文件编号	NDT510112	版次	第 4 版	实施日期	20200301

产品说明书

产 品 名 称：交流接触器

产 品 型 号：NDC1-1250~2650

日　　期：20200301

2020.03.16
试制

编制	审核	批准
潘婉玲	崔晓明	刘长友

文件编号	NDT510112	版次	第 4 版	实施日期	20200301

修订记录

	修订内容	修订日期	修订人员
0	新增	20160602	崔晓明
1	修改 NDC1-1350 和 NDC1-2650 的产品尺寸； 修改 NDC1-2650 产品的功耗	20180621	崔晓明
2	增加浪涌抑制模块使用方式	20181029	崔晓明
3	更新浪涌模块使用方式	20181031	崔晓明
4	增加 NDC1-2300 规格	20200301	潘婉玲

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文件编号	NDT510112	版次	第 4 版	实施日期	20200301

Nader Electrical · Foresee the Future
良信电器 · 预见未来

NDC1-1250~2650 系列

交流接触器使用说明书

NDC1-1250~2650 series

AC contactor Using Instruction

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Nader 良信电器

文件编号	NDT510112	版次	第 4 版	实施日期	20200301

一、适用范围与用途/Application range and purpose

NDC1-1250～2650 系列交流接触器（以下简称接触器）主要用于 AC-1 使用类别下，交流 50/60Hz，额定工作电压为 690V，额定工作电流为 1250A～2650A 的交流电路中，供远距离接通与分断电路。

NDC1-1250～2650 series alternating current contactor （hereinafter referred to as contactor) which can be applied to the alternating current circuit with the alternating current of 50Hz（or 60Hz)，the rated operational voltage of 690V and rated working current from 1250A～2650A in AC-1 utilisation type. In order to connect and break the circuit remotely.

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二、产品外观（仅供参考）/The appearance of product(for reference only)

NDC1-1250

NDC1-1350

NDC1-1450~2300

NDC1-2650

三、型号及含义/Product model and definition

ND C 1 - □ □ □

线圈电压：“AC”交流线圈；“DC”直流线圈；
“AC/DC”交直流通用宽电压线圈
The coil voltage：“AC”Ac coil;“DC”Dc coil
“AC/DC”Ac/Dc general wide voltage coil

主回路极数：“3”代表 3 极，1250A 以上无四极产品。
Number of poles :the 3 poles .No quadrupole products above 1250

基本规格代号：690V 时 AC-1 使用类别下，额定工作电流 Ie。
Codes of basic specification :Under the usage category of AC-1 and 690V ,the code is represented by the appearance of Ie .

设计序号/Code of design

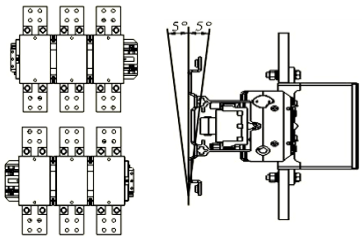
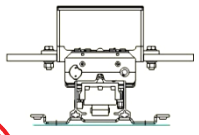
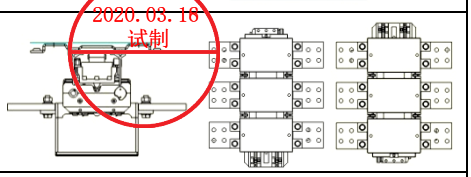
交流接触器/Alternating current contactor

“Nader”牌低压电器/“Nader” Low-voltage

四、正常的使用、安装及运输条件和用途（见表 1）

The normal use,installation,transportation condition and application(see table 1)

表 1/table1

环境温度 Ambient Temperature	-40～+70℃，24 小时极端高温不超过+70℃。 -40～+70℃，the high temperature at the pole tip cannot exceed +70 degree centigrade for 24 hours.
海拔高度 The altitude	不超过 3000m/Should be no more than 3000m；
大气条件 Atmospheric Conditions	在+40℃时，大气相对温度不超过 50%，在较低温度下可以有较高的相对湿度；在月平均温度+25℃时，月平均最大相对湿度不超过 95%，并考虑到发生在产品表面上的凝露. The relative atmospheric temperature should be no more than 50% at 40 degree centigrade; a higher relative humidity is allowable under lower temperature; when the monthly average temperature is +25 degree centigrade ,the maximum average relative humidity is no more than 90% and the frost on the product surface should be taken into consideration .
污染等级 The pollution level	“3 级”，应避免在引起爆炸危险的介质、腐蚀金属及破坏绝缘的有害气体和导电尘埃的环境中使用. Level three ;the product should be avoided to be used in the environment with explosive medium ,corroding metal as well as insulation destructive gas and conductive dust .
安装类别 Installation Classification	III
安装条件 Installation Condition	产品垂直安装，安装面与垂直面的倾斜度不大于±5° The product should be installed vertically with the angle of inclination between the installation plane and the vertical plane no larger than±5°. 
	该使用方式请与我司联系确认 Please contact our company to confirm the using method 
	该使用方式禁止使用 The using method not to be used  2020.03.16 试制
冲击与振动 Impact and Vibration	产品应使用在无显著摇动、冲击或振动的地方 The product should be used in places where the oscillation 、impact or vibration is indistinctive

运输和储存条件 Transportation and storage	-60～+80℃

五、主要技术性能（见表 2）/Main technical features(see table 2)

表 2/Table 2

型号/Type NDC1	额定工作电流/ Rated working current Ie/A(415V AC-3)	约定自由空气发热电流 /Convention free airthermal current Ith/A	熔断器(SCPD)[1] Fuse protector		重量 /Weigh kg
			型号/Type[2]	额定电流 /Rated current In/A	
1250	1260	1260	RT-17	1250	15
1350	1350	1350		1350	21
1450	1450	1450	RS-17	1450	27
1450L	1450	1450			27
1700	1700	1700	RS-17	1700	29
1700L	1700	1700			29
2100	2100	2100	RS-17	2100	31
2100L	2100	2100			31
2300	2300	2300	RS-17	2300	31
2650	2650	2650	RSK	2800	32

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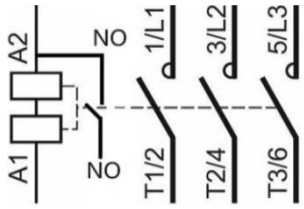
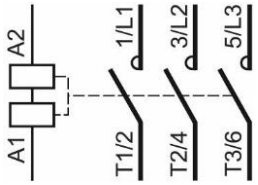
1)：Ue=660/690V；2)：推荐使用熔断器/The recommended Fuse protector

