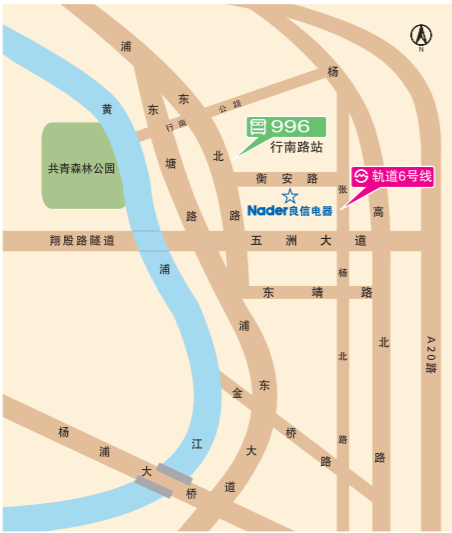


Nader

Nader



As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

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NDC2 Series NDC2N Series AC Contactor

NDC2 Series AC Contactor

Summary

Suitable scope

NDC2 Series AC Contactor is mainly used in AC 50Hz/60Hz circuits with rated insulating voltage up to 1000V, rated working voltage of 400V and rated working current up to 170A in AC-3 utilisation type. It is used to making or breaking the circuit in power system. It can also compose the motor stater together with thermal overload relay or electronic protection device to protect the circuit against overload.

Application

The Contactor are widely used in auto-control circuit to control motors, electric heaters, illumination, welding machines, capacitor group and etc loads.



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Standards and Certificates

- > IEC 60947-4, IEC 60947-5, GB 14048.4, GB 14048.5;
- > TÜV, CE, CCC.

Model and Implication



No.	Illustration	NDC2
1	Brand code	ND Nader
2	Product code	C AC contactor
3	Design code	2
4	Rated current (AC-3, 400V)	06, 09, 12, 16, 115, 150, 170
5	Auxiliary contacts code of 3-pole contactor ¹⁾	10: one pair of normal open(NO) auxiliary contacts 01 one pair of normal close(NC) auxiliary contacts
	Main contacts code of 4-pole contactor ²⁾	40: four pairs of normal open(NO) main contacts 08: two pairs of NO main contacts + two pair of NC main contact

- > Note:
- 1) No auxiliary contacts in 115A/150A/170A contactors. NF1 & NF2 can be ordered as accessories to add the auxiliary contacts.
 - 2) We can just provide three-pole product for 115A/150A/170A now.

Control Power

Parameter Type	Rated Current (A) (AC-3, 400V)	Control Power (kW)					Number of Contacts
		220/230V	380/400V	415/440V	500V	660/690V	
NDC2-06	6	1.5	2.2	2.2/3	3	3	3P + 1NO 3P + 1NC 4P
NDC2-09	9	2.2	4	4	4	4	
NDC2-12	12	3	5.5	5.5	4	4	
NDC2-16	16	3	7.5	7.5	5.5	4	3P
NDC2-115	115	30	55	59	75	80	
NDC2-150	150	40	75	80	90	100	
NDC2-170	170	55	90	100	100	110	

Note: 3P: three pairs of NO main contacts

4P: four pairs of NO main contacts / two pairs of NO main contacts and two pairs of NC main contacts

NO: one pair of normal open auxiliary contacts NC: one pair of normal close auxiliary contacts

Working Condition

- > Ambient temperature: -5°C ~ +60°C
- > Altitude: ≤2000m
- > The relative humidity of the air does not exceed 50% at the temperature of +40°C. Higher relative humidity may be permitted at lower temperature, such as 90% relative humidity at 20°C. Special measures are necessary in case of occasional condensation due to variations in temperature.
- > No significant shock or vibration.
- > Pollution degree: 3
- > Installation category: III
- > In addition to screw mounting, it can be installed on 35mm DIN rail.
- > Vertical installation, the angle between installing surface and vertical surface should be less than ±30°.
- > Working hours

a) Eight hours

b) Around-the-clock working

c) Remittent periodical working Load factor: 40%

Operating frequency: Ie≤16A 1200 times/hour

Ie=115A 600 times/hour

Ie=150A/170A 300 times/hour



Product Features

NDC2-06/09/12/16

- > Direct operating mechanism, double breaking points
- > External auxiliary contacts group on the top is available
- > The contact system and magnet system using pivot conversion to reduce the collision and power lose.
- > Small size, light and handy
- > Protection type: IP20



