



NC100 Series AC Contactor

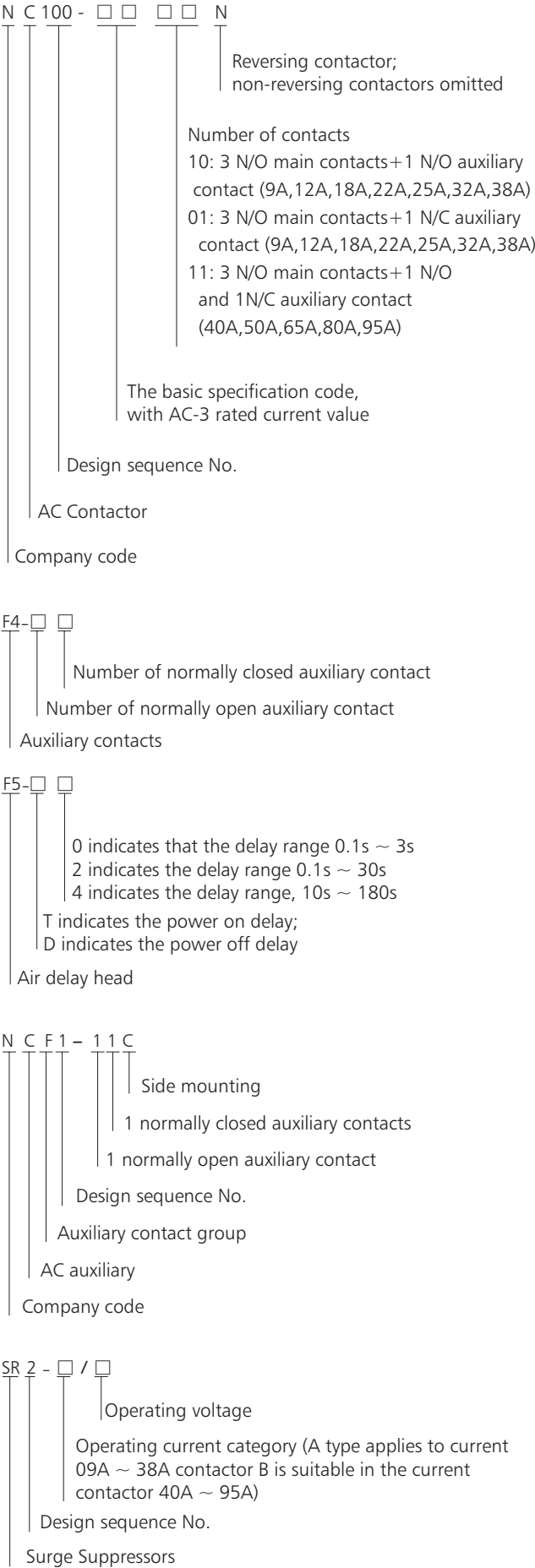
1. General

The NC100 Series AC contactor (hereinafter referred to as Contactor) is mainly used for AC 50Hz (or 60Hz), rated working voltage up to 690V, rated operational current up to 95A circuit under the use category of AC-3, 400 (380) V, mainly used for remote on and off circuits, and form the electromagnetic starter with appropriate thermal overload relay in order to protect the possibly operation overloaded circuit. The contactor is suitable for frequent starting and controlling the AC motor.

NC100-N AC contactor for AC 50Hz (or 60Hz), rated working voltage up to 690V, rated current up to 95A, Motor reversible control circuit, the mechanical chain to ensure the reliability of the two contactor contacts conversion of work.

Meet the standards IEC60947-4-1.

2. Type designation



3. Operating conditions

- 3.1 Ambient air temperature: the average value does not exceed + 35 °C within 24 hours.
 3.2 Altitude: not exceeding 2000m.
 3.3 Atmospheric conditions: maximum temperature of +40°C, the relative humidity of the air not exceeding 50%, and high relative humidity can be allowed at a lower temperature, up to 90% at 20°C. Special measures should be taken to deal with the occasional condensation due to temperature changes.
 3.4 Pollution level: 3.
 3.5 Installation category: .
 3.6 Installation conditions: the mounting surface and the vertical gradient of not more than - +5.
 3.7 Shock vibration: The product should be installed and used at places without significant shake, shock and vibration.