六、接线图/Wiring diagram

1、常规线圈接线图/The conventional coil Wiring diagram



NDC1-1250~2650(交流线圈/ AC Coil)

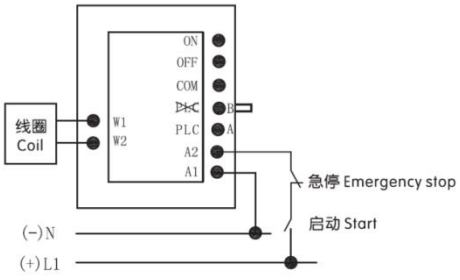


NDC1-1250~2650(直流线圈/ DC Coil)

2、宽电压线圈接线图/ Wiring diagram of wide voltage coil

（1）电源端控制接法：将拨码开关拨向 ~~PLC~~ B 处，便可实现由电源端 A1-12 控制，控制图如下，控制逻辑见逻辑图。

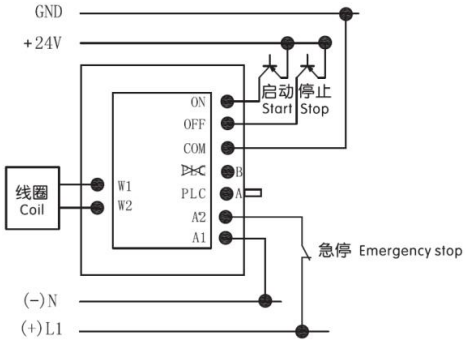
Power control terminal connection: The DIP switch to the ~~PLC~~ B at the end can be achieved by the power A1-12 control, control charts below, the control logic on logic diagram.



（2）PLC 控制接法：将拨码开关置于 PLC　A，ON、OFF、COM 与 PLC 相接，控制图如下，控制逻辑见逻辑图。

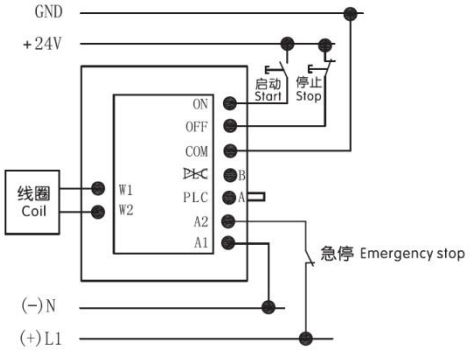
PLC control Connection: The DIP switch in the PLC A, ON, OFF, COM contact with the PLC, control charts below, the control logic on logic diagram.

注/ Note：PLC 为继电器输出型或晶体管源型输出型/ PLC relay output type or transistor output type source

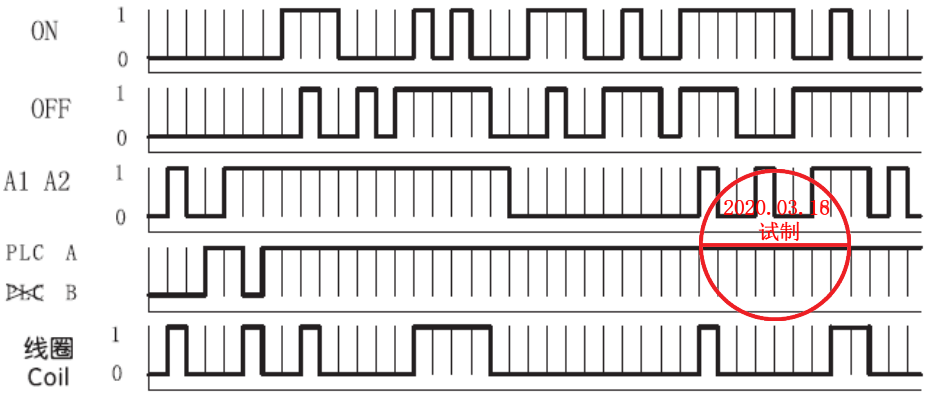


（3）有源主令电器控制接法：将拨码开关置于 PLC　A，ON、OFF、COM 与主令电器（按钮相接），控制图如下，控制逻辑见逻辑图。

the main electrical control connection: The DIP switch in the PLC A, ON, OFF, COM and main electrical (contact button), control charts below, the control logic on logic diagram.



接触器线圈控制逻辑波形图/ Contactor coil control logic waveforms



注：~~PLC~~ B 时 ON、OFF 的状态对线圈状态不起作用，逻辑波形图省略。

Note: ~~PLC~~ B is ON, OFF state of the coil state does not work, logic waveforms are omitted

七、接线能力/Wiring capability

主回路接线端子连接导线能力（见表 3）及力矩（见表 4）

Capability of the connecting lead of the main-circuit wiring terminal (see table 3) and its moment (see table 4)

主电路连接能力/Connection characteristics of main circuit　　表 3/Table 3

工作电流/A Wrking current/A		<1250~≤1500	<1500~≤2000	<2000~≤2300	<2500~≤2650
铜排 Copper bar	根数 Number	2	3	4	3
	尺寸 Size(mm)	100×5	100×5	100×5	100×10

