

Shanghai Liangxin Electrical Co.,Ltd.

NDC5K-2400~3200

Product Specification

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

Prepared	Gaoyubo	Date	2020-11-6
Reviewed	Panwanling	Date	2020-11-6
Countersign	Wangyujun	Date	2020-11-6
Approved	Cuixiaoming	Date	2020-11-6

[illegible]

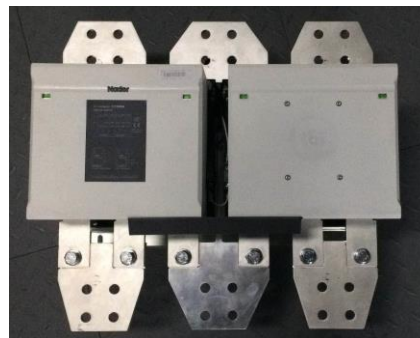
1 .Application

NDC5K-2400/2700/3200 series AC vacuum contactors are widely used in rated working voltage of up to AC1140V , rated working current 3200A such alternating system , These're always applied to photovoltaic.wind power industry, connecting and braking for long-distance, meanwhile, used in industrial controlling of long-distance connecting and braking, frequently start and control AC motor.

2 .Product picture(for reference)



NDC5K-2400/2700 series



NDC5K-3200 series

3. Specification and model description

ND C 5 K — □ □ / □
① ② ③ ④ ⑤ ⑥ ⑦

①ND: Nader electrical corporation

②C: Code: contactor

③5: series number

④K: vacuum

⑤Specifications and series number 2400: AC-1(1140V) Ie2450A, 2700: AC-1(1140V) Ie2700A, 3200: AC-1(1140V) Ie3185A

⑥R: Rated working current AC-1

⑦No code: Standard, H: Long-lifespan

4 .Mainly technical parameters

Parameter		Specific parameter description				
Specification		NDC5K-2400R	NDC5K-2400R/ H	NDC5K-2700R	NDC5K-2700R/H	NDC5K-3200R NDC5K-3200R/ H
Pole		3				
Ie(A)=Ith	AC-1 Ue≤1140V, 50/60Hz	θ≤70℃	2450A	2700A	3185A	
Averaged dissipation per pole (W)	Under Ith	192	232	250		
Rated working voltage(V)		AC380/400/415V, AC660/690V, AC1000V, AC1140V				
Insulated Voltage Ui		AC1250V				
Impact current Uimp		12kV				
Rated limiting short-circuit current “2”type coordinating	Testing current	50kA				
Rated controlling voltage Us		AC/DC: 110V-250V				
		(θ≤60℃), 50/60Hz Coil, Pull-in: 0.7Ucmin-1.15Ucmax				

