

# Contactors, Relays, Starters

## Contactors



**NC8**  
AC Contacteur

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**NC7**  
AC Contacteur

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**NC6**  
Contactor  
6~9A

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**NC1**  
Contactor  
9~95A

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**NC1-N**  
Reversing &  
change-over type  
9~95A

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**NC2**  
Contactor  
115~800A

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**NC2-N**  
Reversing &  
change-over type  
115~800A

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**NCK3**  
Definite Purpose  
Contactor  
25~90A

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**NCH8**  
Modular AC  
Contactor

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**CJ19**  
for Power Factor  
Correction

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## NC8 Series

Current range: 6~100A  
(6A, 9A, 12A, 18A, 25A, 32A, 38A, 40A, 50A, 65A, 80A, 100A)  
Poles: 3P, 4P

### 3-pole contactor



Frame size (A)	6, 9, 12 Mini type	9, 12, 18 Normal type	25, 32, 38
Power (kW,400V)	2.2, 4, 5.5	4, 5.5, 7.5	11, 15, 18.5

### 4-pole contactor





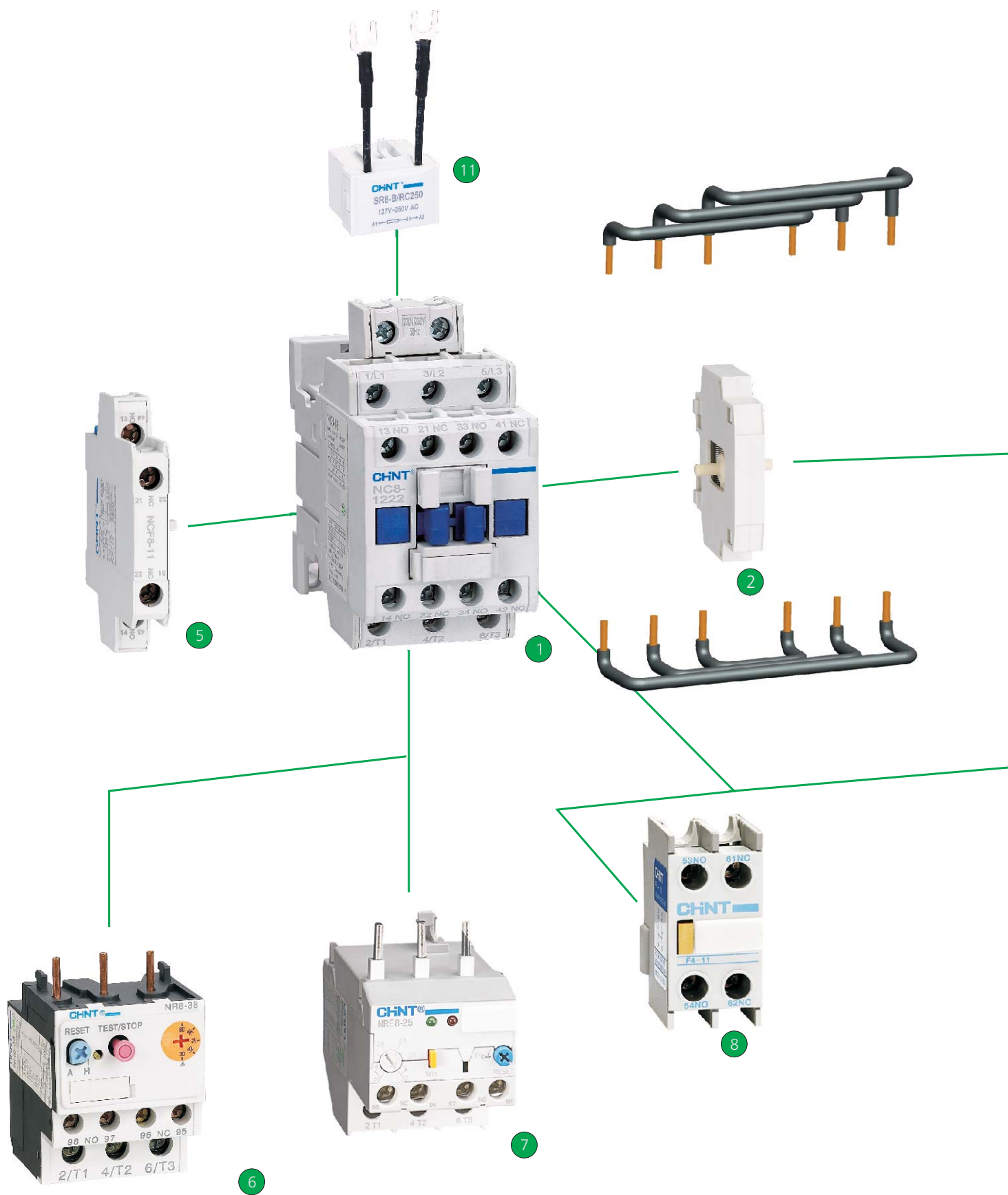
40, 50, 65

80, 100

18.5, 22, 30

37, 45







**NC8 and Accessories**

- 1 contactor
- 2 Mechanical interlock block
- 3 contactor
- 4 side mount aux
- 5 side mount aux
- 6 thermal relay
- 7 electronic relay
- 8 front mount aux
- 9 front mount aux
- 10 Pneumatic timers
- 11 surge arrester block
- 12 Bus bar
- 13 Bus bar

**D**



## NC8 Series AC Contactor

### 1. General

NC8 series AC contactor is applied to circuits with AC current frequency of 50 Hz or 60 Hz, rated operational voltage up to 690 V and rated operational current up to 100 A. It is used for remote making & breaking circuits, and can also be used with proper thermal overload relay together as an electromagnetic starter to protect circuits from overload.

This product conforms to standards IEC/EN 60947-4-1.

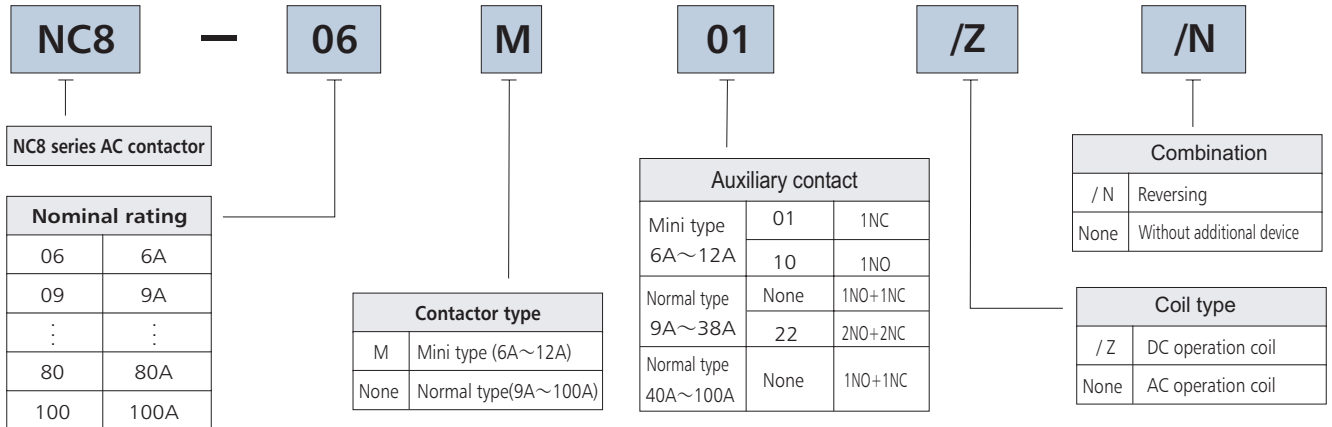
### 2. Normal operation conditions, mounting conditions

- 2.1 Certificates: CE,UL,KEMA;
- 2.2 Electric ratings: AC 50/60Hz, up to 690V, up to 100A;
- 2.3 Application: remotely makes and breaks circuit; protect circuit from overload assembling with proper thermal relay;
- 2.4 Utilization category: AC-1, AC-3, AC-4;
- 2.5 Mounting conditions: inclination between mounting plane and vertical plane not exceed  $\pm 22.5^\circ$

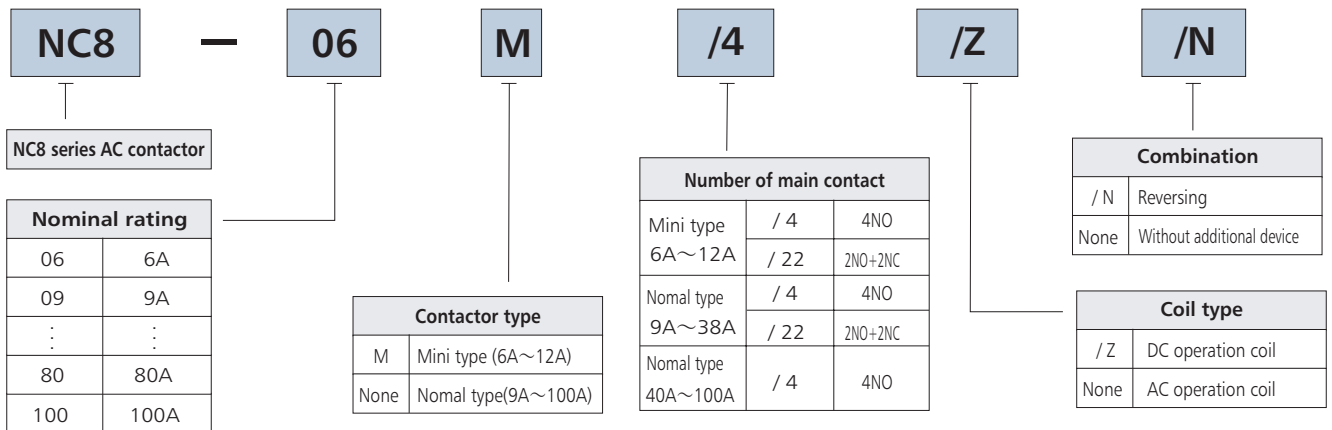


### 3. Type Designation

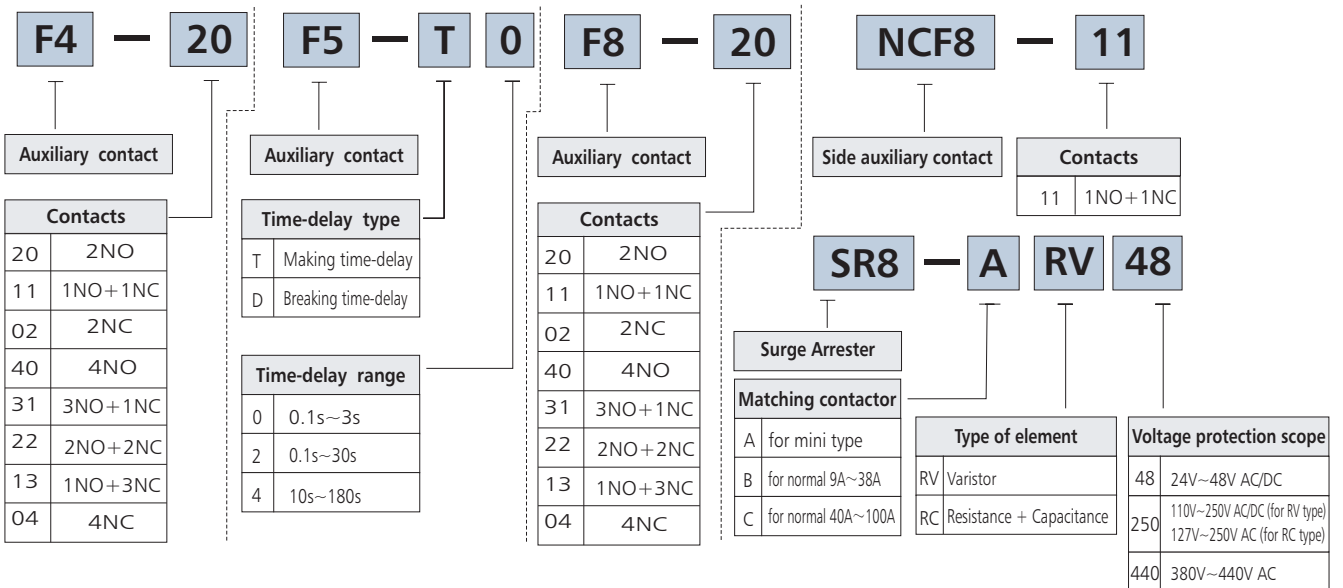
#### 3-pole contactor



#### 4-pole contactors



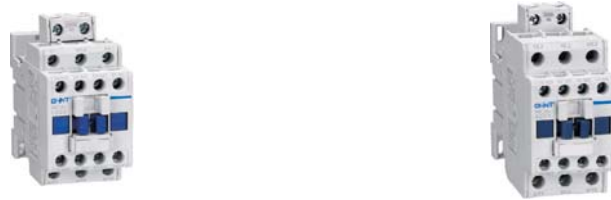
#### Accessories



### 3. Quick selection table

Frame size	9A	12A	18A	25A	32A	38A
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3-pole contactors



Auxiliary contacts	1NO+1NC	NC8-09	NC8-12	NC8-18	NC8-25	NC8-32	NC8-38
	2NO+2NC	NC8-09/22	NC8-12/22	NC8-18/22	NC8-25/22	NC8-32/22	NC8-38/22

Ratings/IEC/EN 60974-4-1		kW	A	kW	A	kW	A	kW	A	kW	A	kW	A
AC-1			25		25		32		40		50		50
	220V/230V/240V	2.2	9	4	12	4	18	5.5	25	7.5	32	9	38
AC-3	380V/400V	4	9	5.5	12	7.5	18	11	25	15	32	18.5	38
	415V	4	9	5.5	12	9	18	11	25	15	32	18.5	38
	660V/690V	5.5	6.7	7.5	9	9	10.6	15	17.3	18.5	21.9	18.5	21.9

Ratings/UL508		hp	A	hp	A	hp	A	hp	A	hp	A	hp	A
Continuous current (FLA)			25		25		32		40		50		50
Single phase	110V/120V	0.5		0.75		1		1.5		2		2	
	230V/240V	1		2		3		3		5		5	
Three phases	200V/208V	3		3		5		7.5		10		10	
	230V/240V	3		3		5		7.5		10		10	
	460V/480V	5		7.5		10		15		20		20	
	575V/600V	7.5		10		15		20		25		25	

### Accessories



See page 07 for more details

NCF8-11

F4

F5

SR8-B/RC250



Frame size	40A	50A	65A	80A	100A
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3-pole contactors



Auxiliary contacts	1NO+1NC	NC8-40	NC8-50	NC8-65	NC8-80	NC8-100
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Ratings/IEC/EN 60974-4-1		kW	A	kW	A	kW	A	kW	A	kW	A
AC-1			60		80		80		125		125
AC-3	220V/230V/240V	11	40	15	50	18.5	65	22	80	25	100
	380V/400V	18.5	40	22	50	30	65	37	80	45	100
	415V	22	40	25	50	37	65	45	80	45	100
	660V/690V	30	34	33	39	37	42	45	49	45	49

Ratings/UL508		hp	A	hp	A	hp	A	hp	A	hp	A
Continuous current (FLA)			60		80		80		125		125
Single phase	110V/120V	3		5		5		7.5		10	
	230V/240V	5		7.5		10		20		20	
Three phases	200V/208V	10		15		20		30		30	
	230V/240V	10		15		20		30		30	
	460V/480V	30		40		50		60		60	
	575V/600V	30		40		50		60		60	

**Accessories**

See page 08 for more details



NCF8-11



F4



F5



SR8-C/RC440

Frame size	9A	12A	18A	25A	32A	38A
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4-pole Contactors



Main contacts	4NO	NC8-09/4	NC8-12/4	NC8-18/4	NC8-25/4	NC8-32/4	NC8-38/4
	2NO+2NC	NC8-09/22	NC8-12/22	NC8-18/22	NC8-25/22	NC8-32/22	NC8-38/22

Ratings/IEC/EN 60974-4-1		kW	A	kW	A	kW	A	kW	A	kW	A	kW	A
AC-1			25		25		32		40		50		50
	220V/230V/240V	2.2	9	4	12	4	18	5.5	25	7.5	32	9	38
AC-3	380V/400V	4	9	5.5	12	7.5	18	11	25	15	32	18.5	38
	415V	4	9	5.5	12	9	18	11	25	15	32	18.5	38
	660V/690V	5.5	6.7	7.5	9	9	10.6	15	17.3	18.5	21.9	18.5	21.9

Ratings/UL508		hp	A	hp	A	hp	A	hp	A	hp	A	hp	A
Continuous current (FLA)			25		25		32		40		50		50
Single phase	110V/120V	0.5		0.75		1		1.5		2		2	
	230V/240V	1		2		3		3		5		5	
Three phases	200V/208V	3		3		5		7.5		10		10	
	230V/240V	3		3		5		7.5		10		10	
	460V/480V	5		7.5		10		15		20		20	
	575V/600V	7.5		10		15		20		25		25	

### Accessories

See page 07 for more details



NCF8-11



F4



F5



SR8-B/RC250

Frame size	40A	50A	65A	80A	100A
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4-pole Contactors



Main contacts	4NO	NC8-40/4	NC8-50/4	NC8-65/4	NC8-80/4	NC8-100/4
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Ratings/IEC/EN 60974-4-1		kW	A	kW	A	kW	A	kW	A	kW	A
AC-1			60		80		80		125		125
AC-3	220V/230V/240V	11	40	15	50	18.5	65	22	80	25	100
	380V/400V	18.5	40	22	50	30	65	37	80	45	100
	415V	22	40	25	50	37	65	45	80	45	100
	660V/690V	30	34	33	39	37	42	45	49	45	49

Ratings/UL508		hp	A	hp	A	hp	A	hp	A	hp	A
Continuous current (FLA)			60		80		80		125		125
Single phase	110V/120V	3		5		5		7.5		10	
	230V/240V	5		7.5		10		20		20	
Three phases	200V/208V	10		15		20		30		30	
	230V/240V	10		15		20		30		30	
	460V/480V	30		40		50		60		60	
	575V/600V	30		40		50		60		60	

**Accessories**

See page 08 for more details



NCF8-11












F4












F5



SR8-C/RC440

Frame size	9A	12A	18A	25A	32A	38A
Contactors						
	3-pole	4-pole	3-pole	4-pole		
Auxiliary contact block	 F4 4-pole Front mount	Contacts aux		4NO	F4-40	
	 F4 2-pole Ffront mount			3NO+1NC	F4-31	
	2NO+2NC			F4-22		
	1NO+3NC			F4-13		
	4NC			F4-04		
	2NO			F4-20		
	1NO+1NC			F4-11		
	2NC			F4-02		
	 F5 1N/O+1N/C Pneumatic timer	Making time-delay range (s)	0.1~3	F5-T0		
			0.1~30	F5-T2		
			10~180	F5-T4		
		Breaking time-delay range (s)	0.1~3	F5-D0		
			0.1~30	F5-D2		
			10~180	F5-D4		
	 NCF8 2-pole Side mount	Contacts aux	1NO+1NC	NCF8-11		
Surge arrester	 SR8-B/RC250 Surge arrester	Voltage protection scope	AC: 127V~240V	SR8-B/1		
			AC: 240V~400V	SR8-B/2		

Frame size	40A	50A	65A	80A	100A																
<p>Contactors</p>  <p>3-pole</p>  <p>4-pole</p>  <p>3-pole</p>  <p>4-pole</p>																					
<p>Auxiliary contact block</p>  <p>F4 4-pole Front mount</p>  <p>F4 2-pole Front mount</p>	<p>Contacts aux</p> <table border="1"> <tr> <td>4NO</td> <td>F4-40</td> </tr> <tr> <td>3NO+1NC</td> <td>F4-31</td> </tr> <tr> <td>2NO+2NC</td> <td>F4-22</td> </tr> <tr> <td>1NO+3NC</td> <td>F4-13</td> </tr> <tr> <td>4NC</td> <td>F4-04</td> </tr> <tr> <td>2NO</td> <td>F4-20</td> </tr> <tr> <td>1NO+1NC</td> <td>F4-11</td> </tr> <tr> <td>2NC</td> <td>F4-02</td> </tr> </table>		4NO	F4-40	3NO+1NC	F4-31	2NO+2NC	F4-22	1NO+3NC	F4-13	4NC	F4-04	2NO	F4-20	1NO+1NC	F4-11	2NC	F4-02			
4NO	F4-40																				
3NO+1NC	F4-31																				
2NO+2NC	F4-22																				
1NO+3NC	F4-13																				
4NC	F4-04																				
2NO	F4-20																				
1NO+1NC	F4-11																				
2NC	F4-02																				
 <p>F5 1N/O+1N/C Pneumatic timer</p>	<p>Making time-delay range (s)</p> <table border="1"> <tr> <td>0.1~3</td> <td>F5-T0</td> </tr> <tr> <td>0.1~30</td> <td>F5-T2</td> </tr> <tr> <td>10~180</td> <td>F5-T4</td> </tr> </table>	0.1~3	F5-T0	0.1~30	F5-T2	10~180	F5-T4	<p>Breaking time-delay range (s)</p> <table border="1"> <tr> <td>0.1~3</td> <td>F5-D0</td> </tr> <tr> <td>0.1~30</td> <td>F5-D2</td> </tr> <tr> <td>10~180</td> <td>F5-D4</td> </tr> </table>	0.1~3	F5-D0	0.1~30	F5-D2	10~180	F5-D4							
0.1~3	F5-T0																				
0.1~30	F5-T2																				
10~180	F5-T4																				
0.1~3	F5-D0																				
0.1~30	F5-D2																				
10~180	F5-D4																				
 <p>NCF8 2-pole Side mount</p>	<p>Contacts aux</p> <table border="1"> <tr> <td>1NO+1NC</td> <td>NCF8-11</td> </tr> </table>	1NO+1NC	NCF8-11																		
1NO+1NC	NCF8-11																				
<p>Surge arrester</p>  <p>SR8-C/RC440 Surge arrester</p>	<p>Voltage protection scope</p> <table border="1"> <tr> <td>AC:127V~240V</td> <td>SR8-C/1</td> </tr> <tr> <td>AC:240V~400V</td> <td>SR8-C/2</td> </tr> </table>	AC:127V~240V	SR8-C/1	AC:240V~400V	SR8-C/2																
AC:127V~240V	SR8-C/1																				
AC:240V~400V	SR8-C/2																				



