

上海良信电器股份有限公司
Shanghai Liangxin Electrical Co., Ltd.

NDQ1-400 产品规格书

NDQ1-400 Product Specification

产品名称: 自动转换开关电器

Product Name: ATSE (Automatic Transfer Switching Equipment)

产品型号: NDQ1-400

Product Model:

日期: 2018-11-28

Date:

编制	赵振兴	日期	2018-11-28
Prepared by	Zhao Zhenxing	Date	
审核	曹雪虎	日期	2018-11-28
Reviewed by	Cao Xuehu	Date	
批准	周波	日期	2018-11-28
Approved by	Zhou Bo	Date	

修订记录 Revision History					
版本 Version	修订原因/内容 Revision Reason/Content	实施日期 Implementation Date	编制人 Prepared by	审核人 Reviewed by	批准人 Approved by
0	新增 New addition	2011-01-15	丁国辉 Ding Guohui	周波 Zhou Bo	李生爱 Li Shengai
1	正常工作环境章节中增加对湿度的描述 Addition of humidity description in the normal working environment chapter	2013-08-21	龚明爱 Gong Mingai	周波 Zhou Bo	张广智 Zhang Guangzhi
2	公司新国标设计 New GB design of the company	2018-11-28	赵振兴 Zhao Zhenxing	曹雪虎 Cao Xuehu	周波 Zhou Bo

1、适用范围与用途

1. Applicable Scope and Purpose

NDQ1-400 系列自动转换开关电器适用于工作电压至 AC400V/415V、50Hz，额定电流 225A 至 400A 的两路电源（常用电源、备用电源）之间的切换，执行元件为塑壳断路器。本产品适用于医院、商城、银行、宾馆和消防等不允许断电的重要场合。

The NDQ1-400 series ATSE (Automatic Transfer Switching Equipment) applies to the transfer between

地址：上海市浦东新区申江南路 2000 号 邮编：201317 电话：(021)68586699 传真：(021)23025796

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Address: South Shenjiang Road #2000, Pudong New Area, Shanghai
(021) 23025796

Post code: 201317

Tel.: (021) 68586699

Fax:

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two-way power supplies (common power supply, standby power supply) with the working voltage of AC400V/415V, 50Hz and rated current of 225A to 400A, with the molded case circuit breaker as the actuator. This product is suitable for hospitals, shopping malls, banks, hotels and fire protection and other important occasions where power off is not allowed.

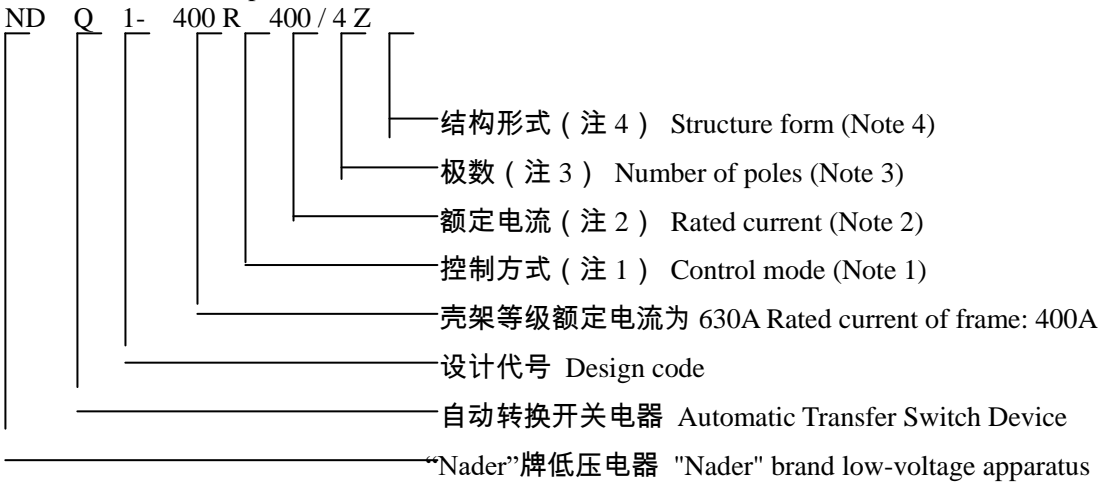
- 2、 产品图片
2. Picture of the Product



分体式

Split type

- 3、 规格型号说明
3. Specification and Model Description



- 注 1. R : 自投自复式 ; S : 自投不自复式 ; F : 电网 - 发电机式。
- Note 1. R: Automatic change and automatic recovery mode; S: Automatic change and non-automatic recovery mode; F: Grid - generator mode.
2. 额定电流为 : 225A、250A、315A、350A、400A
2. The rated current is: 225A、250A、315A、350A、400A
3. 极数分为 3P、4P。
3. Pole number: 3P, 4P.
4. Z : 整体式 ; F : 分体式。
4. Z: Integral type; F: Split type.