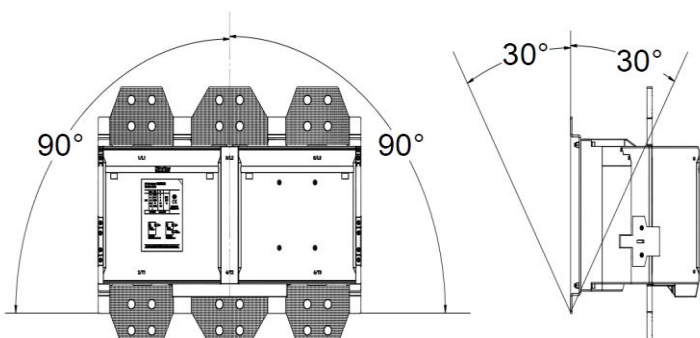
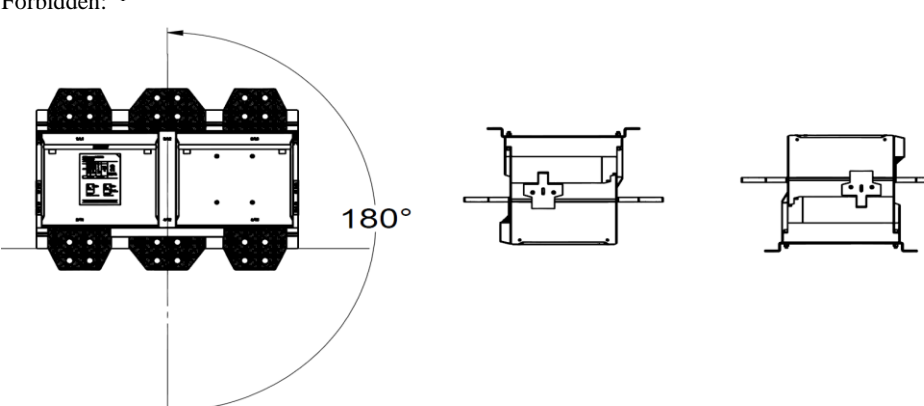
		(60°C≤θ≤70°C), 50/60Hz Coil, Pick-up: Ucmin-Ucmax						
		(θ≤70°C), 50/60Hz Coil, Release: 0.2Ucmin-0.6Ucmax						
Controlling Circuit over voltage protection		Under maintaining, when Controlling voltage Uc>1.3Ucmax, release to protect controlling elect-circuit						
Cold status ,under 1.0 *Uc coil dissipation (controlling transformer resistance voltage≤0.7)	Pick-up	AC VA	1600					
		DC W						
	Maintain	AC	28W					
		DC						
Action timing	Supplied power coil betweenA1-A2 from getting power to mainly contacts are closed	50-140ms						
	Coil From losing power to mainly contacts are opened	20-70ms						
	Input control of PLC from coil getting power to mainly contacts are closed	40-90ms						
	Input control of PLC from coil losing power to mainly contacts are opened	10-40ms						
Rated Connecting Capability	690V	9840	9840	9840				
	1000V	5800	5800	5800				
	1140V	3675	4050	4778				
Rated braking Capability	690V	8200	8200	8200				
	1000V	5800	5800	5800				
	1140V	3675	4050	4778				
Short-timing withstand current (Start with cold status, before that no current last 60mins)	θ≤40°C, 1S	13000A						
	θ≤40°C, 10S	9000A						
	θ≤40°C, 30S	4800A			/			
	θ≤40°C, 1min	3900A			/			
	θ≤40°C, 3min	3100A			/			
Class of Pollution		3						
Under Uc with mechanical lifespan		3million times 600times/Hour						
Electrical lifespan	AC-1	1000V	100 thousand times 150 times/Hour	150 thousand times 150 times/Hour	100 thousand times 150 times/Hour	150 thousand times 150 times/Hour	100 thousand times 150 times/Hour	150 thousand times 150times/Hour
Mainly elect-circuit Capability	Width of copper bar mm	100						
Mainly elect-circuit connecting cable bolts		M12						
Fasten Torque N.m		35±5N						
Defense Capabiity		Contactor IP20 (except inlets and outlets)						
Production certifications		CCC, CE, TUV						
Product execution standard		GB/T 14048.4, GB/T 14048.5, IEC 60947-4-1, IEC 60947-5-1						
Auxiliary-contacts parameters								
Auxiliary contacts conform to GB/T 14048.5, IEC 60947-5-1		Each contactor has one NO and NC auxiliary contact, These contacts are connected together with mechanical style according to the same movable contacting bracket.						
Mirror contacts conform to GB/T 14048.4, IEC 60947-4-1		NC auxiliary contact and mainly contacts in each contactor with status in mirror						
Type		F1-11L/C5K-800			F1-11LS/C5K-800			
Rated working voltage		690V			250V			