Frame size	40A	50A	65A	80A	100A
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Contactors



3-pole



4-pole



3-pole



4-pole

Overload relays



NR2-93  
Bimetallic style  
Overload relay

NR2-93

Rated current (A)

23~32

30~40

37~50

48~65

55~70

63~80

80~93



NRE8-100  
Electronic style  
Overload relay

NRE8-100

Rated current (A)

65

100

Frame size	6A	9A	12A	6A	9A	12A
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Contactors

AC coil



DC coil



3-pole	Auxiliary contacts	1NO	NC8-06M10	NC8-09M10	NC8-12M10	NC8-06M10/Z	NC8-09M10/Z	NC8-12M10/Z
		1NC	NC8-06M01	NC8-09M01	NC8-12M01	NC8-06M01/Z	NC8-09M01/Z	NC8-12M01/Z
4-pole	Main contacts	4NO	NC8-06M/4	NC8-09M/4	NC8-12M/4	NC8-06M/4/Z	NC8-09M/4/Z	NC8-12M/4/Z
		2NO+2NC	NC8-06M/22	NC8-09M/22	NC8-12M/22	NC8-06M/22/Z	NC8-09M/22/Z	NC8-12M/22/Z

Ratings/IEC/EN 60974-4-1			kW	A	kW	A	kW	A	kW	A	kW	A		
AC-1				20		20		20		20		20		
AC-3	220V/230V/240V		1.5	6	2.2	9	3	12	1.5	6	2.2	9	3	12
	380V/400V		2.2	6	4	9	5.5	12	2.2	6	4	9	5.5	12
	415V		2.2	6	4	9	5.5	12	2.2	6	4	9	5.5	12
	660V/690V		3	3.8	4	4.9	4	4.9	3	3.8	4	4.9	4	4.9

Ratings/UL508			hp	A	hp	A	hp	A	hp	A	hp	A	
Continuous current				20		20		20		20		20	
Single phase	110V/120V		0.3		0.5		0.75		0.3		0.5		0.75
	230V/240V		0.75		1.5		2		0.75		1.5		2
Three phases	200V/208V		1.5		3		3		1.5		3		3
	230V/240V		1.5		3		3		1.5		3		3
	460V/480V		3		5		7.5		3		5		7.5
	575V/600V		3		5		10		3		5		10

Accessories

F8



SR8-A



NR8-11.5



See page 11 for more details

Frame size	6A	9A	12A	6A	9A	12A
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Contactors

AC coil



DC coil



Auxiliary contact block



F8  
Front mount

contacts number

4NO	F8-40
3NO+1NC	F8-31
2NO+2NC	F8-22
1NO+3NC	F8-13
4NC	F8-04
2NO	F8-20
1NO+1NC	F8-11
2NC	F8-02

Surge arrester



SR8-A  
Surge arrester

Voltage protection scope

AC127V~240V DC150V~250V	SR8-A/1
AC240V~400V	SR8-A/2

Overload relays



NR8-11.5  
Bimetallic style  
Overload relay

NR8-11.5

Rated current (A)

0.1~0.16	1.6~2.5
0.16~0.25	2.5~4
0.25~0.4	4~6
0.4~0.63	5.5~8
0.63~1	7~10
1~1.6	9~13



#### 4. Technical data

##### 4.1 Working environment and technical index

Overvoltage category	III		
Pollution degree	3		
Standard	IEC/EN 60947-4-1		
Certificate	CE, UL, KEMA		
Protection degree	IP20		
Ambient air temperature	being working	-5°C ~ +40°C, the average temperature during 24 hours should not exceed +35°C. More information refer to table 1	
	transportation or storage	-25°C ~ +55°C, or can up to +70°C for a short time (in 24 hours)	
Altitude(m)	no exceeding 2000m, more information refer to table 2		
Atmosphere conditions	At mounting side, relative humidity no exceeding 50%, at the max temperature of +40°C. Higher relative humidity is allowable under lower temperature. For example, RH could be +20°C, special measure should be taken to occurrence of dews.		
Installation conditions	the inclination between installation plane and vertical plane is within $\pm 22.5^\circ$		
Impact and shake	the product should be used in the places where there are no obvious impact and shake		

Table 1

Altitude(m)	2000	3000	4000
Rated impulse withstand voltage	1	0.88	0.78
Correction coefficient			
Rated operational current	1	0.92	0.9
Correction coefficient			

Table 2

environment temperature(°C)	40	50	60	70
correction coefficient	1	0.875	0.75	0.625



4.2 Main circuit parameter and technic capability

Frame size		6A	9A	12A	9A	12A	18A		
		Mini type			Normal type				
Rated conventional heating current(A)		20	20	20	25	25	32		
Rated insulation voltage(V)		690							
Rated impulse withstand voltage(kV)		6							
Rated making capability		making current: 10xle(AC-3) or 12xle(AC-4)							
Rated breaking capability		making-breaking current: 8xle(AC-3) or 10xle(AC-4)							
Short-time withstand current(A)	10s	48	72	96	72	96	144		
Rated operational current (A)	220V/230V/240V	AC-3	6	9	12	9	12	18	
		AC-4	6	9	12	9	12	18	
	380V/400V	AC-3	6	9	12	9	12	18	
		AC-4	6	9	9	9	12	18	
	415V	AC-3	6	9	12	9	12	18	
		AC-4	6	9	9	9	12	18	
	660V/690V	AC-3	3.8	4.9	4.9	6.7	9	10.6	
		AC-4	3.8	4.9	4.9	6.7	9	9	
Rated control power	AC-3(kW)	220V/230V/240V	1.5	2.2	3	2.2	4	4	
		380V/400V	2.2	4	5.5	4	5.5	7.5	
		415V	2.2	4	5.5	4	5.5	9	
		660V/690V	3	4	4	5.5	7.5	9	
	1PH(HP)	110V/120V	0.3	0.5	0.75	0.5	0.75	1	
		230V/240V	0.75	1.5	2	1	2	3	
	3PH(HP)	200V/208V	1.5	3	3	3	3	5	
		230V/240V	1.5	3	3	3	3	5	
		460V/480V	3	5	7.5	5	7.5	10	
		575V/600V	3	5	10	7.5	10	15	
Operating frequency(415V)	AC-3	1,200 operations/h							
	AC-4	300 operations/h							
Electrical life(415V)	AC-3	1,200,000 Operations							
	AC-4	to see Electrical life curves, page 23							
Mechanical life		10,000,000 Operations							
Configuration of main contacts		3-pole:3NO; 4-pole:4NO or 2NO+2NC							
Matched fuse type		RT16-20	RT16-20	RT16-20	RT16-20	RT16-25	RT16-32		
Matched thermal over-load relay	Modle	NR8-11.5			NR8-38				
	current range	0.1~0.16	0.63~1	2.5~4	9~13	0.1~0.16	0.63~1	2.5~4	9~13 30~38
		0.16~0.25	1~1.6	4~6		0.16~0.25	1~1.6	4~6	12~18
		0.25~0.4	1.6~2.5	5.5~8		0.25~0.4	1.6~2.5	5.5~8	16~24
		0.4~0.63		7~10		0.4~0.63		7~10	23~32

25A	32A	38A	40A	50A	65A	80A	100A
<b>Normal type</b>							
40	50	50	60	80	80	125	125
					690		
		6		8			
making current:10xle(AC-3) or 12xle(AC-4)							
making-breaking current:8xle(AC-3) or 10xle(AC-4)							
200	256	304	320	400	520	640	800
25	32	38	40	50	65	80	100
25	32	38	40	50	65	80	100
		32					
25	32	38	40	50	65	80	100
		32					
17.3	21.9	21.9	34	39	42	49	49
17.3	21.9	21.9	34	39	42	49	49
5.5	7.5	9	11	15	18.5	22	25
11	15	18.5	18.5	22	30	37	45
11	15	18.5	22	25	37	45	45
15	18.5	18.5	30	33	37	45	45
1.5	2	2	3	5	5	7.5	10
3	5	5	5	7.5	10	20	20
7.5	10	10	10	15	20	30	30
7.5	10	0	10	15	20	30	30
15	20	20	30	40	50	60	60
20	25	25	30	40	50	60	60
1,200 operations/h							
300 operations/h				120 operations/h			
1,200,000 Operations							
to see Electrical life curves, page 23							
10,000,000 Operations							
				3-pole: 3NO; 4-pole: 4NO			
RT16-50	RT16-63	RT16-63	RT16-63	RT16-80	RT16-80	RT16-100	RT16-125
NR8-38			NR2-93		NRE8-100		
0.1~0.16	0.63~1	2.5~4	9~13	30~38	23~32	55~70	65
0.16~0.25	1~1.6	4~6	12~18		30~40	63~80	100
0.25~0.4	1.25~2	5.5~8	16~24		37~50	80~93	
0.4~0.63	1.6~2.5	7~10	23~32		48~65		



4.3 The connection capability of main control circuit

Connection circuit	frame size		6A	9A	12A	9A	12A	18A	25A	32A	38A	40A	50A	65A	80A	100A	
			Mini type					Normal type									
Main circuit connection	cable connection (mm <sup>2</sup> )	flexible cable (with cold-press terminal)	single cable	1~2.5		1~4		1.5~6	2.5~10			10~25			16~50		
			duad cable	1~1.5		1~2.5		1~4	2.5~6			4~16			10~35		
		stiff cable	single cable	1~2.5		1~4		1.5~6	2.5~10			-			-		
			duad cable	1~2.5		1~4		1.5~6	2.5~10			-			-		
	screw size			M3		M3.5		M4			M8						
	tightening torque			(N.m) 0.8		1.2		2			6						
			(lb.in.) 7		7		10			45							
Control circuit connection	cable connection (mm <sup>2</sup> )	flexible cable (with cold-press terminal)	single cable	1~2.5							1~4						
			duad cable	1~1.5							1~2.5						
		stiff cable	single cable	1~2.5							1~4						
			duad cable	1~2.5							1~4						
	screw size			M3							M3.5						
	tightening torque			(N.m) 0.8							1.2						
			(lb.in.) 7							7							

4.4 The characteristic of AC control circuit

Connection circuit	frame size		6A	9A	12A	9A	12A	18A	25A	32A	38A	40A	50A	65A	80A	100A
			Mini type					Normal type								
Coil voltage(V)	AC 50Hz/60Hz		24~660													
	DC		12~250													
Acting range	attraction(hot)		(85%~110%)Us; +40°C													
	release(cold)		AC: (20%~70%)Us, DC: (10%~60%)Us; -5°C													
The average power of AC coil(VA)	start		25~40				50~70			160~210			190~250			
	holding		2~7				6~10			13~25			17~30			
Heat wastage(W)	AC		1~4				2~4			4~7			5~8			
	DC															
Main contact action time(ms)	close		10~18				12~25			15~25			15~30			
	disconnection		4~16				5~20			6~15			8~17			

4.5 Main technical data of accessories

F4, front mount	matched contactor	model of accessories		F4-20	F4-11	F4-02	F4-40	F4-31	F4-22	F4-13	F4-04
	NC8-09~100	contacts	N/O	2	1	0	4	3	2	1	0
N/C			0	1	2	0	1	2	3	4	
F8, front mount	matched contactor	model of accessories		F8-20	F8-11	F8-02	F8-40	F8-31	F8-22	F8-13	F8-04
	NC8-06M~12M	contacts	N/O	2	1	0	4	3	2	1	0
N/C			0	1	2	0	1	2	3	4	
NCF8, side mount	matched contactor	model of accessories		NCF8-11							
	NC8-09~100	contacts	N/O	1							
N/C			1								
F5, Pneumatic timer	matched contactor	model of accessories		F5-T0	F5-T2	F5-T4	F5-D0	F5-D2	F5-D4		
	NC8-09~100	contacts	N/O	1	1	1	1	1	1		
			N/C	1	1	1	1	1	1		
		time-delay range(s)	0.1~3	0.1~30	10~180	0.1~3	0.1~30	10~180			
SR8, surge arrester	NC8-06M~12M	SR8-A									
	NC8-09~38	SR8-B									
	NC8-40~100	SR8-C									
Rated operational voltage(V)				up to 690							
Rated insulation voltage(V)				690							
Rated conventional current(A)				10							
Rated making capability				making current $10 \times I_e(AC-15)$ or $1 \times I_e(DC-13)$							
Short-circuit protection				gG fuse: 10A							
Control capacity		AC-15	360VA								
		AC-13	69W								
Standard				IEC/EN 60947-5-1							
Certificate				CE, UL, KEMA							
Protection degree				Ip20							
Cable connection (mm <sup>2</sup> )	flexible cable (without cold-press terminal)	single cable	1~4								
		duad cable	1~4								
	flexible cable (with cold-press terminal)	single cable	1~4								
		duad cable	1~2.5								
	inflexible cable	single cable	1~4								
		duad cable	1~4								
screw size				M3.5							
tightening torque		(N.m)	1.2								
		(lb.in.)	7								

Note: the requirement to the environment of accessories is same with that of the contactors'.  
 You can order the product that you need or recognize your existing product according to the above-mentioned number and the letter of alphabet code.



**5. Derived products**

5.1 3-pole Reversing contactor



D=87    H=92  
          W=100

Frame size	Aux. contacts	
	1NO+1NC	2NO+2NC
9A	NC8-09/N	NC8-0922/N
12A	NC8-12/N	NC8-1222/N
18A	NC8-18/N	NC8-1822/N



D=107    H=100  
          W=104

Frame size	Aux. contacts	
	1NO+1NC	2NO+2NC
25A	NC8-25/N	NC8-2522/N
32A	NC8-32/N	NC8-3222/N
38A	NC8-38/N	NC8-3822/N



D=139    H=157.5  
          W=188.5

Frame size	Aux. contacts
	1NO+1NC
40A	NC8-40/N
50A	NC8-50/N
65A	NC8-65/N



D=152    H=165  
          W=218.5

Frame size	Aux. contacts
	1NO+1NC
80A	NC8-80/N
100A	NC8-100/N

5.2 4-pole Reversing contactor



D=82    H=92  
           W=100

Frame size	Main contacts
	4NO
9A	NC8-09/4/N
12A	NC8-12/4/N
18A	NC8-18/4/N



D=90    H=100  
           W=122

Frame size	Main contacts
	4NO
25A	NC8-25/4/N
32A	NC8-32/4/N
38A	NC8-38/4/N



D=118    H=164.5  
           W=188.5

Frame size	Main contacts
	4NO
40A	NC8-40/4/N
50A	NC8-50/4/N
65A	NC8-65/4/N



D=152    H=176  
           W=218.5

Frame size	Main contacts
	4NO
80A	NC8-80/4/N
100A	NC8-100/4/N

D

5.3 Mini type Reversing contactors/AC coil



D=58    H=59  
           W=91



D=58    H=59  
           W=91

3-pole		
Frame size	Aux. contacts	
	1NO	1NC
6A	NC8-06M10/N	NC8-06M01/N
9A	NC8-09M10/N	NC8-09M01/N
12A	NC8-12M10/N	NC8-12M01/N

4-pole	
Frame size	Main contacts
	4NO
6A	NC8-06M/4/N
9A	NC8-09M/4/N
12A	NC8-12M/4/N

5.4 Mini type Reversing contactors/DC coil



D=70    H=59  
           W=91



D=70    H=59  
           W=91

3-pole		
Frame size	Aux. contacts	
	1NO	1NC
6A	NC8-06M10/Z/N	NC8-06M01/Z/N
9A	NC8-09M10/Z/N	NC8-09M01/Z/N
12A	NC8-12M10/Z/N	NC8-12M01/Z/N

4-pole	
Frame size	Main contacts
	4NO
6A	NC8-06M/4/Z/N
9A	NC8-09M/4/Z/N
12A	NC8-12M/4/Z/N



5.5 Magnetic starter

Mini type frame size from 6A to 12A



Normal type frame size from 40A to 100A



5.6 Star-delta starter



D

**6. Overall and mounting dimensions(mm)**

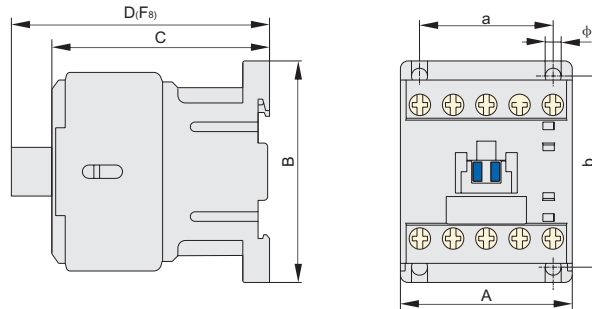


NC8-06M~12M  
NC8-06M/4~12M/4  
NC8-06M/22~12M/22

Model	Amax	Bmax	Cmax	Dmax	a	b	φ
NC8-06M~12M	46	59	58	94	35	50	4.0
NC8-06M/4~12M/4	46	59	58	94	35	50	4.0
NC8-06M/22~12M/22	46	59	58	94	35	50	4.0
NC8-06M/Z~12M/Z	46	59	70	106	35	50	4.0
NC8-06M/4/Z~12M/4/Z	46	59	70	106	35	50	4.0
NC8-06M/22/Z~12M/22/Z	46	59	70	106	35	50	4.0

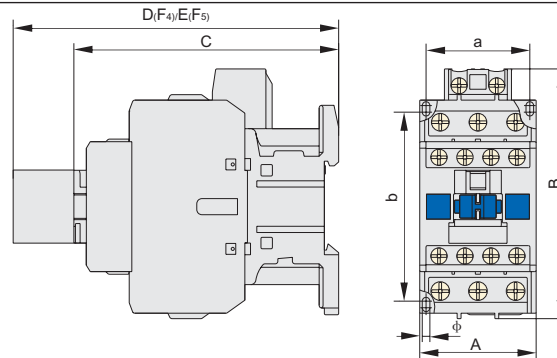


NC8-06M/Z~12M/Z  
NC8-06M/4/Z~12M/4/Z  
NC8-06M/22/Z~12M/22/Z



NC8-09~18  
NC8-0922~1822

Model	Amax	Bmax	Cmax	Dmax	Emax	a	b	φ
NC8-09~18	45	87	88	120	142	35	55~63	4.5
NC8-0922~1822	45	87	88	120	142	35	55~63	4.5
NC8-25~38	45	97	106	139	160	35	60~70	4.5
NC8-2522~3822	45	97	106	139	160	35	60~70	4.5

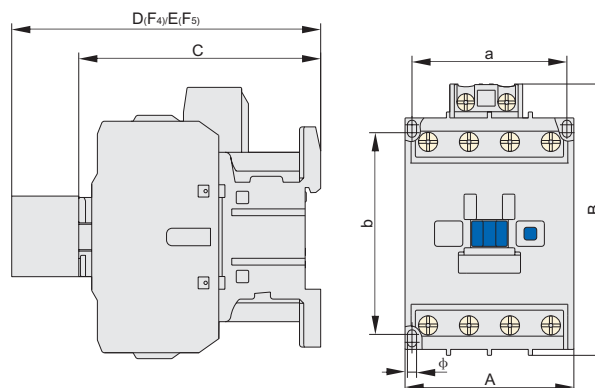


NC8-25~38  
NC8-2522~3822

Model	Amax	Bmax	Cmax	Dmax	Emax	a	b	φ
NC8-09/4~18/4	45	87	82	115	136	35	55~63	4.5
NC8-09/22~18/22	45	87	82	115	136	35	55~63	4.5
NC8-25/4~38/4	57	97	90	122.5	144	35	60~70	4.5
NC8-25/22~38/22	57	97	90	122.5	144	35	60~70	4.5



