

Product Specification

Product Name: Contactor Relay

Product Model: NDJ1(Z)

Date: 20160516

Prepared by	Reviewed by	Approved by
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File No.	NDT2930159	Version	0	Implementation Date	20160516
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1. Application

The NDJ1(Z) series of contactor relays (hereinafter referred to as relays) are applicable to the control circuit with the AC 50Hz (or 60Hz), voltage of 380V and DC voltage of 220V for controlling various solenoid coils, and magnifying or transferring signals.

2. Product Picture (only for reference)



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3. Model implications

ND J 1 □ — □ □

	Special usage: TH, humid tropical zone type
	Contact no. code: in two-digit number: The tens digit is the no. of always-on contact, while the units digit is the no. of always-off contact
	Derivative code: Z, DC operation (AC operation product does not have this code)
	Design code: 1
	Product code: Contactor Relay
	Enterprise code: "Nader"brand low-voltage electrical appliance

4. Main Technical Parameters

Model			NDJ1-40、31、22	NDJ1Z-40、31、22
Rated current Ie(AC-3) A		AC-15（380V）	0.95	
		DC-13（220V）	0.15	
Agreed thermal current Ith A			10	
Rated working voltage Ue V			AC380V DC220V	
Rated insulation voltage Ui V			690V	
Minimum connected load			17V 5mA	
Rated operating frequency h ⁻¹			2400	
Mechanical life			1000×10 ⁴	
Electrical life			120×10 ⁴	
Coil	Rated control voltage Us V		AC:50/60Hz, 24、48、110、220、380	DC:24、48、110、220
	Pull-in voltage		0.85Uc～1.1Uc	0.85Uc～1.1Uc
	Discharge voltage		0.20Uc～0.75Uc	0.10Uc～0.75Uc
	Starting power		65VA	11W
	Pull-in retention power/consumption		8VA	11W
Dielectric strength（AC 50Hz）			1890V/1min	
Normally open and normally closed changeover time			4ms	
Allowable instantaneous overcurrent		1s	100A	
		500ms	120A	
		100ms	180A	
Connection terminal connection capacity mm ²		Cord	1piece/2p ieces	2.5
		Hard wire	1piece/2p ieces	4

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5. Accessory Technical Parameters

5.1 Auxiliary contact

Parameter		Type	NF1/NF2
Standards			IEC60947-5 GB14048.5
Rated insulation voltage U_i V			690V
Rated operating voltage U_e V			AC 380 DC:220
Agreed thermal current of the free air I_{th} A			10A
Rated operating current I_e A	AC-15(360VA)		0.95
	DC-13(33W)		0.15
Minimum connected load			17V 5mA
Operating frequency h^{-1}			2400
Life	Mechanical life 10 thousand		1000
	Electrical life 10 thousand		120
Insulation resistance $M\Omega$			10
Power frequency withstand voltage (V)			1890V 1min
Connection capacity mm^2 (min/max)	cord	1 piece/2 pieces	2.5
	Hard wire	1 piece/2 pieces	4
Tightening torque N :m			0.8-1.2

5.2 Time delay auxiliary contact (air type)

Parameter		Type	NS1
Standards			IEC60947-5 GB14048.5
Rated insulation voltage U_i V			690V
Rated operating voltage U_e V			AC 380 DC:220
Agreed thermal current of the free air I_{th} A			10A
Rated operating current I_e A	AC-15(360VA)		0.95
	DC-13(33W)		0.15
Minimum connected load			17V 5mA
Operating frequency h^{-1}			1200
Life	Mechanical life 10 thousand		300
	Electrical life 10 thousand		50
Insulation resistance $M\Omega$			10
Power frequency withstand voltage (V)			1890V 1min
Time delay repetitive error			$\pm 5\%$

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Time relay stability error			±15%
Temperature error			±0.3%
Connection capacity mm ² (min/max)	cord	1 piece/2 pieces	2.5
	Hard wire	1 piece/2 pieces	4
Tightening torque N·m			0.8-1.2

Note: only one from NF1 and NS1 can be chosen; for NF2, you can choose two and install them on the left and right side of the contactor relay.