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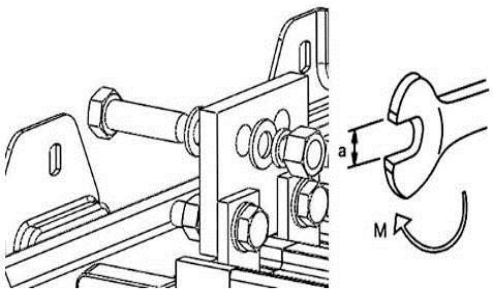
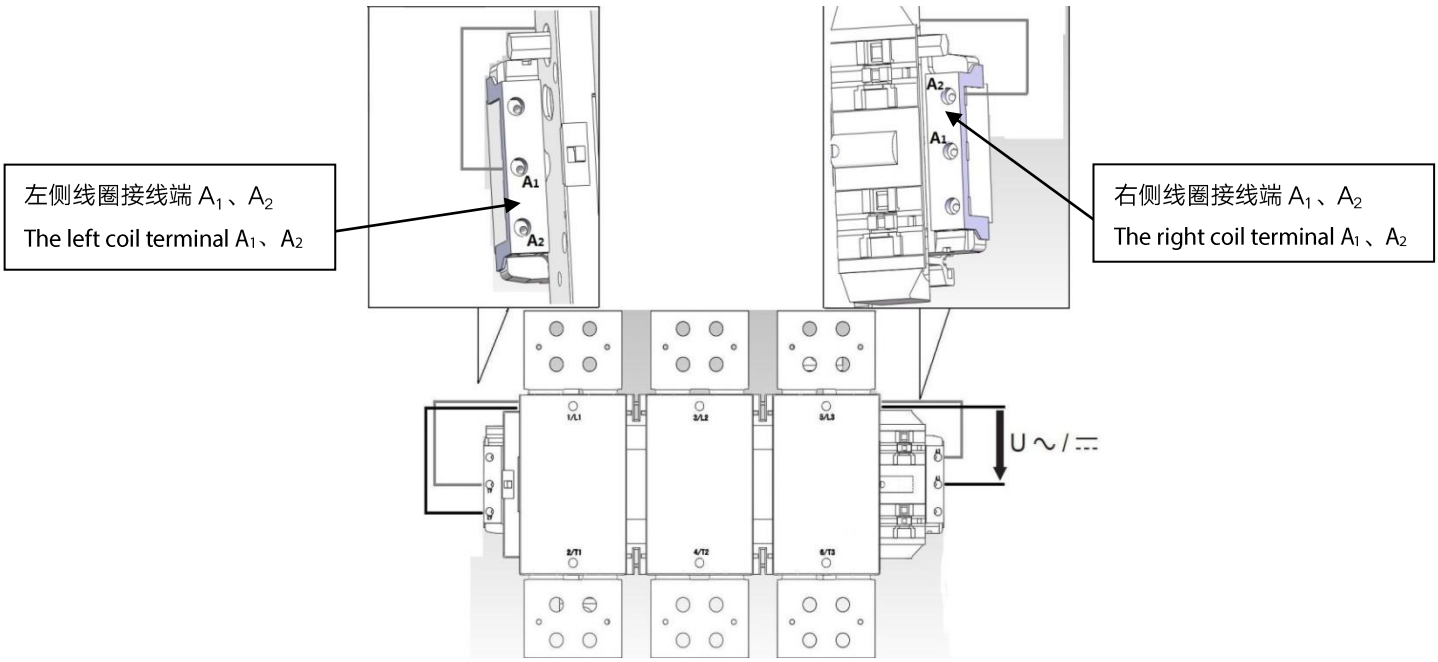
力矩/Torque　　表 4/ Table 4

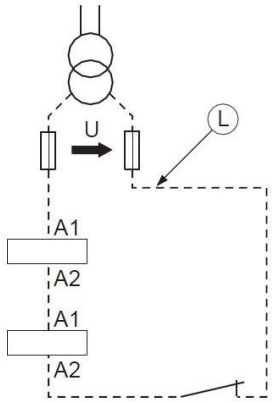
规格\Specification	NDC1-1250	NDC1-1350	NDC1-1450~2300	NDC1-2650
a (mm)	16		18	
M (N・m)	58±0.5		58±0.5	



控制电路/Control circuit



线圈接线能力/ Connection characteristics of coil

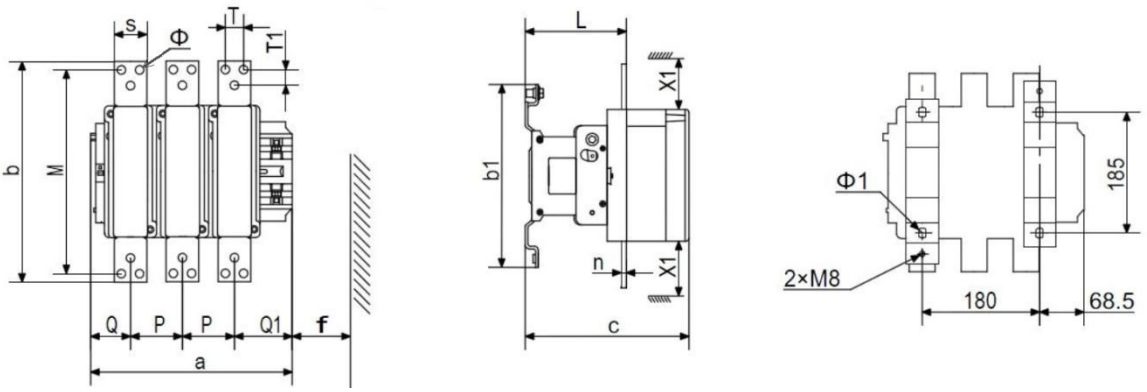


接线能力/ Connection characteristics

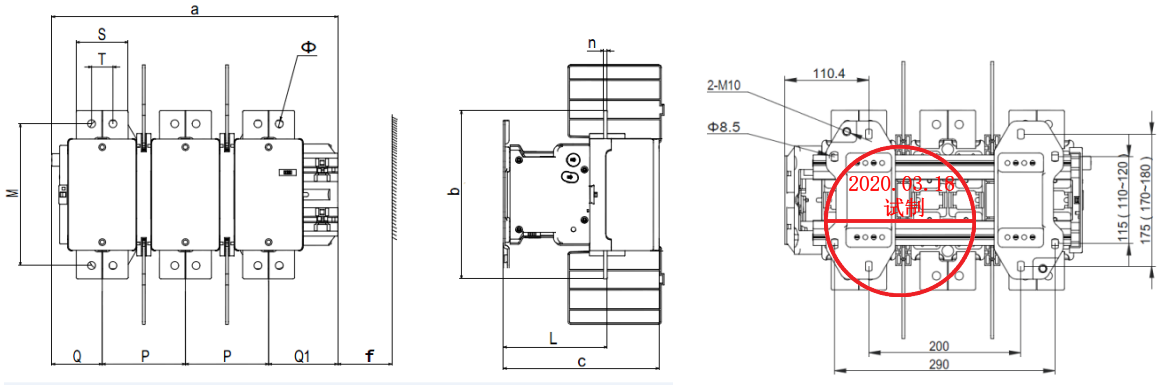
U	L m / ft	mm² / AWG
220 V ∼ / ⎓	15 *49.2*	1 *16*
	20 *65.6*	1,5 *16*
	40 *131.2*	2,5 *12*
	60 *197*	4 *12*
380 V ∼ / ⎓ 440 V ∼ / ⎓	60 *197*	1 *16*
	90 *295.3*	1,5 *16*
	150 *492.2*	2,5 *12*
	250 *672.6*	4 *12*