NC8-09/4~18/4  
NC8-09/22~18/22



NC8-25/4~38/4  
NC8-25/22~38/22



NC8-40~65



NC8-80~100

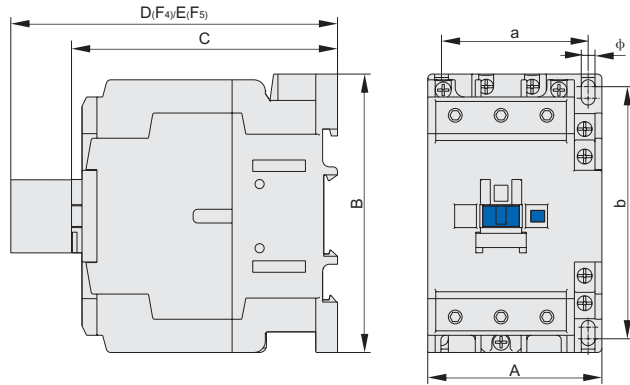


NC8-40/4~65/4

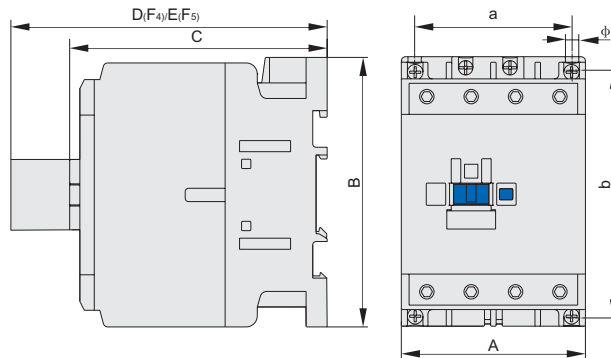


NC8-80/4~100/4

Model	Amax	Bmax	Cmax	Dmax	Emax	a	b	φ
NC8-40~65	77	122.5	118	150	172	64	100~110	6.0
NC8-80~100	87	130	127	159	180	74	105~116	5.5



Model	Amax	Bmax	Cmax	Dmax	Emax	a	b	φ
NC8-40/4~65/4	84	122.5	118	150	172	71	100~110.5	6.0
NC8-80/4~100/4	99	130	127	158	180	86	105~118.5	5.5

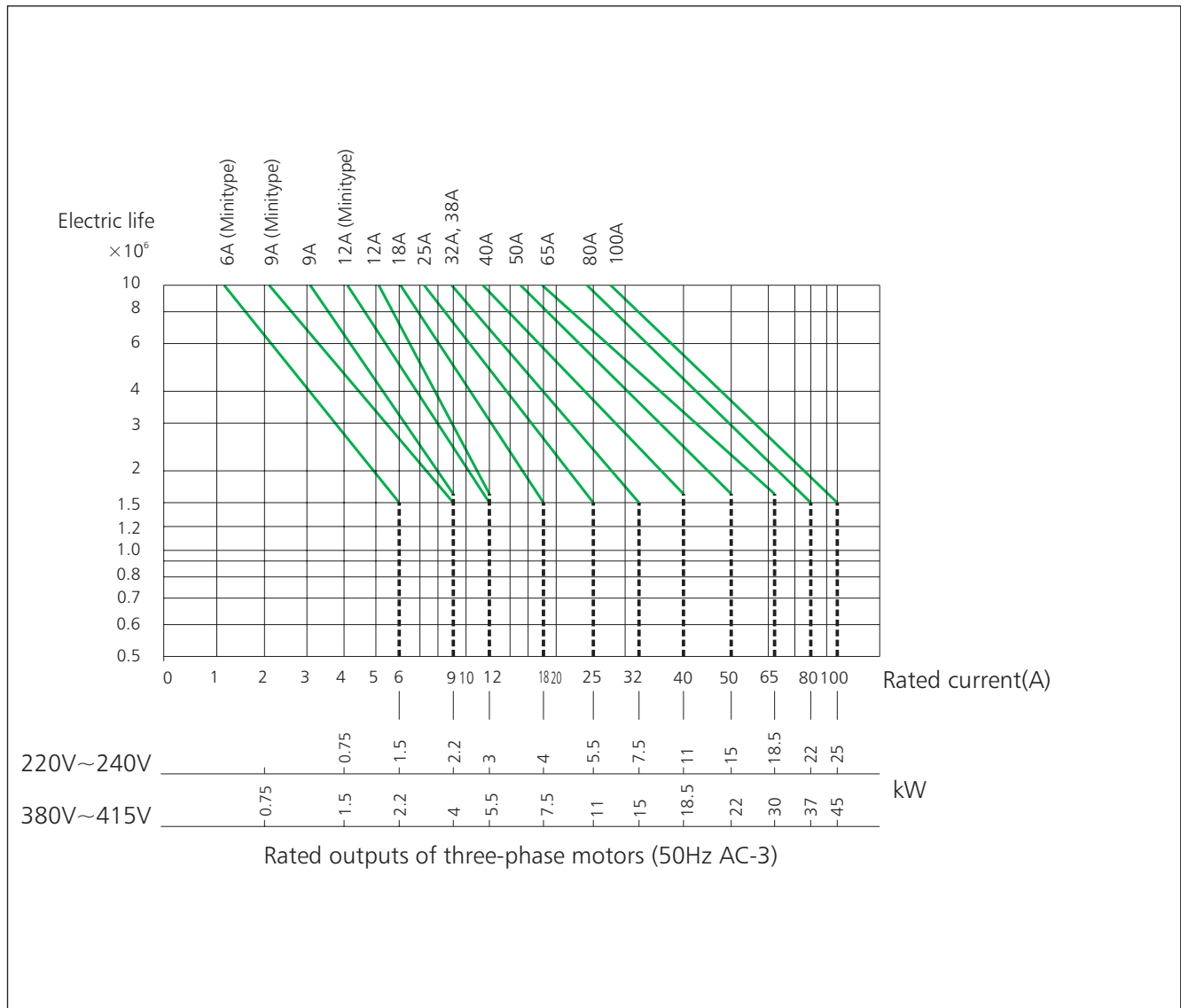


D

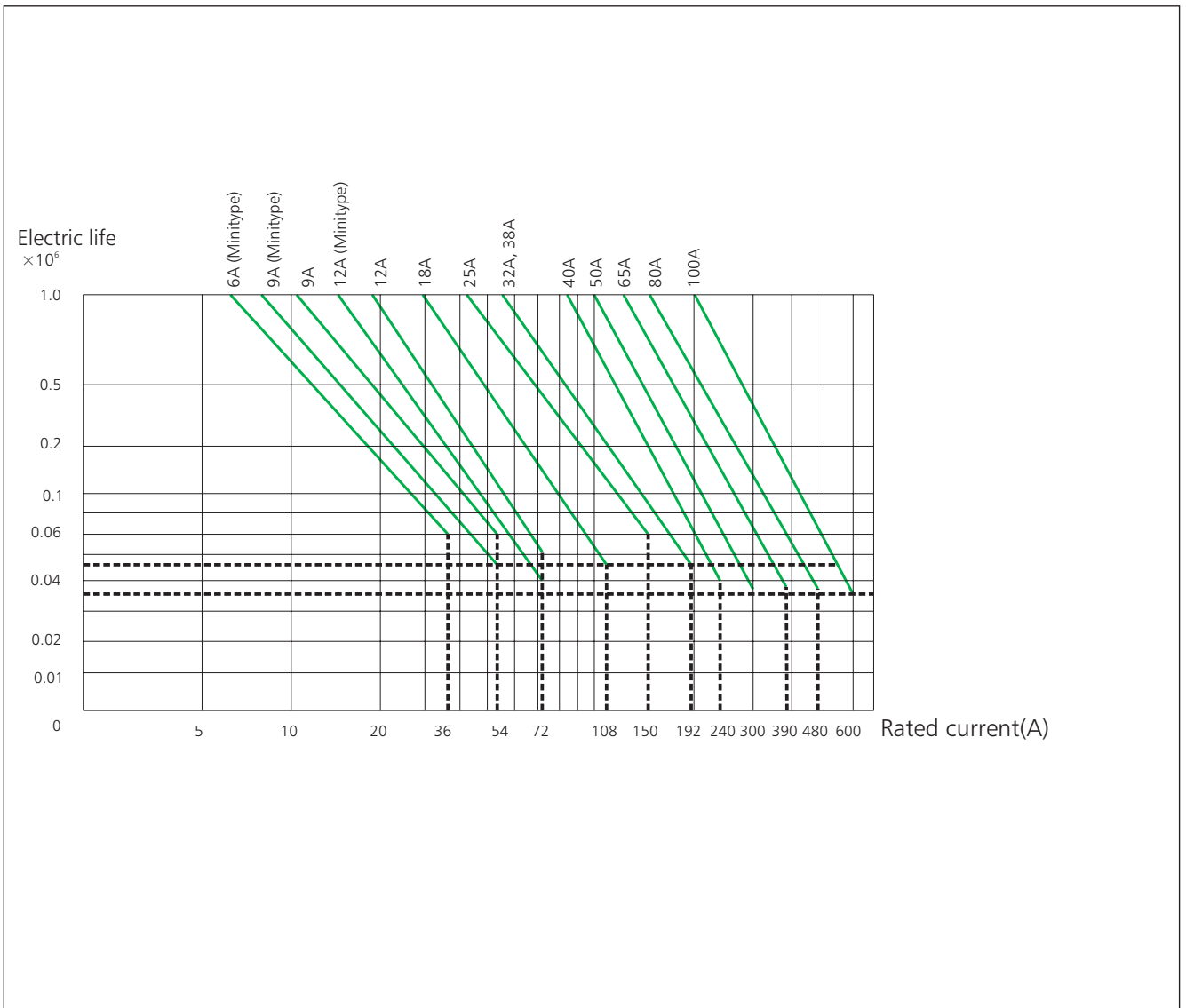
7. Excursus

7.1 Electric life Curves

Electric life curves (AC-3)



Electric life curves (AC-2, AC-4 U<sub>e</sub>=400V/415V)



Example:  
 Request to control the start of three-phase motors  
 main technical parameter of three-phase motors: P=11kW, U<sub>e</sub>=380V, I<sub>e</sub>=22.6A  
 usage category: AC-3, The electric life span of request: 1,000,000 operations  
 the contactor should be NC8-25 according to the curves above

7.2 The application in illumination circuit

Model of contactor			06M, 09M, 12M	09, 12	18	25	32, 38	40	50, 65	80, 100
lamp technical data (220V/240V)			maximum permissible number of lamps per phase							
W	A	μ F								
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 fluorescent lamp (with starter, without 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 fluorescent lamp (with starter, with 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	0.60	16	23	26	29	43	59	64	92	145
110	0.70	18	21	24	27	40	55	59	85	135
Fluorescent lamps in dual mounting (with starter, without 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

..... to be continued

Model of contactor			06M, 09M, 12M	09, 12	18	25	32, 38	40	50, 65	80, 100
lamp technical data (220V/240V)			maximum permissible number of lamps per phase							
W	A	μ F								
Fluorescent lamps in dual mounting (with starter, with compensation in series)										
2×20	2×0.13	-	36	60	80	100	134	168	214	306
2×40	2×0.24	-	20	32	42	54	72	90	116	166
2×65	2×0.39	-	12	20	26	32	44	56	70	102
2×80	2×0.48	-	10	16	20	26	36	44	58	82
2×110	2×0.65	-	7	12	16	20	26	32	42	60
Single 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 fluorescent lamp (with starter, with 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
Fluorescent lamps (without starter, without 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	158	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	12	16	20	30
Fluorescent lamps in dual mounting (without starter, with compensation in series)										
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	32	74
2×110	2×0.72	-	6	10	14	18	24	30	38	54
Low press sodium vapour lamps (with parallel 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	-	-	25	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



Model of contactor	06M, 09M, 12M			09, 12	18	25	32, 38	40	50, 65	80, 100
lamp technical data (220V/240V)										
			maximum permissible number of lamps per phase							
W	A	μ F								
High press sodium vapour lamps (without 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 press sodium vapour lamps (with parallel compensation)										
150	0.84	20	-	-	17	22	30	39	50	71
250	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 press hydrargyrum lamps (without 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 press hydrargyrum lamps (with parallel compensation)										
50	0.30	10	-	40	50	63	86	110	140	120
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	8	7	10

**8. Ordering notice**

8.1 The following items should be illustrated when ordering:

- 8.1.1 The full name and model of contactor;
- 8.1.2 Rated operational voltage and frequency of coil;
- 8.1.3 Ordering total pcs;

8.2 Ordering example: NC8-1822 AC contactor, coil voltage 220V, 50Hz 10 pcs;





## NC7 Series AC Contactor

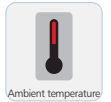
### 1. General

The NC7 series AC contactor (hereinafter referred to as “contractor”) is mainly used in the circuit with an alternating current of 50Hz (or 60Hz), rated operational voltage up to 690V, and rated operational current up to 620A under the usage category of AC-3/400V; this contact is mainly used for remotely closing and breaking circuits, and can be combined with an appropriate thermal overload relay to form an electromagnetic starter so as to protect the circuits likely to be overloaded in operation; the contact is well suited for frequently starting and controlling AC motors.

This product meets the standard of IEC60947-4-1

### 2. Operation conditions

- 2.1 Ambient air temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , its mean value not greater than  $+35^{\circ}\text{C}$  within 24 hours.
- 2.2 Atmospheric conditions:  
When the maximum temperature is  $+40^{\circ}\text{C}$ , the relative humidity of the air shall not be higher than 50%; a higher relative humidity is allowed at a lower temperature, e.g., up to 90% at  $20^{\circ}\text{C}$ . Special measures shall be taken for the condensation occasionally produced due to temperature change.
- 2.3 Altitude: not higher than 2000m.
- 2.4 Pollution grade: 3
- 2.5 Installation classification: III
- 2.6 Installation condition:  
the installing surface shall be inclined at not greater than  $\pm 5^{\circ}$  to the vertical.
- 2.7 Impact vibration:  
The product shall be installed in the place free of remarkable shake, impact and vibration.



Ambient temperature



Altitude



No Pollution

3. Type and meaning

3.1 Product type and meaning

<b>NC7</b>	-	<b>09</b>	<b>01</b>	<b>/N</b>
<b>AC Contactor</b>		<b>Main circuit current</b>	<b>Number of auxiliary contacts</b>	<b>An interlock product</b>
		09   9A	9A~38A   01   1NC	9A~95A   N   Reversible product
		12   12A	40A~95A   10   1NO	115A~170A   omitted   Single unit of the product
		...   ...	115A~170A   11   1NO+1NC	205A~620A   /Nc   Reversible product vertical installation
		475   475A	205A~620A   omitted   2NO+2NC	205A~620A   /Ns   Reversible product horizontal installation
		620   620A	205A~620A   omitted   4NO+4NC	205A~620A   omitted   Single unit of the product

3.2 Accessory type and meaning

<b>AX-3</b>	/	<b>20</b>	<b>F5</b>	-	<b>T</b>	<b>0</b>
<b>Top suspension auxiliary contactor block</b>		<b>Number of auxiliary contacts</b>	<b>Air time-delay head</b>		<b>Time-delay type</b>	<b>Time-delay range</b>
		20   2NO			T   Making time-delay	0   0.1s~3s
		11   1NO+1NC			D   Breaking time-delay	2   0.1s~30s
		02   2NC				4   10s~180s
		40   4NO				
		31   3NO+1NC				
		22   2NO+2NC				
		13   1NO+3NC				
		04   4NC				

<b>NCF1</b>	-	<b>11C</b>	<b>NJL</b>	<b>S-GG</b>
<b>Side suspension auxiliary contactor block</b>		<b>Number of auxiliary contacts</b>	<b>Mechanical interlock module</b>	<b>Installation mode</b>
		11C   1NO+1NC		s   Horizontal installation
				c   Vertical installation
				GG   NC7-205 Combination of two units
				HH   NC7-250~300 Combination of two arbitrary units
				KK   NC7-410~475 Combination of two arbitrary units
				LL   NC7-620 Combination of two units
				GG   NC7-205 Combination of two units
				GH   NC7-205 and NC7-250~300
				GK   NC7-205 and NC7-410~475
				GL   NC7-205 and NC7-620
				HH   NC7-250~300 Combination of two arbitrary units
				HK   NC7-250~300 and NC7-410~475
				HL   NC7-250~300 and NC7-620
				KK   NC7-410~475 Combination of two arbitrary units
				KL   NC7-410~475 and NC7-620
				LL   NC7-620 Combination of two units

Note: For the NC7 product, the 9A-95A mechanical interlock module can be directly purchased with an indication.

4. Quick type selection table

Specified current		9A		12A		18A		25A		32A		38A	
Number of the auxiliary contacts provided with the body itself	1 NO auxiliary contact	NC7-0910		NC7-1210		NC7-1810		NC7-2510		NC7-3210		NC7-3810	
	1 NC auxiliary contact	NC7-0901		NC7-1201		NC7-1801		NC7-2501		NC7-3201		NC7-3801	
IEC/EN 60974-4-1		kW A		kW A		kW A		kW A		kW A		kW A	
Appointed free air heat generation current (A)		20		20		32		40		50		50	
Rated operational current and power	380V/400V(AC-3)	4	9	5.5	12	7.5	18	11	25	15	32	18.5	38
	380V/400V(AC-4)	1.5	3.5	2.2	5	3	7.7	4	8.5	5.5	12	5.5	12
	660V/690V(AC-3)	5.5	6.6	7.5	8.9	10	12	15	18	18.5	22	18.5	22
	660V/690V(AC-4)	1.1	1.5	1.5	2	3.7	3.8	4	4.4	5.5	7.5	5.5	7.5



Accessories which can be further attached



Side suspension auxiliary contact



Top suspension auxiliary contact



Air delay head



Mechanical interlock module



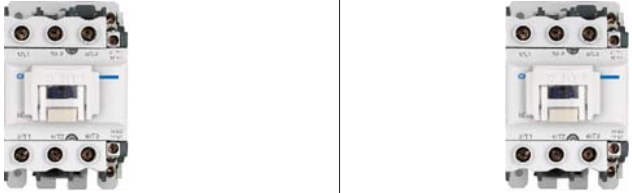
Surge suppressor



Thermal overload relay



Electronic overload relay

Specified current	40A				50A				65A				80A		95A					
																				
Number of the auxiliary contacts provided with the body itself	1NO+1NC auxiliary contact				NC7-4011				NC7-5011				NC7-6511		NC7-8011		NC7-9511			
IEC/EN 60974-4-1	kW		A		kW		A		kW		A		kW		A		kW		A	
Appointed free air heat generation current (A)	60				80				80				110		110					
Rated operational current and power	380V/400V(AC-3)		18.5 40		22 50		30 65		37 80		45 95									
	380V/400V(AC-4)		7.5 18.5		11 24		15 28		18.5 37		22 44									
	660V/690V(AC-3)		30 34		37 39		37 42		45 49		45 49									
	660V/690V(AC-4)		7.5 9		11 12		11 14		15 17.3		18.5 21.3									

Accessories which can be further attached



Side suspension auxiliary contact



Top suspension auxiliary contact



Air delay head



Mechanical interlock module



Surge suppressor



Thermal overload relay



Electronic overload relay

Specified current	115A		150A		170A	
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Number of the auxiliary contacts provided with the body itself	2 NO+2NC auxiliary contact		NC7-115		NC7-150		NC7-170	
IEC/EN 60974-4-1			kW	A	kW	A	kW	A
Appointed free air heat generation current (A)			200		200		275	
Rated operational current and power	380V/400V(AC-3)	55	115	75	150	90	170	
	380V/400V(AC-4)	55	115	75	150	75	150	
	660V/690V(AC-3)	80	86	100	107	110	118	
	660V/690V(AC-4)	80	86	100	107	100	107	

Accessories which can be further attached



Top suspension auxiliary contact



Air delay head



Side suspension auxiliary contact



Mechanical interlock module



Specified current	205A	250A	300A
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without auxiliary contacts, can mount two Top suspension auxiliary contacts	mount two AX-3/22 4NO+4NC	NC7-205		NC7-250		NC7-300	
	Other mode	Note		Note		Note	
IEC/EN 60974-4-1		kW	A	kW	A	kW	A
Appointed free air heat generation current (A)			275		315		380
Rated operational current and power	380V/400V(AC-3)	110	205	132	250	160	300
	380V/400V(AC-4)	110	205	132	250	160	300
	660V/690V(AC-3)	129	137	160	170	220	235
	660V/690V(AC-4)	129	137	160	170	220	235