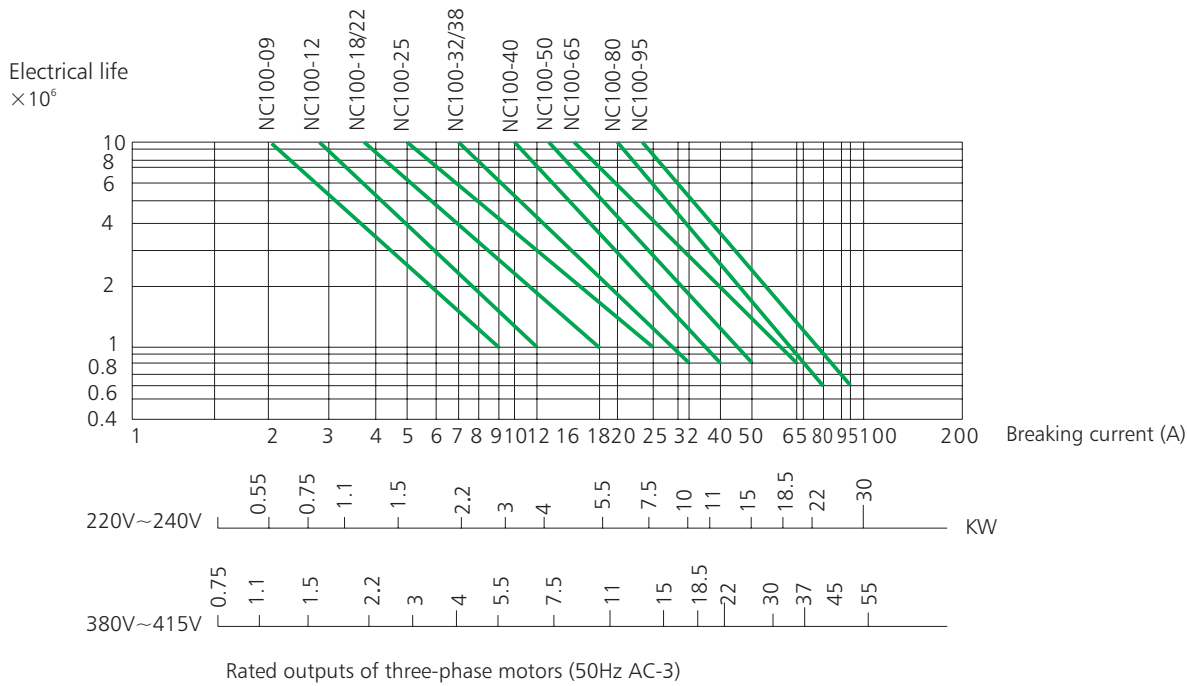
4. Technical data

4.1 Main parameters and technical performance of the NC100 contactor

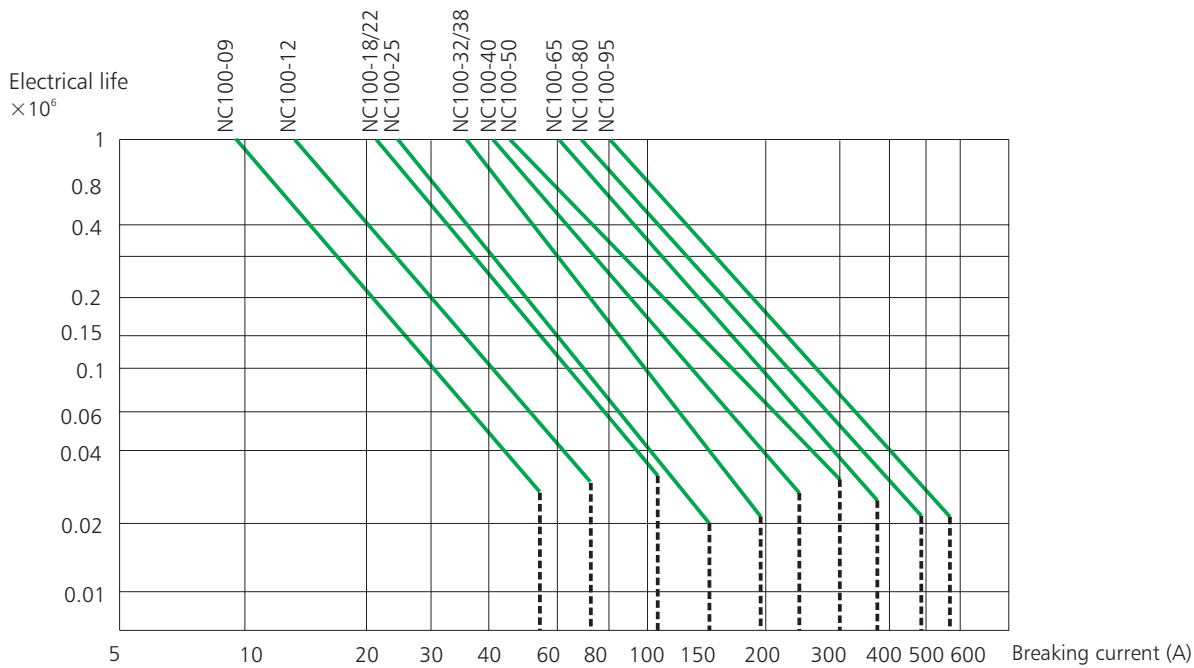
Model			NC100-09(N)	NC100-12(N)	NC100-18(N)	NC100-22 (N)	NC100-25(N)	NC100-32(N)	NC100-38(N)	NC100-40(N)	NC100-50(N)	NC100-65(N)	NC100-80(N)	NC100-95(N)										
Rated operational current (A)	400(380)V	AC-3	9	12	18	22	25	32	38	40	50	65	80	95										
		AC-4	3.5	5	7.7	7.7	8.5	12	12	18.5	24	28	37	44										
	690(660)V	AC-3	6.6	8.9	12	14	18	22	22	34	39	42	49	49										
		AC-4	1.5	2	3.8	3.8	4.4	7.5	7.5	9	12	14	17.3	21.3										
Appointed free air heat generation current (A)			20	20	32	32	40	50	50	60	80	80	95	95										
Rated insulation voltage (V)			690																					
Controllable three-phase squirrel-cage motor power (AC-3) kW		230(220)V	2.2	3	4	5.5	5.5	7.5	9	11	15	18.5	22	25										
		400(380)V	4	5.5	7.5	11	11	15	18.5	18.5	22	30	37	45										
		690(660)V	5.5	7.5	10	11	15	18.5	18.5	30	37	37	45	45										
Frequency of operation (times/h)	Electrical life	AC-3	1200						600															
		AC-4	300																					
	Mechanical life		3600																					
Electrical life (ten thousand times)	AC-3		100						80			60												
	AC-4		20						15			10												
Mechanical life (ten thousand times)			1000						800						600									
Type of the fuse adapted			RT16-20				RT16-32			RT16-40		RT16-50		RT16-63		RT16-80		RT16-100		RT16-125				
Cold-pressed terminal	Piece (of string, etc)		1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2				
	Non-prefabricated-tip cord		1/2.5	1/2.5	1/2.5	1/2.5	1.5/4	1.5/4	1.5/4	1.5/4	1.5/4	1.5/4	1.5/4	1.5/4	6/25	4/10	6/25	4/10	6/25	4/10	10/35	6/16	10/35	6/16
