

上海良信电器股份有限公司
Shanghai Liangxin Electrical Co., Ltd.
(NDZ3W-50~300 直流接触器)
(NDZ3W-50~300 DC contactors)

产品规格书
Product Specification

(IPD-ENG-DEV-T33 A0 2019-11-05)

编制	刘晓鹏	日期	20231205
审核	罗雨	日期	20231205
会签	徐小庆	日期	20231205
批准	向洪岗	日期	20231205

修订记录					
版本	修订原因/内容	实施日期	编制人	审核人	批准人
0	新增	2020/4/15	刘晓鹏	路晓苗	朱华
1	新增寿命曲线图和 DC750V 电寿命参数	2020/6/18	路晓苗	刘晓鹏	朱华
2	细化电寿命曲线	2020/7/15	刘晓鹏	路晓苗	朱华
3	细化电流曲线	2020/7/16	刘晓鹏	路晓苗	朱华
4	增加导线长度说明	2020/8/31	刘晓鹏	路晓苗	朱华
5	增加 DC1000V 参数	2021/4/15	刘晓鹏	朱华	吴佩峰
6	周期性修订	2023/7/26	刘晓鹏	罗雨	谢强强
7	增加降容参数表格	2023/12/5	刘晓鹏	罗雨	向洪岗

1、适用范围与用途/ Application Scope and Purpose

NDZ3W-50~300 系列直流接触器适用于工作电压至 DC1000V, 工作电流为 50~300A 的直流系统中, 主要用于充电桩、充电站、光伏等领域。

The NDZ3W-50~300 series of DC contactors apply to the DC system with the working voltage of DC1000V and working current of 50~300A, which are mainly used in charging piles, charging stations, photovoltaic and other fields.

2、产品图片/ Picture of the Product



NDZ3W-50/100



NDZ3W-150/200/250/300

3、规格型号说明/ Specification and Model Description

ND Z 3 - (XXX)
1 2 3 4 5 6 7 8 9

序号/No	序号名称/ SN name	NDZ3
1	企业代号 Enterprise code	ND “Nader”牌低压电器 ND "Nader" brand low-voltage electrical device
2	产品代号 Product code	Z 直流接触器 Z DC contactor
3	设计代号 Design SN	3
4	系列派生代号 Series derivation code	W: 无极性产品 W: Nonpolarity product
5	基本规格代号 Basic specification code	额定电流值 Rated current
6	辅助触头数量 Auxiliary contact code	空白: 无辅助触头, 10: 带一组常开辅助触头, 01: 带一组常闭辅助触头, 11: 带一组常开和一组常闭辅助触头 Blank: Without auxiliary contacts, 10: With a group of NO auxiliary contacts, 01: With a group of NC auxiliary contacts, 11: With a group of NO and NC auxiliary contacts
7	特殊代号 Special code	空白: 常规产品 Blank: Conventional product

8	线圈电压 Coil voltage	DC12V、DC24V、DC48V、DC9V~36V
9	特殊性 Particularity	空白: 常规产品 XXX: 客户特殊要求 Blank: Conventional product XXX: Customer special requirements

注: NDZ3W-50/100 线圈电压有 DC12V、DC24V、DC48V 三种; NDZ3W-150/200/250/300 线圈电压为 DC9V~36V

Note: The NDZ3W-50/100 coil voltage is available with DC12V, DC24V and DC48V; the NDZ3W-150/200/250/300 coil voltage is DC9V~36V.