Accessories which can be further attached



Top suspension auxiliary contact



Air delay head





Mechanical interlock module



Thermal overload relay



Electronic overload relay

Specified current		410A		475A		620A	
							
without auxiliary contacts, can mount two Top suspension auxiliary contacts	mount two AX-3/22	NC7-410		NC7-475		NC7-620	
	4NO+4NC	Note		Note		Note	
	Other mode	Note		Note		Note	
IEC/EN 60974-4-1		kW    A		kW    A		kW    A	
Appointed free air heat generation current (A)		450		630		800	
Rated operational current and power	380V/400V(AC-3)	200	410	250	475	335	620
	380V/400V(AC-4)	200	410	250	475	335	620
	660V/690V(AC-3)	280	303	335	353	450	462
	660V/690V(AC-4)	280	303	335	353	450	462

Accessories which can be further attached



Top suspension auxiliary contact



Air delay head



Mechanical interlock module








Thermal overload relay





Electronic overload relay




Modularized accessories which can be installed additionally

 <p>AX-3 Auxiliary contact</p>	Number of auxiliary contacts	4NO	AX-3/40	Able to be used for the whole series products
		3NO+1NC	AX-3/31	
		2NO+2NC	AX-3/22	
		1NO+3NC	AX-3/13	
		4NC	AX-3/04	
		2NO	AX-3/20	
		1NO+1NC	AX-3/11	
		2NC	AX-3/02	
 <p>F5 1N/O+1N/C Air delay head</p>	On-delay time (s)	0.1~3	F5-T0	Able to be used for the whole series products
		0.1~30	F5-T2	
		10~180	F5-T4	
		0.1~3	F5-D0	
	Off-delay time (s)	0.1~30	F5-D2	
		10~180	F5-D4	
 <p>NCF1-11C Secondary side suspension auxiliary contact</p>	Number of auxiliary contacts	1NO+1NC	NCF1-11C	Able to be used for the products of 170A or lower
 <p>SR1 Surge suppressor</p>	Suppression voltage range	AC 24V~48V	SR1 24V~48V	ble to be used for the products of 9A~38A or lower
		AC 100V~250V	SR1 100V~250V	
		AC 380V~440V	SR1 380V~440V	
 <p>SR2-B Surge suppressor</p>		AC 24V~48V	SR2-B 24V~48V	ble to be used for the products of 40A~95A or lower
		AC 100V~250V	SR2-B 100V~250V	
		AC 380V~440V	SR2-B 380V~400V	



 NR2 Thermal overload relay	NR2-25	9A~32A
	NR2-36	32A, 38A
	NR2-93	40A~95A
	NR2-150	115A~150A
	NR2-200	115A~205A
	NR2-630	205A~620A

 NRE8 Electronic overload relay	NRE8-25	9A~32A
	NRE8-40	40A
	NRE8-100	40A~95A
	NRE8-200	115A~205A
	NRE8-630	205A~620A

   Mechanical interlock module	How to purchase the products of 95A or lower	Purchase individually	How to purchase the products of 205A or higher	Purchase it individually, and install it by yourself
		Reversible product without connecting wire Reversible product with connecting wire		Directly purchase the reversible products (specified current for two contactors to be the same)
Over 205A product mechanical interlocking mechanism code	Horizontal installation	NJLs-GG	NC7-205	Combination of two units
		NJLs-HH	NC7-250_300	Combination of two arbitrary units
		NJLs-KK	NC7-410_475	Combination of two arbitrary units
		NJLs-LL	NC7-620	Combination of two units
		NJLc-GG	NC7-205	Combination of two units
		NJLc-GH	NC7-205 and NC7-250_300	
	Vertical installation	NJLc-GK	NC7-205 and NC7-410_475	
		NJLc-GL	NC7-205 and NC7-620	
		NJLc-HH	NC7-250_300	Combination of two units
		NJLc-HK	NC7-250_300 and NC7-410_475	
		NJLc-HL	NC7-250_300 and NC7-620	
		NJLc-KK	NC7-410_475	Combination of two units
		NJLc-KL	NC7-410_475 and NC7-620	
		NJLc-LL	NC7-620	Combination of two units



**5. Main parameters and technical performance**

5.1 Main parameters and technical performance criteria for the NC7 product

Type		NC7-09	NC7-12	NC7-18	NC7-25	NC7-32	NC7-38	NC7-40	NC7-50	NC7-65	NC7-80	NC7-95										
Rated operational current (A)	380V/400V	AC-3	9	12	18	25	32	38	40	50	65	80	95									
		AC-4	3.5	5	7.7	8.5	12	12	18.5	24	28	37	44									
	660V/690V	AC-3	6.6	8.9	12	18	22	22	34	39	42	49	49									
		AC-4	1.5	2	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	40	50	50	60	80	80	110	110										
Rated insulation voltage (V)		690	690	690	690	690	690	690	690	690	690	690										
Rated impulse withstand voltage (kV)		6	6	6	6	6	6	8	8	8	8	8										
Rated making capacity		Making current: 10xIe(AC-3) or 12xIe(AC-4)																				
Rated breaking capacity		Making/breaking current: 8xIe(AC-3) or 10xIe(AC-4)																				
Short time withstand current (10s)		72	96	144	200	256	304	320	400	520	640	760										
Controllable three-phase squirrel-cage motor power(AC-3) kW	380V/400V	4	5.5	7.5	11	15	18.5	18.5	22	30	37	45										
	660V/690V	5.5	7.5	10	15	18.5	18.5	30	37	37	45	45										
Intermittent-periodic-duty motor power(AC-4)kW	380V/400V	1.5	2.2	3	4	5.5	5.5	7.5	11	15	18.5	22										
	600V/690V	1.1	1.5	3.7	4	5.5	5.5	7.5	11	11	15	18.5										
Frequency of operation (times/h)	AC-3	1200	1200	1200	1200	600	600	600	600	600	600	600										
	Electrical life AC-4	300	300	300	300	300	300	300	300	300	300	120										
	Mechanical life	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600										
Electrical life (ten thousand times)	AC-3	100	100	100	100	80	80	80	60	60	60	60										
	AC-4	20	20	20	20	20	20	15	15	15	10	10										
Mechanical life (ten thousand times)		1000	1000	1000	1000	800	800	800	800	800	800	600										
Type of the fuse adapted		RT36-20	RT36-20	RT36-32	RT36-40	RT36-50	RT36-50	RT36-63	RT36-80	RT36-80	RT36-100	RT36-125										
Piece (of string, etc)		1	2	1	2	1	2	1	2	1	2	1	2									
Cold-pressed terminal	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	2.5/6	2.5/6	2.5/6	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 <sup>2</sup>	1/4	1/2.5	1/4	1/2.5	1.5/6	1.5/4	1.5/10	1.5/6	2.5/10	2.5/6	2.5/6	6/25	4/10	6/25	4/10	6/25	4/10	10/35	6/16	10/35	6/16
	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	2.5/10	2.5/10	2.5/10	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)		M3.5	M3.5	M3.5	M4	M4	M4	M4	M4	M4	M4	M4	M8	M8	M8	M8	M8	M8	M10	M10	M10	M10
		0.8	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
AC coil power	50Hz	Attracting (VA)	70	70	70	110	110	110	200	200	200	200	200									
		Holding (VA)	9	9	9.5	14	19	19	57	57	57	57	57									
		Power (W)	1.8~2.7	1.8~2.7	3~4	3~4	3~4	3~4	6~10	6~10	6~10	6~10	6~10									
Action (actuating)range		Pull-in voltage: 85%Us~110%Us; Release voltage: 20%Us~75%Us																				
Basic parameters of the auxiliary contact		AC-15: 360VA DC-13: 33W Ith: 10A																				

5.2 Rated control source voltage Us and code for the NC7 ac contactor of 95A or lower

Coil voltage Us(V)	24	36	42	48	110	127	220	230	240	380	400	415	440	480	500	600	660
50Hz	B5	C5	D5	E5	F5	G5	M5	P5	U5	Q5	V5	N5	R5	T5	S5	X5	Y5
60Hz	B6	C6	D6	E6	F6	G6	M6	P6	U6	Q6	V6	N6	R6	T6	S6	X6	Y6
50/60Hz	B7	C7	D7	E7	F7	G7	M7	P7	U7	Q7	V7	N7	R7	T7	S7	X7	Y7

Type		NC7-115	NC7-150	NC7-170	NC7-205	NC7-250	NC7-300	NC7-410	NC7-475	NC7-620	
Rated operational current (A)	380V/400V	AC-3	115	150	170	205	250	300	410	475	620
		AC-4	115	150	150	205	250	300	410	475	620
	660V/690V	AC-3	86	107	118	137	170	235	303	353	462
		AC-4	86	107	107	137	170	235	303	353	462
Appointed free air heat generation current (A)		200	200	275	275	315	380	450	630	800	
Rated insulation voltage (V)		1000	1000	1000	1000	1000	1000	1000	1000	1000	
Rated impulse withstand voltage (kV)		8	8	8	8	8	8	8	8	8	
Rated making capacity	Making current: 10Ie(AC-3) or 12Ie(AC-4)										
Rated breaking capacity	Making/breaking current: 8Ie(AC-3) or 10Ie(AC-4)										
Short time withstand current (10s)		920	1200	1360	1640	2000	2400	3280	3600	4960	
Controllable three-phase squirrel-cage motor power (AC-3)kW	380V/400V	55	75	90	110	132	160	200	250	335	
	660V/690V	80	100	110	129	160	220	280	335	450	
Intermittent-periodic-duty motor power(AC-4)kW	380V/400V	55	75	75	110	132	160	200	250	335	
	600V/690V	80	100	100	129	160	220	280	335	450	
Frequency of operation (times/h)	Electrical life	AC-3	1200	1200	600	600	600	600	600	600	600
		AC-4	120	120	120	60	60	60	60	60	60
		Mechanical life	1200	1200	600	600	600	600	600	600	600
Electrical life (ten thousand times)	AC-3	80	80	60	60	60	60	60	60	60	
	AC-4	2	2	1	1	1	1	1	0.6	0.6	
Mechanical life (ten thousand times)		600	600	600	600	600	600	600	600	600	
Type of the fuse adapted		NT3-225	NT3-225	NT3-315	RT36-3	RT36-3	RT36-3	RT36-3	RT36-4	RT36-4	
Action (actuating)range	Pull-in voltage: 85%Us~110%Us; Release voltage: 20%Us~75%Us; NC7-250~620 Release voltage: 10%Us~75%Us										
Basic parameters of the auxiliary contact	AC-15: 360VA DC-13: 33W Ith: 10A										









Type	NC7-115	NC7-150	NC7-170	NC7-205	NC7-250	NC7-300	NC7-410	NC7-475	NC7-620
Piece (of string, etc)	2	2	2	1	1	1	1 (2)	2	2
Cable (mm <sup>2</sup> )	10~90	10~90	10~90	95~150	120~185	185~240	240 (150)	150~185	185~240
Copper (mm)	-	-	-	-	-	-	30X5	40X5	50X5
Bolt	M10	M10	M10	M10	M10	M10	M10	M10	M12
Tightening torque(N·m)	4	4	4	10	10	10	10	10	14

5.3 Rated control source voltage Us and code for the NC7 ac contactor (205A - 620A) product coil

Coil code Contactor type	Control voltage (V)					Power VA		Schematic drawing
		110	127	220	380	Start	Hold	
NC7-205		FG110	FG127	FG220	FG380	966	91.2	
NC7-250		FI110	FI127	FI220	FI380	1500	34.2	
NC7-300		FI110	FI127	FI220	FI380	1500	34.2	
NC7-410		FJ110	FJ127	FJ220	FJ380	1500	34.2	
NC7-475		FK110	FK127	FK220	FK380	1500	34.2	
NC7-620		FL110	FL127	FL220	FL380	1700	34.2	

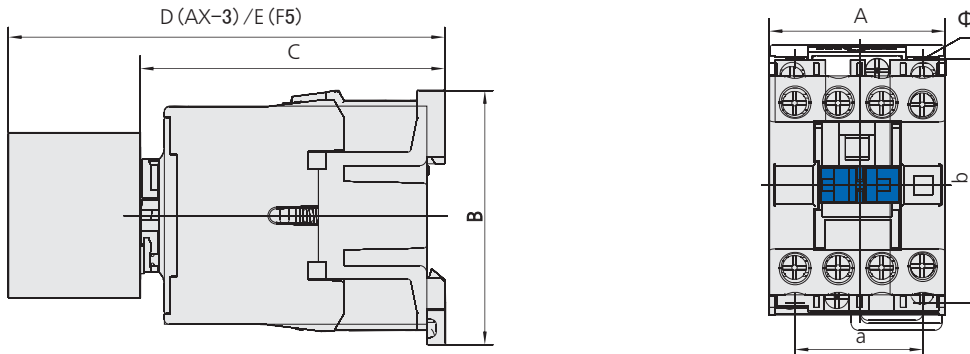
Note: Products of NC7-250 or higher are duplex winding ones.

6. Derivative products

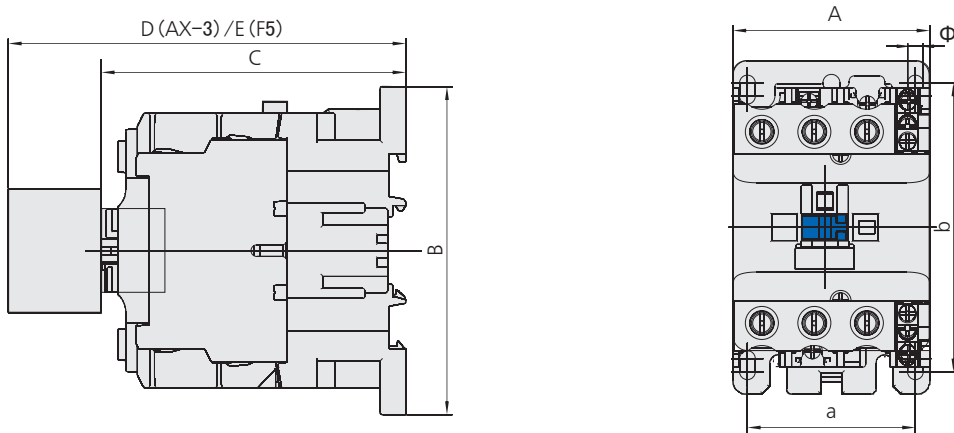
Derivative products	Contactor	Auxiliary module	Schematic drawing
Reversing contactor		+  Mechanical interlocking mechanism	
Timing-delay contactor		+  Air delay head	
Star-delta starter		+  +  Air delay head    Auxiliary contactor block	
Magnetic starter		+  Thermal relay	
AC contactor for capacitor switching		+  Current limiting contact block	

7. Overall and mounting dimensions

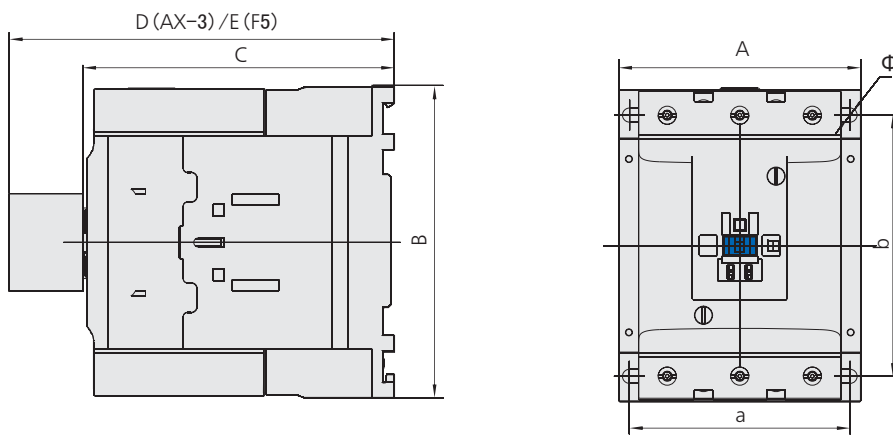
NC7 09~38



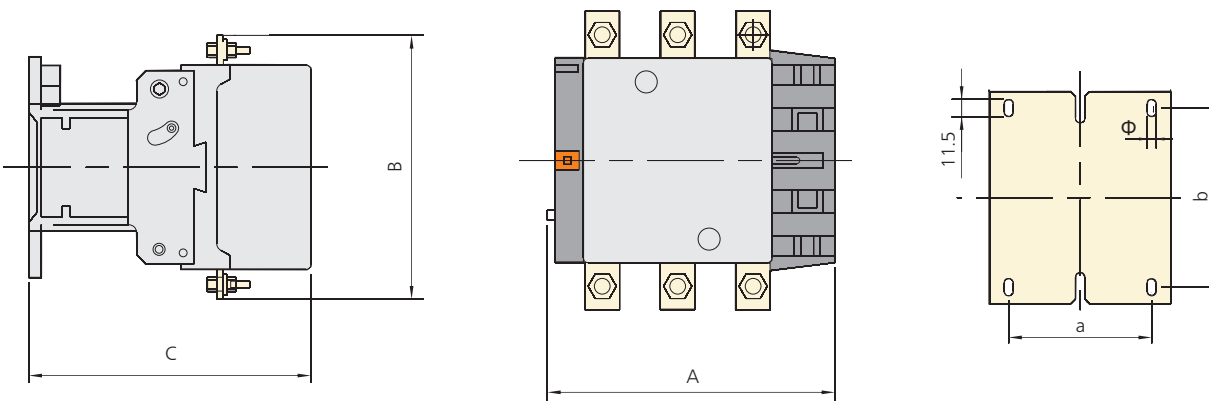
NC7 40~95



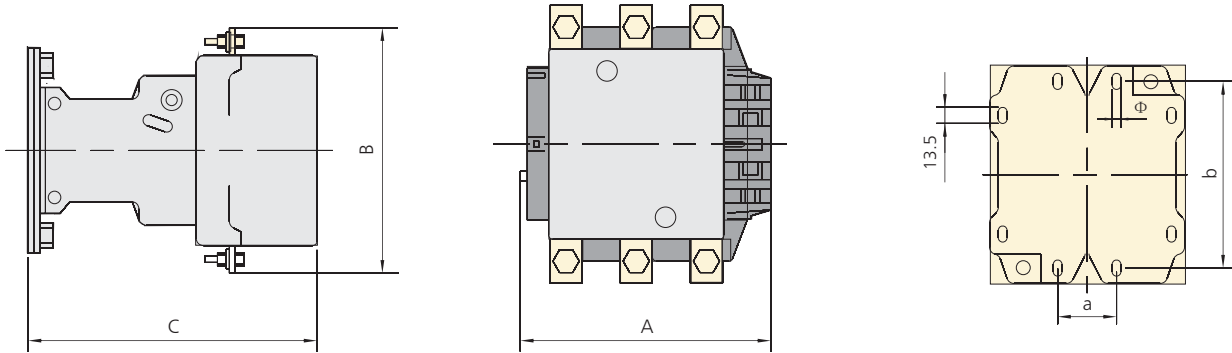
NC7 115~170



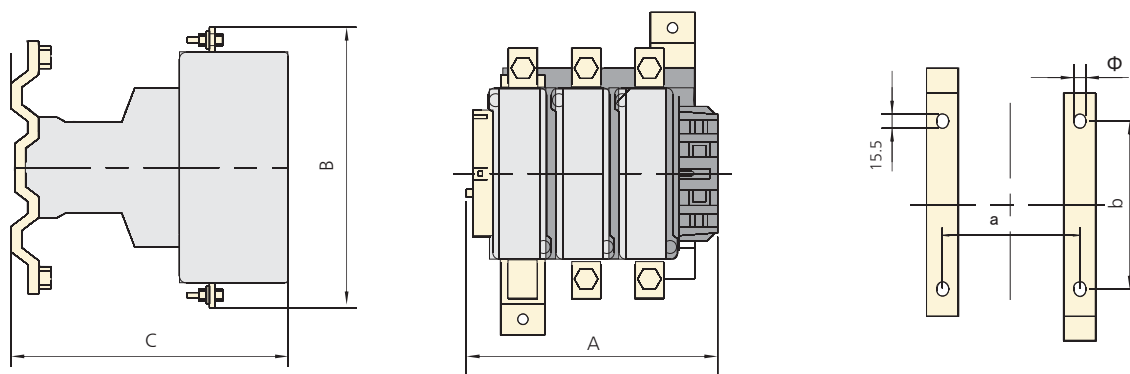
NC7 205~300



NC7 410~475



NC7 620



mm

Type	Amax	Bmax	Cmax	Dmax	Emax	a	b	φ
NC7-09~12	47	76	86	124.5	144.5	34/35	50/60	4.5
NC7-18	47	76	91	129.5	149.5	34/35	50/60	4.5
NC7-25	57	86	98	136.5	156.5	40	48	4.5
NC7-32~38	57	86	102	140.5	160.5	40	48	4.5
NC7-40~65	77	129	119	157.5	177.5	64	100~110	6
NC7-80~95	87	129	127	165.5	185.5	64	100~110	6
NC7-115~170	120	156	155	193.5	213.5	96~110	130	7
NC7-205	171	197	186			80	110~120	6.5
NC7-250	202	203	215			96	110~120	6.5
NC7-300	213	206	220			96	110~120	6.5
NC7-410	213	206	221			80	170~180	8.5
NC7-475	233	238	233			80	170~180	8.5
NC7-620	309	304	256			180	180~190	10.5

### 8. Ordering information

The following to be indicated when ordering:

- 8.1 Full name and type of the contactor
- 8.2 Rated control source voltage and frequency or size code of the coil
- 8.3 If you need to order the F4 auxiliary contactor block, F5 air delay head or standard rail track for the product, you should further give a clear indication; For products of 205A or higher, the auxiliary contactor blocks will not be attached for lack of indication such as the number of those blocks and how they are combined.
- 8.4 When the NC7 9A-170A products leave the factory, the body is not provided with the dust cap. It is hoped users will further give a clear indication when they need it.