八、外形及安装尺寸/Overall dimension and installation size

1、NDC1-1250 外形及安装尺寸/Overall dimension and installation size

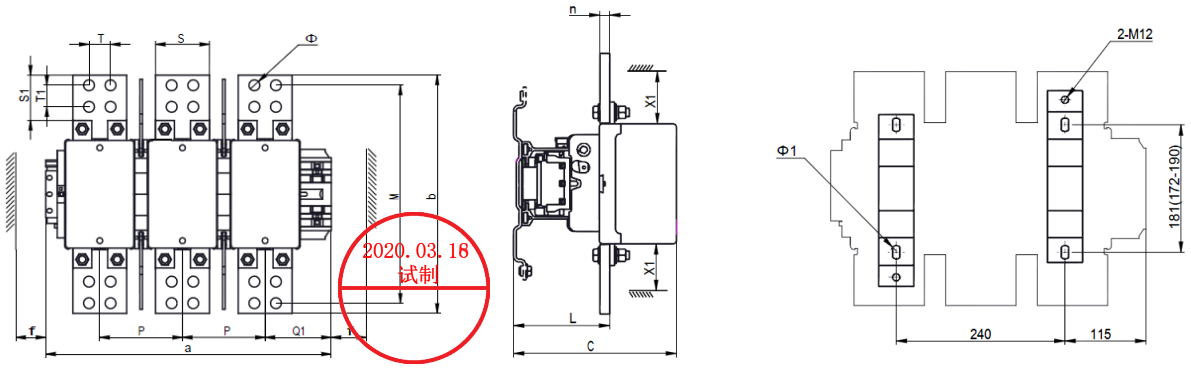


2、NDC1-1350 外形及安装尺寸/Overall dimension and installation size

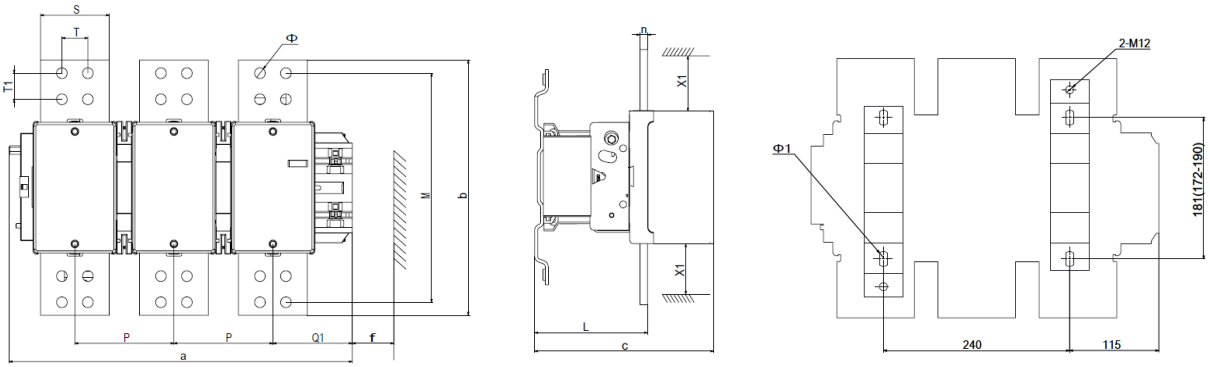


3、NDC1-1450~2300 外形及安装尺寸/Overall dimension and installation size

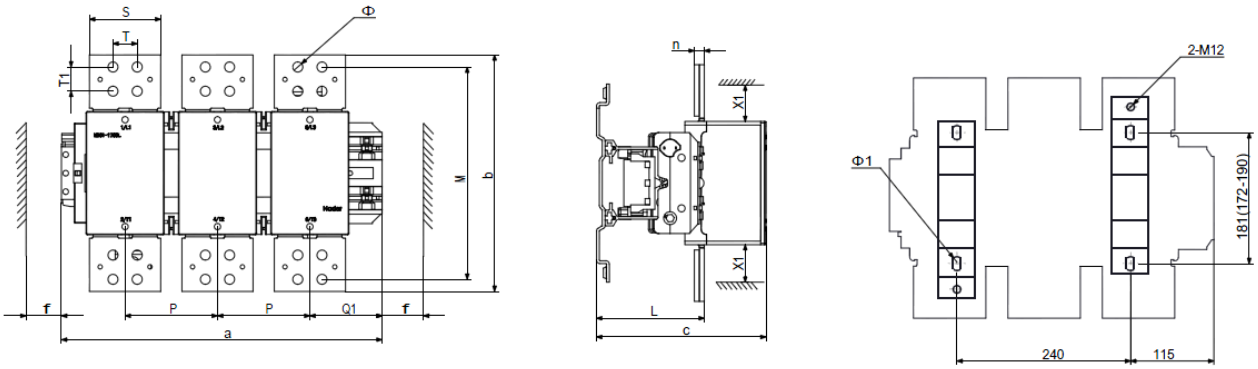
NDC1-1450~1700 常规型（默认）/NDC1-1450~1700 Normal mode(default)



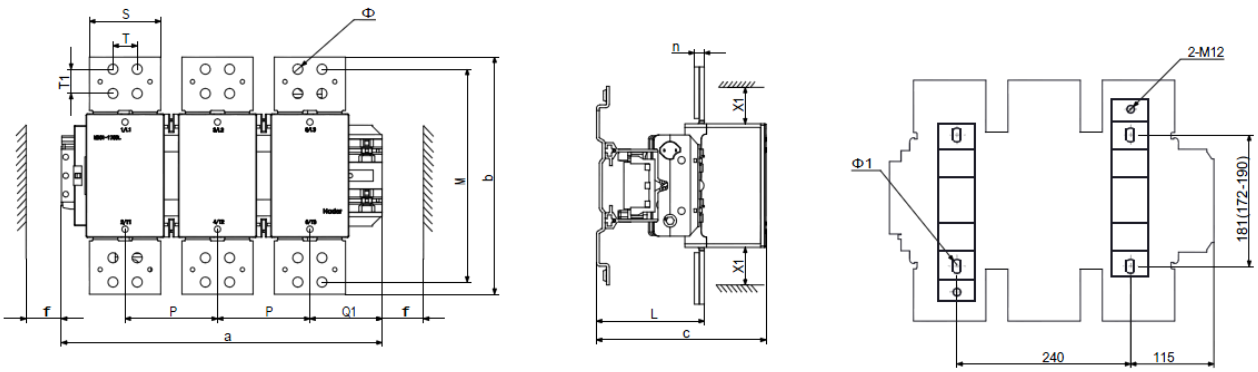
NDC1-2100 常规型（默认）/NDC1-2100 Normal mode(default)



