0.28	60~70	4.4
NC8-40~65(/W)	77	122.5	119	150	172	/	64±0.37	100~110	6.0
NC8-40/4~65/4(/W)	85	122.5	113.5	145	167	/	71±0.43	100~110.5	6.0
NC8-40/22~65/22(/W)	85	122.5	124	145	167	/	71±0.43	100~110.5	6.0
NC8-40/Z~65/Z	77	142	179	212	233	/	40	105	6.5
NC8-40/4/Z~65/4/Z	84	142	179	212	233	/	40	105	6.5
NC8-80~100(/W)	87	130	127	159	180	/	74±0.37	105~116	5.5
NC8-80/4~100/4(/W)	96.5	130	121	153	174	/	80±0.43	105~118.5	5.5
NC8-80/22~100/22(/W)	96.5	130	132.5	145	167	/	80±0.43	105~118.5	5.5
NC8-80/Z~100/Z	87	147	184	217	238	/	40	105	6.5
NC8-80/4/Z~100/4/Z	99	147	184	217	238	/	40	105	6.5
NC8-115(/W)~170(/W)	126	156	155	190.5	210.5	/	96~110	130±0.8	7.0
NC8-205~300	150	235	207	239	260	/	120	180	9.0
NC8-400~500	165	248	225	258	280	/	130	180	9.0

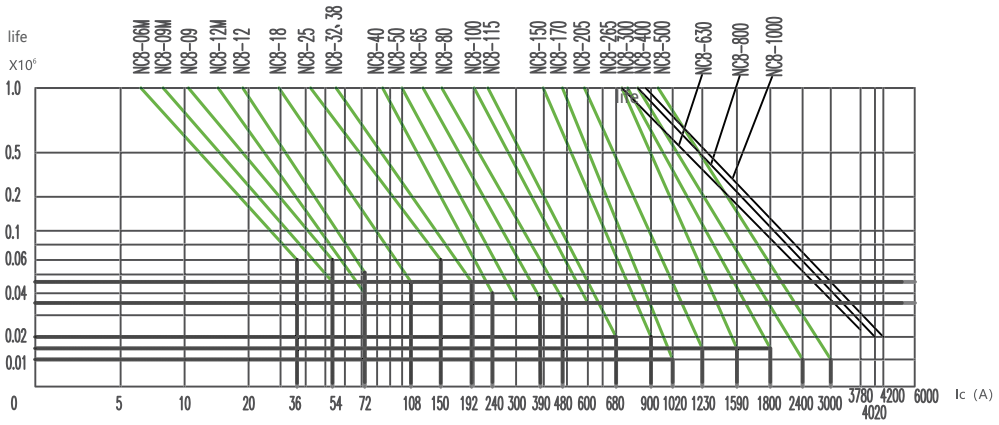
7. Annex

7.1 Electrical life curve

AC-3(Ue=400V)



AC-2、AC-4(Ue=400V)



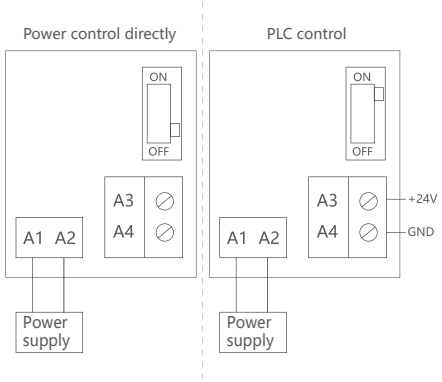
Example:

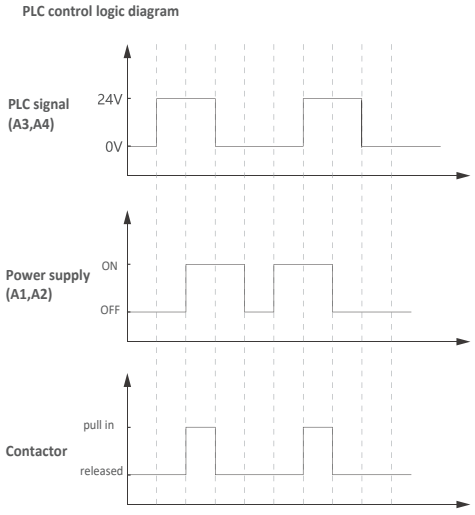
To control the starting of squirrel cage asynchronous motors

The main parameters of the squirrel cage asynchronous motor are: P=11kW, Ue=380V, Ie=22.6A, with a usage category of AC-3 and a required electrical life of 1 million cycles

Contactor should be selected based on the above curve: NC8-25

AC-2、AC-4(Ue=400V)





7.2 Explanation of the correction factor used in high-altitude areas:

7.2.1 When the altitude is below 2000m, it has no significant impact on product performance; When the altitude is higher than 2000m, it is necessary to consider conditions such as air cooling effect and rated impulse withstand voltage drop.