	Cord with the prefabricated tip mm ²		1/4	1/2.5	1/4	1/2.5	1.5/6	1.5/4	1.5/6	1.5/4	1.5/10	1.5/6	1.5/10	1.5/10	1.5/6	6/25	4/10	6/25	4/10	6/25	4/10	10/35	6/16	10/35
	Non-prefabricated-tip hard wire		1/4	1/4	1/4	1/4	1.5/6	1.5/6	1.5/6	1.5/6	1.5/6	1.5/6	1.5/6	1.5/6	6/25	4/10	6/25	4/10	6/25	4/10	10/35	6/16	10/35	6/16
Connection terminal screw size and tightening torque (N·m)			0.8				0.8			1.2				3.5				4.0						
AC coil power	50Hz	Attracting (VA)	70				70			110				200				200						
		Holding (VA)	9				9.5			14				57				57						
		Power (W)	1.8~2.7				3~4			3~4				6~10				6~10						
Action (actuating)range			Pull-in voltage: 85%Us~110%Us; Release voltage: 20%Us~75%Us																					
Basic parameters			AC-15:Ie:0.15A Ue:380V/400V; DC-13 Ie:0.15A Ue:DC220V/250V Ith:10A																					

4.2 Electrical life curves.

Electrical life curves (AC-3)



Electrical life curves (AC-4)



Example:
 Request to control the start of three-phase motors
 main technical parameter of three-phase motors: $P=5.5\text{kW}$, $U_e=400\text{V}(380\text{V})$, $I_e=11\text{A}$, $I_c \times I_e=66\text{A}$
 The electrical life span of request: 2,00,000 operations
 the contactor should be NC100-32 according to the curves above

4.3 Coil rated control supply voltage U_s and code (see Table 2).

Table 2

Coil voltage U_s (V)	24	36	42	48	110	127	220	230	240	380	400	415	440	480	600
50Hz	B5	C5	D5	E5	F5	G5	M5	P5	U5	Q5	V5	N5	R5	T5	X5
60Hz	B6	C6	D6	E6	F6	G6	M6	P6	U6	Q6	V6	N6	R6	T6	X6
50/60Hz	B7	C7	D7	E7	F7	G7	M7	P7	U7	Q7	V7	N7	R7	T7	X7

5. Structural Characteristics

5.1 NC100 contactor can be installed with auxiliary contact group, air delayer, thermal relay and other accessories through building block installation, and combine into a variety of derived products (see Table 3).