NDC2-115/150/170

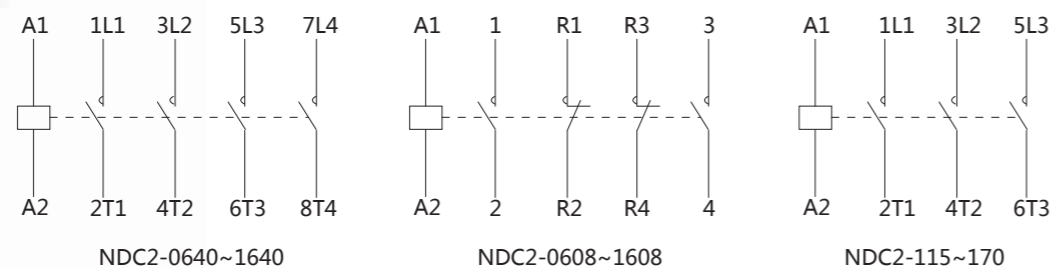
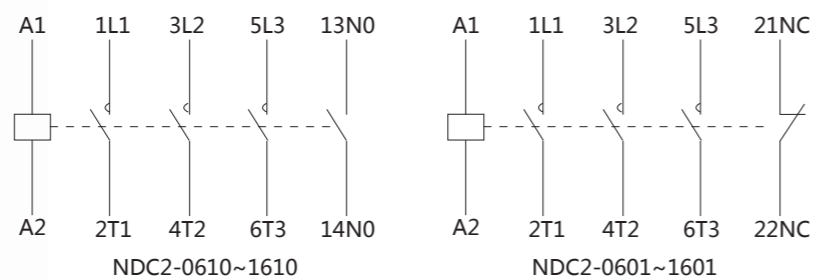
- > Direct operating mechanism, double breaking points
- > External auxiliary contacts group (NF1/NS1) on the top and NF2 on both sides are available.
- > Coil surge refraining modular (NG1) can be installed on terminals of coil.
- > Protection type: IP20



Main Specifications

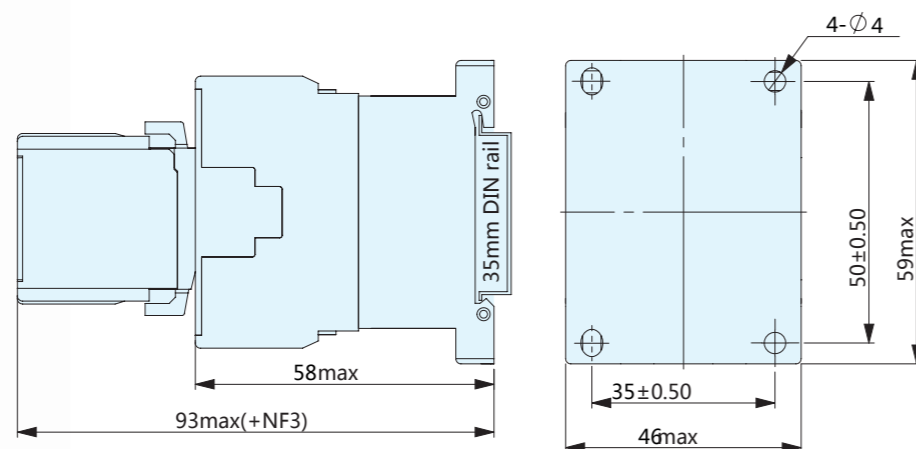
Parameters		Type	NDC2-06	NDC2-09	NDC2-12	NDC2-16	NDC2-115	NDC2-150	NDC2-170
Rated current (A) Ie	AC-3	380/400V	6	9	12	16	115	150	170
		660/690V	3.8	4.9	4.9	4.9	86	107	118
Conventional thermal current (A) Ith			20				200		
Rated insulation voltage (V) Ui			690				1000		
Rated operational voltage (V) Ue			220/230		380/400		660/690		
AC-3 (6Ie, Ie)	Electrical life (times)		100×10 ⁴				40×10 ⁴		30×10 ⁴
	Max. operating frequency (h ⁻¹)		1200				600		300
AC-4 (6Ie, 6Ie)	Electrical life (times)		20×10 ⁴				2×10 ⁴		
	Max. operating frequency (h ⁻¹)		600				300		
	Rated current (A) Ie	380/400V	2.3	3.3	4.3	5.6	54	63	75
660/690V		1.4	1.4	1.9	1.9	27	35	42	
Conventional thermal current (A) Ith			10				/		
Auxiliary contact	Electrical life (times)	AC-15 (360VA)	100×10 ⁴				/		
		DC-13 (33W)	/				/		
	Min. load connected			24V 10mA				/	
Coil		Rated control circuit voltage (V) Us	AC(50Hz, 50/60Hz): 24, 36, 48, 110, 220/230, 380/400				AC(50Hz, 50/60Hz): 24, 36, 48, 110, 220, 380		
		Pick-up voltage		85%Us-110%Us					
		Drop-out voltage		20%Us~75%Us					
		Coil power (VA)	Inrush	50Hz	30			300	
50/60Hz	30			350					
	Sealed	50Hz	5			22			
		50/60Hz	5			22			
Mechanical life (times)			1000×10 ⁴				400×10 ⁴		300×10 ⁴
Wiring capacity for power circuit (Min. ~ Max.)	Flexible cable without cable end (mm ²)	1 conductor	0.75 ~ 4				10 ~ 120		
		2 conductors	0.75 ~ 4/0.75 ~ 4				10 ~ 120/10 ~ 50		
	Flexible cable with cable end (mm ²)	1 conductor	0.34 ~ 2.5				10 ~ 120		
		2 conductors	0.34 ~ 1.5/0.34 ~ 2.5				10 ~ 120/10 ~ 50		
	Solid cable with cable end (mm ²)	1 conductor	1.5 ~ 4				10 ~ 120		
		2 conductors	1.5 ~ 4/1.5 ~ 4				10 ~ 120/10 ~ 50		
Wiring capacity for control circuit (Min. ~ Max.)	Flexible cable (mm ²)	1 conductor	0.34 ~ 2.5				1 ~ 2.5		
		2 conductors	0.34 ~ 1.5/0.34 ~ 2.5				1 ~ 2.5/1 ~ 2.5		
	Solid cable (mm ²)	1 conductor	1.5 ~ 4				1 ~ 2.5		
		2 conductors	1.5 ~ 4/1.5 ~ 4				1 ~ 2.5/1 ~ 2.5		