7.2.2 The following table provides the correction coefficients for the rated impulse withstand voltage and rated working current when the rated working voltage remains unchanged above an altitude of 2000m.

Altitude(m)	2000	3000	4000
Correction factor for Uimp	1	0.88	0.78
Correction factor for Ie	1	0.92	0.9

7.3 Instructions for using abnormal working environment temperatures:

When the working environment temperature is higher than+40℃ , it is necessary to consider that the allowable limit temperature rise.
Need to reduce the working current and the number of contactors installed in cabinet; When the temperature is below -5 ℃ , it should be considered that the grease used for insulation and lubrication will freeze under low environmental temperatures, leading to product malfunction. Therefore, it is necessary for manufacturers to negotiate with users for design or use.
The following table provides the correction factors for different rated operating currents when the working environment temperature exceeds+40 ℃ .

Environment temperature (℃)	40	50	60	70
Correction factor	1	0.875	0.75	0.625

7.4 Derating instructions for use in corrosive environments:

7.4.1 Impact on metal components

Cl2
NO2
H2S
SO2

7.4.2 Copper
The thickness of copper sulfide coating in chlorine gas environment will be twice that of normal environment, which is basically the same in the presence of nitrogen dioxide;

7.4.3 Silver
When silver contacts or silver coated contacts are used in SO2 and H2S environments, the surface of the contacts will darken, forming a silver sulfide coating, increasing the contact temperature rise and causing contact damage. In a humid environment, when chlorine gas and hydrogen sulfide coexist, the thickness of the coating will increase by 7 times. If H2S and NO2 coexist, the thickness of the silver sulfide coating will increase by 20 times;

7.4.4 Selection should consider
In the oil refining, steel, paper making, artificial fiber (nylon) industries, or industries that generally use sulfur, the equipment used may experience sulfurization, also known as oxidation in the chemical industry Installing the equipment in the computer room does not guarantee that it will not be oxidized. To maintain a slightly higher air pressure in the computer room than atmospheric pressure, the air inlet is generally shorter. This can indeed reduce external pollution to a certain extent. However, after 5 to 6 years of operation, corrosion is inevitable and oxidation of the equipment is inevitable Therefore, in a factory environment with corrosive gases, equipment needs to be derated for use. The derating coefficient is multiplied by the rated value of the equipment by 0.6 (up to 0.8), which can avoid accelerated oxidation due to temperature rise.

7.5 Instructions for parallel poles:

Considering the long-term unstable current distribution between phases, the rated current of the parallel poles needs to be corrected.
The specific correction coefficients are given in the table below.

No. of poles in parallel	2	3	4
Correction coefficient	1.6	2.25	2.8

7.6 Application in lighting circuits

Model			06M、09M、12M	09、12	18	25	32、38	40	50、65	80、100
Lighting parameter (220V/240V)			Max. controlled lightings							
W	A	μF								
Incandescent lamp										
60	0.27	-	35	59	77	92	129	163	207	296
75	0.34	-	28	47	61	73	103	129	164	235
100	0.45	-	21	35	46	55	77	97	124	177
150	0.68	-	14	23	30	36	51	64	82	117
200	0.91	-	10	17	23	27	38	48	62	88
300	1.40	-	6	11	15	18	25	31	40	57
500	2.30	-	4	7	8	11	15	19	24	34
750	3.40	-	2	4	6	7	10	13	16	23
1000	4.60	-	2	3	4	5	7	9	12	17
Single tube fluorescent lamp (with starter, no compensation)										
20	0.39	-	24	41	53	66	89	112	143	205
40	0.45	-	21	35	46	57	77	97	124	177
65	0.70	-	12	22	30	37	50	62	80	114
80	0.80	-	12	20	26	32	43	55	70	100
110	1.15	-	8	12	15	20	26	35	46	66
Single tube fluorescent lamp (with starter and parallel compensation)										
20	0.18	5	83	94	105	155	215	233	335	530
40	0.26	5	58	65	75	107	150	160	230	365
65	0.42	7	35	40	45	66	92	100	142	225
80	0.52	7	28	32	36	53	74	80	115	180
100	0.6	16	23	26	29	43	59	64	92	145
110	0.70	18	21	24	27	40	55	59	85	135
Double tube fluorescent lamp (with starter and no compensation)										
2×20	2×0.22	-	36	60	80	100	134	168	214	306
2×40	2×0.41	-	20	32	42	54	72	90	116	166
2×65	2×0.67	-	12	20	26	32	44	56	70	102
2×80	2×0.82	-	10	16	20	26	36	44	58	82
2×110	2×1.10	-	7	12	16	20	26	32	42	60
Double tube fluorescent lamp (with starter and series compensation)										
2×20	2×0.22	-	21	36	46	58	78	100	126	180
2×40	2×0.41	-	11	18	24	30	42	52	68	96
2×65	2×0.67	-	7	10	14	18	26	32	40	58
2×80	2×0.82	-	5	8	12	14	20	26	34	48
2×110	2×1.10	-	4	6	8	10	14	18	24	36
Single tube fluorescent lamp (without starter, without compensation)										
20	0.43	-	22	37	48	60	97	102	130	186
40	0.55	-	17	29	38	47	63	80	101	145
65	0.80	-	12	20	26	32	43	55	70	100
80	0.95	-	10	16	22	27	36	46	58	84
110	0.40	-	6	11	15	18	25	31	40	57
Single tube fluorescent lamp (without starter, parallel compensation)										
20	0.19	5	50	84	110	136	184	231	294	421
40	0.29	5	33	55	72	89	101	151	193	275
65	0.46	7	20	34	45	56	76	95	121	173
80	0.57	7	16	28	36	45	61	77	98	140
110	0.79	16	-	20	26	32	44	55	70	101