Impact voltage Uimp	6kV	2.5kV
Power frequency withstand voltage	Between contacts : 1500V ; between contact and bracket: 1500V	Between contacts: 500V; Between contact and bracket: 1500V
Rated free air heating current Ith	16A	0.1A
Using class	AC-15 DC-13	AC-14 DC-12
Rated working voltage/current	AC-15	230V 50/60Hz 6A
		400V 50/60Hz 4A
		500V 50/60Hz 1.5A
	DC-13	DC24V 6A
		DC48V 2.8A
		DC220V 0.3A
Gg Fuse protection	16A	/
Minimum load connected	24V 10mA	12V 5mA
Defense Capability	IP60 (Terminal IP20)	IP67 (Terminal IP20)
Electrical lifespan	1 million times	300 thousand times
Mechanical lifespan	3 million times	3 million times
Terminal capacity	Hard cable	1root/2roots 1...4mm ²
	Non-prepared terminal soft cable	1root/2roots 0.75...2.5 mm ²
	Prepared terminal soft cable	1root/2roots 0.75...2.5 mm ²
Connecting cable bolts	M3.5	
Fasten torque	1.2N.m±0.2	

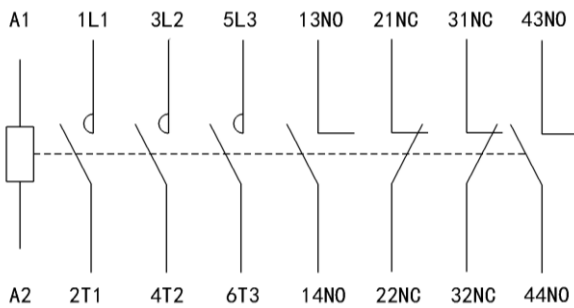
Function type	Sub-Function
Frequently connecting and braking high current	Connecting and braking AC-1 loading
PLC control	DC24V
AC/DC in general	√
Width voltage	√
Suppress and cut over voltage	Within 2Ue
Keeping status, control voltage dip and pulse protection in short-timing	Pulsing time(0-0.2Ucmin)≤5ms, contact keep on connecting status
	Voltage dipping time(0.2-0.6Ucmin)≤6ms, contact keep on connecting status
	Dipping but not release voltage scope: 0.6-0.7Ucmin
Keeping status, control voltage overload	Between 1.15-1.3Ucmax, contact keep on connecting status
	Between(>1.3Ucmax)≤3s, contact keep on connecting status (deviation scope+5V)
	Between(>1.3Ucmax)>3s, contact start releasing (deviation scope+5V)

5. Normal working Environment

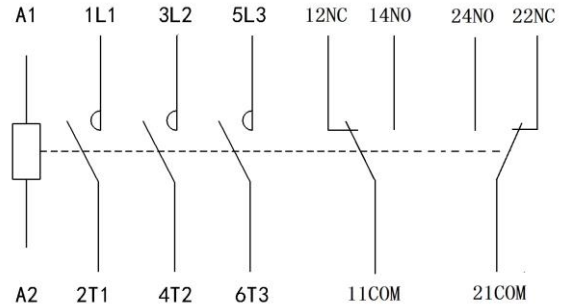
Environment requirement	Specific parameters description
Using environment degree	-40℃~+70℃
Storage environment degree	-40℃~+80℃
Pollution Class	3