Wiring Schematic

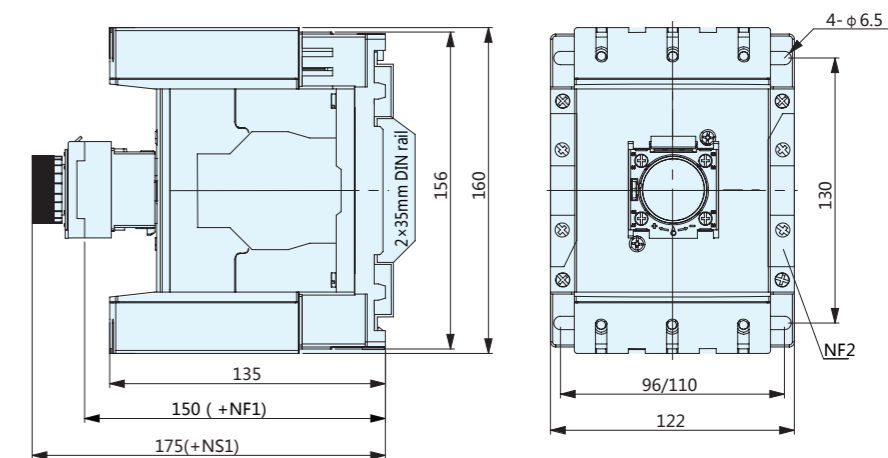


Dimension

NDC2-06, NDC2-09, NDC2-12, NDC2-16



NDC2-115, NDC2-150, NDC2-170



Accessory (Order separately)

- > Please refer to Page 39~44 in catalogue of NDC1 when ordering NF1 series auxiliary contact group, NF2 series auxiliary contact group, NS1 series pneumatic timer and NG1 series coil suppressor module.
- > NF3 series auxiliary contact group is under developing and not available now.

Ordering Notice

Please specify the following information when place an order

- > The full model of the contactor;
- > Rated control circuit voltage and its frequency;
- Quantity.
- > For example: AC contactor NDC2-0610 50Hz 220/230V 10PCS
Means: Rated current is 6A. Rated control circuit voltage is 220/230V (50Hz). Quantity is 10PCS.
- AC contactor NDC2-115 50Hz 220 10PCS
Means: Rated current is 115A. Rated control circuit voltage is 220V (50Hz). Quantity is 10PCS.
- > Contactor with special control circuit voltage can be customized upon request.

NDC2N-06~16 Series AC Contactor

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Application

> NDC2N-06~16 series reversing AC contactor is used in AC50Hz/60Hz circuit with rated insulating voltage of 690V, rated working voltage of 400V and rated working current up to 5.6A in AC-4 utilisation type. It is used to control dual powers and reversible operational motors or motors which can back braking. It can also be used as electromotor starter when matched with thermal relay or electronic type protection device to protect the circuit against possible overload.