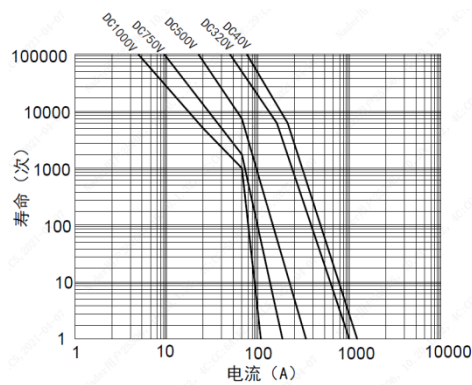
4、主要技术参数

型号 Model 参数 Parameter name		NDZ3W-50	NDZ3W-100	NDZ3W-150	NDZ3W-200	NDZ3W-250	NDZ3W-300
额定电流 Rated current		50A	100A	150A	200A	250A	300A
额定电压 Rated voltage		DC12V~1000V					
极数 Number of poles		单极 Single pole					
电路种类 Type of circuit		直流 DC					
接触电阻 (20℃) Contact Resistance		≤1 mΩ (at50A)	≤1 mΩ (at100A)	≤0.5 mΩ (at150A)	≤0.5 mΩ (at200A)	≤0.5 mΩ (at250A)	≤0.5 mΩ (at300A)
机械寿命 Mechanical life		30 万次 300,000 times					
电 气 寿 命 (DC-1,360 次 / 小 时,1s 通, 9s 断,正 向/反向) Electrical life(DC-1,360 times/h, 1s on, 9s off , forward/reverse)	DC 500V	50A 6000 次 /times	100A 6000 次 /times	150A 6000 次 /times	200A 6000 次/times	250A 6000 次/times	300A 6000 次/times
	DC 750V	50A 2000 次 /times	100A 1000 次 /times	150A 1000 次 /times	200A 1000 次/times	250A 1000 次/times	300A 1000 次/times
	DC1000V	50A 1000 次 /times	50A 1000 次/times 100A 5 次/times	100A 1000 次 /times 150A 300 次 /times	150A 300 次 /times 200A 100 次 /times	150A 300 次 /times 250A 50 次 /times	150A 300 次 /times 300A 10 次 /times
最大切断电流: Maximum breaking current:		DC320V 1000A 1 次/ once		DC320V 2000A 1 次/ once			
短路耐受电流: Short-circuit withstand current:		750A 30ms	1500A 30ms	2250A 30ms	3000A 30ms	3750A 30ms	3750A 30ms
绝缘电阻: Insulation resistance:		≥100MΩ, DC500V					
耐压:		AC2500V 60s		AC3500V 60s			

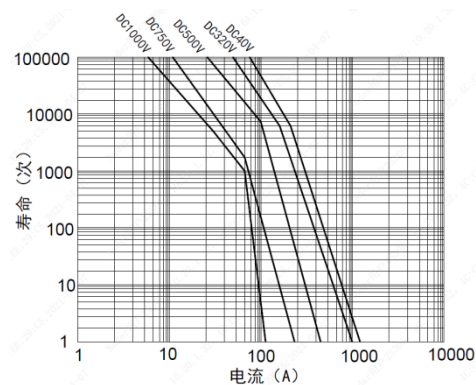
Withstand voltage :		
额定控制电压 Uc Rated control voltage Uc	额定电压/Rated control voltage: 三种 DC12、DC24V、DC48V 吸合电压/ Pick-up voltage: $\leq 75\%U_c$ 释放电压/ Drop-out voltage: $\geq 10\%U_c$	工作电压/ Rated control voltage: DC 9V~36V 吸合电压/ Pick-up voltage: $\leq DC 9V$ 释放电压/ Drop-out voltage: $\geq DC 1.2V$
最大启动电流 (20℃) Maximum pull-in current (20℃)	$\leq 0.5A$	$\leq 3.5A$
保持功耗 (常温20℃, 额定电压控制): Retention power consumption (20℃, Rated voltage control) :	$\leq 6W$	$\leq 3.6W/3.6VA$
吸合/释放时间 (额定电压): Pull-in/discharge time (rated voltage):	$\leq 35ms/15ms$	$\leq 35ms/20ms$
辅助触头类型: Auxiliary contact type:	无辅助, 1NO, 1NC, 1NC+1NO Without Auxiliary contact, 1NO, 1NC, 1NC+1NO	
辅助触头电流: Auxiliary contact current:	2A/DC30V,3A/AC125V	
辅助触头接通最小容量: Minimum capacity of the auxiliary contact connecting:	8V 100mA	