8.5 Amount on order

8.6 The 95A-or-lower derivative N conventional products triple poles are provided in the mode of reversible wiring, so you must give clear indication for your special wiring mode.

8.7 The 205A-or-higher derivative NS conventional products triple poles are provided in the mode of reversible wiring, so you must give clear indication for your special wiring mode.

8.8 Order Sample:

10 units of NC7-0910 ac contacts, coil voltage 220V/50Hz, with 5 pieces of F4-22

10 units of NC7-300 ac contacts, coil voltage 220V/50Hz, with 10 pieces of F4-22 further attached

Mechanical interlocking mechanism to be order	Writing format for ordering
NC7-205 combined with NC7-620 Aertical installation, Mechanical interlocking mechanism, 30 sets	NJLc-GL 30 sets
Two NC7-250 combination in a mode of Horizontal installation, Mechanical interlocking mechanism, 30 sets	NJLc-HH 30 sets





## NC6 Contactor, 6~9A

### 1. General

- 1.1 Certificates: CE, VDE, UKrSEPRO, GOST, UL;
- 1.2 Electric ratings: AC50/60Hz, up to 690V, up to 9A;
- 1.3 Application: remotely makes and breaks circuit, protect circuit from overload assembling with proper thermal relay;
- 1.4 Utilization category: AC-1, AC-3, AC-4;
- 1.5 Ambient temperature: -5°C~+40°C;
- 1.6 Altitude: ≤2000m;
- 1.7 Mounting category: III
- 1.8 Mounting conditions: inclination between mounting plane and vertical plane not exceed ±30°
- 1.9 Standard: IEC/EN 60947-4-1

### 2. Type designation

N C 6 - □ □ □ □ □

Blank: Screw-clamp connection  
K: With solder "pins" for direct connection to printed circuit boards.

Number of contacts

10: 3N/O main contacts, 1N/O auxiliary contact

01: 3N/O main contacts, 1N/C auxiliary contact

04: 4N/O main contacts

08: 2N/O+2N/C main contacts

Rated operational current (AC-3, 380V)

Design sequence No.

Contactor





Company code




**3. Technical data**

3.1 Contactor

★ 3P contactor AC coil operation

Items		Model	NC6-06	NC6-06-K	NC6-09	NC6-09-K
						
Rated conventional heating current (A)	AC-1		20		20	
Rated operational current (A)	AC-3/AC-4	380/400V	6		9	
		660/690V	3.8		5	
Power of motor	kW (AC-3)	220/230V	1.5		2.2	
		380/400V	2.2		4	
		660/690V	3		4	
	hp	240V	-		2	
		400V	-		3	
		600V	-		3	
Operating cycles (operations/h)	Electrical	AC-3	1,200		1,200	
		AC-4	300		300	
	Mechanical	3,600		3,600		
Electrical life ( $\times 10^3$ operations)	AC-3		1,200		1,200	
	AC-4		25		25	
Mechanical life ( $\times 10^6$ operations)		10		10		
Matching fuse model		RT16-16		RT16-20		

★ 4P contactor AC operation

Items		Model	NC6-06	NC6-09
				
Rated operational current (A)	AC-1		20	20
	AC-3/AC-4	380/400V	6	9
		660/690V	3.8	5
Power of motor	kW (AC-3)	220V/230V/240V	1.5	2.2
		380/400V	2.2	4
		660/690V	3	4
	hp	240V	-	2
		400V	-	3
		600V	-	3
Operating cycles (operations/h)	Electrical	AC-3	1,200	1,200
		AC-4	300	300
	Mechanical	3,600	3,600	
Electrical life ( $\times 10^3$ operations)	AC-3		1,200	1,200
	AC-4		25	25
Mechanical life ( $\times 10^6$ operations)		10		10
Matching fuse model		RT16-16		RT16-20

3.2 AC coil specifications

Items		Model	NC6-06	NC6-09
Rated control voltage (V AC)			24, 36, 48, 110, 127, 220, 230, 380, 400	
Coil power (VA)	In-rush		30	30
	Sealed		4.5	4.5

#### 4. Terminal connection

Model	Number of piece	Conductor (mm <sup>2</sup> )	Screw size	Tightening torque (N · m)
NC6-06	1	2.5	M3	0.5
NC6-09	1	2.5	M3	0.5



#### 5. Accessories

##### 5.1 Auxiliary contact

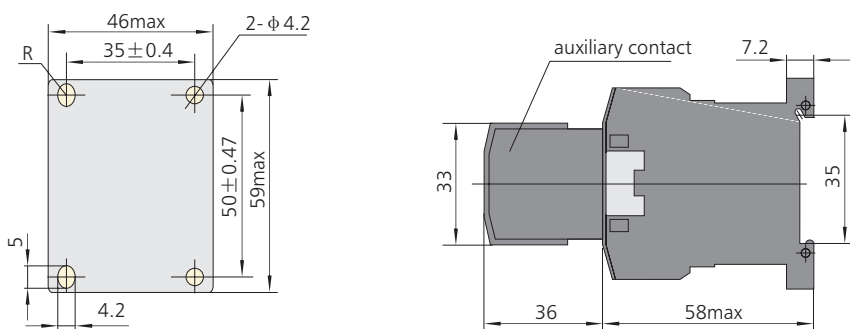
Model	Auxiliary contact		
	Model of assembled contact	Conventional heating current (A)	Control capacity
NC6-06	NCF6-20; NCF6-02	10	AC-15: 360VA
	NCF6-11; NCF6-40		DC-13: 33W
	NCF6-31; NCF6-22		
NC6-09	NCF6-13; NCF6-04	10	AC-15: 360VA
	NCF6-20; NCF6-02		DC-13: 33W
	NCF6-11; NCF6-40		
	NCF6-31; NCF6-22		
	NCF6-13; NCF6-04		



##### 5.2 Assembly with thermal over-load relay

Model of contactor	Assembled thermal over-load relay			
	Model	Rated current (A)	Recommended fuse type	
			aM	gG
 NC6-09	 NR2-11.5	0.1~0.16	0.25	2
		0.16~0.25	0.5	2
		0.25~0.4	1	2
		0.4~0.63	1	2
		0.63~1	2	4
		1~1.6	2	4
		1.25~2	4	6
		1.6~2.5	4	6
		2.5~4	6	10
		4~6	8	16
		5.5~8	12	20
		7~10	12	20
9~13	16	25		

#### 6. Overall and mounting dimensions (mm)





## NC1 Contactor, 9~95A

### 1. General

- 1.1 Certificates: CE, KEMA, VDE, EK, ESC, UKRSEPRO, GOST, RCC, UL;
- 1.2 Electric ratings: AC50/60Hz, 690V, up to 95A;
- 1.3 Application: remote making & breaking circuits; protect circuit from over-load when assembling with thermal over-load relay; Frequent start-up and control of AC contactor;
- 1.4 Utilization category: AC-3, AC-4;
- 1.5 Altitude: ≤2000m;
- 1.6 Ambient temperature: -5°C~+40°C;
- 1.7 Mounting category: III
- 1.8 Mounting conditions: inclination between the mounting plane and the vertical plane should not exceed ±5°
- 1.9 Standard: IEC/EN 60947-4-1

### 2. Type designation

NC 1-□□ □□ - □

Z: DC coil Blank: AC coil

Number of contacts

10: 3 N/O main contacts+1 N/O auxiliary contact (9A,12A,18A,25A,32A)

01: 3 N/O main contacts+1 N/C auxiliary contact (9A,12A,18A,25A,32A)

11: 3 N/O main contacts+1 N/O and 1N/C auxiliary contact (40A,50A,65A,80A,95A)

04: 4 N/O main contacts (9A,12A,25A,40A,50A,65A,80A,95A)

08: 2 N/O and 2N/C main contacts (9A,12A,25A,40A,50A,65A,80A,95A)

Basic specification, expressed with the rated operational current (380V/400V, AC-3)

Design sequence No.

Contactor

Company code



RCC



**3. Technical data**

3.1 AC coil contactor

★ AC coil operation

Items	Model	Frame	NC1-09	NC1-12	NC1-18	NC1-25	NC1-32	NC1-40	NC1-50	NC1-65	NC1-80	NC1-95
			Frame 1 (3P, 4P)	Frame 2 (3P)	Frame 3 (3P, 4P)	Frame 4 (3P)	Frame 5 (3P, 4P)	Frame 6 (3P, 4P)	Frame 6 (3P, 4P)			
Rated conventional heating current (A) AC-1			20	20	32	40	50	60	80	80	95	95
Rated operational current (A)	380/400V	AC-3	9	12	18	25	32	40	50	65	80	95
		AC-4	3.5	5	7.7	8.5	12	18.5	24	28	37	44
	660/690V	AC-3	6.6	8.9	12	18	21	34	39	42	49	49
		AC-4	1.5	2	3.8	4.4	7.5	9	12	14	17.3	21.3
Rated insulation voltage (V AC)			690	690	690	690	690	690	690	690	690	690
Power of controlled 3-phase cage motor (AC-3)	kW	220/230V AC	2.2	3	4	5.5	7.5	11	15	18.5	22	25
		380/400V AC	4	5.5	7.5	11	15	18.5	22	30	37	45
		660/690V AC	5.5	7.5	10	15	18.5	30	37	37	45	45
	hp	200V AC	3	5	7.5	7.5	10	15	20	25	30	30
		240V AC	3	5	7.5	10	15	20	25	30	30	30
		460V AC	5	7.5	10	15	20	25	30	40	40	50
600V AC	5	7.5	10	15	20	25	30	40	40	50		
Operating frequency (operations/h)	Electrical	AC-3	1,200	1,200	1,200	1,200	600	600	600	600	600	600
		AC-4	300	300	300	300	300	300	300	300	300	300
	Mechanical	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600
Electrical life (× 10 <sup>4</sup> operations)	AC-3	1,000	1,000	1,000	1,000	800	800	600	600	600	600	600
	AC-4	200	200	200	200	200	150	150	150	100	100	100
Mechanical life (× 10 <sup>4</sup> operations)			10	10	10	10	8	8	8	8	6	6
Matched fuse type			RT16-20	RT16-20	RT16-32	RT16-40	RT16-50	RT16-63	RT16-80	RT16-80	RT16-100	RT16-125

3.2 DC coil contactor

★ DC coil operation(24V,110V,220V)

Items	Model	Frame	NC1-09Z	NC1-12Z	NC1-18Z	NC1-25Z	NC1-32Z	NC1-40Z	NC1-50Z	NC1-65Z	NC1-80Z	NC1-95Z
			Frame 1 (3P, 4P)	Frame 2 (3P)	Frame 3 (3P, 4P)	Frame 4 (3P)	Frame 5 (3P, 4P)	Frame 5 (3P, 4P)	Frame 6 (3P, 4P)	Frame 6 (3P, 4P)		
Rated conventional heating current (A) AC-1			20	20	32	40	50	60	80	80	95	95
Rated operational current (A)	380/400V	AC-3	9	12	18	25	32	40	50	65	80	95
		AC-4	3.5	5	7.7	8.5	12	18.5	24	28	37	44
	660/690V	AC-3	6.6	8.9	12	18	21	34	39	42	49	49
		AC-4	1.5	2	3.8	4.4	7.5	9	12	14	17.3	21.3
Conventional heating current (A)			20	20	32	40	50	60	80	80	95	95
Rated insulation voltage (V AC)			690	690	690	690	690	690	690	690	690	690
Power of controlled 3-phase cage motor (AC-3)	kW	220/230V AC	2.2	3	4	5.5	7.5	11	15	18.5	22	25
		380/400V AC	4	5.5	7.5	11	15	18.5	22	30	37	45
		660/690V AC	5.5	7.5	10	15	18.5	30	37	37	45	45
	hp	200V AC	3	5	7.5	7.5	10	15	20	25	30	30
240V AC		3	5	7.5	10	15	20	25	30	30	30	
460V AC		5	7.5	10	15	20	25	30	40	40	50	
600V AC	5	7.5	10	15	20	25	30	40	40	50		
Operating frequency (operations/h)	Electrical	AC-3	1,200	1,200	1,200	1,200	600	600	600	600	600	600
		AC-4	300	300	300	300	300	300	300	300	300	300
	Mechanical	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600
Electrical life (× 10 <sup>4</sup> operations)	AC-3	1,000	1,000	1,000	1,000	800	800	600	600	600	600	600
	AC-4	200	200	200	200	200	150	150	150	100	100	100
Mechanical life (× 10 <sup>4</sup> operations)			10	10	10	10	8	8	6	6	6	6
Matched fuse type			RT16-20	RT16-20	RT16-32	RT16-40	RT16-50	RT16-63	RT16-80	RT16-80	RT16-100	RT16-125

4. Accessories

4.1 Accessories

Items	Model	NC1-09(Z)	NC1-12(Z)	NC1-18(Z)	NC1-25(Z)	NC1-32(Z)	NC1-40(Z)	NC1-50(Z)	NC1-65(Z)	NC1-80(Z)	NC1-95(Z)	
AC coil	Coil power	In-rush (VA)	70	70	70	110	110	200	200	200	200	
		Sealed (VA)	9	9	9.5	14	14	57	57	57	57	
		Power (W)	1.8~2.7	1.8~2.7	3~4	3~4	3~4	6~10	6~10	6~10	6~10	
	Operation range	Operation voltage	(85%~110%) Us					(85%~110%) Us				
Drop-out voltage		(20%~75%) Us					(20%~75%) Us					
Coil voltage(50Hz,60Hz, 50/60Hz)(V)		24,36,48,110,127,220,240,380,415,440,480,500,600,660					24,36,48,110,127,220,240,380,415,440,480,500,600					
DC coil	Coil power(W)	9	9	11	11	11	20	20	20	20	20	
	Operation range	Pick-up voltage	(85%~110%) Us					(85%~110%) Us				
		Drop-out voltage	(10%~75%) Us					(10%~75%) Us				
Coil voltage (V)		24,36,48,110,220										

Items	Picture	Model	Configuration of contacts		
			Number of N/O contact	Number of N/C contact	
F4 auxiliary contact		F4-20	2	0	
		F4-11	1	1	
		F4-02	0	2	
		F4-40	4	0	
		F4-31	3	1	
		F4-22	2	2	
F5 auxiliary contact		F4-13	1	3	
		F4-04	0	4	
		Picture	Model	Time-delay range	Number of time-delay contacts
		F5-T0	0.1s~3s	N/O+N/C	
		F5-T2	0.1s~30s	N/O+N/C	
		F5-T4	10s~180s	N/O+N/C	
F5-D0	0.1s~3s	N/O+N/C			
F5-D2	0.1s~30s	N/O+N/C			
F5-D4	10s~180s	N/O+N/C			

Items	Picture	Model	Time-delay range	Number of time-delay contacts
NCF1-11C lateral side auxiliary contact				

4.2 Derived products when the contactor is assembled with following accessory module




Derived products	Contactor	Accessory modular	Picture
Time-delay contactor		Time-delay block	
Reversing contactor		Mechanical interlock	
Magnetic starter		Thermal relay	
AC contactor for capacitor switching		Current-limiting contact assembly	
Star-delta starter		Time-delay block + Auxiliary contact assembly	

4.3 Assembly with thermal over-load relay

Model of contactor	Model	Assembled thermal over-load relay		
		Rated current (A)	Recommended fuse type	
			aM	gG
NC1-09 NC1-12 NC1-18		0.1~0.16	0.25	2
		0.16~0.25	0.5	2
		0.25~0.4	1	2
		0.4~0.63	1	2
		0.63~1	2	4
NC1-09 NC1-12 NC1-18		1~1.6	2	4
		1.25~2	4	6
		1.6~2.5	4	6
		2.5~4	6	10
		4~6	8	16
NC1-09 NC1-12 NC1-18 NC1-25 NC1-32		5.5~8	12	20
		7~10	12	20
		9~13	16	25
		0.1~0.16	0.25	2
		0.16~0.25	0.5	2
		0.25~0.4	1	2
		0.4~0.63	1	2
		0.63~1	2	4
		1~1.6	2	4
		1.25~2	4	6
1.6~2.5	4	6		
2.5~4	6	10		
4~6	8	16		
5.5~8	12	20		
7~10	12	20		
9~13	16	25		
12~18	20	35		
17~25	25	50		
NC1-32		23~32	40	63
		28~36	40	80
NC1-40 NC1-50 NC1-65 NC1-80 NC1-95		23~32	40	63
		30~40	40	100
		37~50	63	100
		48~65	63	100
		55~70	80	125
		63~80	80	125
80~93	100	160		



4.4 Assembly with electronic overload relay

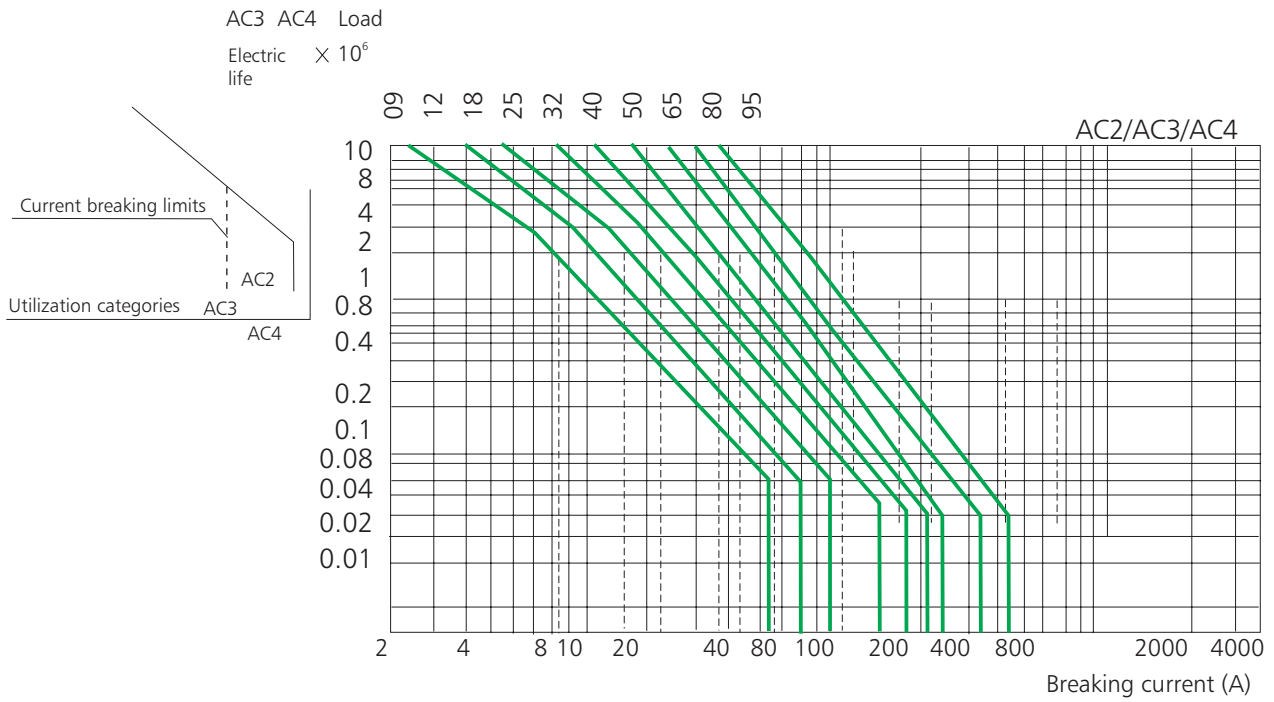
Model of contactor	Rated		Range of setting	Recommended	
	Model	Assembled thermal current (A)	Over-load relay current (A)	Fuse type	
NC1-09		1.2	0.6~1.2	RT36-4 (NT00-4)	
		2.4	1.2~2.4	RT36-6 (NT00-6)	
		4	2~4	RT36-10 (NT00-10)	
		8	4~8	RT36-16 (NT00-16)	
		10	5~10	RT36-20 (NT00-20)	
		12	7~12	RT36-25 (NT00-25)	
NC1-12	NRE8-25	20	10~20	RT36-40 (NT00-40)	
NC1-18		25	20~25	RT36-50 (NT00-50)	
NC1-25		32	22~32	RT36-80 (NT00-80)	
NC1-32			4	2~4	RT36-10 (NT00-10)
NC1-40			8	4~8	RT36-16 (NT00-16)
			10	5~10	RT36-20 (NT00-20)
	20		10~20	RT36-40 (NT00-40)	
	40		20~40	RT36-80 (NT00-80)	
NC1-40		65	30~65	RT36-160 (NT00-160)	
NC1-50		100	50~100	RT36-200 (NT1-200)	
NC1-65					
NC1-80					
NC1-95					