4、 主要技术参数

4. Main Technical Parameters

电气特性:

Electrical characteristics:

- ▲ 额定工作电压 U_e : AC 400V/415V
- ▲ Rated working voltage U_e : AC 400V/415V
- ▲ 额定绝缘电压 U_i : 690V
- ▲ Rated insulation voltage U_i : 690V
- ▲ 额定冲击耐受电压 U_{imp} : 8kV
- ▲ Rated impulse withstand voltage U_{imp} : 8kV
- ▲ 壳架等级额定电流 I_{nm} : 400A
- ▲ Rated current of frame I_{nm} : 400A
- ▲ 额定短路接通能力 I_{cm} (峰值): 143kA
- ▲ Rated short circuit making capacity I_{cm} (peak value): 143kA
- ▲ 额定短路分断能力 I_{cn} : 65kA
- ▲ Rated short-circuit breaking capacity I_{cn} : 65kA

操作性能:

Operating performance:

- ▲ 通电: 6000 次
- ▲ With electricity: 6,000 times
- ▲ 不通电: 10000 次
- ▲ Without electricity: 10000 times

5. 正常工作环境

5. Normal Working Environment

- ▲ 海拔: $\leq 2000\text{m}$.
- ▲ Altitude: $\leq 2000\text{m}$.
- ▲ 环境温度: $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$.
- ▲ Ambient temperature: $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$.
- ▲ 空气相对湿度在温度为 $+45^{\circ}\text{C}$ 时不超过 95%, 在较低温度下可以有较高的相对湿度, 例如 20°C 时达 90%。对由于温度变化偶尔产生的凝露应采取特殊的措施。
- ▲ When the temperature is $+45^{\circ}\text{C}$, the relative humidity of air should not exceed 95%; a high relative humidity is allowed under a low temperature, e.g. 90% under 20°C . Special measures should be taken to address occasional condensing due to temperature fluctuation.
- ▲ 污染等级 3。
- ▲ Pollution level: 3.
- ▲ 最大倾斜度为 22.5° 。
- ▲ The maximum gradient is 22.5° .
- ▲ 在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。
- ▲ The product can be disposed in places that are free from explosive media, media corrosive to metal, insulation damaging gas, and conductive dust.
- ▲ 应安装在没有雨雪侵袭的地方。
- ▲ The product should be installed free from snow and rain.

6. 控制器操作使用说明

地址: 上海市浦东新区申江南路 2000 号 邮编: 201317 电话: (021)68586699 传真: (021)23025796

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Fax:

6. Operation and Use Instructions for the Controller

6.1 控制器面板 (见图1)