NDC1-1450L~2100L 型/NDC1-1450~2100L mode

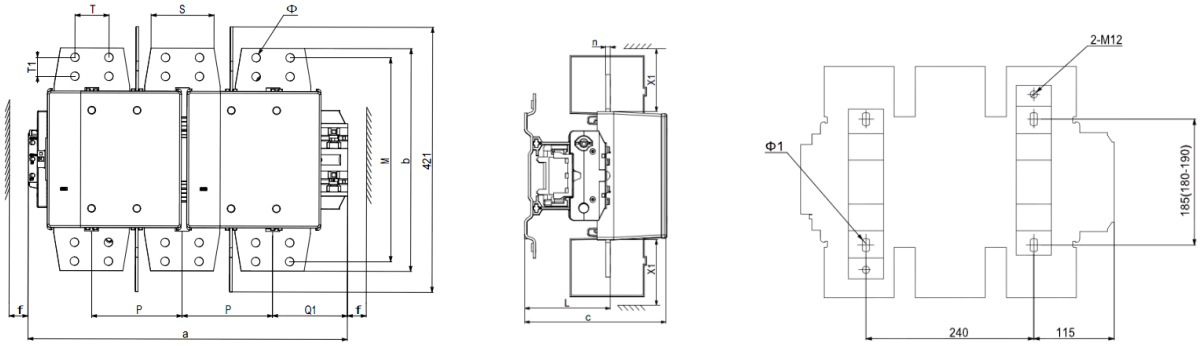


NDC1-2300 型/NDC1-2300 mode



4、NDC1-2650 外形及安装尺寸/Overall dimension and installation size

NDC1-2650 常规型（默认）/NDC1-2650 Normal mode(default)



单位/ Unit：mm

NDC1	a	b	b1	c	L	n	p	Q1	M	Φ	Φ1	S	S1	T	T1	f	X1	
																	≤500V	>500V
1250	309	338	280	251	155	10	80	89	312	13	10.5	50	/	28	24	151	20	30
1350	402.3	237.4	208.5	219	146	5	117	97.3	200	11	8.5	73	/	30	/	151	90	100
1450	448	378	244	238	140	12	130.5	104	344	13.5	10.5	100	69	34	34	170		
1700	448	376	244	238	140	14	130.5	104	344	13.5	10.5	100	70	34	34	170		
2100	448	332	244	238	140	10	130.5	104	344	13.5	10.5	90	/	34	34	170		
1450L	448	332	244	238	151	14	130.5	104	298	13.5	10.5	100	/	34	34	170		
1700L	448	332	244	238	151	14	130.5	104	298	13.5	10.5	100	/	34	34	170		
2100L	448	332	244	238	151	14	130.5	104	298	13.5	10.5	100	/	34	34	170		
2300	448	332	244	238	151	14	130.5	104	298	13.5	10.5	100	/	34	34	170		
2650	507	354	254.5	250	150	8	144	119	324	13.5	10.5	100	/	34	30	200		

注/Note：f 为更换线圈所需预留的最小空间；X1 为最小电气间隙（飞弧距离）

f：Remove the minimum distance of the coil；x1：The minimum electrical clearance（the flying distance of the arc）

以上安装及外形尺寸为产品设计尺寸， P, Q1, S, T, T1, Φ, M, L,Φ1, n,公差±1mm,其余尺寸公差±5mm。

Installation and dimensions for the above product design size, P, Q1, S, T, T1, Φ, M, L,Φ1, n, will have a size of ± 1mm tolerance.Other will have a size of ± 5mm tolerance

宽电压产品不需要预留左侧换线圈的空间/ Wide-voltage products do not need to reserve a space on the left to change the coil

九、线圈与附件/Coil and accessories

1 常规线圈更换/ Conventional coil changing

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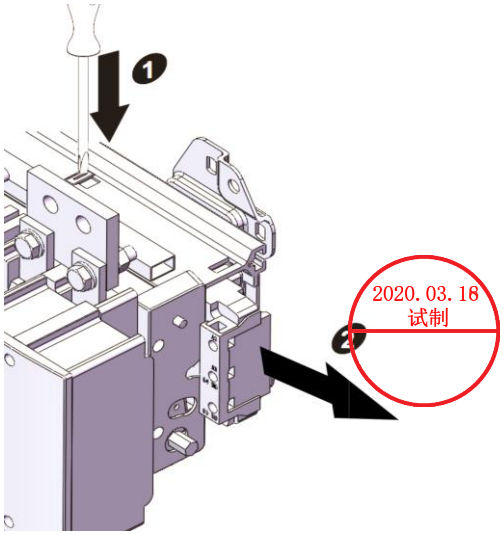
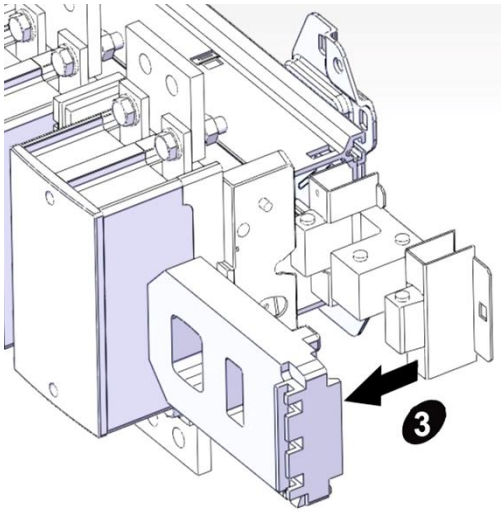
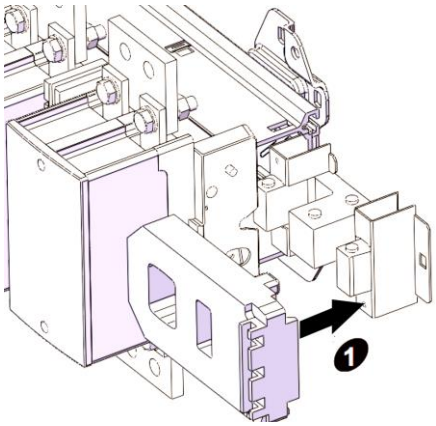
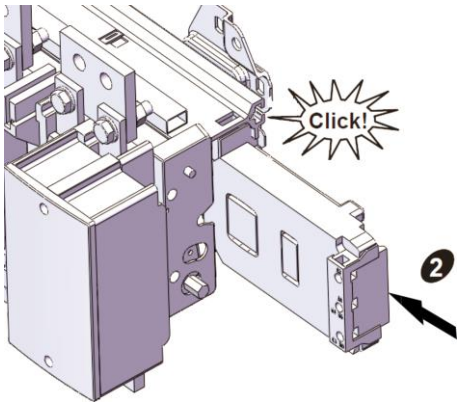
线圈拆除/Coil removal





