Doc. Code	NDT750018	Version	2	Issue Date	20181121

1、Application

NDC1-09～95 series AC Contactor(hereafter called contactor), which used in 50Hz(60Hz) AC circuit with the rated voltage of 1000V. It is used in AC-3 type，with the rated working voltage of 415V and rated working current of 9~95A，to realize distant connection and disconnection of the circuit and constant starting to control AC motors. It can also be used with thermal relay and electric protecting devices to protect circuit against possible overload.

2、Product Picture

3、Model and implication

ND C 1 — □ □ □ □

Code of peculiar usage:G for products used in plateau;TH for products used in wet and hot areas

Code for auxiliary contacts of 3-P contacts.The tens digit is the number of NO contacts and the next is the numbe of NC contacts .The main contacts of 4P contactor：“40” ropresents 4 main NO contacts,and “08” ropresents 2 NO contacts and 2 NC contacts.

Basic model code: shown by the amperage of le when used in AC-3 at 415V

Z is for DC operation, no code for AC operation

Designing code

AC contactor

Nader Brand

4、Main performance parameter

Rofer to table 3 for parameters

Type			NDC1(Z)-09	NDC1(Z)-12	NDC1(Z)-18	NDC1(Z)-25	NDC1(Z)-32	NDC1(Z)-38
Rated working current (A) Ie(AC-3)	415V		9	12	18	25	32	38
	690V		6.6	8.9	12	18	21	21.5
Rated working current (A) Ie(AC-4)	415V		3.5	5	7.7	8.5	12	13.9
	690V		1.5	2	3.8	4.4	7.5	8
Set heating current Ith A			25	25	32	40	50	50
Rated insulating voltage Ui V			1000					
Rated working voltage Ue V			380/415、660/690					
AC-3 (6Ie、Ie)		Electrical life 10^4	100				80	
		Max operating frequency h^{-1}	1200				600	
AC-4 (6Ie、6Ie)		Electrical life 10^4	20					15
		Max operating frequency h^{-1}	300					
Coil	Rated controlling voltage Us V		For details see table 1					
	Pick-up voltage (Note:40° C)		0.65Us～1.1Us(AC) 0.85Us～1.1Us(DC)					
	Drop-out voltage		0.20Us～0.6Us(AC) 0.10Us～0.6Us(DC)					
	Coil power 50/60Hz VA	Pick-up	65	65	65	110	110	110
		Maintain	8	8	8	11	11	11
	DC coil power W	Pick-up	11	11	11	13	13	13
		Maintain						
Mechanical life 10^4			1000				800	
Auxiliary contact	Set heating current Ith A		10					
	Electrical life 10^4	AC-15(360VA)	100				80	
		DC-13(33W)						
	Min load connected		17V 5mA					
Terminal capacity mm^2 (min/max)	Non-prepared terminal soft cable	1wire	1/4		1.5/6	1.5/10	2.5/10	
		2 wires	1/4		1.5/6	1.5/6	2.5/10	
	prepared terminal soft cable	1 wire	1/4		1/6	1/6	1/10	
		2 wires	1/2.5		1/4	1/4	1.5/6	
	Non-prepared terminal hard cable	1 wire	1/4		1.5/6	1.5/6	1.5/10	
		2 wires	1/4		1.5/6	1.5/6	2.5/10	

Type		NDC1(Z)-40	NDC1(Z)-50	NDC1(Z)-65	NDC1(Z)-80	NDC1(Z)-95
Rated working current (A) Ie(AC-3)	415V	40	50	65	80	95
	690V	34	39	42	49	49