**5. Technical information**

5.1 Terminal connection

Model	Cabling cross section(Cu)			Screw size	Tightening torque (N · m)	
	Number of piece	Flexible cable with cold-pressed socket (mm <sup>2</sup> )	Flexible cable without cold-pressed socket (mm <sup>2</sup> )			Inflexible cable (mm <sup>2</sup> )
NC1-09	1	1/2.5	1/4	1/4	M3.5	0.8
	2	1/2.5	1/2.5	1/4	M3.5	0.8
NC1-12	1	1/2.5	1/4	1/4	M3.5	0.8
	2	1/2.5	1/2.5	1/4	M3.5	0.8
NC1-18	1	1.5/4	1.5/6	1.5/6	M3.5	0.8
	2	1.5/4	1.5/4	1.5/6	M3.5	0.8
NC1-25	1	1.5/4	1.5/10	1.5/6	M4	1.2
	2	1.5/4	1.5/6	1.5/6	M4	1.2
NC1-32	1	2.5/6	2.5/10	2.5/10	M4	1.2
	2	2.5/6	2.5/6	2.5/10	M4	1.2
NC1-40	1	6/25	6/25	6/25	M4	3.5
	2	4/10	4/10	4/10	M8	3.5
NC1-50	1	6/25	6/25	6/25	M8	3.5
	2	4/10	4/10	4/10	M8	3.5
NC1-65	1	6/25	6/25	6/25	M8	3.5
	2	4/10	4/10	4/10	M8	3.5
NC1-80	1	10/35	10/35	10/35	M10	4.0
	2	6/16	6/16	6/16	M10	4.0
NC1-95	1	10/35	10/35	10/35	M10	4.0
	2	6/16	6/16	6/16	M10	4.0

5.2 Curves

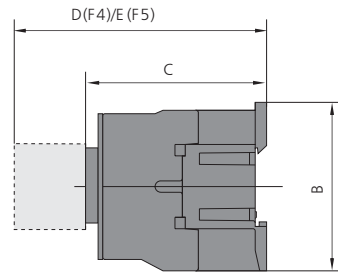
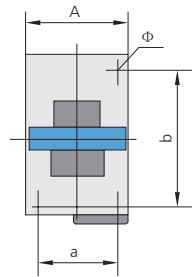


220/230V	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	22	30	37	45	55	75	90	110	132	160	200	250	315	335	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	(kW)
380/400V	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	22	30	37	45	55	75	90	110	132	160	200	250	315	335	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	(kW)
440V	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	22	30	37	45	55	75	90	110	132	160	200	250	315	335	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	(kW)

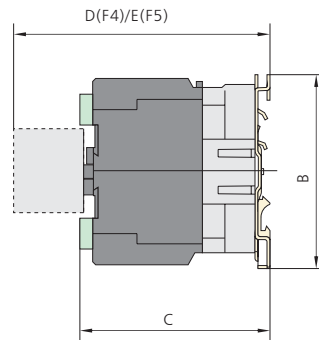
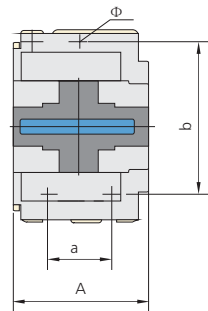


6. Overall and mounting dimensions (mm)

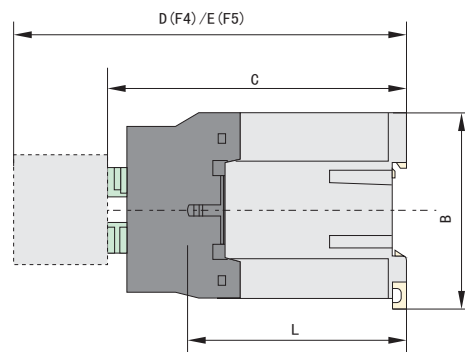
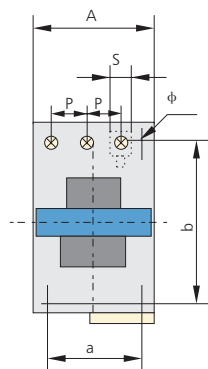
NC1-09~32

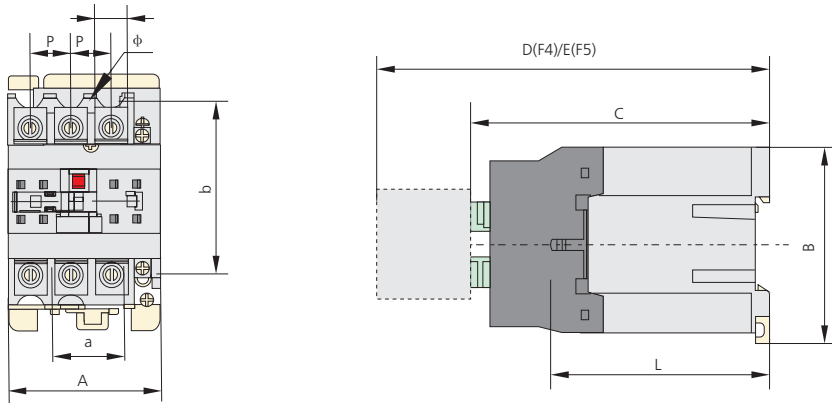


NC1-40~95



NC1-09Z~32Z





Model	A max	B max	C max	D max	E max	a	b	Φ	L	P	S
NC1-09(Z)~12(Z)	47	76	86(116)	120.5(154.5)	140.5(174.5)	34/35	50/60	4.5	60(95)	10.5	8.6
NC1-18(Z)	47	76	87(122)	125.5(160.5)	145.5(180.5)	34/35	50/60	4.5	61(96)	11.3	10.4
NC1-25(Z)	57	86	95(131)	133.5(169.5)	153.5(189.5)	40	48	4.5	70(107)	13.2	11.7
NC1-32(Z)	57	86	100(138)	138.5(176.5)	158.5(196.5)	40	48	4.5	71.6(120)	14.5	13
NC1-4011(Z)~6511(Z)	77	129	116(173)	154.5(211.5)	174.5(231.5)	40	105	6.5	78(135)	20	8.6
NC1-4004~6504	84	129	116	154.5	174.5	40	105	6.5	78(135)	20	8.6
NC1-4008~6508	84	129	127	154.5	174.5	40	105	6.5	78	20	8.6
NC1-8011(Z)~9511(Z)	87	129	127(188)	165.5(226.5)	185.5(246.5)	40	105	6.5	83(140)	23.5	12
NC1-8004~9504	96	129	122	160.5	180.5	40	105	6.5	83	23.5	12
NC1-8008~9508	96	129	135	160.5	180.5	40	105	6.5	83	23.5	12

Note:

1. L: in main circuit, the distance between terminals and plate;
2. P: in main circuit, the distance between two phases;
3. S: in main circuit, the width of contacting plate.



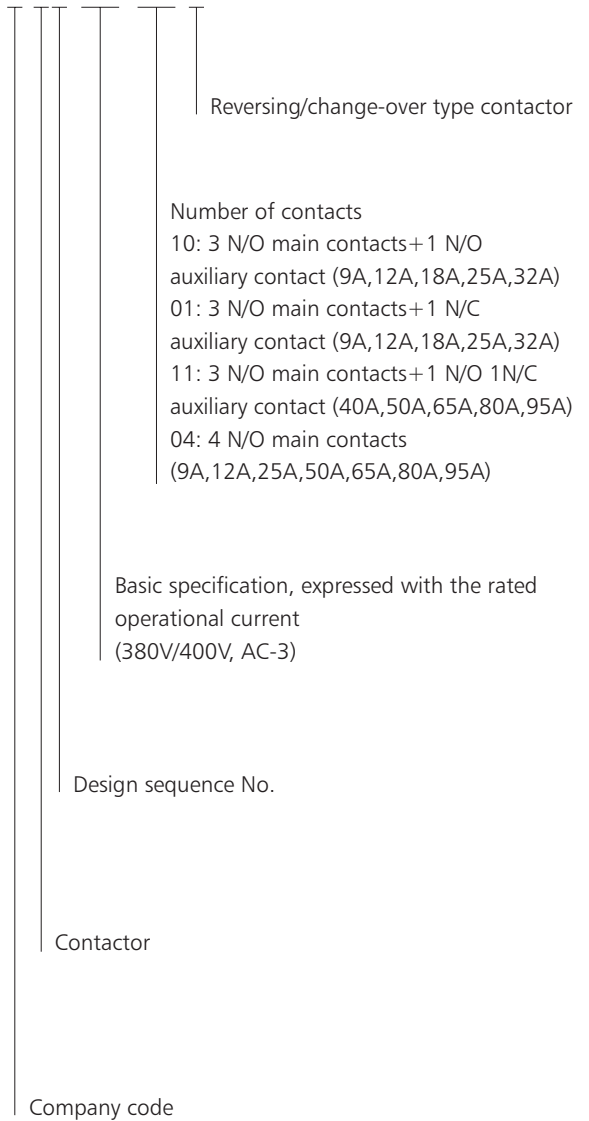
## NC1-N Contactor Reversing & change-over type, 9~95A

### 1. General

- 1.1 Electrical ratings: AC50/60HZ, 690V, up to 95A;
- 1.2 Application: reversing control of motor and the mechanical interlock ensures operation reliability for contactor change-over of the two reversing contactors;
- 1.3 Ambient temperature: -5°C~+40°C;
- 1.4 Pollution degree: 3
- 1.5 Mounting category: III
- 1.6 Mounting conditions:  
 inclination between the mounting plane and the vertical plane not exceed  $\pm 5^\circ$
- 1.7 Standard: IEC/EN 60947-4-1

### 2. Type designation

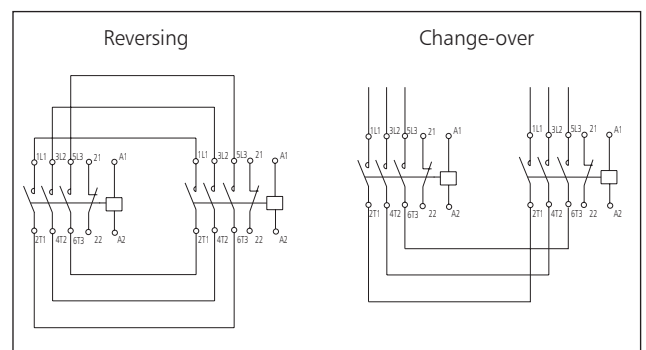
N C 1- □ □ □ N



### 3. Structure

The contactors are composed of two horizontally mounted contactors through mechanical interlock. The lateral-side interlock is mounted between the two contactors.

### 4. Wiring



**5. Technical data**

★ AC coil operation, reversing type

Items \ Model			NC1-09N	NC1-12N	NC1-18N	NC1-25N
Frame			Frame 1 (3P, 4P)		Frame 2 (3P)	Frame 3 (3P, 4P)
Rated conventional heating current (A) AC-1			20	20	32	40
AC-4	Ie(A)	380/400V	3.5	5	7.7	8.5
		660/690V	1.5	2	3.8	4.4
	Pe(kW)	380/400V	1.5	2.2	3	4
		660/690V	1.1	1.5	3.7	4
Power of controlled 3-phase cage motor (AC-3)	hp	200V	3	5	7.5	7.5
		240V	3	5	7.5	10
		460V	5	7.5	10	15
		600V	5	7.5	10	15

★ AC coil operation, change-over type

Items \ Model			NC1-09N	NC1-12N	NC1-25N
Frame			Frame 1 (4P)	Frame 2 (4P)	Frame 3 (4P)
Rated conventional heating current (A) AC-1			20	20	40
AC-4	Ie(A)	380/400V	3.5	5	8.5
		660/690V	1.5	2	4.4
	Pe(kW)	380/400V	1.5	2.2	4
		660/690V	1.1	1.5	4
Power of controlled 3-phase cage motor (AC-3)	hp	200V	3	5	7.5
		240V	3	5	10
		460V	5	7.5	15
		600V	5	7.5	15

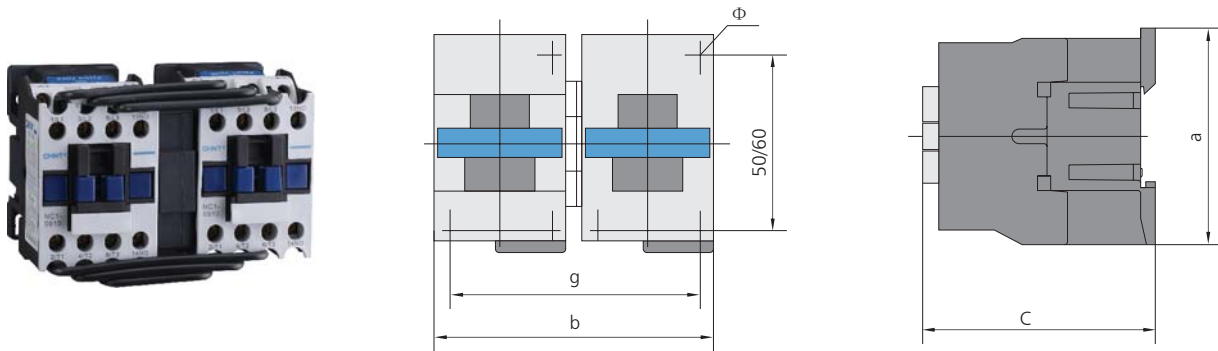
NC1-32N	NC1-40N	NC1-50N	NC1-65N	NC1-80N	NC1-95N
Frame 4 (3P)		Frame 5 (3P, 4P)		Frame 6 (3P, 4P)	
50	60	80	80	95	95
12	18.5	24	28	37	44
7.5	9	12	14	17.3	21.3
5.5	7.5	11	15	18.5	22
5.5	7.5	11	11	15	18.5
10	15	15	20	25	30
15	20	20	25	30	30
20	25	30	40	40	50
20	25	30	40	40	50

NC1-40N	NC1-50N	NC1-65N	NC1-80N	NC1-95N
Frame 4 (4P)	Frame 5 (4P)		Frame 6 (4P)	
60	80	80	95	95
18.5	24	28	37	44
9	12	14	17.3	21.3
7.5	11	15	18.5	20
7.5	11	11	15	18.5
15	15	20	25	30
20	20	25	30	30
25	30	40	40	50
25	30	40	40	50

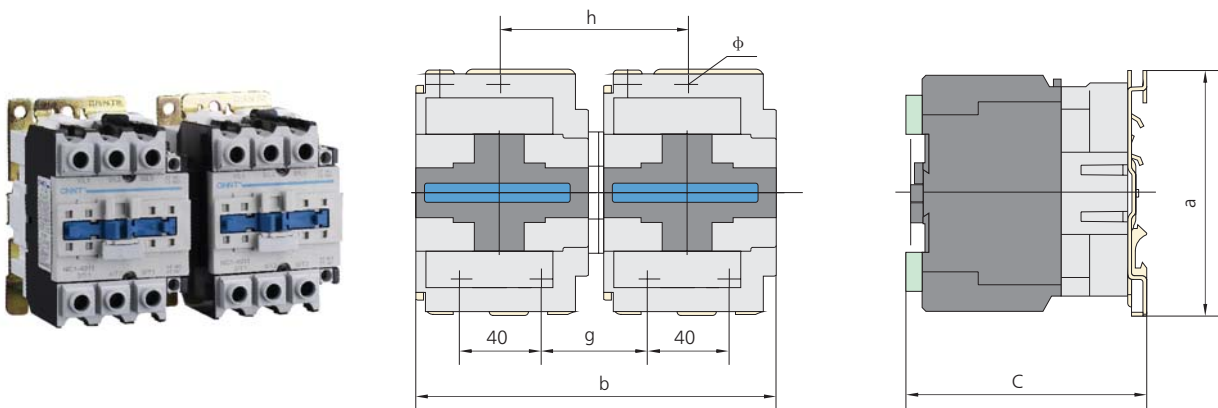


6. Overall and mounting dimensions (mm)

NC1-09~32N



NC1-40~95N



Contactor model	a	b	c	g	h	φ
NC1-09N~12N	78	105	82	95	-	4.5
NC1-18N	78	105	87	95	-	4.5
NC1-25N	90	125	95	111	-	4.5
NC1-32N	90	125	100	111	-	4.5
NC1-40N~65N	129	165	116	50	90	6.5
NC1-80N~95N	129	165	127	57	96	6.5



## NC2 Contactor, 115~800A

### 1. General

- 1.1 Certificates: NC2-115~630  
CE, VDE, UKrSEPRO, GOST, RCC, UL;
- 1.2 Electric ratings: AC50/60Hz, up to 690V, up to 800A;
- 1.3 Application: remote making & breaking circuits; protect circuit from overload when assembling with thermal over-load relay;
- 1.4 Ambient temperature: -5°C~+40°C;
- 1.5 Altitude: ≤2000m;
- 1.6 Mounting category: III
- 1.7 Mounting conditions:  
inclination between the mounting plane and the vertical plane not exceed ±5°
- 1.8 Standard: IEC/EN 60947-4-1



### 2. Type designation

N C 2- □ □ □ □ / □

Number of poles: 4P; Blank:3P

Derivation code :  
Ns: horizontal mounting  
Nc: vertical mounting

Rated operational current (A), AC-3 380/400V

Design sequence No.

Contactor

Company code

### 3. Terminal connection

Model	The connection capability			Screw size	Tightening torque (N·m)
	Number of piece	Cable Cross section (mm <sup>2</sup> )	Cu busbar Cross section (mm <sup>2</sup> )		
NC2-115	1	70~95	-	M6	3
NC2-150	1	70~95	-	M8	6
NC2-185	1	95~150	-	M8	6
NC2-225	1	95~150	-	M10	10
NC2-265	1	120~185	-	M10	10
NC2-330	1	185~240	-	M10	10
NC2-400	1(2)	240(150)	30×5	M10	10
NC2-500	2	150~185	40×5	M10	10
NC2-630	2	185~240	50×5	M12	14
NC2-800	2	185~240	50×5	M12	14

**4. Technical data**
**★ 3P contactors AC coil operation**

Model			NC2-115	NC2-150	NC2-185	NC2-225
Frame			Frame 1		Frame 2	
Rated Conventional heating current (A) AC-1			200	200	275	275
Rated operational current (A)	AC-3	380/400V AC	115	150	185	225
	AC-4	660/690V AC	86	108	118	137
Power of controlled 3-phase cage motor (AC-3)	kW	380/400V AC	55	75	90	110
		660/690V AC	80	100	110	129
	hp	240V AC	40	50	60	75
		415V AC	60	75	100	125
		480V AC	75	100	100	125
600V AC		75	100	100	125	
Operating cycles (operations /h) AC-3			1,200	1,200	600	600
Electrical life ( $\times 10^6$ operations) AC-3			1.2	1.2	1	1
Mechanical life ( $\times 10^5$ operations)			10	10	6	6
Matched fuse type	Model		RT36-1	RT36-1	RT36-2	RT36-2
	Rated current A		250	250	315	315

**★ 4P contactors AC coil operation**

Model			NC2-115/4	NC2-150/4	NC2-185/4	NC2-225/4
Frame			Frame 1		Frame 2	
Conventional heating current (A) AC-1			200	200	275	275
Rated operational current (A)	AC-3	380/400V AC	115	150	185	225
	AC-4	660/690V AC	86	108	118	137
Power of controlled 3-phase cage motor (AC-3)	kW	380/400V AC	55	75	90	110
		660/690V AC	80	100	110	129
	hp	240V AC	40	50	60	75
		415V AC	60	75	100	125
		480V AC	75	100	100	125
600V AC		75	100	100	125	
Operating cycles (operations /h) AC-3			1,200	1,200	600	600
Electrical life ( $\times 10^6$ operations) AC-3			1.2	1.2	1	1
Mechanical life ( $\times 10^5$ operations)			10	10	6	6
Matched fuse type	Model		RT36-1	RT36-1	RT36-2	RT36-2
	Rated current (A)		250	250	315	315



NC2-265	NC2-330	NC2-400	NC2-500	NC2-630	NC2-800
Frame 3	Frame 4	Frame 5	Frame 6		Frame 7
315	380	450	630	800	800
265	330	400	500	630	800
170	235	303	353	462	486
132	160	200	250	335	450
160	220	280	335	450	475
100	125	150	200	250	350
150	150	200	250	350	600
150	200	250	350	400	600
150	200	300	350	500	650
600	600	600	600	600	600
0.8	0.8	0.8	0.8	0.8	0.6
6	6	6	6	6	3
RT36-3	RT36-3	RT36-3	RT36-4	RT36-4	RT36-4
355	500	630	800	1000	1000