6.1 Controller panel (see Figure 1)

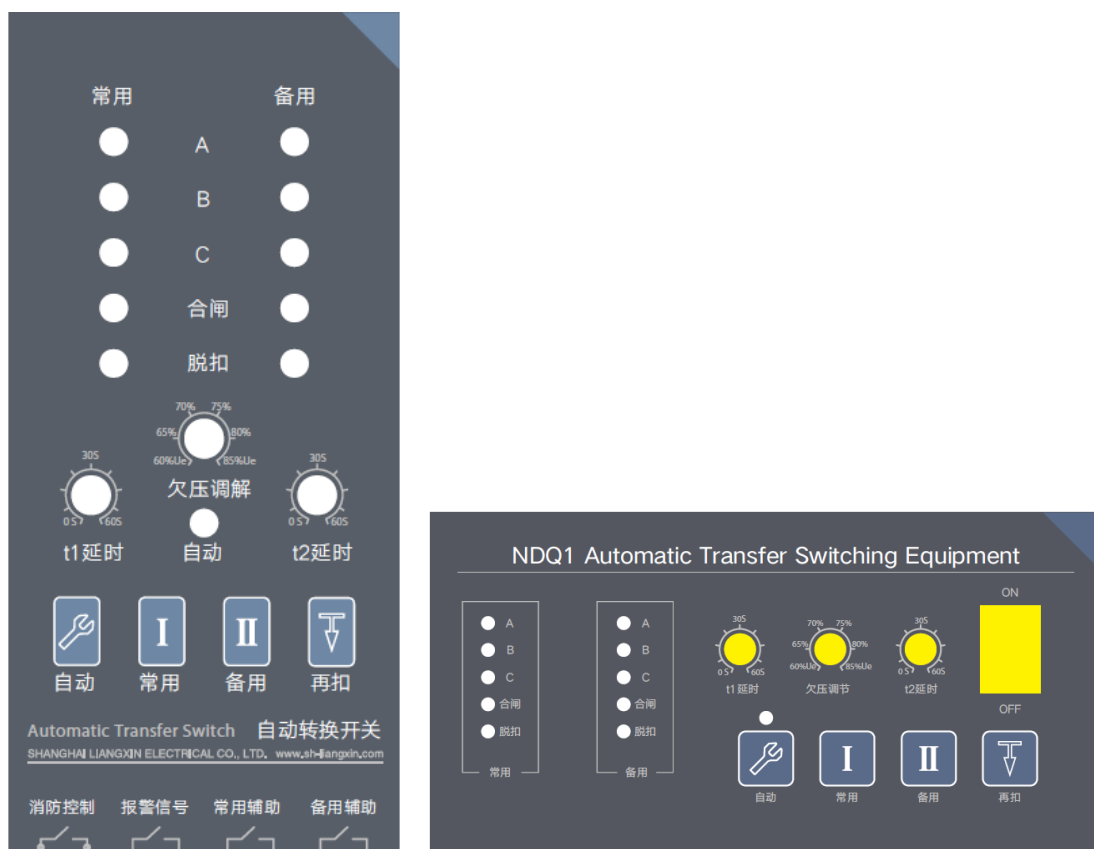


图1

Fig. 1

6.1.1 指示灯功能说明 (见表1)
6.1.1 Function description of indicators (see Table 1)

表1 控制器指示灯功能说明

Table 1 Function Description of Controller Indicators

名称 Name	说明 Description	功能 Function
电源指示 Power indicator	常用电源ABC三相 ABC three phases of the common power supply	正常：常亮 Normal: Constantly on
	备用电源ABC三相 ABC three phases of the standby power supply	缺相：常灭 Default phase: Constantly off 过压：闪烁频率10Hz Overvoltage: Flashing frequency 10Hz 欠压：闪烁频率 2Hz Undervoltage: Flashing frequency 2Hz
合闸指示 Closing indicator	常用电源合闸指示灯 Common power closing indicator	合闸：常亮 Closing: Constantly on
	备用电源合闸指示灯 Standby power closing indicator	分闸：常灭 Opening: Constantly off 当开关出现转换故障或者位置反馈错误，常用、备用合闸 灯同时 10Hz 闪烁 In case of a transfer fault or position feedback error for the switch, the common and standby closing indicators will flash at 10Hz
脱扣 Tripping	断路器脱扣状态指示灯 Tripping status indicator of the circuit breaker	脱扣：常亮 Tripping: Constantly on 合闸/分闸：常灭 Closing/opening: Constantly off
自动 Automatic	自动/手动指示灯 Automatic/manual indicator	自动方式：常亮 Automatic mode: constantly on 手动方式：常灭 Automatic mode: constantly off 开关切换延时启动后，开始 1Hz 闪烁，延时到后，停止闪 烁 After starting of the switch transfer delay, the indicator begins to flash at 1Hz and stops flashing after reaching the delay

6.1.2 按键功能说明 (见表2)
6.1.2 Function description of keys (see Table 2)

