

上海良信电器股份有限公司

Shanghai Liangxin Electrical Co., Ltd.

NDM3G 系列塑壳隔离开关

NDM3G Series MCCB

产品说明书

Product Manual

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3	更新项目 6 技术参数, 详见表格 3, 增加 NDM3G-250V 的内容。 Update the technical parameters of project 6, see table 3 for details. Add the content of NDM3G-250V.	20210311	孙兰萍 Sun Lanping	谢伟 Xie Wei	胡琪 Hu Qi



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1. 适用范围与用途/ Application scope

NDM3G 系列隔离开关, 是本公司采用国际先进设计, 制造技术研制、开发的新型隔离开关之一。

NDM3G series disconnect switch is one of the new-type disconnect switches of our company that are researched and developed by using internationally-advanced design and manufacturing technology.

该产品具有体积小、分断高、飞弧短, 抗震动的特点, 是陆地及船舶使用的理想产品, 其额定工作电压为 AC 380/400/415V, AC500V, AC 660/690V, AC 1140V, DC500V, DC750V 和 DC1000V。额定绝缘电压为 1250V, 适用于交流 (50/60Hz)、直流 250A~800A 的电路中, 作为分断电路及线路的隔离之用。

The product is characterized by small size, strong breaking capacity, short flashover and shock resistance and therefore it is an ideal product applicable to lands and ships. The rated operational voltages of the product include AC 380/400/415V, AC500V, AC 660/690V, DC500V, DC750V and DC1000V. Its nominal insulation voltage is 1000V, which is applicable to the circuit with alternating current of (50/60Hz) and direct current of 250A~800A. It can be applied to the disconnecting of breaking circuit and line.

产品广泛应用于各行业的输配电及自动化等系统中。

The product can be widely applied to power transmission and distribution system and automatic system, etc. of various industries.

本产品符合标准 GB14048.3、IE 60947-3。

The product is in conformity with GB14048.3、IE 60947-3 standard.

2. 型号说明/ Model and implication

ND	M	3	G	-	□	□	/	□	□	□	□
1	2	3	4	5	6	7	8	9	10	11	
序号	序号名称		NDM3G								
1	企业代号		ND: “Nader” 牌低压电器								
2	产品代号		M: 塑料外壳式隔离开关								
3	设计序号		3								
4	系列派生代号		G: 隔离开关								
5	壳架等级		250、400、630、800								
6	品种派生代号		V: 高电压								
7	操作方式		无代号: 手柄直接操作								
			P: 电动操作								
			Z: 转动操作								
8	极数		2、3、4								
9	脱扣器代号		0: 无脱扣器								
10	附件代号		参见表 1								
11	额定电流		见表 2								
12	使用类别		AC/DC-21A、21B 通断电阻性负载, 包括适当的过负载								
			AC/DC-22A、22B 通断电阻和电感混合负载, 包括适当的过负载								
			AC/DC-23A 通断电动机负载或其他高电感过负载								
13	接线方式		无代号: 常规产品								
			P: 联接排								

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表 1 附件代号

Table 1 Accessory Code

附件名称 Accessory Name	代号 Code
无 None	00
单辅助触头 Single auxiliary contact	21
双辅助触头 Double auxiliary contact	20

3. 技术参数/ Main technical parameters

表 2/ Table2

型号 Model	壳架等级额定电流 /In (A) Frame-Level Rated Current/In (A)	额定绝缘电压 /Ui (V) Nominal Insulation Voltage/Ui (V)	额定工作电压 /Ue (V) Rated Operational Voltage/Ui (V)	额定短路接通能力 /Icm (KA) Rated Short-Time Making Capacity/Icm (KA)	额定短时耐受电流 /Icw (kA/1S) Rated Short-Time Withstand Current (kA/1S)	飞弧距离 / (mm) Flashover Distance / (mm)	额定电流 /In (A) Rated Current/In (A)	操作性能 Operating Performance	
NDM3G-250	250	1000	AC380/400/415 AC500 AC660/690 DC500 DC750 DC1000	3	3	≤50	250	机械寿命 Electrical life	免维护 Maintenance free 10000 可维护 Maintainable 20000
								电气寿命 Mechanical life	5000
NDM3G-250 V	250	1250	AC1140	3	3	≤50	250	机械寿命 Electrical life	免维护 Maintenance free 10000 可维护 Maintainable 20000
								电气寿命 Mechanical life	1000
NDM3G-400	400	1000	AC380/400/415 AC500 AC660/690 DC500 DC750 DC1000	5	5	≤50	400	机械寿命 Electrical life	免维护 Maintenance free 10000 可维护 Maintainable 20000
NDM3G-630	630	1000		8	8	≤50	630	机械寿命 Electrical life	可维护 Maintainable 20000
NDM3G-800	800	1000		10	10	≤50	800	电气寿命 Mechanical life	7500