Working altitude	Mounting location within 5000m（over 3000m need decrease capacitance）。															
	<table><tr><th>Altitude/m</th><th>Voltage correcting factor</th><th>Current correcting factor</th></tr><tr><td>3500</td><td>1</td><td>0.92</td></tr><tr><td>4000</td><td>1</td><td>0.90</td></tr><tr><td>4500</td><td>1</td><td>0.88</td></tr><tr><td>5000</td><td>1</td><td>0.86</td></tr></table>	Altitude/m	Voltage correcting factor	Current correcting factor	3500	1	0.92	4000	1	0.90	4500	1	0.88	5000	1	0.86
	Altitude/m	Voltage correcting factor	Current correcting factor													
	3500	1	0.92													
	4000	1	0.90													
	4500	1	0.88													
5000	1	0.86														
Notice: Consult with manufacturers over 3500m.																
Anti-seismic Capability （X.Y.Z Orientation, per 1h）	Anti-seismic frequency5...300 Hz Opening between mainly contacts and contactor:2g Picking-up between mainly contacts and contactor:4g Contactor's auxiliary contacts open:2g Contactor's auxiliary contacts close:4g															
Impact strength （X.Y.Z Orientation, per 3 times）	Anti-impact capability 1/2 sine wave= 11ms Opening between mainly contacts and contactor:10g Picking-up between mainly contacts and contacto:10g Contactor's auxiliary contacts open:10g Contactor's auxiliary contacts close:8g															
Anti-humidity/Heating capability	Product using environment's relative humidity can be allowed up to 95%, cannot be allowed to exist condensation phenomenon															
Salt spray class	Corporation Standard 《LXWI8.203-19 Plating and salt spray determination rules》 48Hours															
Mounting	Allowed: 															
	Forbidden: ① 															
Notice: ① Mounting product 180° in rotating between inlets and outlets is forbidden , product mounted in horizontal is forbidden																

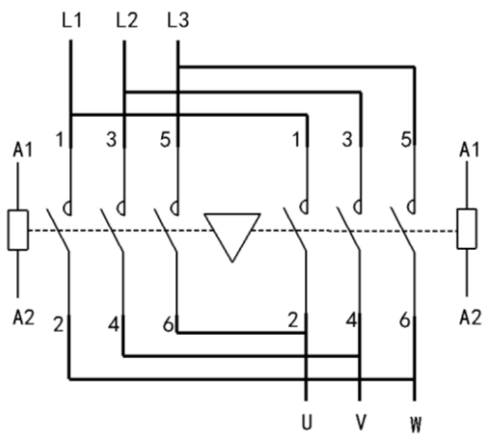
6. Electrical circuit diagram:



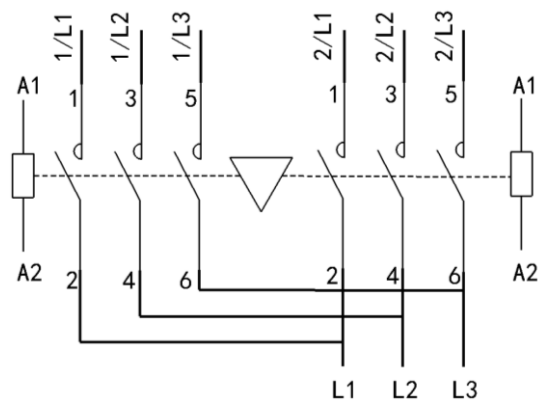
NDC5K-2400~3200+ F1-11L connecting diagram