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表2 控制器按键功能说明

Table 2 Function Description of Controller Keys

名称 Name	说明 Description	功能 Function
自动/手动 Automatic/manual	自动/手动方式选择 Automatic/manual mode selection	自动模式下, 按下此键, 变为手动方式, “自动/手动”指示灯常灭
常用 Common	常用电源投入 Common power input	手动模式下, 按下此键, 变为自动方式, “自动/手动”指示灯常亮 By pressing the key, the automatic mode will become manual mode with the "Automatic/Manual" indicator constantly off
备用 Standby	备用电源投入 Standby power input	By pressing the key, the manual mode will become automatic mode with the "Automatic/Manual" indicator constantly on
再扣 Re-tripping	断路器故障脱扣后再扣 Re-tripping of the circuit breaker after fault tripping	手动状态, 按下此键, 开关切换至常用电源合闸位置
电源开关 Power switch	控制器电源开关 Power switch of controller	自动状态, 此按键无效 In manual mode, the switch transfers to the common power closing position by pressing the key

6.1.3 旋钮功能说明 (见表3)

6.1.3 Function description of knobs (see Table 3)

表3 控制器旋钮功能说明

Table 3 Function Description of Controller Knobs

名称 Name	说明 Description	功能 Function
欠压调节 Under-voltage adjustment	调节欠压设定值 Adjust the under-voltage setting value	调节范围为60%U _e -85%U _e , 连续可调, 出厂默认值为85%U _e Adjustable range 60%U _e -85%U _e , continuously adjustable, with 85%U _e as the factory default value
t1延时 t1 delay	调节分闸延时时间 Adjust the tripping delay time	调节范围0s-60s, 连续可调, 出厂默认值为0s Adjustable range 0s-60s, continuously adjustable, with 0s as the factory default value
t2延时 t2 delay	调节合闸延时时间 Adjust the closing delay time	

注:

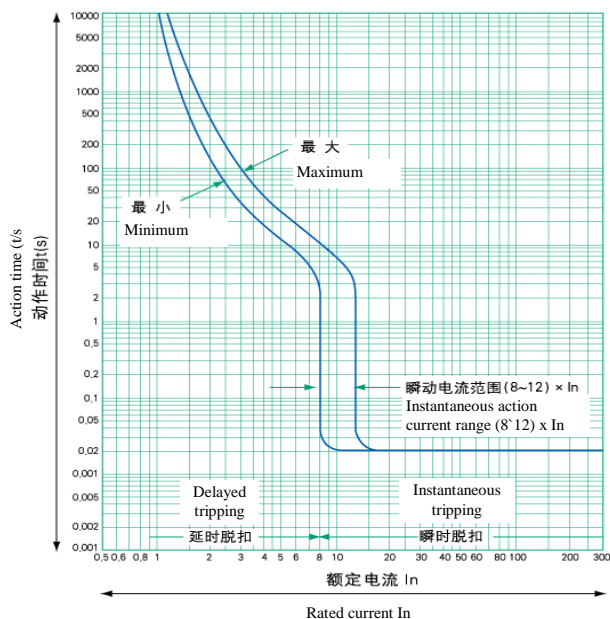
Note:

从常用电源或者备用电源往断电位置切换定义为分闸动作 (t_1 分闸延时), 从断电位置往常用电源或备用电源切换定义为合闸动作 (t_2 合闸延时)。

The tripping action (t_1 tripping delay) is defined as switching from the common or the standby power supply to the power-off position; the closing action (t_2 closing delay) is defined as switching from the power-off position to the common or the standby power supply.