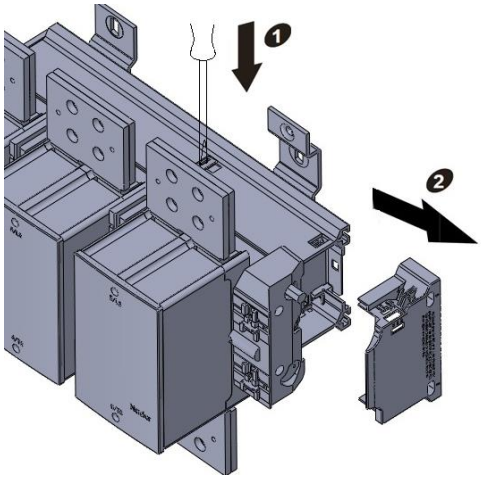
线圈安装/Coil installation

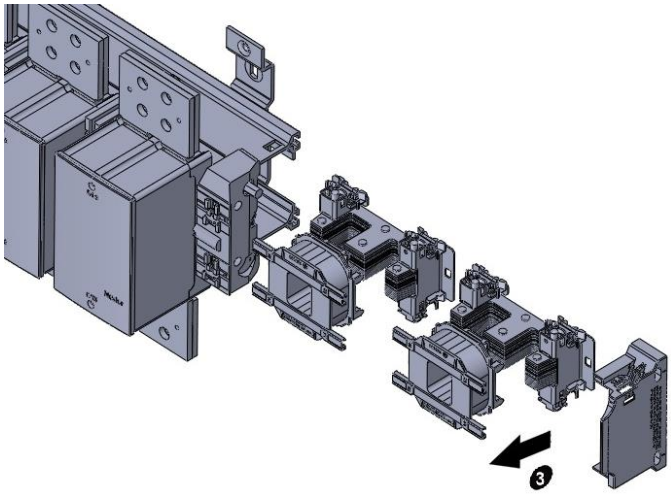




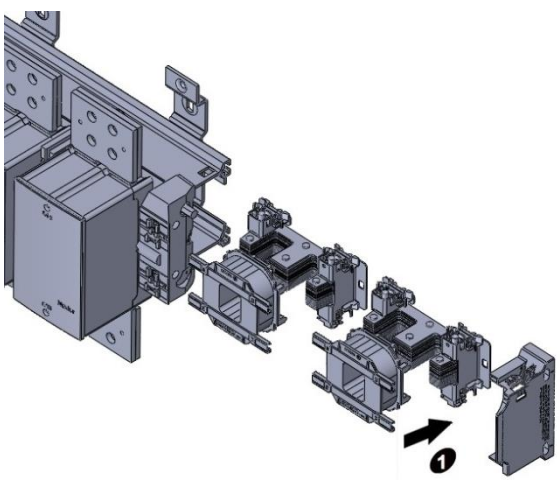
2、宽电压线圈更换/ Wide voltage coil changing

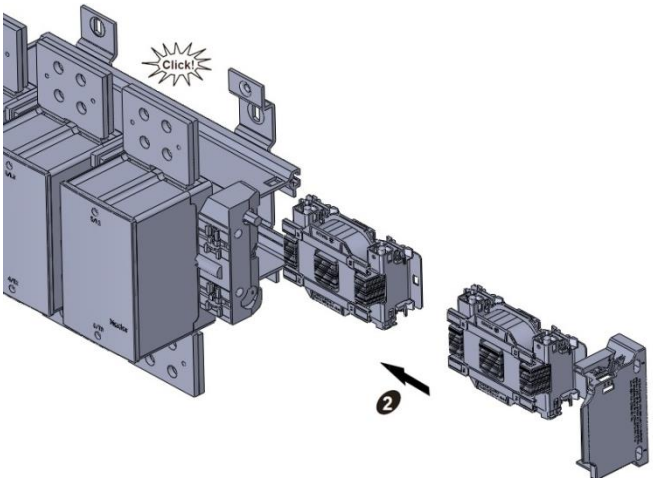
线圈拆除/Coil removal



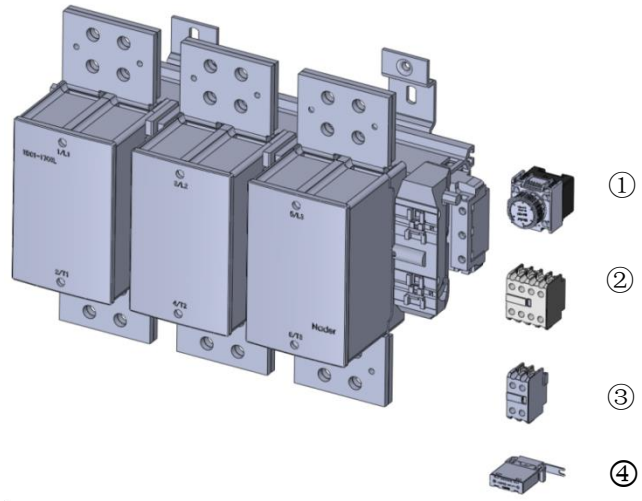


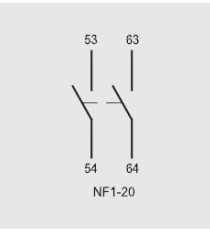
线圈安装/Coil installation

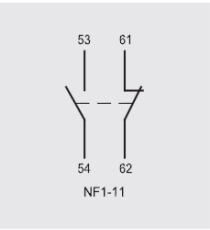


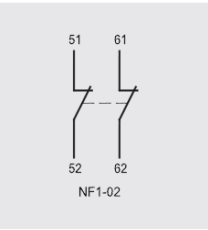


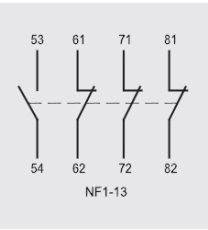
3、辅助触头组/Auxiliary contacts

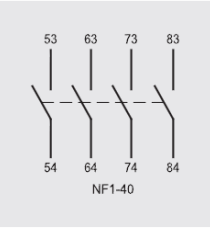


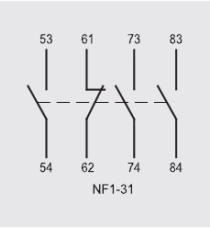


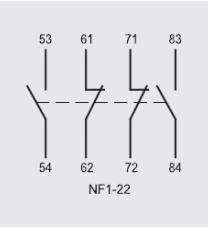


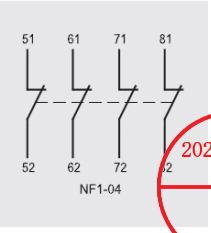












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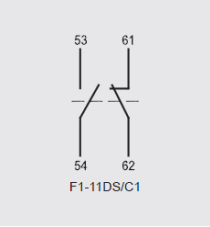
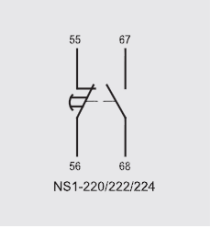
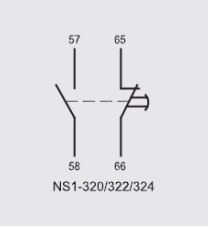