Rated working current (A) Ie(AC-4)	415V	18.5	24	28	37	44	
	690V	9	12	14	17.3	21.3	
Set heating current Ith A		60	80		125	125	
Rated insulating voltage Ui V		1000					
Rated working voltage Ue V		380/415、660/690					
AC-3 (6Ie、Ie)	Electrical life	80	60				
	Max operating frequency h^{-1}	600					
AC-4 (6Ie、6Ie)	Electrical life 10^4	15			10		
	Max operating frequency h^{-1}	300					
Coil	Rated controlling voltage Us V	For details see table 1					
	Pick-up voltage (note:40° C)	0.75Us～1.1Us(AC) 0.85Us～1.1Us(DC)					
	Drop-out voltage	0.20Us～0.6Us(AC) 0.10Us～0.6Us(DC)					
	Coil power 50Hz VA Pick-up	200					
	Coil power 50Hz VA Maintain	20					
	DC coil power W Pick-up	22					
	DC coil power W Maintain						
Mechanical life 10^4		800			600		
Auxiliary contact	Set heating current Ith A	10					
	Electrical life 10^4 AC-15(360VA)	80	60				
	Electrical life 10^4 DC-13(33W)						
	Min load connected	17V 5mA					
Terminal capacity mm^2 (min/max)	Non-prepared terminal soft cable 1wire	2.5/25			4/50		
	Non-prepared terminal soft cable 2 wires	2.5/16			4/25		
	prepared terminal soft cable 1 wire	2.5/25			4/50		
	prepared terminal soft cable 2 wires	2.5/10			4/16		
	Non-prepared terminal hard cable 1 wire	2.5/25			4/50		
	Non-prepared terminal hard cable 2 wires	2.5/16			4/25		
	O-type terminal	--			Only applicable to NDC1(Z)-80～95(A) series AC Contactor, terminal capacity is 25,35mm^2.Can't wire bare cable. O-type terminal size is shown in table 2		

Type		NDC1N-09	NDC1N-12	NDC1N-18	NDC1N-25	NDC1N-32	NDC1N-38
Rated working current (A) Ie(AC-3)	415V	9	12	18	25	32	38
	690V	6.6	8.9	12	18	21	21.5

Rated working current (A) Ie(AC-4)	415V		3.5	5	7.7	8.5	12	13.9
	690V		1.5	2	3.8	4.4	7.5	8
Set heating current Ith A			25	25	32	40	50	50
Rated insulating voltage Ui V			1000					
Rated working voltage Ue V			380/415、660/690					
AC-3 (6Ie、Ie)	Electrical life 10^4		100				80	
	Max operating frequency h^{-1}		1200				600	
AC-4 (6Ie、6Ie)	Electrical life 10^4		20					15
	Max operating frequency h^{-1}		300					
Coil	Rated controlling voltage Us V		For details see table 1					
	Pick-up voltage (note:40° C)		0.65Us～1.1Us					
	Drop-out voltage		0.20Us～0.6Us					
	Coil power 50Hz VA	Pick-up	65	65	65	100	100	100
		Maintain	8	8	8	11	11	11
Auxiliary contact	Set heating current Ith A		10					
	Electrical life 10^4	AC-15(360VA)	100				80	
		DC-13(33W)						
	Min load connected		17V 5mA					
Terminal capacity mm^2 (min/max)	Non-prepared terminal soft cable	1wire	1/4		1.5/6		1.5/10	2.5/10
		2 wires	-		-		-	-
	prepared terminal soft cable	1 wire	1/4		1/6		1/6	1/10
		2 wires	-		-		-	-
	Non-prepared terminal hard cable	1 wire	1/4		1.5/6		1.5/6	1.5/10
		2 wires	-		-		-	-

Type		NDC1N-40	NDC1N-50	NDC1N-65	NDC1N-80	NDC1N-95
Rated working current (A) Ie(AC-3)	415V	40	50	65	80	95
	690V	34	39	42	49	49

Rated working current (A) Ie(AC-4)	415V		18.5	24	28	37	44
	690V		9	12	14	17.3	21.3
Set heating current Ith A			60	80		125	
Rated insulating voltage Ui V			1000				
Rated working voltage Ue V			380/415、660/690				
AC-3 (6Ie、Ie)	Electrical life 10^4		80	60			
	Max operating frequency h^{-1}		600				
AC-4 (6Ie、6Ie)	Electrical life 10^4		15			10	
	Max operating frequency h^{-1}		300				
Coil	Rated controlling voltage Us V		For details see table 1				
	Pick-up voltage (note:40° C)		0.75Us～1.1Us				
	Drop-out voltage		0.20Us～0.6Us				
	Coil power 50Hz VA	Pick-up	200				
		Maintain	20				
Mechanical life 10^4			800			600	
Auxiliary contact	Set heating current Ith A		10				
	Electrical life 10^4	AC-15(360VA)	80	60			
		DC-13(33W)					
	Min load connected		17V 5mA				
Terminal capacity mm^2 (min/max)	Non-prepared terminal soft cable	1wire	2.5/25			4/50	
		2 wires	2.5/16			4/25	
	prepared terminal soft cable	1 wire	2.5/25			4/16	
		2 wires	2.5/10			4/16	
	Non-prepared terminal hard cable	1 wire	2.5/16			4/50	
		2 wires	2.5/16			4/25	