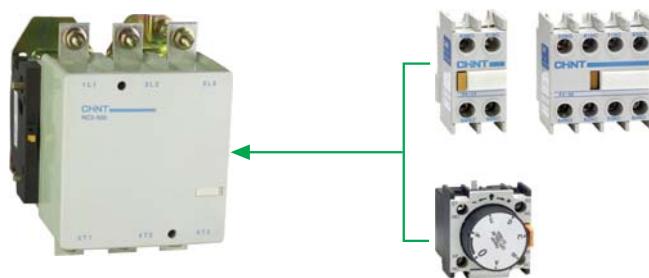
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NC2-265/4	NC2-330/4	NC2-400/4	NC2-630/4
Frame 3	Frame 4	Frame 5	Frame 6
315	380	450	800
265	330	400	630
170	235	303	462
132	160	200	335
160	220	280	450
100	125	150	250
150	150	200	350
150	200	250	400
150	200	300	500
600	600	600	600
0.8	0.8	0.8	0.8
6	6	6	6
RT36-3	RT36-3	RT16-3	RT36-4
355	500	630	1000

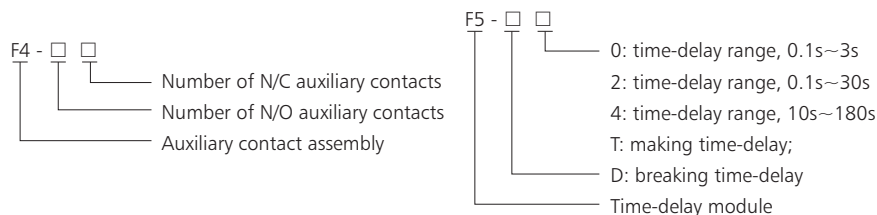
**5. Accessories**

Items		Model	NC2-115	NC2-150	NC2-185	NC2-225
AC coil	Coil power	In-rush (VA)	660		966	
		Sealed (VA)	85.5		91.2	
	Operation range	Operation voltage	(85%~110%) Us			
		Drop-out voltage	Common products; 20%~75%; electricity-saving products: 10%~75%Us			
	Coil code	3P	FF XXX		FG XXX	
	(XXX=coil voltage)	4P	FF XXX/4		FG XXX/4	
Coil voltage (50Hz,60Hz,50/60Hz)(V AC)		110,127,220,230,380,400				

F4 auxiliary contact






F5 auxiliary contact



NC2-265	NC2-330	NC2-400	NC2-500	NC2-630	NC2-800
840	1,500	1,500	1,500	1,700	1,700
150	34.2	34.2	34.2	34.2	34.2
(85%~110%) Us					
Common products; 20%~75%; electricity-saving products: 10%~75%Us					
FH XXX	FI XXX	FJ XXX	FK XXX	FL XXX	FM XXX
FH XXX/4	FI XXX	FJ XXX	-	FL XXX/4	-

110,127,220,230,380,400

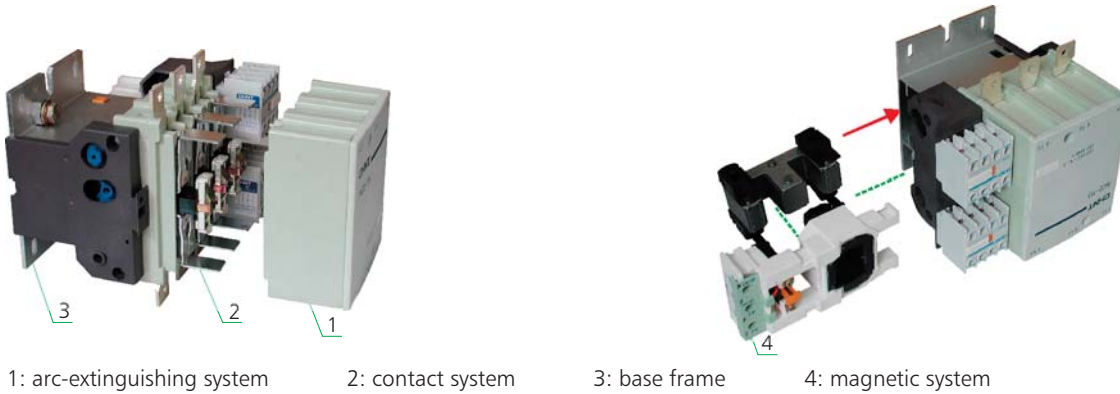
Picture	Model	Configuration of contacts	
		Number of NO contact	Number of NC contact
	F4-20	2	0
	F4-11	1	1
	F4-02	0	2
	F4-40	4	0
	F4-31	3	1
	F4-22	2	2
	F4-13	1	3
	F4-04	0	4
Picture	Model	Time-delay range	Configuration of time-delay contacts
	F5-T0	0.1s~3s	N/O+N/C
	F5-T2	0.1s~30s	N/O+N/C
	F5-T4	10s~180s	N/O+N/C
	F5-D0	0.1s~3s	N/O+N/C
	F5-D2	0.1s~30s	N/O+N/C
	F5-D4	10s~180s	N/O+N/C

D

**6. Structure features**

The contactor is composed of arc-extinguishing system, contact system, base frame and magnetic system (including iron core, coil)  
 The contact system of the contactor is of direct action type and double-breaking points allocation.  
 The lower base-frame of the contactor is made of shaped aluminum alloy and the coil is of plastic enclosed structure.  
 The coil is assembled with the amature to be an integrated one. They can be directly taken out from or inserted into the contactor.  
 It is convenient for user's service and maintenance.

Scheme of NC2-115~265 structure



1: arc-extinguishing system      2: contact system      3: base frame      4: magnetic system

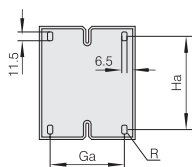
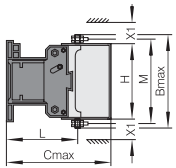
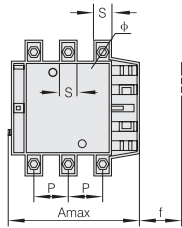
NC2 series contactor is of short arcing distance. For example, the arcing distance of NC2-115~330 contactor is only 10mm (200~500V), which is about one sixth that of the previous contactor of the same capacity. It is an excellent complementary element used for an electric control device and it occupies smaller space in a complete set of equipment. The mechanical interlock can be added to the contactor in both horizontal direction and vertical direction. Three sets of contactor can be interlocked in the vertical direction.

Model	NC2-115		NC2-150		NC2-185		NC2-225	
	3P	4P	3P	4P	3P	4P	3P	4P
A	167	204	167	204	171	211	171	211
B	163	163	171	171	174	174	197	197
C	172	172	172	172	183	183	183	183
P	37	37	40	40	40	40	48	48
S	20	20	20	20	20	20	25	25
φ	M6	M6	M8	M8	M8	M8	M10	M10
f	131	131	131	131	131	131	131	131
M	147	147	150	150	154	154	172	172
H	124	124	124	124	127	127	127	127
L	107	107	107	107	113.5	113.5	113.5	113.5
X1 200~500V	10		10		10		10	
X1 660~1000V	15		15		15		15	
Ga	80		80		80		80	
Ha	110~120		110~120		110~120		110~120	

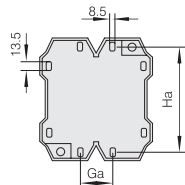
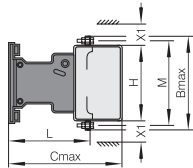
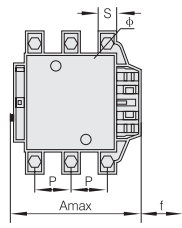
Note: a. f is the min distance needed to mount and dismount the coil.  
 b. X1: arcing distance is identified by operating voltage and breaking capacity.

7. Overall and mounting dimensions (mm)

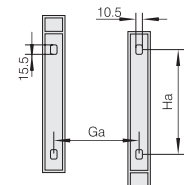
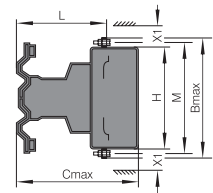
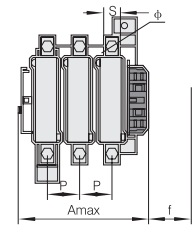
NC2-115~330



NC2-400~500



NC2-630~800





NC2-265		NC2-330		NC2-400		NC2-500	NC2-630		NC2-800
3P	4P	3P	4P	3P	4P	3P	3P	4P	3P
202	247	213	261	213	261	233	309	389	309
203	203	206	206	206	206	238	304	304	304
215	215	220	220	220	220	233	256	256	256
48	48	48	48	48	48	55	80	80	80
25	25	25	25	25	25	30	40	40	40
M10	M10	M10	M10	M10	M10	M10	M12	M12	M12
147	147	147	147	147	147	150	181	181	181
178	178	181	181	181	181	208	264	264	264
147	147	158	158	158	158	172	202	202	202
141	141	145	145	145	145	146	155	155	155
10		10		15		15	20		20
15		15		20		20	30		30
96		96		80		80	180	240	180
110~120		110~120		170~180		170~180	180~190		180~190



**8. Assembly with overload relay**

8.1 Assembly with thermal overload relay

Model of contactor	Assembled thermal overload relay			
	Model	Rated current (A)	Recommended fuse type	
			aM	gG
NC2-115 NC2-150 NC2-185 NC2-225	 NR2-200	80~125	125	200
100~160		160	250	
125~200		200	315	
NC2-185 NC2-225 NC2-265 NC2-330 NC2-400 NC2-500 NC2-630~800	 NR2-630	160~250	250	400
200~315		315	500	
250~400		400	630	
315~500		500	800	
400~630		630	800	

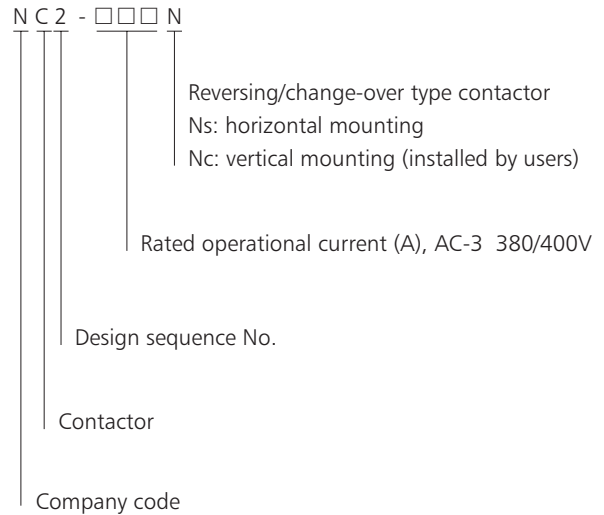


## NC2-N Contactor Reversing & change-over type, 115~800A

### 1. General

- 1.1 Electric ratings; AC50/60Hz, up to 690V, up to 800A;
- 1.2 Application: reversing control of motor and the mechanical interlock ensures operation reliability for contactor changeover of the two reversing contactors;
- 1.3 Ambient temperature: -5°C~+40°C;
- 1.4 Altitude: ≤2000m;
- 1.5 Mounting category: III
- 1.6 Mounting conditions:  
 inclination between the mounting plane and the vertical plane not exceed ±5°
- 1.7 Standard: IEC/EN 60947-4-1

### 2. Type designation of mechanical interlock



### 3. Technical data

#### 3.1 Clearance between active and static contacts

Models	Distance between contacts
NC2-115N/150N	≥5mm
NC2-185N/225N	≥5mm
NC2-265N/330N	≥6mm
NC2-400N/500N	≥6.5mm
NC2-630N	≥7mm
NC2-800N	≥7mm

#### 3.2 Mechanical life

a. NJLC-FF and NJLS-FF:  $3 \times 10^6$  operations

b. Other model:  $2 \times 10^6$  operations

(a) $3 \times 10^6$	NJLC-FF, NJLS-FF
(b) $2 \times 10^6$	NJLS-FF, NJLS-GG, NJLS-HH, NJLS-KK, NJLS-LL, NJLC-FF, NJLC-FG, NJLC-FH, NJLC-FK, NJLC-FL, NJLC-GG, NJLC-GH, NJLC-GK, NJLC-GL, NJLC-HH, NJLC-HK, NJLC-HL, NJLC-KK, NJLC-KL, NJLC-LL

#### 3.3 Terminal Connection

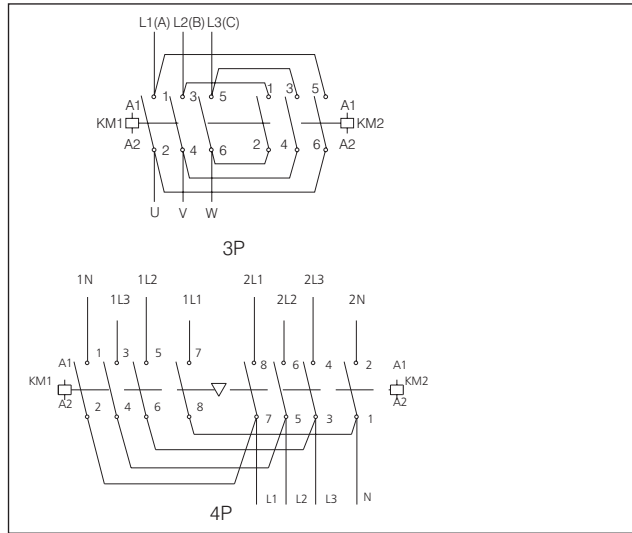
Model	The connection capability			Screw size	Tightening torque (N·m)
	Number of piece	Cable Cross section (mm <sup>2</sup> )	Cu busbar Cross section (mm <sup>2</sup> )		
NC2-115	1	70~90	-	M6	3
NC2-150	1	70~90	-	M8	6
NC2-185	1	95~150	-	M8	6
NC2-225	1	95~150	-	M10	10
NC2-265	1	120~185	-	M10	10
NC2-330	1	185~240	-	M10	10
NC2-400	1(2)	240(150)	30×5	M10	10
NC2-500	2	150~185	40×5	M10	10
NC2-630	2	185~240	50×5	M12	14
NC2-800	2	185~240	50×5	M12	14

**4. Structure features**

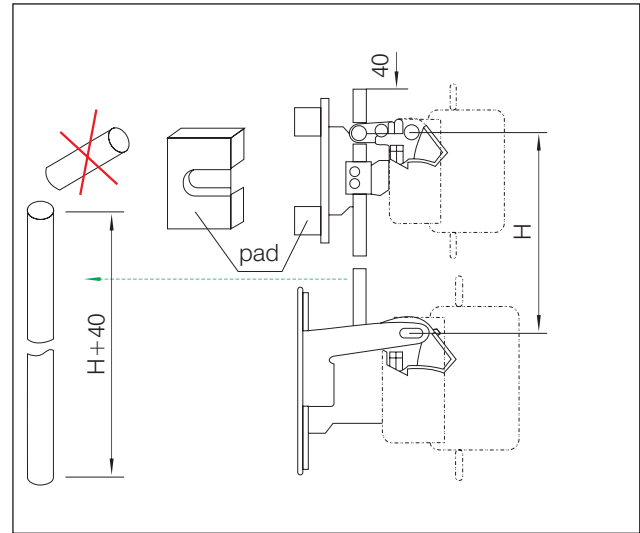
4.1 Refer to fig below for connection mode of connection plate, the interlocked contactors could be mounted horizontally or vertically. For vertical mounting, contactors with lower current mounted at the upper position.

4.2 For reversing type contactors assembled with NC2-115~225 and NC2-265~630, which will be mounted vertically, a padding plate should be added at the bottom of NC2-115~225.

Connection of connection plate



Reversing contactor mounted vertically



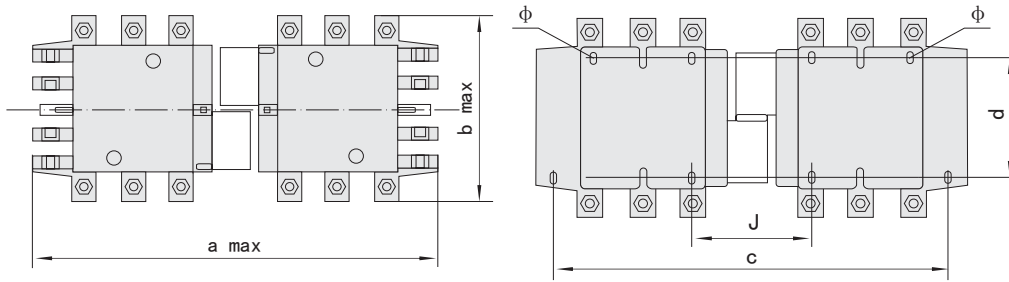
**5. Accessories**

Model of mechanical interlock	Applicable assembly with contactors
NJLs-FF	NC2-115+NC2-115; NC2-150+NC2-150; NC2-115+NC2-150
NJLs-GG	NC2-185+NC2-185; NC2-225+NC2-225; NC2-185+NC2-225
NJLs-HH (Horizontal)	NC2-265+NC2-265; NC2-330+NC2-330; NC2-265+NC2-330
NJLs-KK	NC2-400+NC2-400; NC2-500+NC2-500; NC2-400+NC2-500
NJLs-LL	NC2-630+NC2-630; NC2-800+NC2-800
NJLc-FF	NC2-115+NC2-115; NC2-150+NC2-150; NC2-115+NC2-150
NJLc-FG	NC2-115+NC2-185; NC2-150+NC2-185; NC2-115+NC2-225; NC2-150+NC2-225
NJLc-FH	NC2-115+NC2-265; NC2-115+NC2-330; NC2-150+NC2-265; NC2-150+NC2-330
NJLc-FK	NC2-115+NC2-400; NC2-115+NC2-500; NC2-150+NC2-400; NC2-150+NC2-500
NJLc-FL	NC2-115+NC2-800; NC2-115+NC2-630; NC2-150+NC2-630; NC2-150+NC2-800
NJLc-GG	NC2-185+NC2-185; NC2-225+NC2-225; NC2-185+NC2-225
NJLc-GH	NC2-185+NC2-265; NC2-185+NC2-330; NC2-225+NC2-265; NC2-225+NC2-330
NJLc-GK (Vertical)	NC2-185+NC2-400; NC2-225+NC2-500; NC2-225+NC2-400; NC2-225+NC2-500
NJLc-GL	NC2-185+NC2-800; NC2-185+NC2-630; NC2-225+NC2-630; NC2-225+NC2-800
NJLc-HH	NC2-265+NC2-265; NC2-330+NC2-330; NC2-265+NC2-330
NJLc-HK	NC2-265+NC2-400; NC2-330+NC2-400; NC2-265+NC2-500; NC2-330+NC2-500
NJLc-HL	NC2-265+NC2-265; NC2-265+NC2-630; NC2-330+NC2-630; NC2-330+NC2-800
NJLc-KK	NC2-400+NC2-400; NC2-500+NC2-500; NC2-400+NC2-500; NC2-400+NC2-800
NJLc-KL	NC2-400+NC2-630; NC2-500+NC2-630; NC2-500+NC2-800
NJLc-LL	NC2-630+NC2-630; NC2-630+NC2-800
NJLc-MM	NC2-800+NC2-800



6. Overall and mounting dimensions (mm)

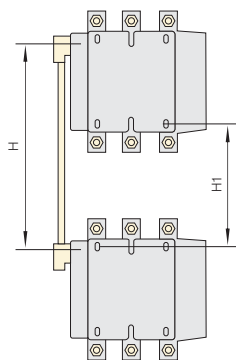
NC2-115Ns~630Ns (Horizontal mounting)



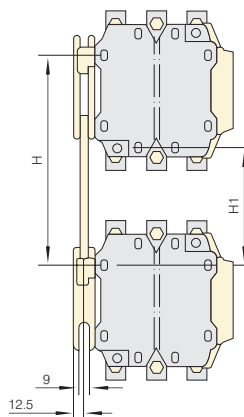
Modle	pole	A max	b max	c	d	J	mm
NC2-115Ns	3	350	163	330	110~120	71	
	4	425	208	370		108	
NC2-150Ns	3	350	171	330		71	
	4	425	211	370		111	
NC2-185Ns	3	350	174	330		78	
	4	430	223	370		118	
NC2-225Ns	3	350	197	330		78	
	4	430	243	370		118	
NC2-265Ns	3	450	203	428		109	
	4	546	249	485		157	
NC2-330Ns	3	450	206	428		124	
	4	546	251	485		172	
NC2-400Ns	3	485	206	460	157		
	4	595	251	485	170~180	157	
NC2-500Ns	3	485	238	460	156		
NC2-630Ns	3	650	304	625	139		
	4	810	364	785	180~190	139	
NC2-800Ns	3	650	304	625	139		