注: 以上值为常温下初始值, 试后产品不满足耐压和绝缘电阻承诺

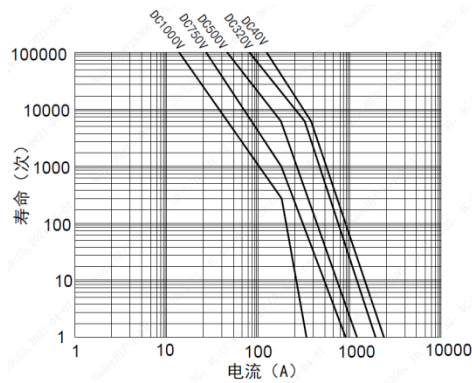
5、电寿命曲线图/ Electrical Life Line Chart



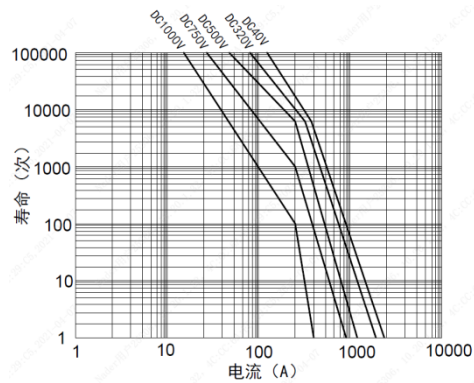
NDZ3W-50



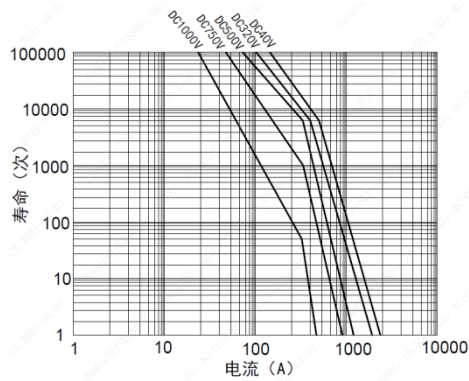
NDZ3W-100



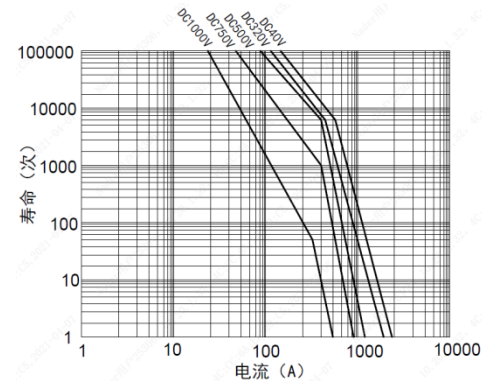
NDZ3W-150



NDZ3W-200



NDZ3W-250

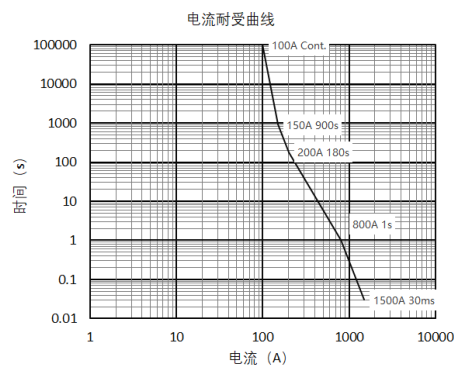
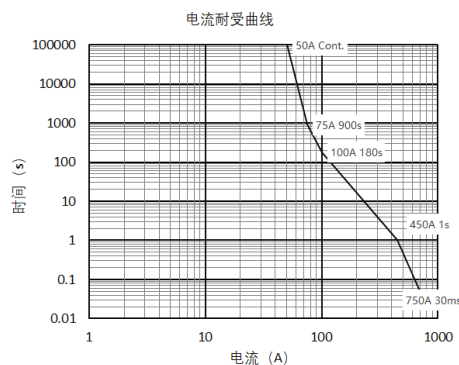


NDZ3W-300

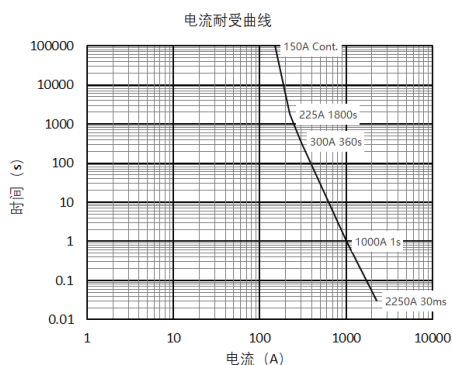
注/Note:

- a、产品额定电寿命次数基于阻性负载测试，其负载的最大电感不超过 300uH；有感负载咨询工厂。
- a. The rated electrical life of the product is based on the resistive load test, and the maximum inductance of the load shall not exceed 300uH. Feel load consulting factory.
- b、上图根据测试及推断数据的估算绘制，建议用户根据实际使用线路中进行测试确认。
- b. The figure above is drawn according to the estimation of test and inferred data. It is suggested the users conduct test confirmation according to the actual use circuit.
- c、当产品的介质耐压、绝缘电阻小于产品参数表中参数时，产品定义为寿命终结。
- c. When the dielectric withstand voltage and insulation resistance of the product are less than the parameters in the product parameter table, the product is defined as the end of life.