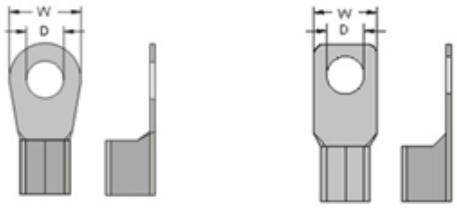
Table 1: rated controlling voltage Us

Type	rated controlling voltage Us V	
	AC（50Hz/60Hz）	DC

NDC1-09、12、18	24、36、48、110、127、200、220、230/240、277、380、400、415/440、480；	24、48、80、110、220
NDC1-25、32、38	24、32、36、48、110、200、220、230、240、380、400、415、440；	24、48、80、110、220
NDC1-40、50、65、80、95	24、36、48、110、127、200、220/230、240、380、400、415、440；	24、48、110、220

Table 2: O-type terminal size

Example of KSS terminal:



Type	Screw holes D/mm	Maximum width W/mm	Max wire specification
**6S	6.4	13.0	25mm²
**6	6.5	13.1	
**8S	8.4	13.0	
**8	8.4	16.4	
**6S	6.4	15.0	35mm²
**6ST	6.4	15.3	
**8S	8.4	15.0	
**8St	8.4	15.3	

5、Working condition

1）Storage: -60℃～+80℃； Operation: the standard operating temperature is-25℃～+40℃,

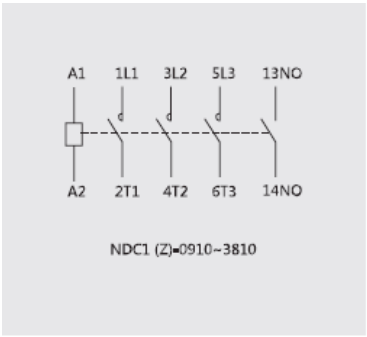
2）Altitude: ≤3000m. Less than 5000m for plateau type product.

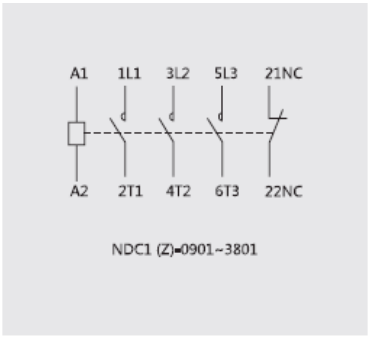
3）Environmental humidity requirements

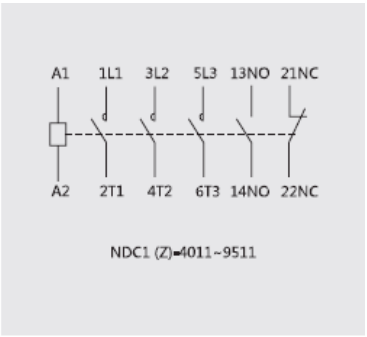
Under normal use,the limit humidity should not exceed 95% and last more than 24 hours,and Measures to prevent condensation should be taken,Environmental humidity is correlated with Temperature.when the ambient temperature is high,the relative humidity is tequired to be lower. If the temperature exceeds +40° C,the relative humidity is not more than 50%.

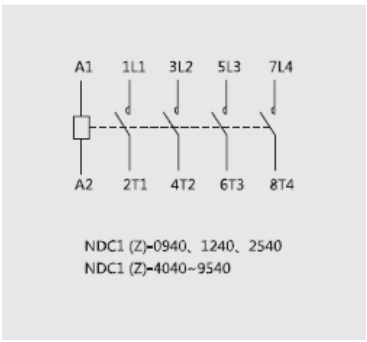
1);2)Please contact us for confirmation of the plan of reducing use .