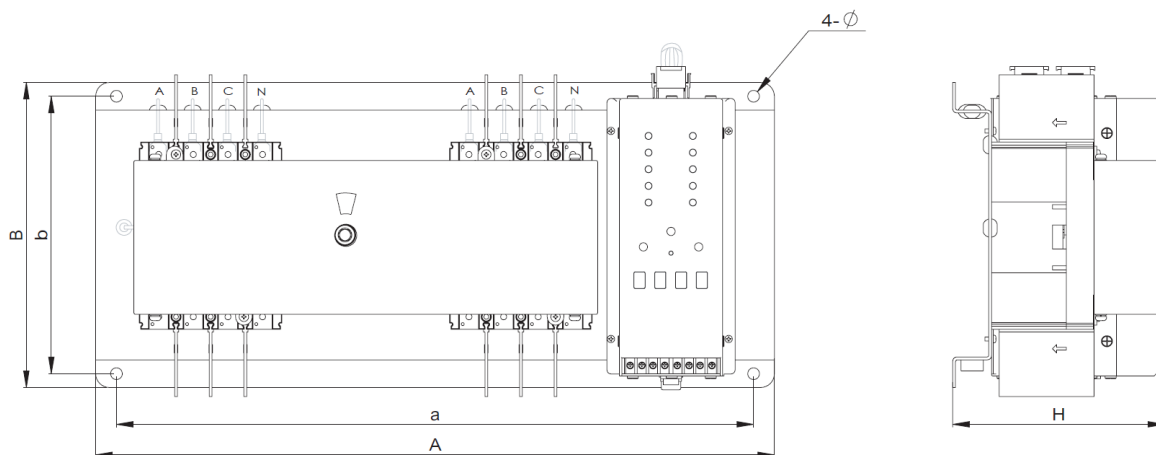
7、脱扣特性

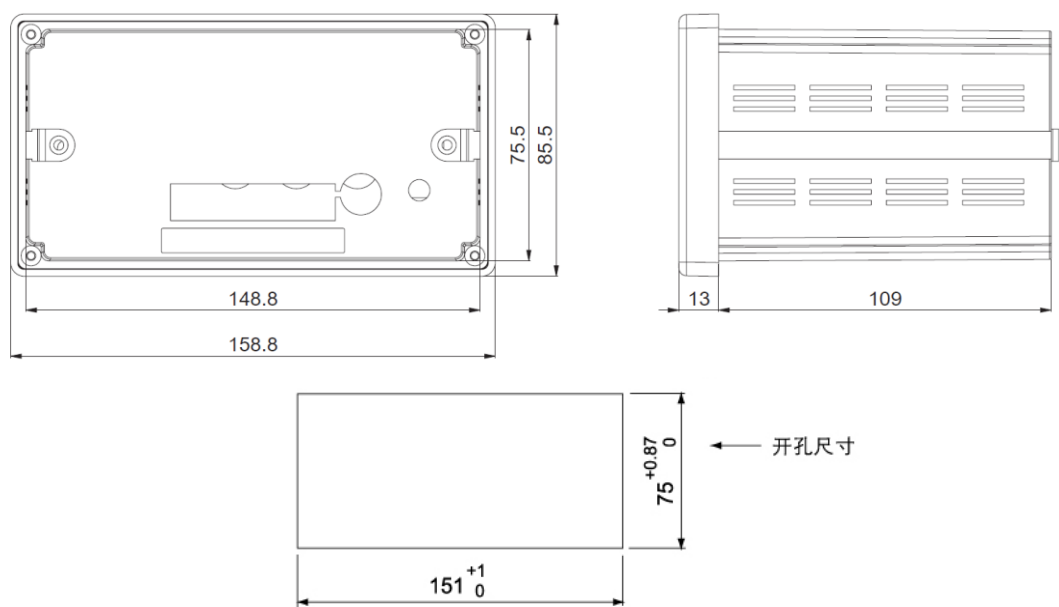
7. Tripping Characteristics



8、产品外形及安装尺寸

8. Outline and Installation Dimensions





型号 Model	外形尺寸 Outline dimensions				安装尺寸 Installation dimensions			
	A		B	H	a		b	Φ
	三极 3P	四极 4P			三极 3P	四极 4P		
NDQ1-400	600	640	320	218	560	600	290	10.5

注：未注公差尺寸的极限偏差按 GB/T 1804-v。
Note: The limit deviation not indicated with the tolerance dimensions is as per GB/T 1804-v.

- 9、安装方式
9. Installation Mode
可水平安装,也可竖直安装
To be installed horizontally or vertically

- 10、包装储存
10. Packaging and Storage
包装量 1 个/箱，包装成箱的产品，应在环境温度为-55℃~85℃，55℃对应相对湿度在 80% 以下，周围空气中无酸性，碱性或其它腐蚀性气体的库房里贮存，在上述条件下，贮存期自生产日期不超过 18 个月。
Packaging quantity: 1 piece/box. The packaged products should be stored in a warehouse with the ambient temperature of -55℃~85℃ and the corresponding relative humidity below 80% without acidic, alkali or other corrosive gas in the surrounding air. Under the conditions above, the storage period shall be no more than 18 months since the manufacturing date.

- 11、附件清单及安装
11. List of Accessories and Installation

序号 SN	名称 Name	规格 Specification	数量/台 Quantity/Set
1	六角转动手柄	—	1

	Hexagonal rotation handle		
2.	保险丝 Fuse	3A	2