4. 工作环境/ Stand working conditions

- 1) 海拔 ≤ 2000 m
2) 环境温度 20℃~+70℃
3) 环境温度+40℃时相对湿度不超过 50%，较低温度可以有较高湿度，如：20℃时相对湿度可达 90%

- 4) 对于因温度变化所产生的凝霜应采取相应的措施
- 5) 能耐受潮湿空气的影响
- 6) 能耐受盐雾、油雾的影响
- 7) 能耐受霉菌的影响
- 8) 隔离开关接至主回路的安装类别为III, 隔离开关不接至主回路的安装类别为: II
- 9) 污染等级为 3 级
- 10) 无爆炸危险的介质中, 且介质无足以腐蚀金属和破坏绝缘的气体与导电尘埃的地方
- 11) 在没有雨雪侵袭的地方
- 12) 当用户使用条件较上述严酷时应与制造商协商
- 1) Altitude $\leq$ 2000 m
- 2) Ambient temperature: $-35\sim+70^{\circ}\text{C}$
- 3) The relative humidity of the air does not exceed 50% at 40°C . Higher relative humidity is permitted at lower temperature, such as 90% relative humidity at 20°C .
- 4) The protective actions should be taken for frost which formed by variation of temperature.
- 5) Resisting the effects by humid air.。
- 6) Resisting effects by salt mist and oil mist.。
- 7) Resisting the effects by mould.
- 8) Installation category for the disconnect switch which is connected to main circuit: III, Installation category for the disconnect switch which is not connected to main circuit: II。
- 9) Pollution degree:3.
- 10) Service place without explosive media, gas and dust which are corrosive and conductive.
- 11) Be mounted free from rain and snow.
- 12) Should consult with the manufacturer when the working conditions are harsher.

5. 接线方式(接线图)/ Wiring Method

连接导线采用的截面积和相适应的额定电流见表

The sectional area of the connecting wire and the relevant rated current are shown in the Table 3

表 3/ Table 3

额定电流 (A) / Rated Current A	250	400	630	800
导线截面积/Wire Sectional Area (mm ²)	120	240	185x2	240x2

6. 产品外形及安装尺寸/ Shape dimension & Dimension

本产品可板前接线, 也可板后接线, 具体见图 1、图 2

This product can also be front plate connector, wiring on back of the board, specific see Figure 1, figure 2

图 1 板前接线/ Fig 1 Front connection



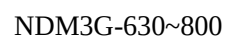


表 4/ Table 4

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型号 Model								
	W		W1		L			
NDM3G-250 (V) /3P	107		70		165		257	
NDM3G-250/4P	-							
NDM3G-400/3P	150		96					
NDM3G-400/4P	-							
NDM3G-630/3P	182		116		270			
NDM3G-630/4P	-							
NDM3G-800/3P	210		140		280			
NDM3G-800/4P	-							

注：未注公差尺寸的极限偏差按 GB/T 1804-c。

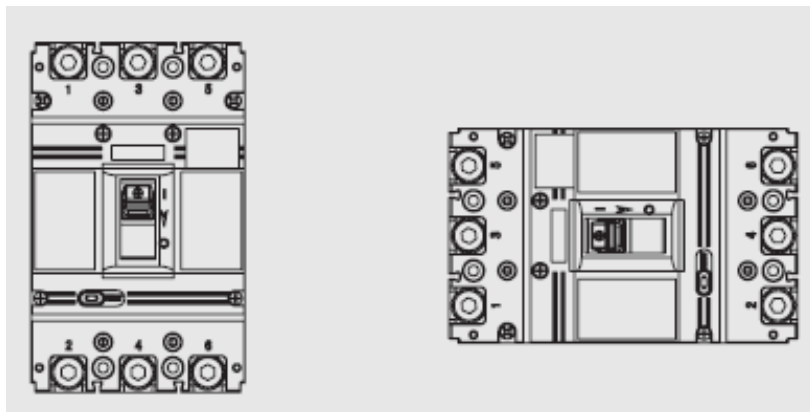
Note: The limit deviation not indicated with the tolerance dimensions is as per GB/T 1804-c.