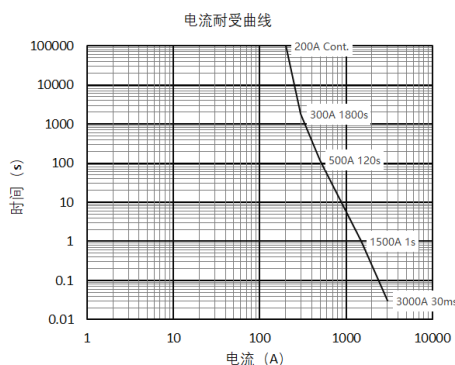
6、电流时间曲线图/ Current Time Line Chart



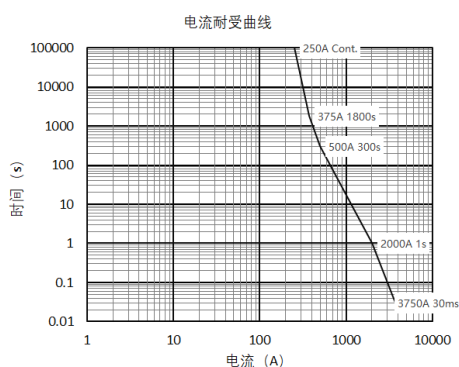
NDZ3W-50



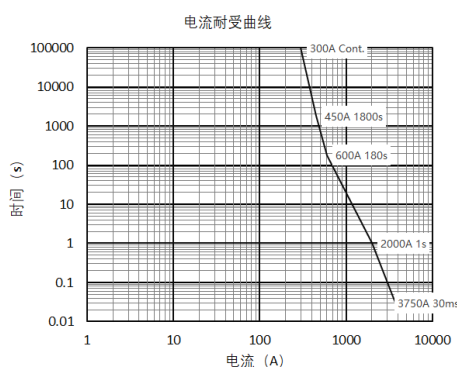
NDZ3W-100



NDZ3W-150



NDZ3W-200



NDZ3W-250

NDZ3W-300

7、正常工作环境/ Normal Working Environment

7.1: 工作环境温度/ Operating environment: $-40\sim 85^{\circ}\text{C}$

7.2: 工作湿度/ Operating humidity: 5%~95%

7.3: 海拔要求 Altitude requirements:

标准使用安装地点海拔 Altitude of standard installation site: ≤ 3000 米;

极限使用安装地点海拔 Altitude of installation site for extreme use: ≤ 5000 米;

高温、高海拔降容系数 High temperature and high altitude derating factor

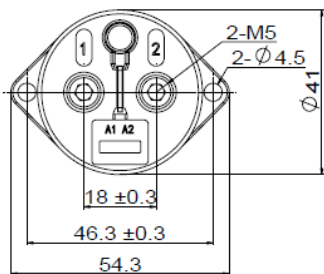
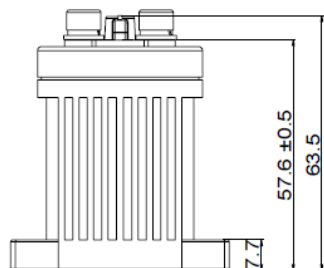
温度降容系数 Temperature derating factor (海拔 Altitude $\leq 3000\text{m}$)		海拔降容系数 Altitude derating factor (温度 Temperature $\leq 40^{\circ}\text{C}$)		
温度 Temperature $/^{\circ}\text{C}$	电流系数 Current coefficient	海拔 Altitude (m)	电流系数 Current coefficient	冲击耐压系数 Impulse withstand voltage coefficient
40	1	$H \leq 3000$	1	1
50	0.95	$3000 < H \leq 3500$	0.98	0.98
60	0.90	$3500 < H \leq 4000$	0.92	0.96
70	0.80	$4000 < H \leq 5000$	0.86	0.90
85	0.70	——	——	——

7.4: 污染等级/ Pollution level: 3

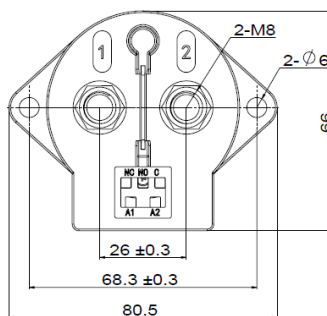
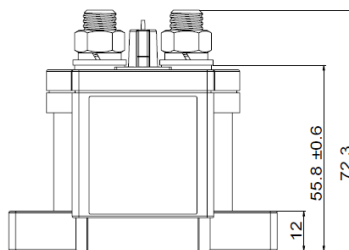
7.5: 防护等级/ Protection class: IP67 (接线端子除外/Except the connecting terminals)