Model and Implication

ND C 2 N - □ □
 1 2 3 4 5 6

No.	Implication	NDC2
1	Brand code	ND Nader
2	Product code	C AC contactor
3	Design code	2
4	Contactor type	N Reversing contactor
5	Frame size	Shown by rated current Ie when used in AC-3 at 400V: 06, 09, 12, 16
6	Auxiliary contact code of 3-pole contactor	10: 1 pair of normal open (NO) auxiliary contacts 01: 1 pair of normal close (NC) auxiliary contacts
	Main contact code of 4-pole contactor	40: 4 pairs of normal open (NO) main contacts

Control Power

Parameter Type	Conventional Thermal Current (A) Ith	AC-4 Utilisation Type				Number of Contacts
		Rated Current (A) Ie		Control Power (kW)		
		220/230V	380/400V	220/230V	380/400V	
NDC2N-06	20	2.4	2.3	0.55	0.55	3P + 1NO 3P + 1NC 4P
NDC2N-09		3.5	3.3	0.75	1.5	
NDC2N-12		4.4	4.3	1.1	1.5	
NDC2N-16		5.7	5.6	1.1	1.1	

Note: 3P: three pairs of NO main contacts 4P: four pairs of NO main contacts
 1NO: one pair of normal open auxiliary contacts 1NC: one pair of normal close auxiliary contacts

Standards

> IEC 60947-4-1, IEC 60947-5-1; GB 14048.4, GB 14048.5.

Working Condition

- > Ambient temperature: -5°C~ +60°C
- > Altitude: ≤2000m
- > The relative humidity of the air does not exceed 50% at the temperature of +40°C. Higher relative humidity may be permitted at lower temperature, such as 90% relative humidity at 20°C. Special measures are necessary in case of occasional condensation due to variations in temperature.
- > No significant shock or vibration.
- > Pollution degree: 3
- > Installation category: III
- > In addition to screw mounting, it can be installed on 35mm DIN rail.
- > Vertical installation, the angle between installing surface and vertical surface should be less than ±30°.
- > Working hours
 - a) Eight hours
 - b) Around-the-clock working
 - c) Remittent periodical working Load factor: 40%
- Operating frequency: Ie≤16A 1200 times/hour

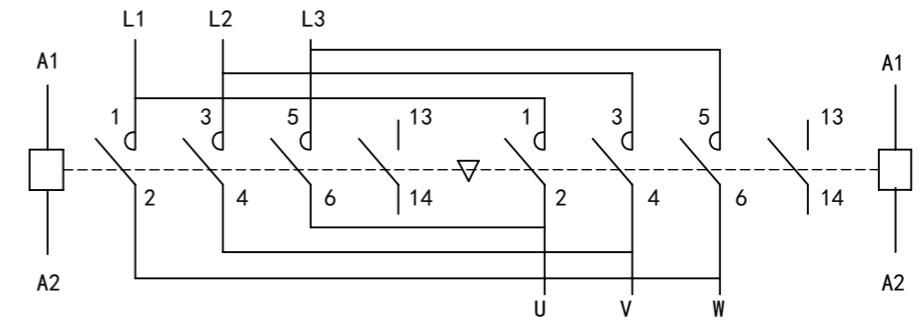
Product Features

- > Direct operating mechanism, double breaking points
- > External auxiliary contacts group on the top is available
- > The contact system and magnet system using pivot conversion to reduce the collision and power lose.
- > Small size, light and handy
- > Protection type: IP20