Model			06M、09M、12M	09、12	18	25	32、38	40	50、65	80、100
Lighting parameter(220V/240V)			Max. controlled lightings							
W	A	μF								
Double tube fluorescent lamp (without starter, no compensation)										
2×20	2×0.25	-	19	32	42	52	70	88	112	160
2×40	2×0.47	-	10	16	22	26	36	46	58	84
2×65	2×0.76	-	6	10	12	16	22	28	36	52
2×80	2×0.93	-	5	8	10	12	18	22	30	42
2×110	2×1.30	-	3	6	8	10	22	16	20	30
Double tube fluorescent lamp (without starter, series compensation)										
2×20	2×0.15	-	34	56	74	92	124	156	200	234
2×40	2×0.26	-	18	30	40	50	66	84	106	152
2×65	2×0.43	-	11	18	24	30	40	50	64	92
2×80	2×0.53	-	9	14	18	24	32	40	52	74
2×110	2×0.72	-	6	10	14	18	24	30	38	54
Low pressure sodium vapor lamp (no compensation)										
35	1.2	-	6	10	12	15	21	27	35	50
55	1.6	-	5	7	9	11	16	20	26	37
90	2.4	-	3	5	6	7	10	13	17	25
135	3.1	-	2	3	4	6	8	10	13	19
150	3.2	-	2	3	4	5	8	10	13	18
180	3.3	-	2	3	4	5	7	10	12	18
200	3.4	-	2	3	4	5	7	9	12	17
Low pressure sodium vapor lamp (series compensation)										
35	0.3	17	-	40	50	63	86	110	140	200
55	0.4	17	-	30	37	47	65	82	105	150
90	0.6	25	-	-	20	31	43	55	70	100
135	0.9	36	-	-	-	21	28	36	46	66
150	1.0	36	-	-	-	19	26	33	42	60
180	1.2	36	-	-	-	15	21	27	35	50
200	1.3	36	-	-	-	14	20	25	32	46
High pressure sodium vapor lamp (no compensation)										
150	1.9	-	4	6	7	10	13	17	22	31
250	3.2	-	2	3	4	5	8	10	13	18
400	5.0	-	1	2	3	3	5	6	8	12
700	8.8	-	-	-	2	2	2	3	4	6
1000	12.4	-	-	-	1	1	2	2	3	4
High pressure sodium vapor lamp (series compensation)										
150	0.84	20	-	-	17	22	30	39	50	71
200	1.4	32	-	-	-	13	18	23	30	42
400	2.2	48	-	-	-	8	11	15	19	27
700	3.6	96	-	-	-	-	6	8	10	15
1000	5.5	120	-	-	-	-	-	6	7	10
High pressure mercury lamp (no compensation)										
50	0.54	-	14	22	27	35	48	64	77	111
80	0.81	-	9	14	18	23	32	40	51	74
125	1.20	-	6	9	12	15	21	27	34	49
250	2.30	-	3	5	6	8	11	14	17	26
400	4.10	-	1	2	3	4	6	8	10	14
700	6.80	-	-	1	2	2	3	4	6	8
1000	9.90	-	-	1	1	1	2	3	4	6
High pressure mercury lamp (series compensation)										
50	0.30	10	-	40	50	63	86	110	140	200
80	0.45	10	-	26	33	42	57	73	93	133
125	0.67	10	-	17	22	28	38	49	62	89
250	1.3	18	-	9	11	14	20	25	32	46
400	2.3	25	-	-	6	8	11	14	18	26
700	3.8	40	-	-	-	5	6	8	11	15
1000	5.5	60	-	-	-	3	4	6	7	10

8. Ordering Instructions

8.1 When ordering, it must be noted that:

8.1.1 Complete name and model of the contactor;

8.1.2 Rated working voltage and frequency or specification code of the coil;

8.1.3 Order quantity.

8.2 Ordering Example: NC8-1822 AC Contactor Coil Voltage 220V 50Hz 10 Units