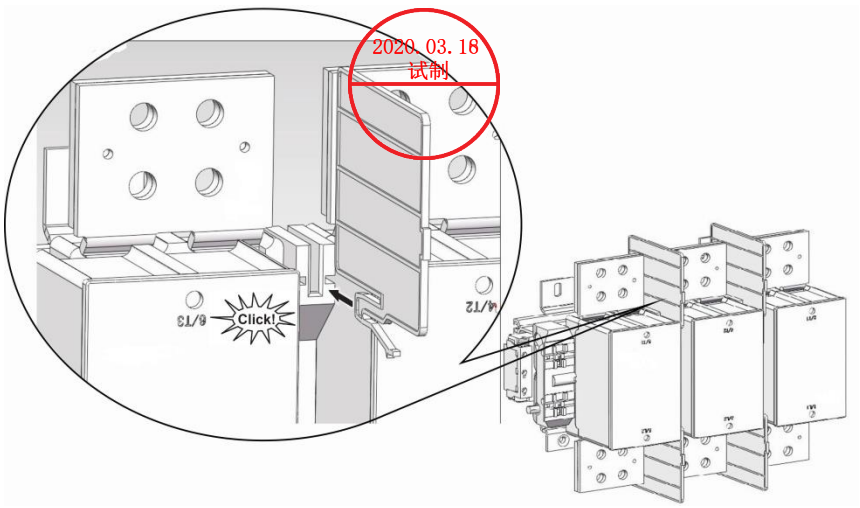




推荐采用下列辅助触头组/The following auxiliary contact unit is recommended:

①：NS1-220、222、224、320、322、324
②：NF1-40、31、22、13、04
③：NF1-20、11、02；F1-11DS/C1
④：G1-01~04R/C1-2650；G1-01~04K/C1-2650；

4、相间隔板/Inter-phase barriers



可能有触电、爆炸或者电弧灼伤的危险！在安装接触器时,一定要安装相间隔板。若违背这些说明，则有可能导致严重的人身伤害甚至死亡!

Hazard of electric shock,explosion,or arc flash. Always install inter-phase barriers when mounting the contactor.Failure to follow these instructions will result in death or serious injury!

5、浪涌抑制模块/ The surge suppression module

浪涌抑制模块有两种安装方式供用户选择，一种为直接安装，另一种为支架安装。

The surge suppression module is available in two mounting options, one for direct mounting and the other for bracket mounting.

5.1 直接安装方式如下：

1. The direct installation method is as follows:

a、将浪涌抑制模块安装在如下图所示挂在线圈上；

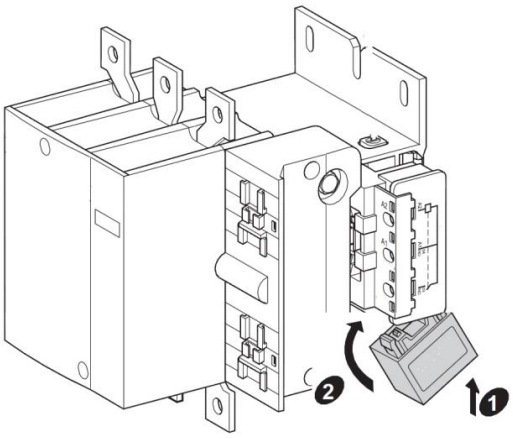
a. Install the surge suppression module on the coil as shown in the figure below;

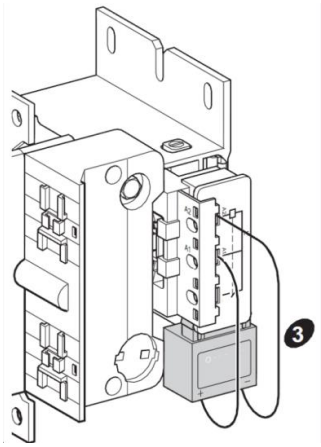
b、接线，将浪涌抑制模块两根线分别接到线圈 A1、A2 端子上。

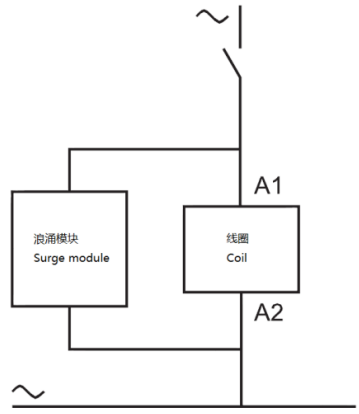
b.. Wiring, connect the two lines of the surge suppression module to the terminals of the coils A1 and A2.

NDC1-1250~1350 安装使用方式：

NDC1-1250~1350 Installation and use:

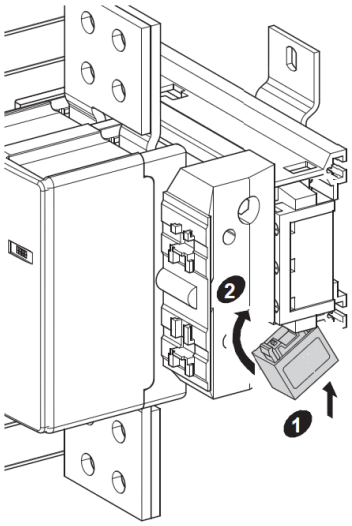


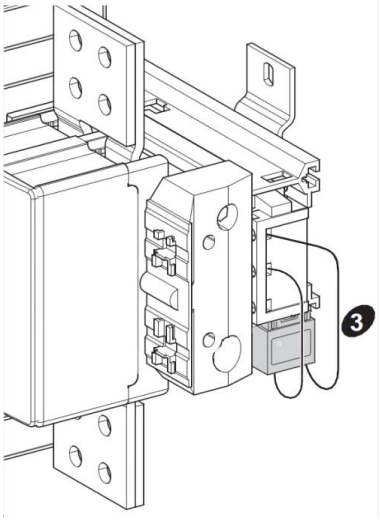


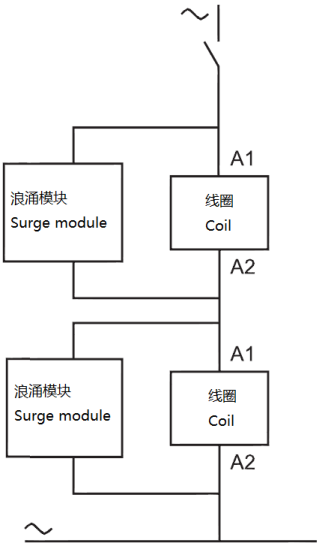


NDC1-1450~2650 安装使用方式：

NDC1-1450~2650 Installation and use:





