

Shanghai Liangxin Electrical Co., Ltd.

NDQ1-100 Product Specification

Product Name: ATSE (Automatic Transfer Switching Equipment)

Product Model: NDQ1-100

Date: 2018-11-28

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Revision History					
Version	Revision Reason/Content	Implementation Date	Prepared by	Reviewed by	Approved by
0	New addition	2011-01-15	Ding Guohui	Zhou Bo	Li Shengai
1	Addition of humidity description in the normal working environment chapter	2013-08-21	Gong Mingai	Zhou Bo	Zhang Guangzhi
2	Content change according to the new international standard	2018-11-28	Zhao Zhenxing	Cao Xuehu	Zhou Bo

1. Applicable Scope and Purpose

The NDQ1-100 series ATSE (Automatic Transfer Switching Equipment) applies to the transfer between two-way power supplies (common power supply, standby power supply) with the working voltage of AC400V (50Hz) and rated current to 100A, 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. Picture of the Product



Integral type

3. Specification and Model Description

ND	Q	1-	100	R	100 / 4	Z	
							Structure form (Note 4)
							Number of poles (Note 3)
							Rated current (Note 2)
							Control mode (Note 1)
							Rated current of frame: 100A
							Design code
							Automatic Transfer Switch Device
							"Nader" brand low-voltage apparatus

Note 1. R: Automatic change and automatic recovery mode; S: Automatic change and non-automatic recovery mode; F: Grid - generator mode.

2. The rated current is: 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A

3. Pole number: 3P, 4P.

4. Z: Integral type; F: Split type.

4. Main Technical Parameters

Electrical characteristics:

- ▲ Rated working voltage U_e : AC 400V
- ▲ Rated insulation voltage U_i : 690V
- ▲ Rated impulse withstand voltage U_{imp} : 8kV
- ▲ Rated current of frame I_{nm} : 100A
- ▲ Rated short circuit making capacity I_{cm} (peak value): 105kA
- ▲ Rated short-circuit breaking capacity I_{cn} : 50kA

Operating performance:

- ▲ With electricity: 6,000 times
- ▲ Without electricity: 12,000 times

5. Normal Working Environment

- ▲ Altitude: $\leq 2000\text{m}$.
- ▲ Ambient temperature: $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$.
- ▲ 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.
- ▲ Pollution level: 3.
- ▲ The maximum gradient is 22.5° .
- ▲ The product can be disposed in places that are free from explosive media, media corrosive to metal, insulation damaging gas, and conductive dust.
- ▲ The product should be installed free from snow and rain.