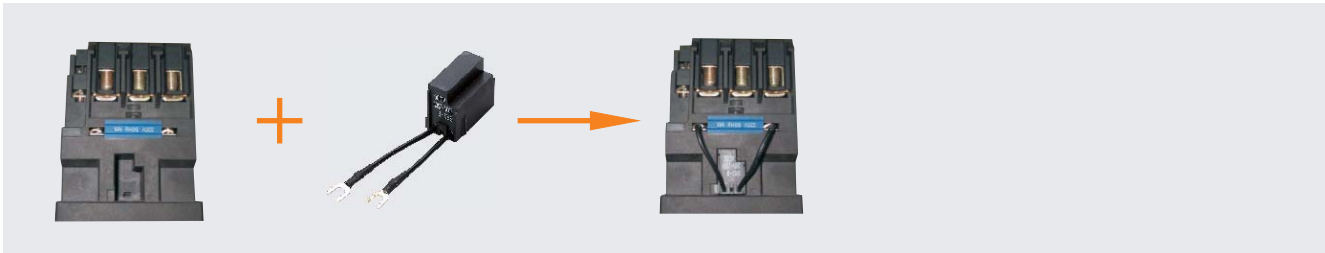
Table 3

Derived products	Contactor	Auxiliary module	Schematic diagram	
Delay contactor		 F5 air delay head	 Delay contactor	
Reversing contactor		 Mechanical interlocking mechanism	 Reversing contactor	
Magnetic starter		 Thermal relay	 Magnetic starter	
Switching capacitor contactors		 Current limiting contact group	 Switching capacitor contactors	
Star-delta starter		 F5 air delay head	 Auxiliary contact group	 Star-delta starter

5.2 SR2 Series Surge Suppressors red with a significant surge suppression function, used in conjunction with the NC100 Series contactors, can effectively protect the contactor, extend the service life and avoid the interference of the surge pulse on the PC and other electronic control system.



SR2-A used for NC100 Series 09A ~ 38A AC contactor, with specific specifications as follows:
 SR2-A 24V~48V AC、DC
 SR2-A 100V~250V AC、DC
 SR2-A 380V~440V AC、DC



SR2-B for NC100 Series 40A ~ 95A AC contactor specifications:
 SR2-B 100V~127V AC、DC
 SR2-B 200V~250V AC、DC
 SR2-B 380V~440V AC、DC

- 5.3 NC100 AC contactor features complete specifications, small size, and light weight, low power consumption, long life, safe and reliable.
- 5.4 Contactors at 38A and below are fit with a normally open or a normally closed auxiliary contact, contactors at 40A and above are fit with one normally open and one normally closed auxiliary contact.
 Addition retrofitting F4 auxiliary contact group (two or four) at the top or air delay head, on both sides of the installation NCF1-11C, one each. Its combination Conditions respectively shown in Table 5 or Table 6.


Table 5

Model	Delay range	Number of delay contact	Schematic diagram
F5-T0	0.1s~3s	NO+NC	
F5-T2	0.1s~30s	NO+NC	
F5-T4	10s~180s	NO+NC	
F5-D0	0.1s~3s	NO+NC	
F5-D2	0.1s~30s	NO+NC	
F5-D4	10s~180s	NO+NC	

Note: Product body pad A, B, C, D represents the trend of the length of the delay time.