NDC5K-2400~3200 + F1-11LS connecting diagram

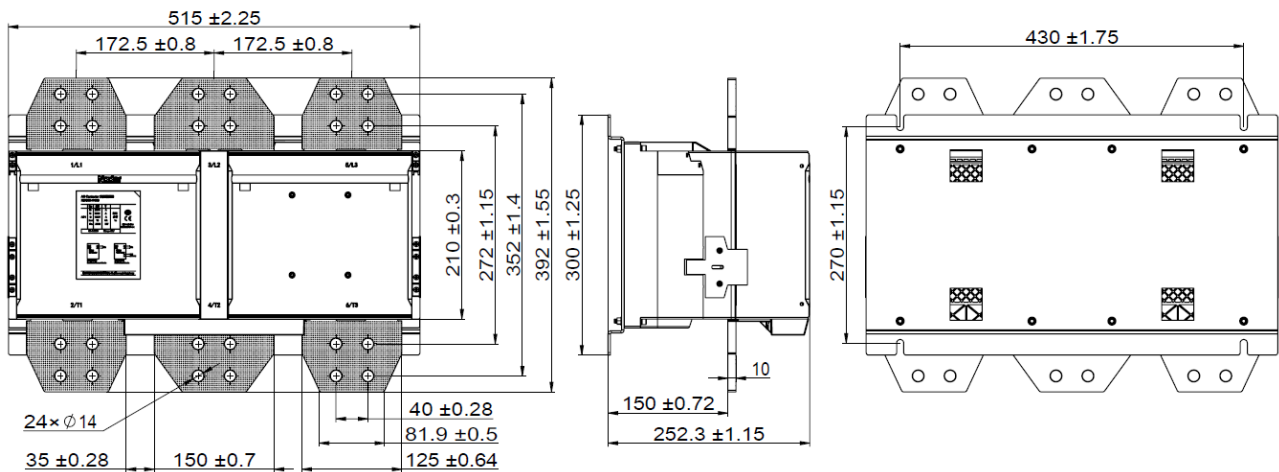


Motor control reversible contactor connecting diagram

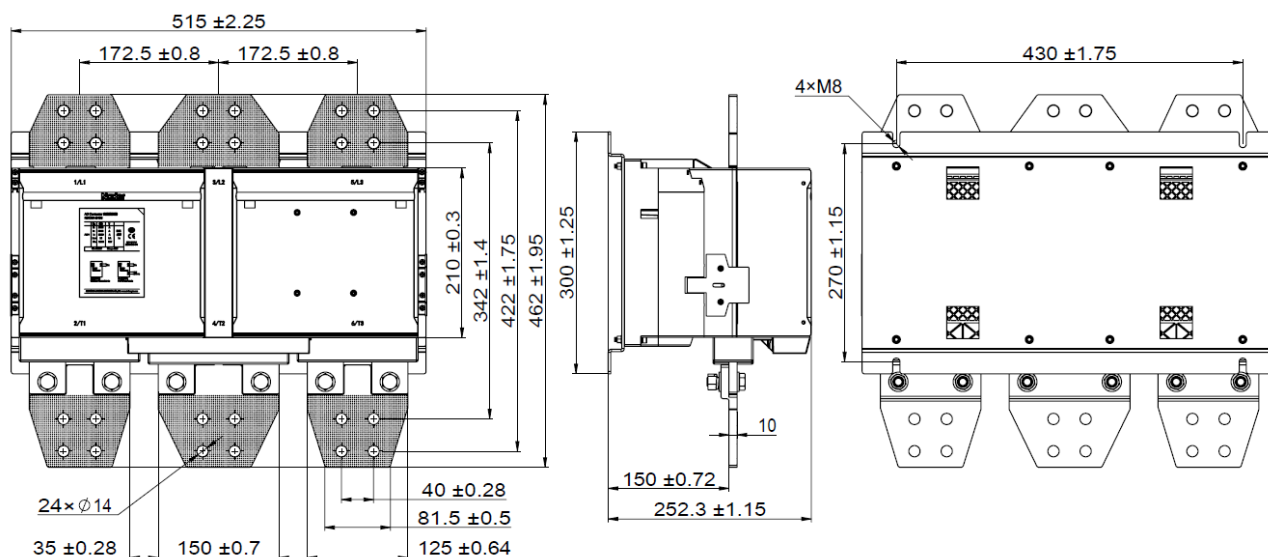


Distributing power supply transfer connecting diagram

7. Outline and mounting dimension



NDC5K-2400/2700 series outline and mounting dimension



NDC5K-3200 series outline and mounting dimension

8.Mounting

Installed by bolts, Vertical, between surface of mounting's and vertical's $\pm 30^\circ$

9.Package storage

Storage environment degree $-40^{\circ}\text{C}\sim+80^{\circ}\text{C}$, No acid, alkaline, or the others corrosive gas surrounded

10.Environmental compliance

All parts and producing process conform to RoHS

11.Attached lists and mounting

Specification 1 piece.1 suites of bolts mounted in mainly elect-circuit.

12.Tips

Over voltage suppressor must be mounted on loading by one side.