6. Operation and Use Instructions for the Controller

6.1 Controller panel (see Figure 1)

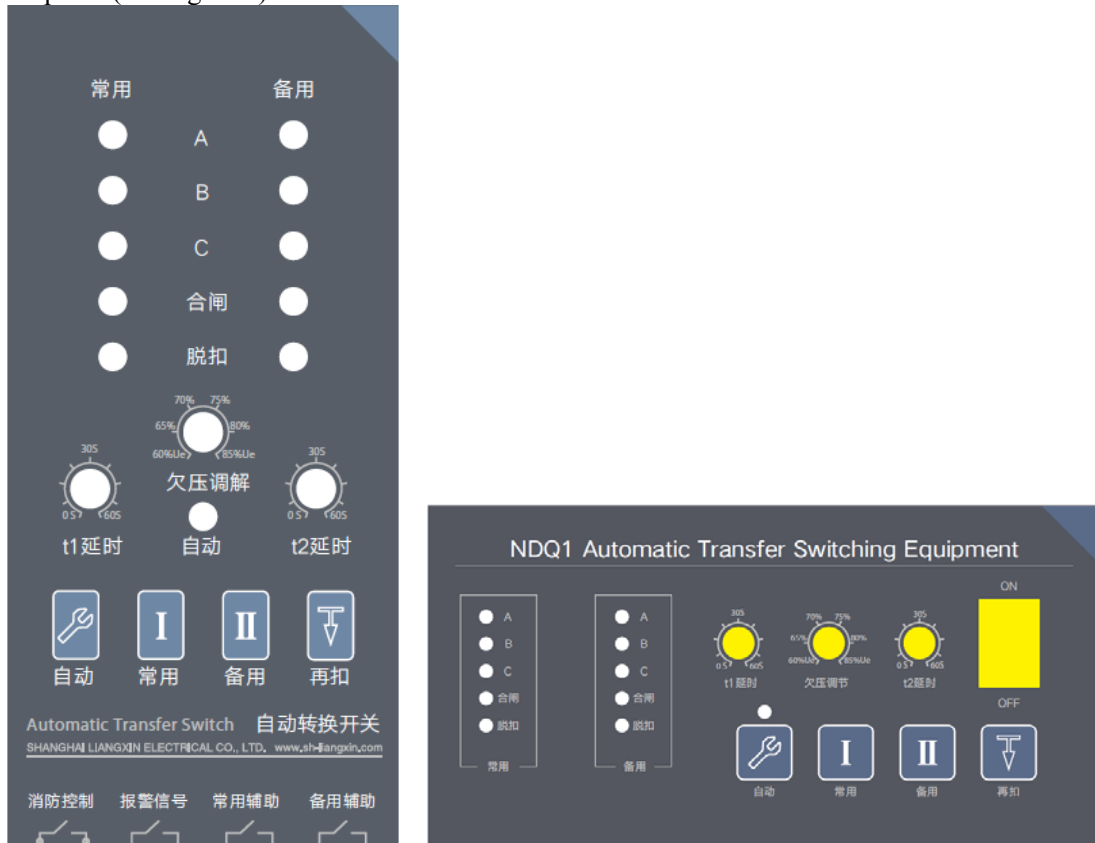


Figure 1

6.1.1 Function description of indicators (see Table 1)

Table 1 Function Description of Controller Indicators

Name	Description	Function
Power indicator	ABC three phases of the common power supply	Normal: Constantly on Default phase: Constantly off Overvoltage: Flashing frequency 10Hz Undervoltage: Flashing frequency 2Hz
	ABC three phases of the standby power supply	
Closing indicator	Common power closing indicator	Closing: Constantly on Opening: Constantly off In case of a transfer fault or position feedback error for the switch, the common and standby closing indicators will flash at 10Hz
	Standby power closing indicator	
Tripping	Tripping status indicator of the circuit breaker	Tripping: Constantly on Closing/opening: Constantly off
Automatic	Automatic/manual indicator	Automatic mode: constantly on Automatic mode: constantly off After starting of the switch transfer delay, the indicator begins to flash at 1Hz and stops flashing after reaching the delay

6.1.2 Function description of keys (see Table 2)

Table 2 Function Description of Controller Keys

Name	Description	Function
Automatic/manual	Automatic/manual mode selection	By pressing the key, the automatic mode will become manual mode with the "Automatic/Manual" indicator constantly off By pressing the key, the manual mode will become automatic mode with the "Automatic/Manual" indicator constantly on
Common	Common power input	In manual mode, the switch transfers to the common power closing position by pressing the key In automatic mode, the key is invalid
Standby	Standby power input	In manual mode, the switch transfers to the standby power closing position by pressing the key In automatic mode, the key is invalid
Re-tripping	Re-tripping of the circuit breaker after fault tripping	In manual mode, press the key so that the equipment will cut off the load power supply for re-tripping of the circuit breaker after fault tripping In automatic mode, the key is invalid
Power switch	Power switch of controller	The controller can only operate normally when the power switch is turned on