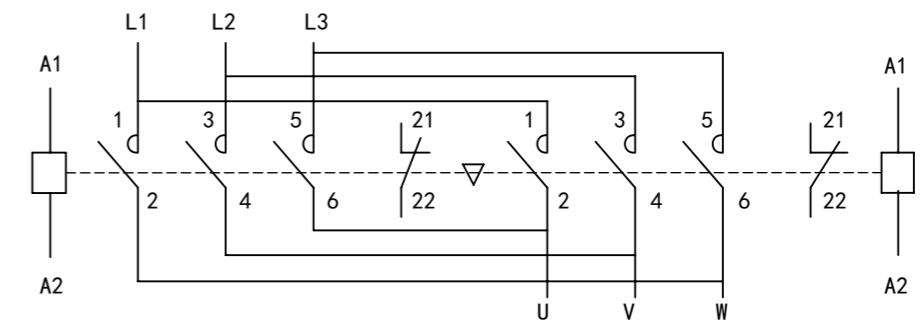
Main Specifications

Parameters		Type	NDC2N-06	NDC2N-09	NDC2N-12	NDC2N-16	
Rated current (A) Ie	AC-3	380/400V	6	9	12	16	
		660/690V	3.8	4.9	4.9	4.9	
Conventional thermal current (A) Ith			20				
Rated insulation voltage (V) Ui			690				
Rated operational voltage (V) Ue			220/230	380/400	660/690		
AC-3 (6Ie, 6Ie)	Electrical life (times)		100×10 ⁴				
	Operating frequency (h ⁻¹)		1200				
AC-4 (6Ie, 6Ie)	Electrical life (times)		20×10 ⁴				
	Operating frequency (h ⁻¹)		600				
	Rated current (A) Ie	220/230V	2.4	3.5	4.4	5.7	
380/400V		2.3	3.3	4.3	5.6		
Auxiliary contact			10				
	Electrical life (times)	AC-15 (360VA)	100×10 ⁴				
		DC-13 (33W)					
Min. load connected			24V 10mA				
Coil	Rated control circuit voltage (V) Us		AC(50Hz, 50/60Hz): 24, 36, 48, 110, 220/230, 380/400				
	Pick-up voltage		85%Us ~ 110%Us				
	Drop-out voltage		20%Us ~ 75%Us				
	Coil power (VA)	Inrush	50Hz	30			
			50/60Hz	30			
		Sealed	50Hz	5			
50/60Hz			5				
Mechanical life (times)			300×10 ⁴				
Wiring capacity for power circuit (Min.~Max.)	Flexible cable without cable end (mm ²)	1 conductor	0.75 ~ 4				
		2 conductors	0.75 ~ 4				
	Flexible cable with cable end (mm ²)	1 conductor	0.34 ~ 2.5				
		2 conductors	0.34 ~ 1×1.5+1×2.5				
	Solid cable with cable end (mm ²)	1 conductor	1.5 ~ 4				
		2 conductors	1.5 ~ 4				
Wiring capacity for control circuit (Min. ~Max.)	Flexible cable (mm ²)	1 conductor	0.34 ~ 2.5				
		2 conductors	0.34 ~ 1×1.5+1×2.5				
	Solid cable (mm ²)	1 conductor	1.5 ~ 4				
		2 conductors	1.5 ~ 4				

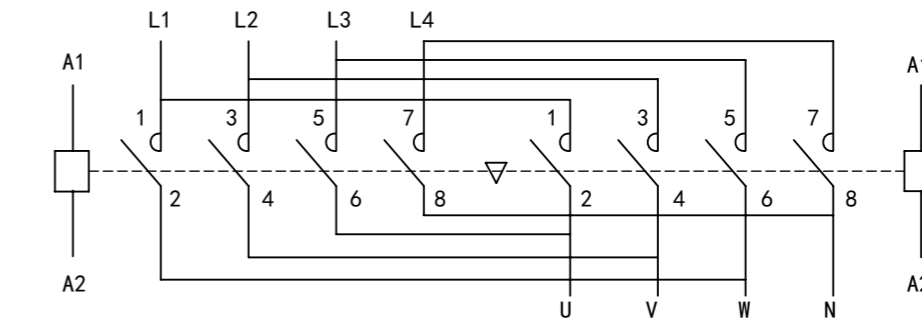
Wiring Schematic



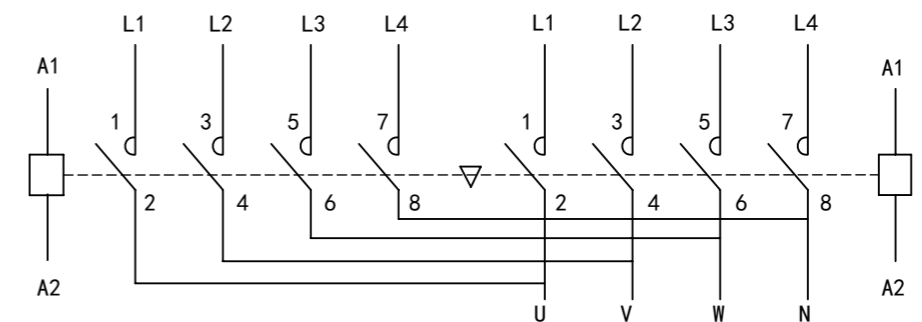
NDC2-0610/0910/1210/1610



NDC2-0601/0901/1201/1601



NDC2-0640/0940/1240/1640
(Wiring schematic for controlling reversible operation)



NDC2-0640/0940/1240/1640
(Wiring schematic for controlling dual-power switching)