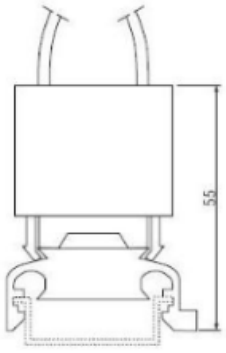


5.2 支架安装方式如下：

The bracket installation method is as follows:

此安装方式适用在振动将强的应用场景。安装方式为将支架安装在 35mmDIN 导轨上，然后将浪涌模块安装在支架上，详见下图。

This installation method is suitable for applications where vibration will be strong. The installation method is to mount the bracket on the 35mm DIN rail, and then install the surge module on the bracket, as shown in the following figure.



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注：此种方式需要将支架翻转过来

Note:This method needs to flip the bracket over

十、线圈参数（见表 5、表 6 和表 7）及规格（见表 8）

Parameters(see table5、6&7)and specifications of coils(see table 8)

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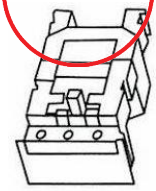
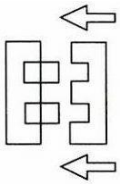
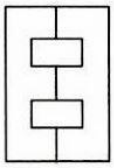
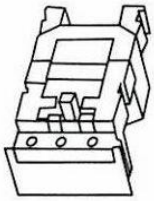
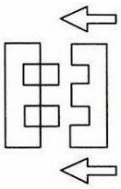
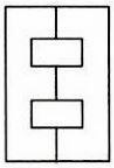
交流线圈/ AC Coil　　表 5 /Table5

型号/Type NDC1	 交流线圈/AC Coil	 起动功率/VA Starting power /VA	 保持功率/VA Keep the power /VA
NDC1-1250	LX1-FJ***	≤2200	≤60
NDC1-1350	LX1-FJ***		
NDC1-1450	LX1-FK***	≤2200	≤44
NDC1-1700	LX1-FK***		
NDC1-2100	LX1-FK***		
NDC1-2300	LX1-FK***		
NDC1-2650	LX1-FK***	≤3000	≤50

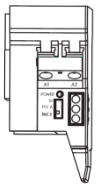
直流线圈/ DC Coil　　表 6/Table 6

型号/Type NDC1	 直流线圈/DC Coil	 起动功率/W Starting power /W	 保持功率/W Keep the power /W
NDC1-1250	LX4-FJ***	≤2500	≤15
NDC1-1350	LX4-FJ***		
NDC1-1450	LX4-FK***	≤2500	≤16
NDC1-1700	LX4-FK***		
NDC1-2100	LX4-FK***		
NDC1-2300	LX4-FK***		
NDC1-2650	LX4-FK***	≤3000	≤25

注：LX1-FJ***、LX1-FK***、LX4-FJ***、LX4-FK***中的“***”表示单个线圈电压规格（见表 8）

Note:"***"in the LX1-FJ***、FX1-FK*** 、LX4-FJ***、LX4-FK***represent voltage specifications of coils (see table8)

宽电压线圈/ DC Coil　　表 7/Table7

型号/Type NDC1	 宽电压线圈 wide voltage coil	 起动功率/ W Starting power /W	 保持功率/W Keep the power/W
1250	100~250V	≤600	≤16
	48~132V	≤600	≤13
1350	100~250V	≤900	≤18

线圈电压规格/Voltage specifications of coils　　表 8/Table 8

NDC1-1250～2650											
常规线圈 / conventional coils Uc/V	交流线圈/AC coil（50/60 Hz）							直流线圈/DC coil			
	110	120	220	240	277	380	415	110	125	220	440
***	065	070	110	127	140	200	220	055	065	110	220
接触器吸合电压范围：85%-110%Us，释放电压范围：交流 20%-75%Us，直流 10%-75%Us The pull-in voltage range of the contact:85%~110%Uc,The release voltage range:alternating current 20%-75%Uc, direct current 10%-70%Uc.											
宽电压线圈 / wide voltage coils Uc/V	100~250V；48~132V（仅 NDC1-1250 产品）										
接触器吸合电压范围：85%Ucmin~110%Ucmax，释放电压范围：直流 48% Ucmin~52% Ucmin The pull-in voltage range of the contact: 85%Ucmin~110%Ucmax,The release voltage range: continuous current 85%Ucmin~110%Ucmax.											

十一、安装使用及维护/ Installation、use and maintenance

- 应按规定的条件和使用环境安装；
- 安装前应该检查线圈的技术参数是否与控制电源相符；
- 主回路接线螺栓和线圈接线螺钉需按规定力矩拧紧；
- 应在主回路不带电的情况下，先确认接触器可动部分不得卡住，再使线圈通电分和数次；
- 必须确保灭弧罩正确安装后，方可投入使用；
- 触头的灭弧罩内部发黑是接触器运行后的正常情况，不会影响产品的性能，不要试图用砂纸或其他工具去掉黑色；
- 出现非正常情况时应请专业人员检查维修，带电检修将会造成人员伤亡！
- The product should be installed according to the specified conditions and using environment;
- Before installing,check whether the technical parameter data of the coil is conformed to that of the control power supply;
- The wiring bolts of the major loop and the wiring screws of the coils should be tightened to the regulated moment;
- Under the condition that the main loop is uncharged,firstly rotate the movable part of the contact and

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guarantee no jamming ,and then electrify the coils;

- The product can be used on the condition that the arcing shield has been installed correctly;
- It is normal situation that the inside of the contact and the arcing shield becomes black after the contact runs ,which would not influence the property of the product .Therefore ,don't try to remove the black by using the sand paper or other tools ;
- Ask professional staffs to check and repair the product when abnormal situation occurs .However,live line may cause casualties.

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