NC2-115Nc~630Nc (Vertical mounting)



a. NC2-115Nc~225Nc



b. NC2-265Nc~800Nc

Model	H		H1	
	Min	Max	Min	Max
NC2-115Nc、NC2-150Nc	200	310	80	190
NC2-185Nc、NC2-225Nc	220	310	100	190
NC2-265Nc	250	380	130	260
NC2-330Nc	260	380	60	200
NC2-400Nc	280	380	100	200
NC2-500Nc	300	380	120	200
NC2-630Nc	380	380	200	200
NC2-800Nc	380	380	200	200



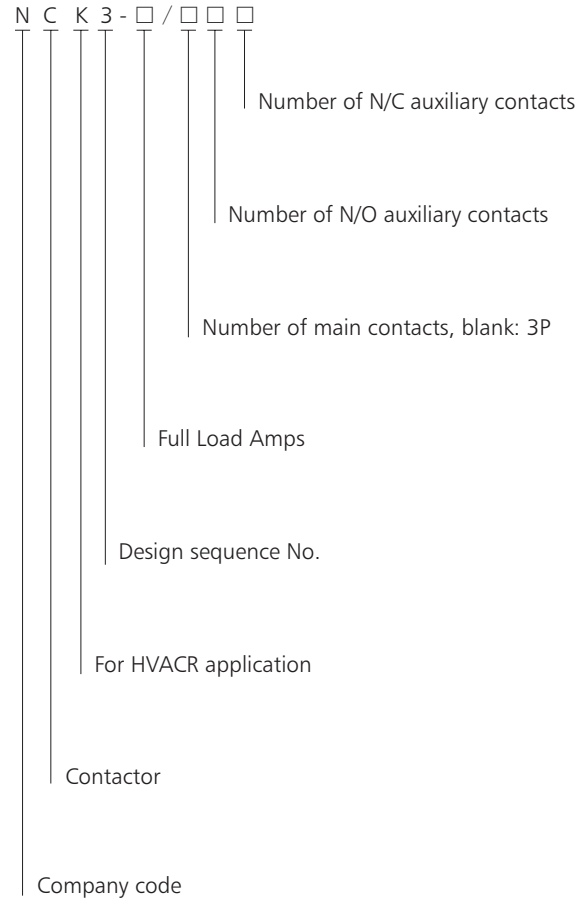
## NCK3 Definite Purpose Contactor, 25~90A

### 1. General

- 1.1 Certificates: VDE, UKrSEPRO, UL;
- 1.2 Application: HVACR;
- 1.3 Utilization category: AC-1, AC-7a, AC-8a;
- 1.4 Rated insulation voltage: 630V;
- 1.5 Standard: UL508



### 2. Type designation



### 3. Technical data

#### 3.1 Contactor

##### ★ NCK3, 1P+shunt

Model	Full Load Amps (A)	Line Voltage (V)	Locked Rotor Amps (A)	Conventional free air thermal current (A)
NCK3-20/1	20	277	150	32
NCK3-25/1	25	277	150	32
NCK3-30/1	30	277	200	40
NCK3-32/1	32	277	200	40
NCK3-40/1	40	277	240	50

##### ★ NCK3, 1pole+1NC auxiliary contact

Model	Full Load Amps (A)	Line Voltage (V)	Locked Rotor Amps (A)	Conventional free air thermal current (A)
NCK3-20/101	20	277	150	32
NCK3-25/101	25	277	150	32
NCK3-30/101	30	277	200	40
NCK3-32/101	32	277	200	40
NCK3-40/101	40	277	240	50

**3. Technical data**

3.1 Contactor

★ NCK3, 2Pole

Model	Full Load Amps (A)	Line Voltage (V)	Locked Rotor Amps(A)	Conventional free air thermal current(A)
NCK3-20/2	20	240/277	150	32
	20	480	120	
	15	600	90	
NCK3-25/2	25	240/277	150	32
	20	480	120	
	15	600	90	
NCK3-30/2	30	240/277	200	40
	25	480	150	
	20	600	120	
NCK3-32/2	32	240/277	200	40
	25	480	150	
	20	600	120	
NCK3-40/2	40	240/277	240	50
	32	480	200	
	25	600	160	

★ NCK3, 3Pole

Model	Full Load Amps(A)	Line Voltage (V)	Locked Rotor Amps(A)	Conventional free air thermal current(A)	Horsepower
NCK3-20	20	240/277	150	32	7.5
	20	480	110		10
	15	600	90		10
NCK3-25	25	240/277	150	32	7.5
	20	480	110		10
	15	600	90		10
NCK3-30	32	240/277	200	40	10
	25	480	115		15
	20	600	95		15
NCK3-32	32	240/277	200	40	10
	25	480	115		15
	20	600	95		15
NCK3-40	40	240/277	240	50	10
	32	480	150		20
	25	600	120		20
NCK3-50	50	240/277	300	60	15
	40	480	215		30
	32	600	175		30
NCK3-60	60	240/277	360	75	20
	40	480	215		30
	32	600	175		30
NCK3-75	75	240/277	450	90	25
	60	480	375		50
	50	600	300		50
NCK3-90	90	240/277	540	100	30
	75	480	450		60
	60	600	360		60

### 3.2 Coil specifications

#### 1Pole+shunt, 1Pole+1 NC, auxiliary contact, 2Pole

Model		NCK3-25(20)	NCK3-30(32)	NCK3-40
Power consumption	In-rush (VA)	55	55	55
	Sealed (VA)	13	13	13
Operation range	Operation voltage	(85%~110%) Us		
	Drop-out voltage	(20%~65%) Us		
Power supply voltage Us		AC50/60Hz, 24V, 110V/120V, 220V/240V		

#### 3Pole

Model		NCK3-20~40	NCK3-50~60	NCK3-75~90
Power consumption	In-rush (VA)	51	83	165
	Sealed (VA)	12	14	30
Operation range	Operation voltage	(85%~110%) Us		
	Drop-out voltage	(20%~65%) Us		
Power supply voltage Us		AC50/60Hz, 24V, 110V/120V, 220V/240V		

### 3.3 Specifications of auxiliary contact

#### 1Pole+1 NC auxiliary contact

Ith (A)	Ui (V)	Capacity of auxiliary contact	
		AC (VA)	DC (W)
10	600	300	30

#### 3Pole, lateral auxiliary contact

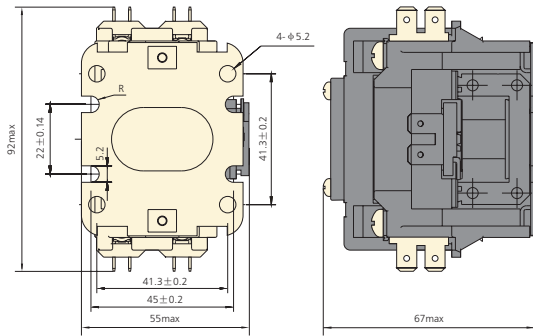
Utilization category	Rated insulation voltage (V)	Resistive amps (A)	Rated operational voltage (V)	Rated operational current (A)	Control capacity
AC-15	660V	10	380/400	0.95	360VA
DC-13	660V	10	220/230	0.15	33W

## 4. Terminal connection

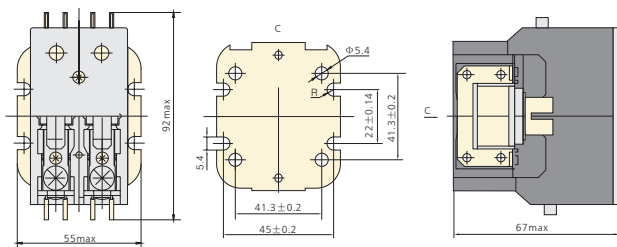
Model	Cabling(mm <sup>2</sup> ) (Cu)		Tightening torque (N · m)	
	Rigid wire with single core	Flexible stranded wire	Coil	Main circuit
NCK3-20	2.5~6	2.5~4	-	1.8~2
NCK3-25	2.5~6	2.5~4	-	1.8~2
NCK3-32	4~10	2.5~6	-	1.8~2
NCK3-40	4~10	2.5~6	-	1.8~2
NCK3-50	6~16	4~10	0.8~1.2	10~14
NCK3-60	6~16	4~10	0.8~1.2	10~14
NCK3-75	16~35	10~25	0.8~1.2	10~14
NCK3-90	25~35	16~25	0.8~1.2	10~14

5. Overall and mounting dimensions (mm)

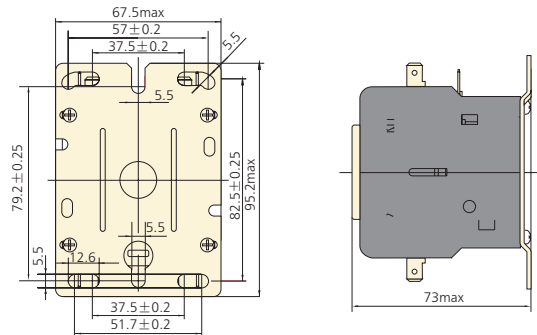
NCK3-20/1~40/1



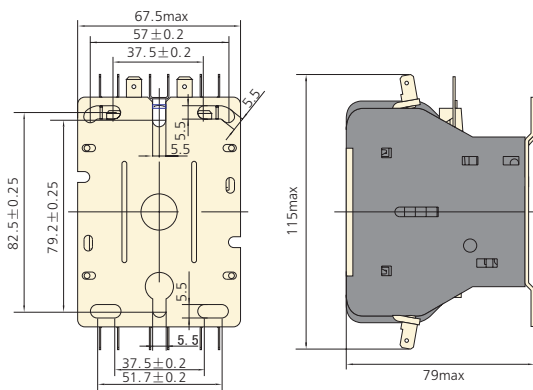
NCK3-20/2~40/2



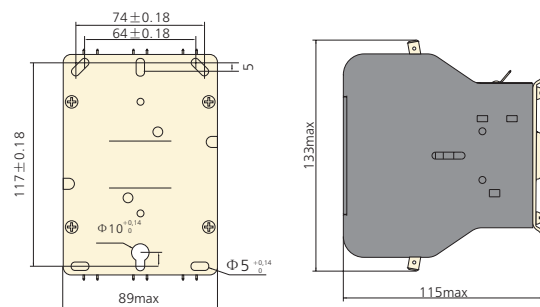
NCK3-20~40



NCK3-50~60



NCK3-75~90





## NCH8 Modular AC Contactor

### 1. General

- 1.1 Electric ratings: up to 20A, 25A, 40A, 63A, 230V, AC50/60Hz;
- 1.2 Utilization category: AC-1, AC-7a, AC-7b;
- 1.3 Standard: IEC/EN 61095

### 2. Features

- 2.1 Compact design and modularization design;
- 2.2 Insulation material with excellent performances has been adopted to enhance the operation security to a great extent;
- 2.3 Elegant appearance. A mounting instruction diagram is appended for convenient operation;
- 2.4 No noise during operation.

D

**3. Technical data**

3.1 Ratings

Model	Utilization category	Ui (V)	Ue (V~)	Conventional heating current (A)	Ie (A)	Controlled power (kW)
NCH8-20	AC-1,AC-7a	500	230	20	20	4
NCH8-20	AC-7b	500	230	20	9	1.2
NCH8-25	AC-1,AC-7a	500	400	25	25	16
NCH8-40	AC-1,AC-7a	500	400	40	40	40
NCH8-63	AC-1,AC-7a	500	400	63	63	40

3.2 Making and breaking capacity

Model	Utilization category	Making and breaking conditions			Electrification time (s)	Interval time (s)	Operating cycle times
		Ic/Ie	Ur/Ue	COS $\phi$			
NCH8-20	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
NCH8-20	AC-7b	8	1.05	0.45	0.05	10	50
NCH8-25	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
NCH8-40	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50
NCH8-63	AC-1,AC-7a	1.5	1.05	0.8	0.05	10	50

3.3 Conventional Operating Performances

3.3.1 Conventional operating performances of NCH8-20~25

Utilization category	Making conditions			Breaking conditions			Electrification time (s)	Interval time (s)	Operating frequency
	I/Ie	U/Ue	COS $\phi$	Ic/Ie	Ur/Ue	COS $\phi$			
AC-1	1.0	1.05	0.8	1.0	1.05	0.8	0.05	10	6000
AC-7a	1.0	1.05	0.8	1.0	1.05	0.8	0.05	10	30000
AC-7b	6.0	1.0	0.45	1.0	0.17	0.45	0.05	10	30000

3.3.2 Conventional operating performances of NCH8-40~63

Utilization category	Making and breaking conditions			Electrification time (s)	Interval time (s)	Operating frequency
	Ic/Ie	Ur/Ue	COS $\phi$			
AC-1	1.0	1.05	0.8	0.05	10	6000
AC-7a	1.0	1.05	0.8	0.05	10	30000

3.4 Conventional heating current under different ambient temperature

Rated current	40°C	50°C	60°C	70°C
Ie=20A	20A	18A	16A	14A
Ie=25A	25A	22A	18A	16A
Ie=40A	40A	38A	36A	32A
Ie=63A	63A	57A	50A	46A

3.5 Number of appended lamps with voltage up to 230V

Unit power	Tungsten filament and halogen 230V					
	60W	100W	200W	300W	500W	1000W
20A	20	12	6	4	2	1
25A	36	20	11	7	4	2
40A	85	50	25	17	10	5
63A	115	70	35	23	14	7



**4. Overall and mounting dimensions (mm)**



Model	D		L	L1	L2	H	H1	H2
	2P	4P						
NCH8-20~25	18	36	85	35.5	45	65.5	60	44
NCH8-40~36	36	54	85	35.5	45	65.5	60	44

**5. Ordering information**

Model	Number of contact	Coil voltage	CTN	Order code	
				Standard	RoHS
NCH8-20	2NO	230V 50Hz	128	153000	981874
NCH8-20	2NO	24V 50Hz	128	153001	981875
NCH8-20	1NO+1NC	220/230V	128	153002	981876
NCH8-20	1NO+1NC	24V 50Hz	128	153003	981877
NCH8-20	2NC	220/230V	128	153020	981878
NCH8-20	2NC	24V 50Hz	128	-	986779
NCH8-20	4NO	220/230V	96	-	986780
NCH8-20	4NO	24V 50Hz	96	-	986781
NCH8-20	2NO+2NC	220/230V	96	-	986782
NCH8-20	2NO+2NC	24V 50Hz	96	-	986783
NCH8-25	4NO	220/230V	96	-	986784
NCH8-25	4NO	24V 50Hz	96	-	986785
NCH8-25	2NO+2NC	220/230V	96	-	986786
NCH8-25	2NO+2NC	24V 50Hz	96	-	986787
NCH8-40	4NO	230V	64	153004	981879
NCH8-40	4NO	24V	64	153005	981880
NCH8-40*	2NO+2NC	230V	64	153006	981881
NCH8-40*	2NO+2NC	24V	64	153007	981882
NCH8-40	2NO	230V	64	153008	981883
NCH8-40	2NO	24V	64	153009	981884
NCH8-40	1NO+1NC	230V	64	153010	981885
NCH8-40	1NO+1NC	24V	64	153011	981886
NCH8-40*	3NO+1NC	220/230V	64	-	986788
NCH8-40*	4NC	220/230V	64	-	986789
NCH8-63	4NO	230V 50Hz	64	153012	981887
NCH8-63	4NO	24V 50Hz	64	153013	981888
NCH8-63*	2NO+2NC	230V 50Hz	64	153014	981889
NCH8-63*	2NO+2NC	24V 50Hz	64	153015	981890
NCH8-63	2NO	230V 50Hz	64	153016	981891
NCH8-63	2NO	24V 50Hz	64	153017	981892
NCH8-63	1NO+1NC	230V50Hz	64	153018	981893
NCH8-63	1NO+1NC	24V 50Hz	64	153019	981894
NCH8-63*	3NO+1NC	220/230V	64	-	986790
NCH8-63*	4NC	220/230V	64	-	986791

Note: "\*" means the product is not available during current development



## CJ19 Contactor for Power Factor Correction

### 1. General

- 1.1 Electric ratings: AC50/60Hz, up to 400V;
- 1.2 Standard: IEC/EN 60947-4-1



### 2. Type designation

CJ 19 □ □

Number of auxiliary contacts  
 20: 2N/O, 11: 1N/O+1N/C  
 02: 2N/C (CJ19-25~43)  
 21: 2N/O+1N/C, 12: 1N/O+2N/C (CJ19-63~95)  
 10: 1N/O, 01: 1N/C (CJ19-115~170)

Basic model code

Design sequence No.

Contactor

### 3. Normal operation conditions

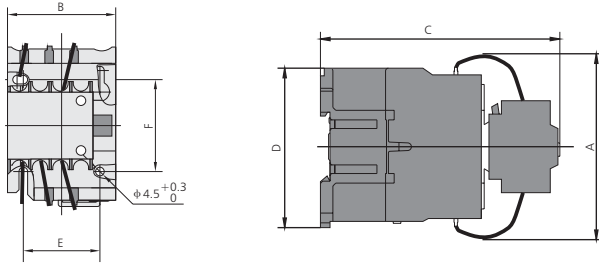
- 3.1 Ambient temperature: -5°C~+40°C,  
the average during 24 hours should not exceed +35°C;
- 3.2 Altitude: ≤ 2000m;
- 3.3 Atmosphere conditions: At mounting site,  
relative humidity not exceed 50% at the max temperature  
of +40°C, higher relative humidity is allowable  
under lower temperature. For example,  
RH could be 90% at +20°C,  
special measures should be taken to occurrence of dews;
- 3.4 Pollution degree: 3
- 3.5 Installation category: III
- 3.6 Installation conditions :  
the inclination between installation plane  
and vertical plane is within ±5 °
- 3.7 Impact and shake: the products should locate  
in the places where there are no obvious impact and shake.

### 4. Technical data

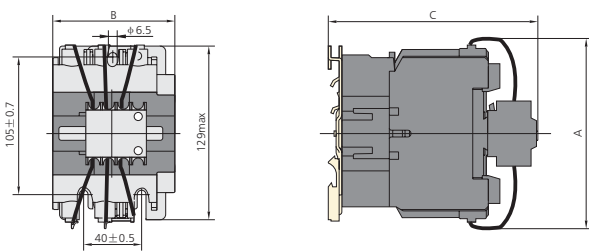
Item	CJ19-25	CJ19-32	CJ19-43	CJ19-63	CJ19-95	CJ19-115	CJ19-150	CJ19-170
Controllable capacitor 220V	6	9	10	15	28.8(240V)	34.5(240V)	46(240V)	52(240V)
Capacity 380V	12	18	20	30	50(400V)	60(400V)	80(400V)	90(400V)
Rated Isolation Voltage Ui V	500					690		
Rated Operational Voltage Ue V	220/240, 380/400							
Conventional thermal current Ith A	25	32	43	63	95	200	200	275
Rated Operational current Ie A(380V)	17	23	29	43	72.2 (400V)	87 (400V)	115 (400V)	130 (400V)
Restrained surge capacity	20 Ie							
Controlled power voltage	110 127 220 380							
Auxiliary contact	AC-15: 360VA DC-13: 33W Ith:10A							
Operating Frequency cycles/h	120							
Electrical durability 10 <sup>4</sup>	10					2		
Mechanical durability 10 <sup>4</sup>	100					300		

**5. Overall and mounting dimensions (mm)**

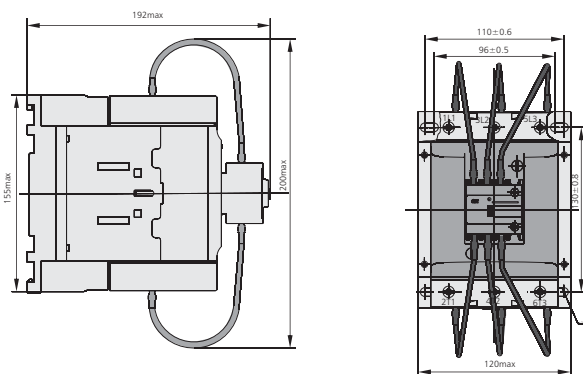
CJ19-25~43



CJ19-63~95



CJ19-115~170



Model	Amax	Bmax	Cmax	Dmax	E	F	Note
CJ19-25	80	47	124	76	34/35	50/60	Not only fixed by screws but also could be fixed with 35mm din rail
CJ19-32	90	58	132	86	40	48	
CJ19-43	90	58	136	86	40	48	
CJ19-63	132	79	150	-	-	-	Not only fixed by screws but also could be fixed with 35mm and 75mm din rail
CJ19-95	135	87	158	-	-	-	
CJ19-115	200	120	192	155			Not only fixed by screws but also could be fixed with two 35mm din rail
CJ19-150	200	120	192	155			
CJ19-170	200	120	192	155			

**6. Wiring and installation**

- 6.1 The connection terminals are protected through insulation cover, which is reliable and secure for installation and operation;
- 6.2 For CJ19-25~43, screws are available for installation, as well as the DIN rail;
  - for CJ19-63~95, 35mm or 75mm standard rail are available for installation.
  - for CJ19-115~170, screws are available for installation, as well as two 35mm DIN rail.