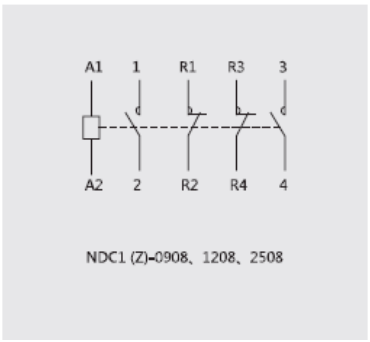
6、Wiring diagram

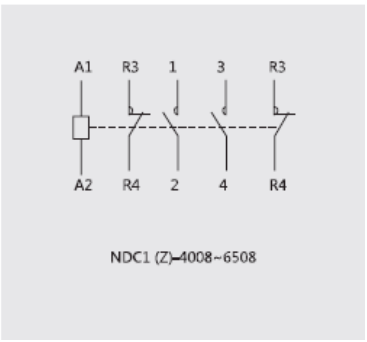


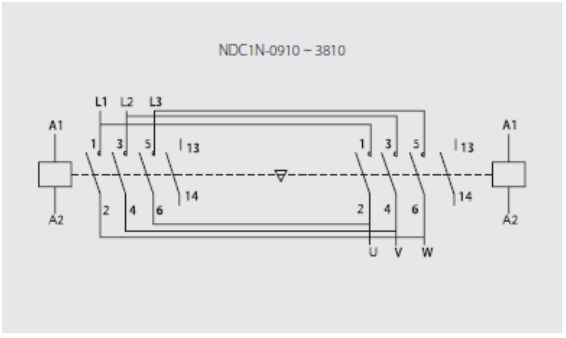


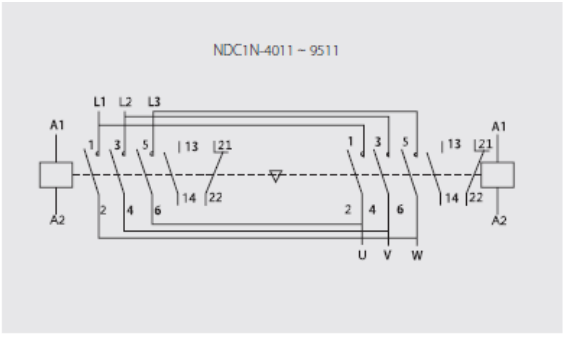


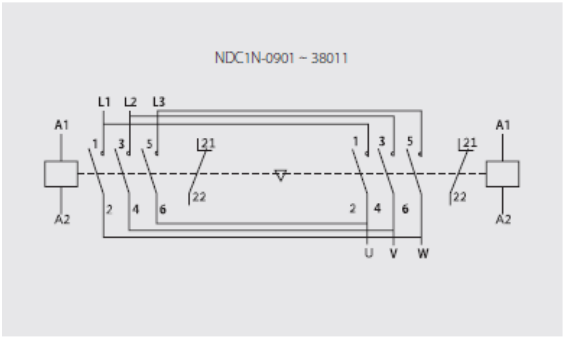


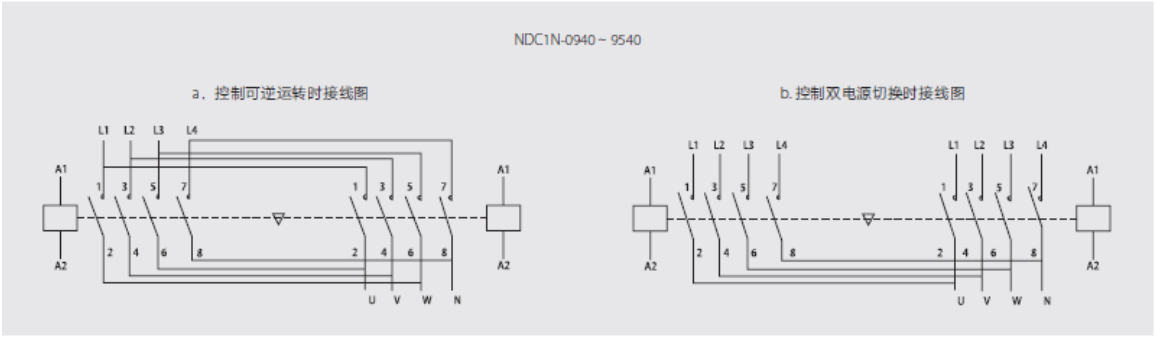






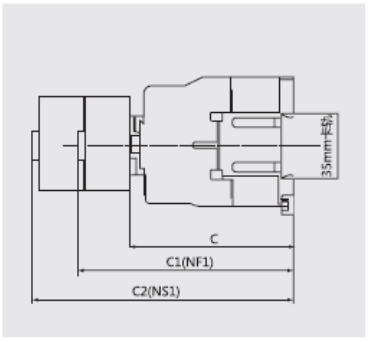


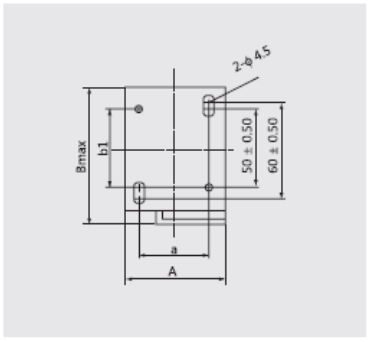


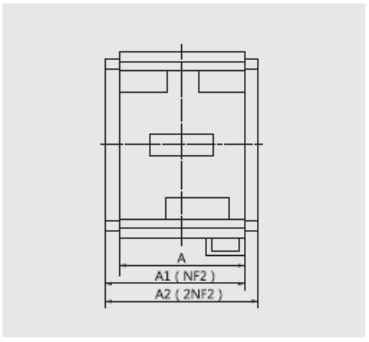