7. 安装方式/ Mounting Method

请安装于金属等阻燃物上。隔离开关可垂直安装，也可以水平安装

Please have the product installed on metals or other flame retardants. The disconnect switch can be installed both vertically and horizontally.



垂直安装

Vertical

水平安装

Horizontal

8. 附件说明书/ Accessory

辅助触头及其额定值 Auxiliary Contact and its Rated Value

表 5/Table 5

名称/Name	壳架电流 (A) Frame Current (A)	约定发热电流 /Conventional Thermal Current, Ith (A)	AC400V 时额定工作电流 /Rated Operational Current at AC400V, Ie (A)
辅助触头/ Auxiliary Contact	250	3	0.3
	400 – 800		0.3

9. 使用和维护/ Application & Maintenance

9.1 运行前检查和准备

运行前应检查以下各项

- (1)核对接线是否正确，见第 7 点接线方式图。
- (2)确认端子间或暴露的带电部分没有短路或对地短路情况。
- (3)确认端子连接和固定螺钉均应紧固无松动
- (4)隔离开关带有欠电压脱扣器，应使脱扣器先通电，隔离开关才允许合闸。

9.1 Examination and preparation before working

The following items should be examined before working

- (1)Check whether wiring is right; see the seventh wiring diagram.
- (2)Make sure that there is no short circuit on the part between every two terminals or on exposed electrified parts or no short circuit. to earth.。
- (3)Make sure terminal connection and fixing screw are fastened.
- (4)If the disconnect switch has an undervoltage tripper, the disconnect switch is allowed to close only when the undervoltage tripper is electrified.

9.2 试运行 Pilot run

按 9.1 条各项全部确认无异常情况后，可以进行试运行。

- (1)扳动操作手柄，投入电源。

(2) 隔离开关主电路带电后, 按紧急脱扣按钮, 隔离开关应脱扣, 操作手柄处于脱扣位置。如果试运行都能满足, 可投入运行。

Carry out pilot run after all items in rule 9.1 are assured normal.

(1) Pull the operating handle and switch power supply on.

(2) Press emergency release button after main circuit of the disconnect switch is electrified. Then, the disconnect switch should be released and the operating handle is at released position. Operation can be carried out if pilot run successes.

9.3 维护 Maintenance

◆ 维护检查必须有专业技术人员负责。

◆ 用户如需选用内、外附件, 按所订型号由本公司提供, 以保证质量。如用户自行选购或改装, 本公司不能负责。

◆ 在执行维护操作前, 必须先完成下列操作:

(1) 使隔离开关分闸;

(2) 断开电源与隔离开关的连接(包括主电路、辅助电路)

(3) 将隔离开关从安装位置上卸下(一般用于插入式, 固定式最好也如此)。

隔离开关维护在正常操作条件下每年一次, 在非正常条件下每半年一次, 以下为维护内容:

(1) 再扣隔离开关, 合、分隔离开关, 在隔离开关合闸时用脱扣按钮使隔离开关脱扣, 往复操作 5 次, 隔离开关应能可靠进行再扣、合、分、脱扣动作(NDM3G-250V 无脱扣按钮);

(2) 清除隔离开关表面及连接处的灰尘(用清洁、干燥的抹布擦拭);

(3) 清洁隔弧板, 如必要则需要更换隔弧板;

(4) 检查所有连接情况, 用砂布擦除氧化物, 用可溶解剂清洁, 拧紧螺栓和螺母;

(5) 如果隔离开关还装有其它内、外部附件, 应逐一检查各个附件, 以确保其处于正常工作状态。

(按照 8 附件说明详细内容进行测试)

◆ Maintenance and check should be finished by professional technicians.

◆ To guarantee quality, the company provide internal and external accessories to customer according to the subscribed type. The company is free from responsibility if the customer purchases or refits internal and external accessories by himself.

◆ The following operations should be finished before maintenance.

(1) Open the disconnect switch.

(2) Disconnect power supply and the disconnect switch (including main and auxiliary circuits);

(3) Uninstall the disconnect switch from the installing position (suitable for insertion type, so as fixation type).

Maintenance on the disconnect switch should be carried out once every year in normal operation condition or once every half a year in an abnormal condition. The followings are included in maintenance.