Table 6

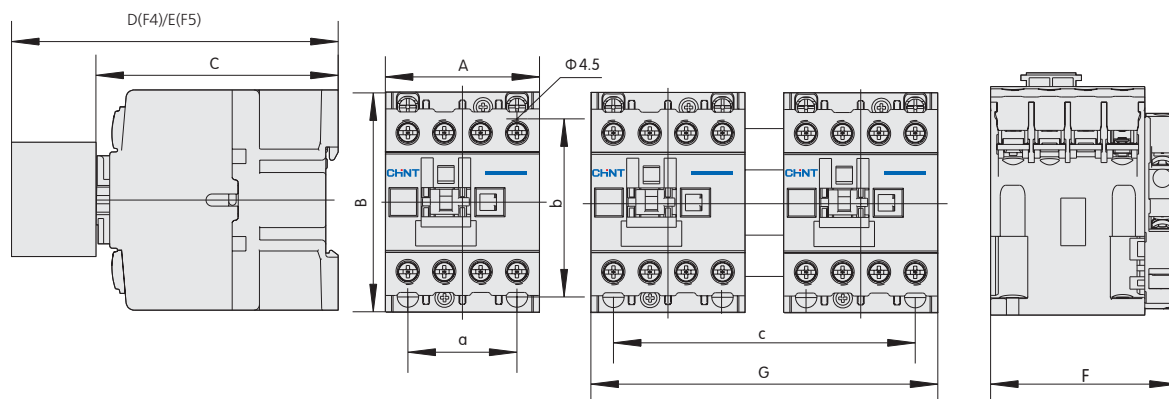
Auxiliary contact group model	Number of contact		Schematic diagram
	Number of normally open (NO) contact	Number of normally closed (NC) contacts	
F4-20	2	0	
F4-11	1	1	
F4-02	0	2	
F4-40	4	0	
F4-31	3	1	
F4-22	2	2	
F4-13	1	3	
F4-04	0	4	
NCF1-11C	1	1	

5.5 In addition to screw mounting, the contactors can also be mounted with 35mm (NC100-09 ~ 95) and 75mm (NC100-40 to 95)  type standard rail.

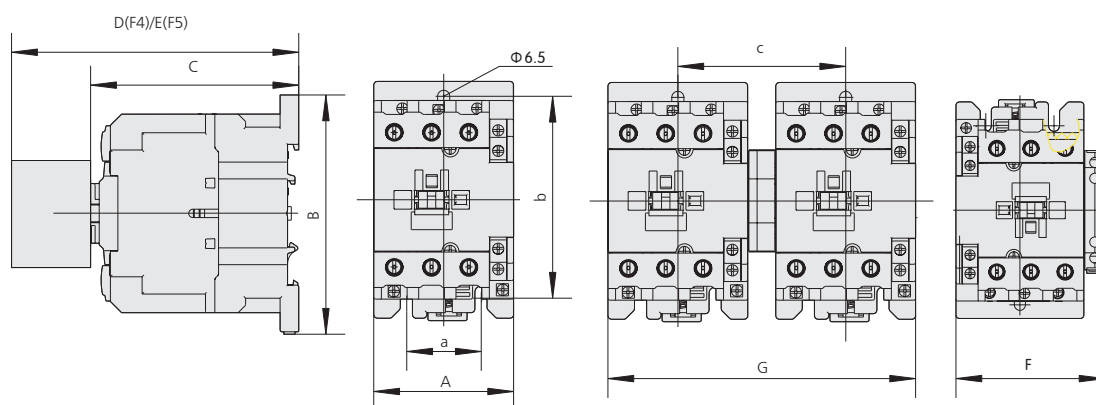
5.6 NC100-N consists of two contactors and mechanical interlock module, the two contactors are mounted horizontally; the interlocking module is side mounted, and mounted between the two contactors; the NC100-40N and above are not installed with conductors when leaving factory.

6. Overall and mounting dimensions (mm)

NC100-09 ~ 38 (N)



NC100-40 (N) ~ 95 (N)



Model	Amax	Bmax	Cmax	Dmax	Emax	Fmax	Gmax	a	b	c
NC100-09(N)~12(N)	48	72	83	121.5	141.5	60.5	105	34/45	50/60	95
NC100-18(N)~22(N)	48	72	88	126.5	146.5	60.5	105	34/35	50/60	95
NC100-25(N)~38(N)	56	80	88	126.5	146.5	69.5	125	40	48	111
NC100-40(N)~65(N)	77	129	115	153.5	173.5	89	138	40	105	90
NC100-80(N)~95(N)	87	129	125	163.5	183.5	101	146	40	105	96

7. Ordering information

7.1 When ordering, the following information must be identified:

7.1.1 Complete description and model of the contactor;

7.1.2 Rated control supply voltage and frequency or code of coil;

7.1.3 For ordering F4 auxiliary contact group or standard rail, separate note shall be given;

7.1.4 Order number of units;

7.1.5 Derived N conventional products are reversible wiring, and the special wiring mode must be indicated;

7.2 Ordering example:

10 units of NC100-0910 AC contactor coil voltage 220V 50Hz, 5 pieces of F4-22.