7、Outline and installing dimensions

NDC1-09、12、18、25、32、38





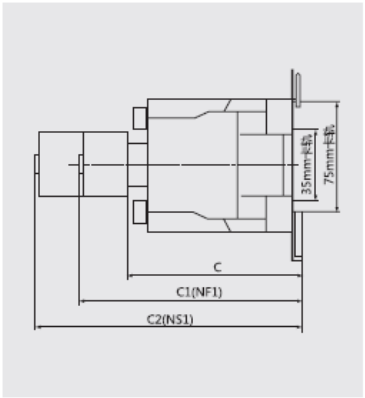


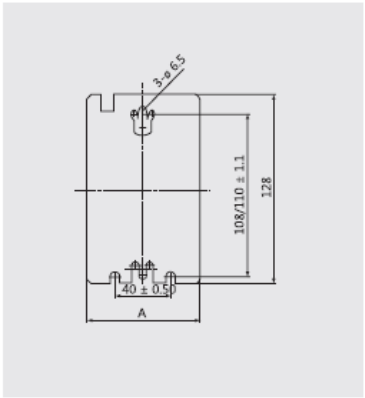
Unit:mm

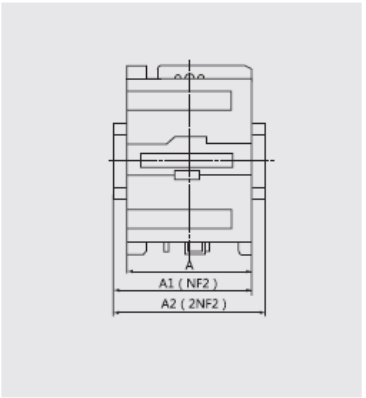
Type	Amax	A1	A2	Bmax	Cmax	a	b1	C1	C2
NDC1-09、12	45	60	72	75	82	35±0.5	47	115	135
NDC1-18					87			120	140
NDC1-25	56	71	84	84	96	40±0.5	47	128	148
NDC1-32、38					101			133	153

