

Shanghai Liangxin Electrical Co., Ltd.

NDC3-09/12/18 AC Contactor

Product Specification

(IPD-ENG-DEV-T20 A1 2016-09-23)

Prepared	Caoyanyang	Date	2023-03-06
Reviewed	Xiachanghui	Date	2023-03-06
Countersign	Xiachanghui	Date	2023-03-06
Approved	Cuixiaoming	Date	2023-03-06

Revision information					
Version	Revised contents and reasons	Date	Prepared	Reviewed	Approved
0	New issue	2023/03/06	Caoyanyang	Xiachanghui	Cuixiaoming

1、Application

NDC3(ZE)-09/12/18 AC contactor is used in AC 50Hz(or 60Hz), rated insulation voltage is up to 690V, For frequent start and control of AC motors in AC circuits with rated voltage of 400V and rated current of 9A~18A under the AC-3 service category, A suitable thermal overload relay can be added to form an electromagnetic starter to protect the circuit from possible overload.

2、Product Pictures



NDC3-09/12/18 (No auxiliary contact)



NDC3-09/12/18(With auxiliary contact)



NDC3ZE-09/12/18



NDC3-09/12/18A

3、Model and implication

ND C 3 □ - □ □ □ □
1 2 3 4 5 6 7 8

No	Description	NDC3
1	Company Code	ND  Brand
2	Product Code	C AC Contactor
3	Designing Code	3
4	Derived Code	ZE: DC Operation; No code: AC Operation
5	Basic model Code	Shown by the amperage of Ie when used in AC-3 at 400V
6	Auxiliary contacts Code	The ten digit is the number of NO contacts and the next is the number of NC contacts; No code: No auxiliary contacts.

7	Coil connection mode Code	No code: Normal; A: Coil top wiring
8	Customer Code	Use letters or numbers

4、Main technical parameters

Parameters			specific description		
Specification			NDC3-09	NDC3-12	NDC3-18
Number of poles			3	3	3
Set thermal current of the free air lth（AC-1）(θ≤60℃)			25A	25A	32A
Rated operating current Ie（A）	AC-3	380/415V	9A	12A	18A
		690V	6.6	7.2	11.5
	AC-4	380/415V	9	12	18
		690V	5.5	6.1	9.6
Mean impedance per polemΩ		Ith 50Hz	2.5	2.5	2.5
Power consumption of each pole(W)		AC-3	0.2	0.36	0.81
		AC-1	1.56	1.56	2.56
Rated working voltage			AC220/240V， AC380/415V， AC660/690V		
Rated insulation voltage（Ui）			690V		
Impulse withstand voltage			6kV		
Rated control voltage Uc V			AC:24V/36V/48V/110V/220V/230V/240V/380V/400V/415V/440V（AC control products， 50/60Hz）； DC: 24V/36V/48V/110V/220V（DC control products）		
Control voltage range	Pick-up Voltage V		85%~110%Uc		
	Drop-out Voltage V		20%~60%Uc（AC control products）		
			10%~60%Uc（DC control products）		
Inrush coil power dissipation Uc	AC products		70VA		
	DC products		66W		
Sealed coil power consumption(Uc)	AC products		8VA		
	DC products		3.5W		
Operating time	AC control products	Pick-up	12~22ms		
		Drop-out	4~25 ms		
	DC control products	Pick-up	9~35 ms		
		Drop-out	9~35 ms		
Uc mechanical life 10 ⁴			1500		
Electrical life	AC-3 （6Ie,Ie）	Electrical life(10 ⁴ ）	200	200	160
		Rated operating current（380/415V）	9A	12A	18A
		Frequency of Operation h ⁻¹	1200	1200	1200
	AC-4 （6Ie,6I	Rated operating current（380/415V）	9A	12A	18A

	e)	Power of controlled motor KW (380/415V)	4	5.5	7.5
		Electrical life(10^4 h^{-1})	5	5	4
		Frequency of Operation h^{-1}	300		
Max. Power of controlled motor AC-3 kW	220/240V		2.2	3	4
	380/400V		4	5.5	7.5
	415V		4	5.5	7.5
	440V		4	5.5	9
	500V		5.5	7.5	10
	660/690V		5.5	7.5	10
ULthe rated power of the three-phase motor (horsepower)	220~240 V AC		3 hp	3 hp	5 hp
	380~415 V AC		5 hp	7.5 hp	10 hp
	440~480 V AC		5 hp	7.5 hp	10 hp
	550-600 V AC		7.5 hp	10 hp	15 hp
Short-time withstand current, starting from the cold state, environmental temperature $\leq 40^\circ\text{C}$, no current 15 minutes before	1s		215	215	245
	10s		110	110	146
	1min		65	65	85
	10min		32	32	40
Auxiliary Terminal Capacity mm ² (min...max)	Non-prepared terminal soft cable	1 wire	1...4		1.5...6
		2 wire	1...4		1.5...6
	Prepared terminal soft cable	1 wire	1...4		1...6
		2 wire	1...2.5		1...4
	Non-prepared terminal hard cable	1 wire	1...4		1.5...6
		2 wire	1...4		1.5...6
	Tightening Torque		1.7 N.m		
	Contact number(noumenon)		1NO+1NC or 2No or 2NC		
Auxiliary contact	Rated insulation voltage (Ui)		690V		
	Insulation withstand voltage		6kV		
	Set thermal current of the free air Ith		10A		
	Utilization category		AC-15 DC-13		
	Rated working current /voltage	AC-15	AC400V 2.4A		
		DC-13	DC250V 0.3A		
	Minimum load can be switched on		17V/5mA		