7.6: 安装方向/Installation direction:垂直安装/Vertical installation 、水平安装/ Horizontal installation

8、外形尺寸和安装尺寸/ External Dimensions and Installation Dimensions



NDZ3W-50/100



NDZ3W-150/200/250/300

注/ Note:

1. 未注公差±1mm;
1. Unmarked tolerance ±1mm;
2. 线圈和辅助引出线常规线长为 320mm, 另有特殊线长 390mm、800mm、1000mm, 如有需要请与我司联系;
2. The conventional wire length of the coil and auxiliary outgoing wire is 320mm, and the special wire length is 390mm, 800mm and 1000mm. Please contact our company if you need;
3. A1、A2 为线圈端, NDZ3W-50~100 无极性要求(导线黑色); NDZ3W-200~300 有极性要求, A1 为正极(导线颜色: 红色), A2 为负极(导线颜色: 黑色)。
3. A1 and A2 are coil ends without polarity requirements for NDZ3W-50~100 and the wire is black; NDZ3W-150~300 with polarity requirements, A1 for the positive polarity and the wire is red, A2 for the negative polarity and the wire is black.
4. NO 为辅助常开触点(导线颜色: 蓝色); NC 为辅助常闭触点(导线颜色: 灰色); C 为辅助共用点(导线颜色: 白色)。
4. NO for the auxiliary normally-open contact and the wire is blue, NC for auxiliary normally-closed contact and the wire is gray, C for auxiliary communal contact and the wire is white.
5. ‘1’、‘2’ 为负载端, 无极性要求。
5. “1” and “2” are the load ends without polarity requirements.
6. 线圈和辅助引出线可另加端子连接器, 型号请与我司联系。
6. Additional terminal connector can be added to the coil and auxiliary outgoing wire. Please contact our company for the model.

9、安装方式/ Installation Mode

螺钉安装/ Screw mounting

10、环保符合性/ Environmental Compliance

符合 RoHS 指令/ Comply with the RoHS directives

11、注意事项/ Precautions

- a、接触器线圈的驱动电路功率必须大于产品线圈起动功率；
a. The drive circuit power of the contactor coil must be greater than the coil's starting power;
- b、严禁在强磁场的地方或者靠近热辐射的范围内使用；
b. It is strictly forbidden to use the product in places with strong magnetic fields or in proximity to thermal radiation;
- c、接线端子扭力矩（NDZ3W-150/200/250/300:M8 螺母）：7~8N.m，
安装螺丝扭力矩（NDZ3W-50/100:M5 螺丝）：3.5~4.5N.m；
c. Terminal torque (NDZ3W-150/200/250/300:M8 nut): 7~8N.m,
mounting screw torque (NDZ3W-50/100:M5 screw): 3.5~4.5N.m;
- d、请避免在引出端上粘附油脂等异物，并使用以下规格的连接导线，否则有可能会造成引出端部分的异常发热；
d. Avoid adhering grease and other foreign matters on the exit and use the connecting conductor with the following specifications, which may otherwise lead to the abnormal heating of the exit part;
NDZ3W-50: 导线截面积 $\geq 10\text{mm}^2$;
NDZ3W-50: Wire cross-section area $\geq 10\text{mm}^2$;
NDZ3W-100: 导线截面积 $\geq 35\text{mm}^2$;
NDZ3W-100: Wire cross-section area $\geq 35\text{mm}^2$;
NDZ3W-150: 导线截面积 $\geq 50\text{mm}^2$;
NDZ3W-150: Wire cross-section area $\geq 50\text{mm}^2$;
NDZ3W-200: 导线截面积 $\geq 95\text{mm}^2$;
NDZ3W-200: Wire cross-section area $\geq 95\text{mm}^2$;
NDZ3W-250: 导线截面积 $\geq 120\text{mm}^2$;
NDZ3W-250: Wire cross-section area $\geq 120\text{mm}^2$;
NDZ3W-300: 导线截面积 $\geq 185\text{mm}^2$;
NDZ3W-300: Wire cross-section area $\geq 185\text{mm}^2$;
- e. 我司向客户承诺的参数、性能以本规格书和实际样品为准，其余资料供参考。