C1：NDC1+NF1；C2：NDC1+NS1；A1：NDC1+NF2；A2：NDC1+2NF2；

NDC1-40、50、65、80、95





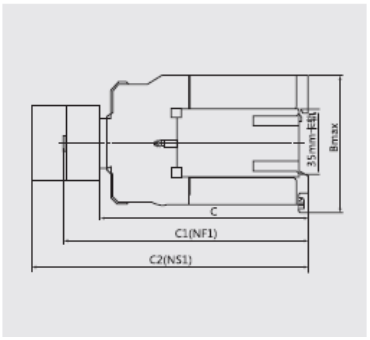


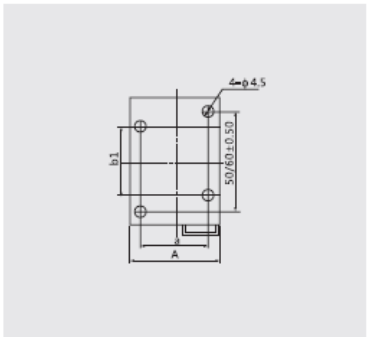
Unit:mm

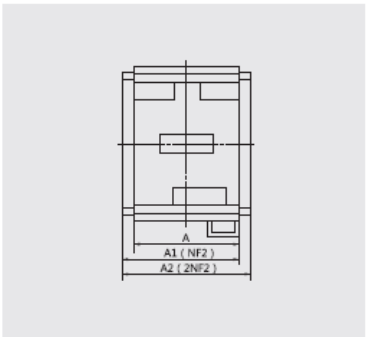
Type	Amax	A1	A2	C	C1	C2
NDC1-4011、5011、6511	75	90	102	117	149	169
NDC1-4040、5040、6540	85	99	110	116	149	169
NDC1-4008、5008、6508	85	99	110	127	149	169
NDC1-8011、9511	85	100	110	126	157	177
NDC1-8040、9540	96	110	122			

C1：NDC1+NF1；C2：NDC1+NS1；A1：NDC1+NF2；A2：NDC1+2NF2；

NDC1Z-09、12、18、25、32、38





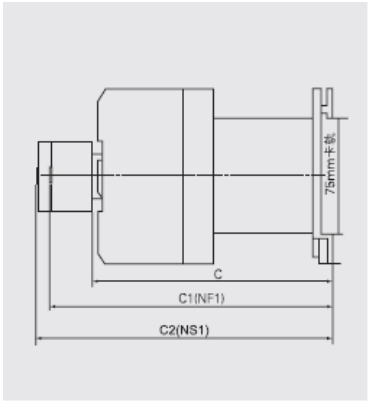


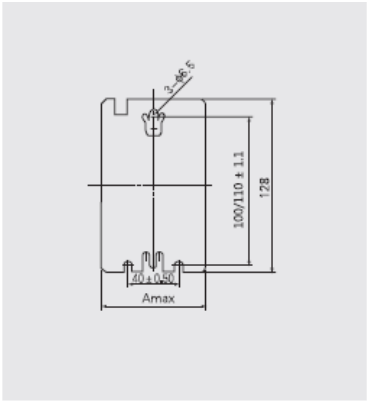
Unit:mm

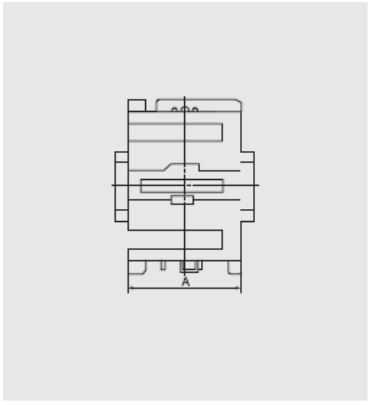
Type	A	A1	A2	B	C	a	b1	C1	C2
NDC1Z-09、12	45	60	72	76	118	35±0.5	45～50	150	170
NDC1Z-18					123			155	175
NDC1Z-25	56	71	84	84	133	40～50	--	165	185
NDC1Z-32、38					138			170	190