5.3 Coil surge suppression module

Installation	Protection Type	Matched Coil Voltage	Model	Used together with Contactor Relay	Main Performance Index
Fastening Type  Fasten it onto the A1, A2 terminal of the contactor coil	Varistor	AC 24V~48V	NG1-1NRE	NDJ1/NDJ1Z	a) Highest transient overvoltage limit is 2Uc。 b) The contactor release time is approximately 1.1 to 1.5 times the normal release time.
		AC 50V~127V	NG1-1NRG		
		AC110V~240V	NG1-1NRU		
Insertion Type  Insert it into the A1, A2 terminal of the contactor coil	Varistor	AC 24V~48V	NG1-2NRE		
		AC 50V~127V	NG1-2NRG		
		AC110V~240V	NG1-2NRU		
		AC380V~415V	NG1-2NRN		
	R C circuit	AC 24V~48V	NG1-2RCE	NDJ1	a) Highest transient overvoltage limit is 3Uc, Maximum oscillation frequency limit is 400Hz。 b) The contactor release time is approximately 1.2 to 2 times the normal release time.
		AC 50V~127V	NG1-2RCG		
		AC110V~240V	NG1-2RCU		
		AC380V~415V	NG1-2RCN		
Insertion Type	Diode	DC 24~220V	NG1-2DC	NDJ1Z	a) No overvoltage or oscillation frequency generated b) The contactor release time is approximately 6 to 10 times the normal release time.

6. Working Condition

- 1) Free from acidic, alkaline or other corrosive gases in the ambient air;
- 2) Temperature:

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Storage: $-60^{\circ}\text{C} \sim +80^{\circ}\text{C}$;

Operating: $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$;

Extreme operating: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}^{1)}$.

3) Altitude:

Normal operating: $\leq 3000\text{m}$;

Extreme operating: $\leq 5000\text{m}^{2)}$.

4) environment humidity:

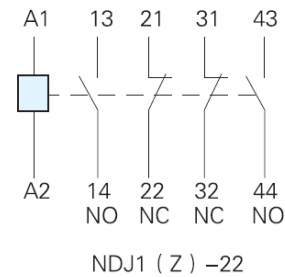
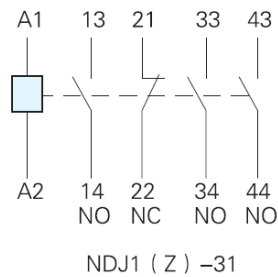
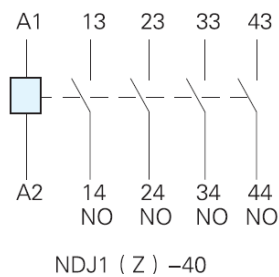
The relative air humidity under normal operating should not exceed 95%, and condensing should be avoided.

Environment humidity and temperature are interrelated. A higher temperature requires a lower humidity.

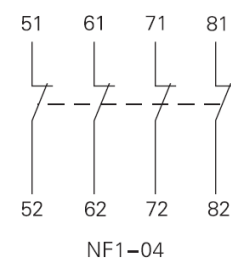
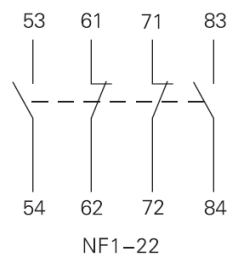
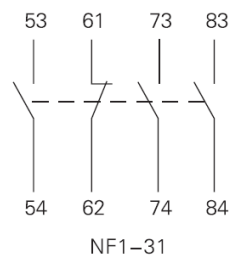
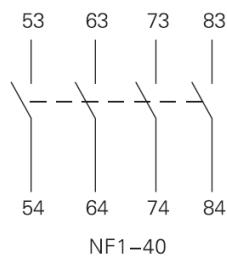
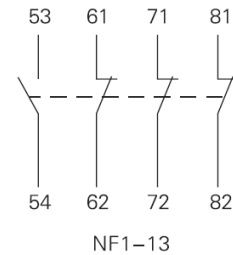
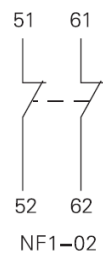
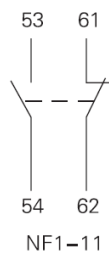
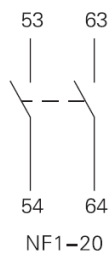
For example, if the temperature exceeds 40°C , the humidity cannot be higher than 50%.