6.1.3 Function description of knobs (see Table 3)

Table 3 Function Description of Controller Knobs

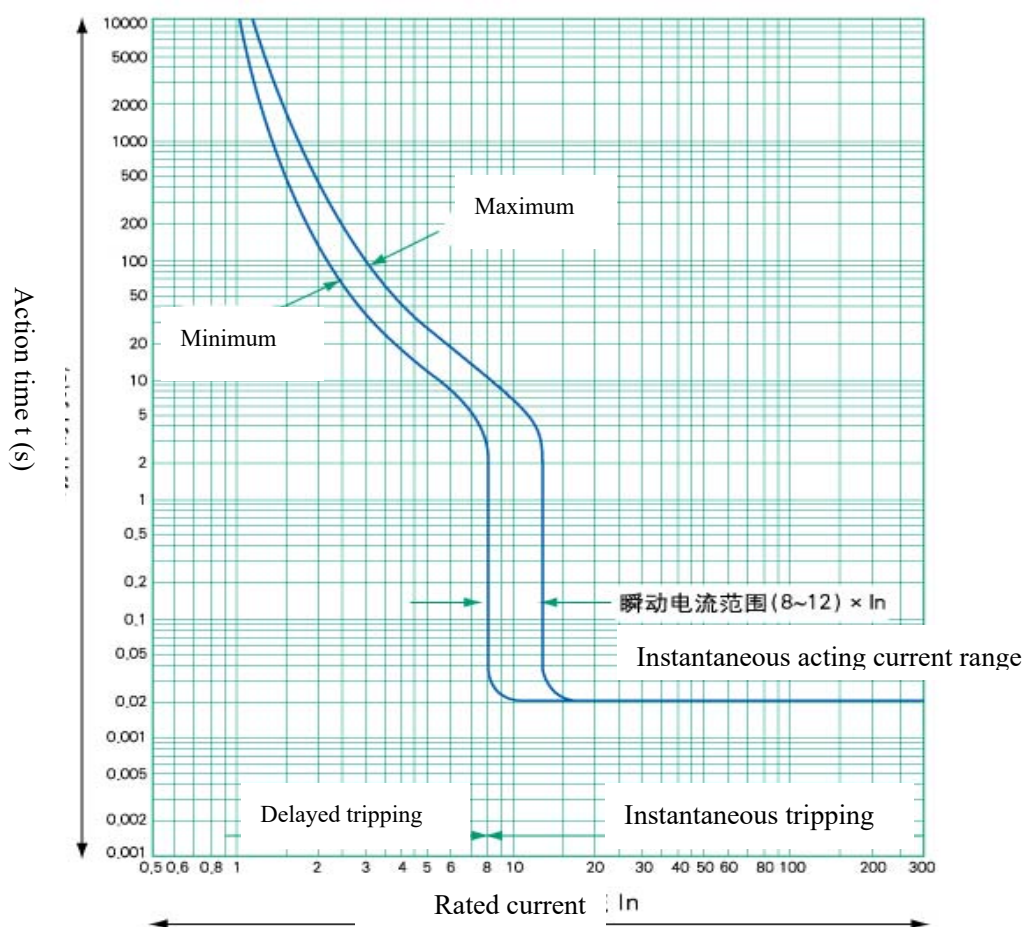
Name	Description	Function
Under-voltage adjustment	Adjust the under-voltage setting value	Adjustable range 60%U _e -85%U _e , continuously adjustable, with 85%U _e as the factory default value

t1 delay	Adjust the tripping delay time	Adjustable range 0s-60s, continuously adjustable, with 0s as the factory default value
t2 delay	Adjust the closing delay time	