C1：NDC1Z+NF1；C2：NDC1Z+NS1；A1：NDC1Z+NF2；A2：NDC1Z+2NF2；

NDC1Z-40、50、65、80、95





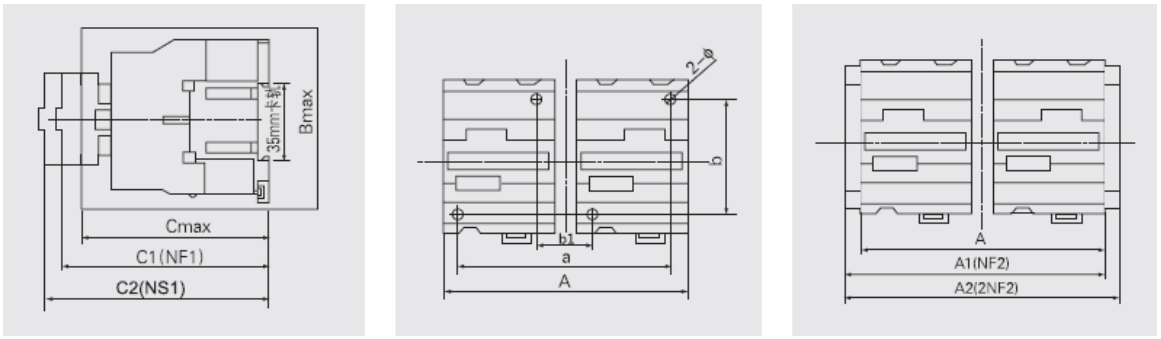


Unit:mm

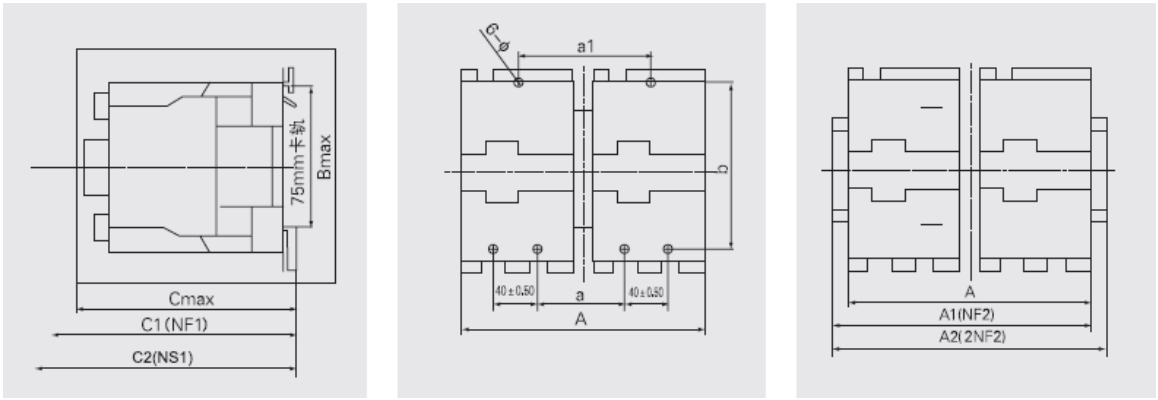
Type	A	A1	A2	C	C1	C2
NDC1Z-4011、5011、6511	75	-	-	175	204	224
NDC1Z-4040、5040、6540	85	-	-			
NDC1Z-4008、5008、6508	85	-	-			
NDC1Z-8011、9511	85	-	-	186	213	233
NDC1Z-8040、9540	96	-				

C1：NDC1+NF1；C2：NDC1+NS1；

NDC1N-09~NDC1N-38



NDC1N-40～-95、NDC1N-40～9540

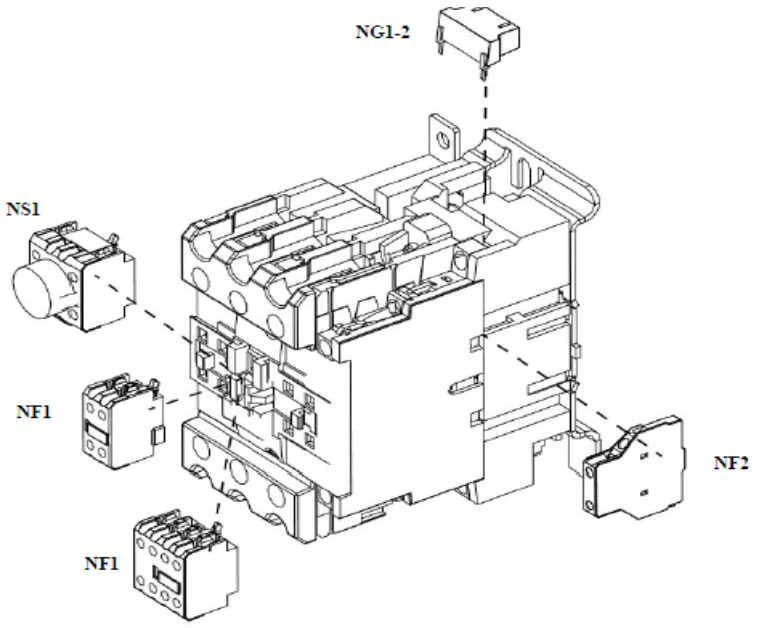


Type	A	A1	A2	Bmax	Cmax	a	a1	b	b1	C1	C2	Φ
NDC1N-09～12 (including 4P)	104	118	131	85	85	95±0.7	-	50/60 (±0.5)	26	115	135	4.5
NDC1N-18 (including 4P)	105	119	132	86	90					120	140	
NDC1N-25 (including 4P)	128	142	154	98	102	112±1	-	50/60 (±0.5)	32	128	148	4.5
NDC1N-32～38				100	120					133	153	
NDC1N-40～65	166	178	192	138	145	50±0.5	90±0.7	108/110 (±1.1)	--	149	169	6.5
NDC1N-4040～6540	185	194	205	146	162	57±0.5	97±0.7					
NDC1N-80～95	185	194	205	146	162	57±0.5	96±0.7			156	176	
NDC1N-80～9540	206	220	232	152	170	71±0.7	111±1					