	UL rated power(horsepower)		AC400V 2.4A	1/3 hp
			DC250V 0.3A	1/3 hp
	Normally closed normally open non-overlapping time		1.5ms	
	Electrical life10 ⁴		100	
	Mechanical life10 ⁴		600	
	Max. short-time withstand current A	1s	100A	
		500ms	120A	
		100ms	140A	
Auxiliary Terminal Capacity mm2 (min...max)	Non-prepared terminal soft cable	1 wire	1...4	
		2 wire	1...4	
	Prepared terminal soft cable	1 wire	1...4	
		2 wire	1...2.5	
	Non-prepared terminal hard cable	1 wire	1...4	
		2 wire	1...4	
	Tightening Torque		1.7 N.m	

5、Working conditions

5.1 Ambient temperature: Standard working temperature: $-5^{\circ}\text{C} \sim +60^{\circ}\text{C}$. Max. working temperature: $-25^{\circ}\text{C} \sim +60^{\circ}\text{C}$. Storage temperature: $-60^{\circ}\text{C} \sim +80^{\circ}\text{C}$.

5.2 Altitude: $\leq 3000\text{m}$, Less than 5000m for plateau type product.

3000~5000m Derating factor

	3500m	4000m	4500m	5000m
Insulation voltage derating factor	0.9	0.8	0.7	0.6
Current derating factor	0.92	0.9	0.88	0.86

5.3 Pollution degree: III

5.4 Protection degree: IP20

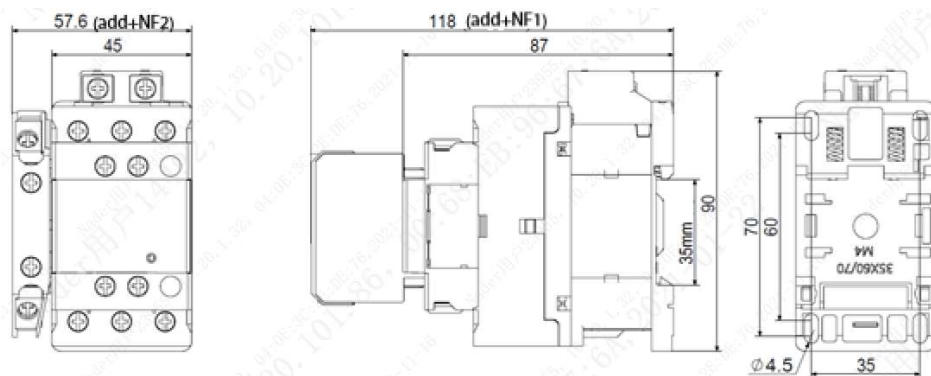
5.5 Installation category : III

5.6 Seismic Resistance: seismic resistance 5...300 Hz OFF state: 2gn, ON state: 4gn

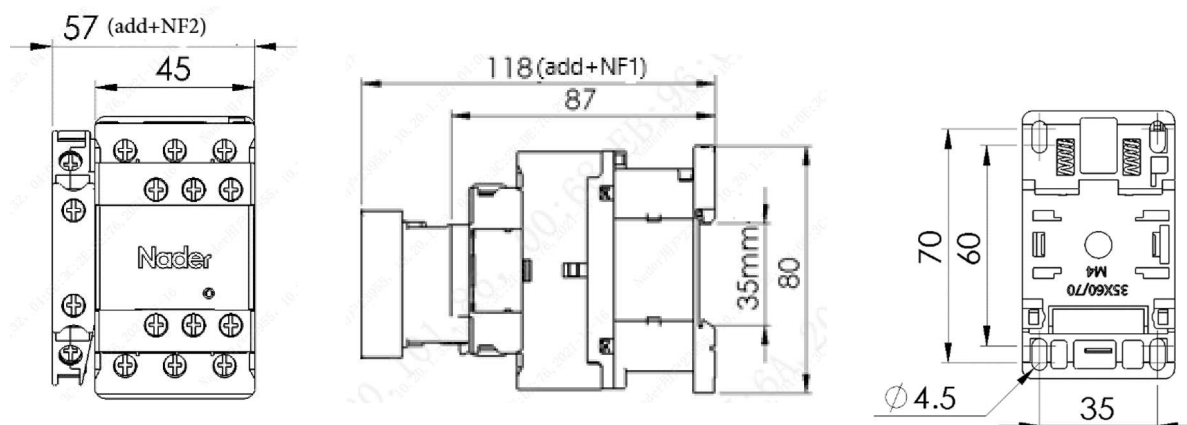
5.7 Shock Resistance: shock resistance 1/2 sin wave = 11ms, OFF state: 8gn, ON state :15gn