(1) Fasten, close and break the disconnect switch. Release the disconnect switch by a release button when it is closed. The disconnect switch should be fastened, closed, broken and released reliably again after the above operations are carried out for five times (NDM3G-250V No professional technicians);

(2) Remove dust on the surface and connection part of the disconnect switch (by clean and dry cloth);

(3) Clean flash barrier, and exchange it if necessary;

(4) Check all connections; wipe oxide off by abrasive cloth; clean by dissoluble lotion; tighten the bolt and nut;

(5) If there are other accessories installed on the disconnect switch, all accessories should be examined one by one to make sure normal working condition.

(test in according to details in Accessory 8)

10. 注意事项/ Notices

10.1 安装注意事项 Installation Precautions

地址: 上海市浦东新区申江南路 2000 号

邮编: 201315

电话: (021)68586699

传真: (021)23025796

1) 隔离开关本体固定在安装板上

1) The main body of the disconnect switch should be fixed on the installation board.

2) 与主电路连接, 必须由具有专业资格的人员进行配线作业

确认输入电源处在完全断开的情况下, 才能进行配线作业

必须安装本体后再进行配线

2) When connected with the main circuit, the wiring operation must be done by people with professional qualifications.

Moreover, the input power needs to be confirmed in a complete disconnecting state before the wiring operation can be performed.

The main body must be installed before the wiring operation can be processed.

10.2 运行注意事项 Precautions in Operation

1) 湿手不能操作隔离开关, 否则可能发生电击事故。

1) Operating the disconnect switch by wet hands is not allowed since electric shock accident might happen.

2) 隔离开关不能频繁操作, 否则会缩短隔离开关的使用寿命。

2) The disconnect switch cannot be operated in high frequencies, otherwise the service life thereof will be shortened.

10.3 保修期与售后服务 Warranty and After-sales Service

本产品是在完善的品质管理体系下制造的, 当万一发生故障时, 对保修期与售后服务特作如下说明:

This product is manufactured under a perfect quality management system. Please refer to the following descriptions regarding the warranty and after-sales service in case of failure occurrence.

1 保修期 Warranty

在用户遵守保管和使用条件下, 从本公司发货之日起, 不超过 18 个月, 隔离开关封印完好, 产品如因制造质量问题而发生损坏或不能正常使用时, 本公司负责无偿修理或更换。但是, 如由于下述原因引起的故障, 即使在保修期内亦作有偿修理或更换

On the condition that the customer complies with the maintaining requirement and using requirement, our company will be responsible for providing free repair service or change service within 18 months since the date of delivery if the product is damaged or is unable to be used normally due to the manufacturing quality problems while the disconnect switch is sealed in a good condition. However, we will provide paid repair service or change service for the failures caused by the following reasons even through the product is in the warranty period:

1) 由于使用错误、自行改装及不适当的维修等原因

1) The customer operates the product in a wrong way, modifies the product personally and repairs the product inappropriately

2) 超过标准规范的要求使用

2) The customer uses the product going beyond the requirement of the standard specification

3) 购买后由于摔落及安装过程中发生损坏等原因

3) The product falls off after purchasing and damage occurs during the installation process

4) 地震、火灾、雷击、异常电压、其他天灾及二次灾害等原因

4) Natural disasters such as earthquake, fire, lightning, abnormal voltage, other natural disasters and secondary disasters

2 售后服务 After-sales Service

1) 出现故障时, 请与供货商或本公司售后服务部门联系

1) Please contact with your supplier or the after-sales service department of our company as soon as failure occurs

2) 保修期内的修理或更换: 由于本公司制造上的问题所造成的故障, 作无偿修理, 以至更换

2) For the repair or replacement of product within the warranty period: our company will provide free repair and even exchange product if the failure is caused due to the manufacturing problems

3) 超过保修期后的修理或更换: 在修理后能维持功能的场合下, 作有偿修理, 否则可作有偿更换

3) For the repair or replacement exceeding the warranty: we will provide paid repair under the occasion that the product functions after repair, otherwise, we will provide paid replacement

of the product

11. 订货须知/ Accessory list and installation

用户务必确认对本产品技术资料已有详细了解，并应根据隔离开关将来使用的场合，按“订货规范”表订货。

Customer should have a knowledge of technical documents of this product and make order by an “Ordering rule” table in accordance with the future practical use of disconnect switch

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