Unit:mm

C1：NDC1N+NF1；C2：NDC1N+NS1；A1：NDC1N+NF2；A2：NDC1N+2NF2；

8、Accessory



NF1-02		2 "NC"	NG1-1NRE		24V~48V
NF1-11		1 "NO"+1 "NC"	NG1-1NRG		50V~127V
NF1-20		2 "NO"	NG1-1NRU		110V~240V
NF1-04		4 "NC"	NG1-2RCE		24V~48V
NF1-13		1 "NO"+3 "NC"	NG1-2RCG		50V~127V
NF1-22		2"NO"+2 "NC"	NG1-2RCU		110V~240V
NF1-31		3"NO"+1 "NC"	NG1-2RCN		380V~415V
NF1-40		4 "NO"	NG1-2NRE		24V~48V
			NG1-2NRG		50V~127V
NS1-220	*0.1~3S*	On-delay	NG1-2NRU		110V~240V
NS1-222	*0.1~30S*	On-delay	NG1-2NRN		380V~415V
NS1-224	*10~180S*	On-delay	NG1-2DC		24V~220V
NS1-320	*0.1~3S*	Off-delay			
NS1-322	*0.1~30S*	Off-delay	NF2-11		1 "NO"+1 "NC"
NS1-324	*10~180S*	Off-delay	NF2-20		2 "NO"

9、**Mounting**

NDC1(Z)-09~38:In addition to screw mounting, it can be installed on 35mm DIN rail.

NDC1-40~95: :In addition to screw mounting, it can be installed on 35mm or 75mm DIN rail.

NDC1Z-40~95:In addition to screw mounting, it can be installed on 75mm DIN rail.

10、**Packaging and storage**

Each product is packed separately and put into the carton box. The products should be stored at temperature no higher than +80℃, no lower than -60℃. No acidity, alkaline or other corrosive gas.

11、**Accessories list**

Operation instruction, certificate of quality

12、**Notice**

1）The product shall be installed at place without obvious swinging or vibration.

2） Vertical installation. The angle between installing surface and vertical surface should be less than ±5°.

3）The wiring should be reliable and stable to prevent the terminals burning loss by abnormal heating.

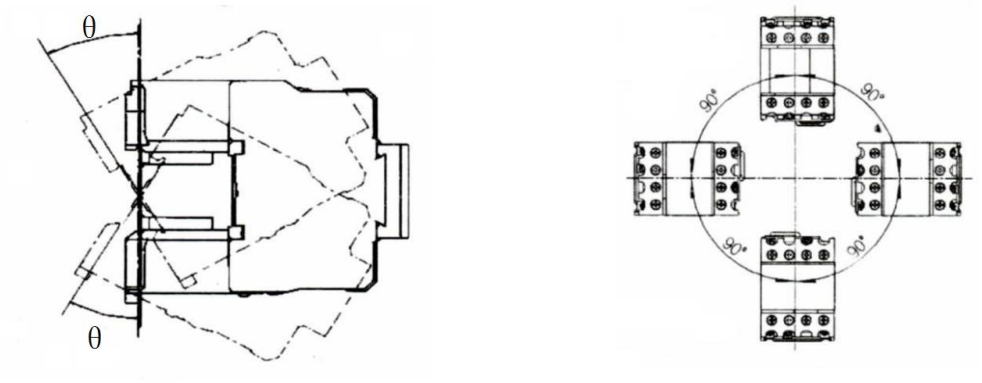
Table 3：torsional moment of the terminal screws

Type	NDC1(Z,N)-09～18	NDC1(Z,N)-25～38	NDC1(Z,N)-40～65	NDC1(Z,N)-80～95	NDC1(Z)-80～95(A)

Main terminal	1.7	2.5	5	9	2.5~5
Auxiliary or Coil terminal	1.7	1.2	1.2	1.2	1.2

Note：NDC1(Z)-80～95(A) means the O-type terminal product. Unit：N.m

Installation angle diagram：



θ：standard installation angle is ±5°,extremity installation angle is ±30°.