6、Outline and installing dimensions

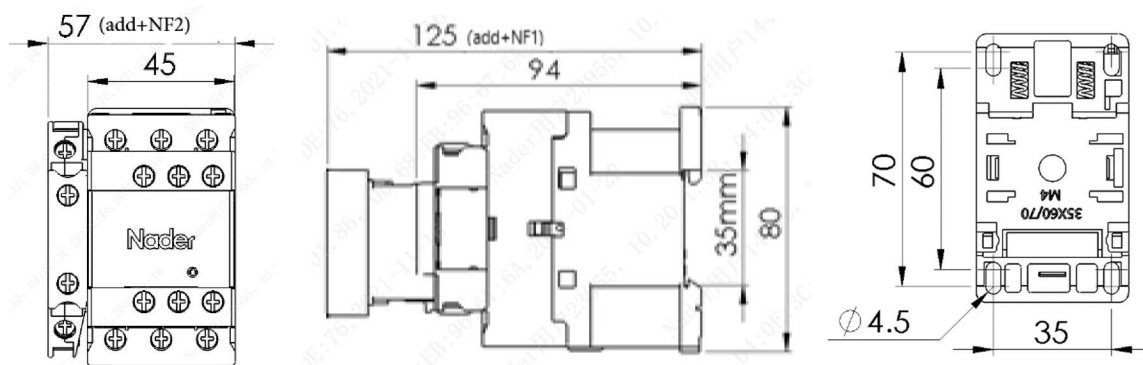
1) NDC3-09/12/18 with auxiliary contacts (AC control) (mm)



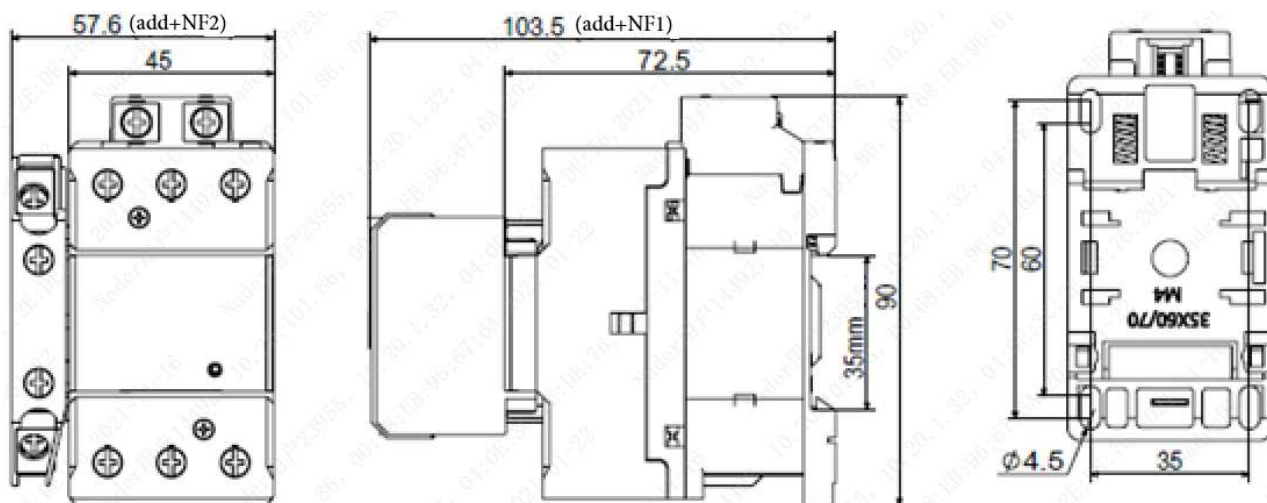
2) NDC3-09/12/18 A with auxiliary contacts (AC control) (mm)



3) NDC3ZE-09/12/18 with auxiliary contacts (DC control) (mm)



4) NDC3-09/12/18 without auxiliary contacts (AC control) (mm)



7、Mounting

Vertical installation: The angle between installing surface and vertical surface should be less than $\pm 30^\circ$.
In addition to screw mounting, it can be installed on 35mm DIN rail.

8、Environmental conformance

Comply to RoHS.

9、Accessory list

NF1and NF2 series auxiliary contact group, NS1 series pneumatic timer, NCG1coil surge suppression

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module.

10、**Notice**

- 1) The product shall be installed at place without obvious swinging or vibration.
- 2) Vertical installation.