For 1), 2) capacity reduction operation plan, please confirm with us.

7. Wiring Diagram

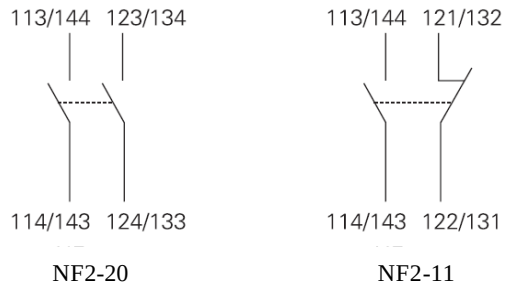


NF1Auxiliary contact block wiring diagram



NF2 Auxiliary contact block wiring diagram

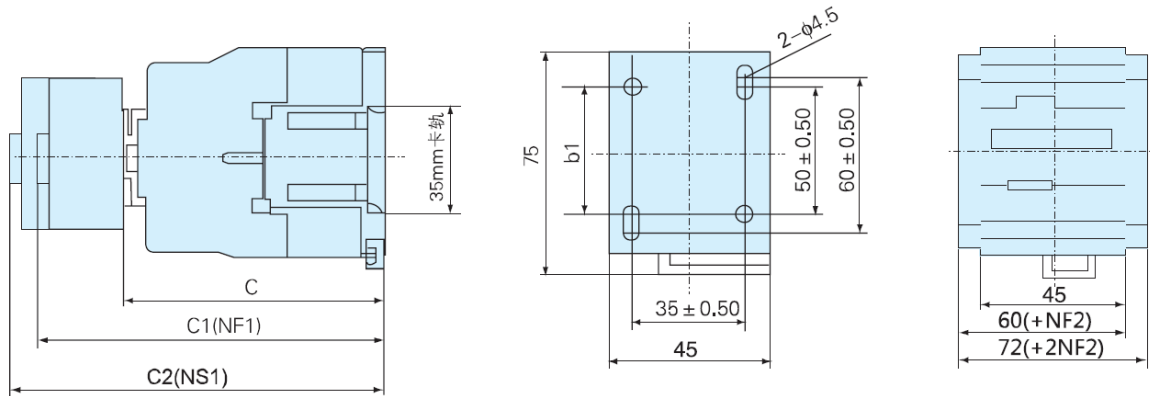
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NS1Air time relay contact wiring diagram



8. Outline and Installing Dimensions



Unit:mm

Relay Model	b1	C	C1	C2
NDJ1-40、31、22	47	82	115	135
NDJ1Z-40、31、22	45~50	118	150	170

Note 1: undeclared tolerance $\pm 1\text{mm}$.

9. Installation Mode

Bolt installation or installed on the 35mm standard guide rail.

10. Packaging and Storage

Each set of assembled product is packed in a box then in a case, and stored in a warehouse with air ventilation and a temperature range from -60°C to 80°C . No acidic alkaline or other corrosive gas exists in the ambient air in the warehouse.

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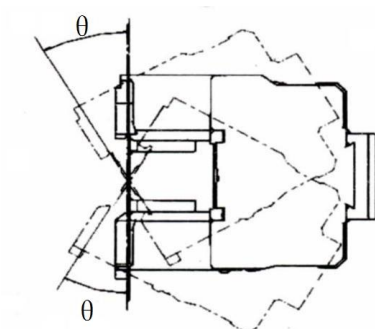
11. Accessories and Installation

User's Guide, Certification

12. Precautions

- 1) The installation site of the product should not be shaky or vibrant.
- 2) For vertical installation of the product, the gradient between the installation surface and the horizontal plane is no more than $\pm 5^\circ$
- 3) The tightening torque of the connecting screw is 0.8N.m. The connection must be reliable to avoid burning loss of the terminal as a result of abnormal heating.

Attached diagram: installation angle diagram



θ : Standard installation $\pm 5^\circ$, Extreme installation $\pm 30^\circ$.