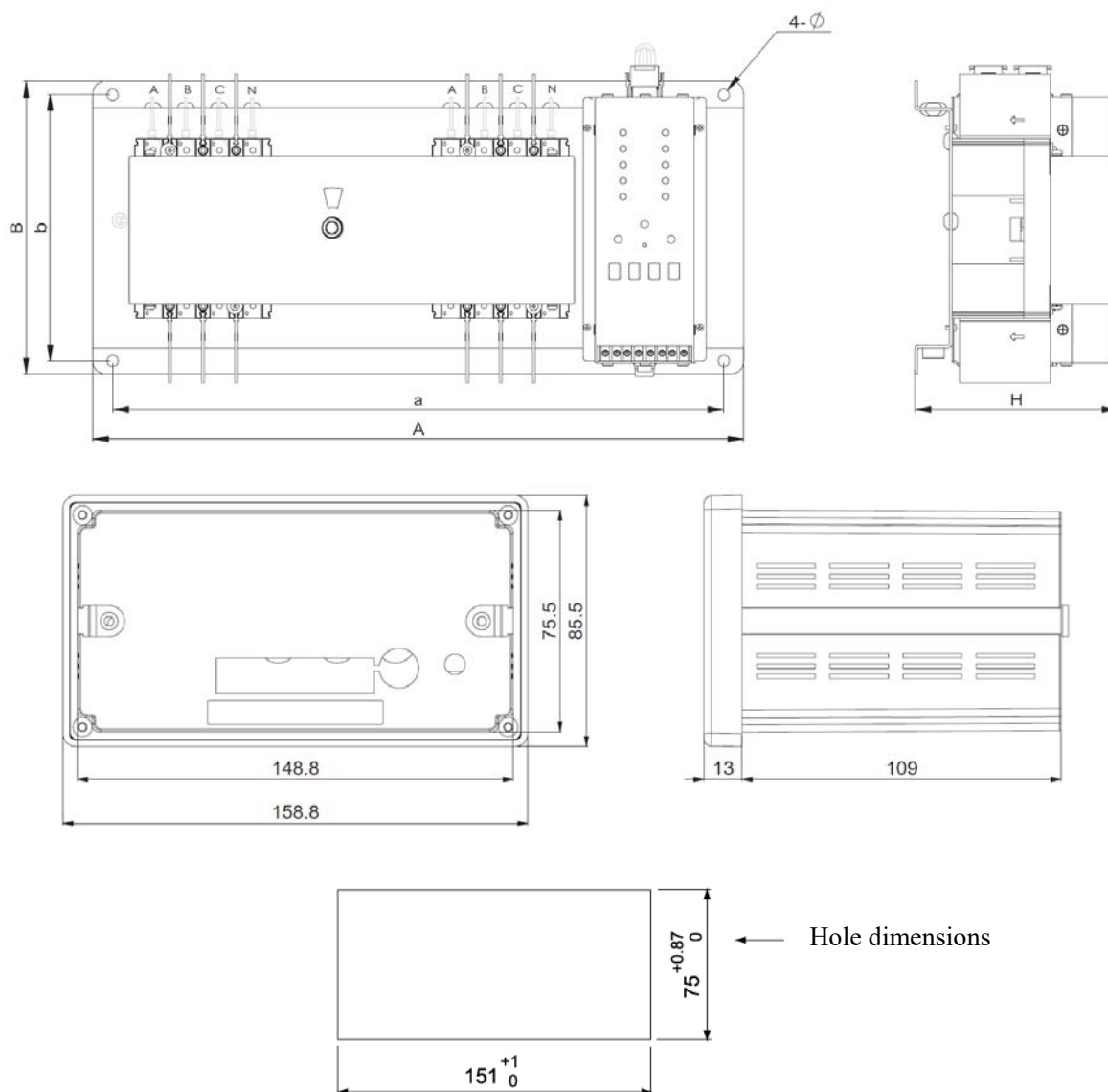
Note:

The tripping action (t1 tripping delay) is defined as switching from the common or the standby power supply to the power-off position; the closing action (t2 closing delay) is defined as switching from the power-off position to the common or the standby power supply.

7. Tripping Characteristics



8. Outline and Installation Dimensions



Model	Outline dimensions					Installation dimensions			
	A		B	H		a		b	Φ
	3P	4P		3P	4P	3P	4P		
NDQ1-100	460	490	220	150	166	430	460	200	8.5

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

9. Installation Mode

To be installed horizontally or vertically

10. Packaging and Storage

Packaging quantity: 1 piece/box. The packaged products should be stored in a warehouse with the ambient temperature of $-55^{\circ}\text{C}\sim 85^{\circ}\text{C}$ 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. List of Accessories and Installation

SN	Name	Specification	Quantity/Set
1	Hexagonal rotation handle	---	1
2.	Fuse	3A	2