Shanghai Liangxin Electric Co., Ltd

NDQ1-125 series

Product specifications

(IPD-ENG-DEV-T20 A1 2025-04-15)

weave		date	
Audit		date	
Sign		date	
approve		date	

Revision record					
version	Reason/Content of the revision	Date of implementation	Produce r	Reviewe r	Approve r
7	Added accessory selection table	2024-04-15	Zhang Yilian	Cao Xuehu	Wang Jili
8	The shell frame was upgraded to 125A	2025-08-15	Zhang Yilian	Cao Xuehu	Zhang Huifeng

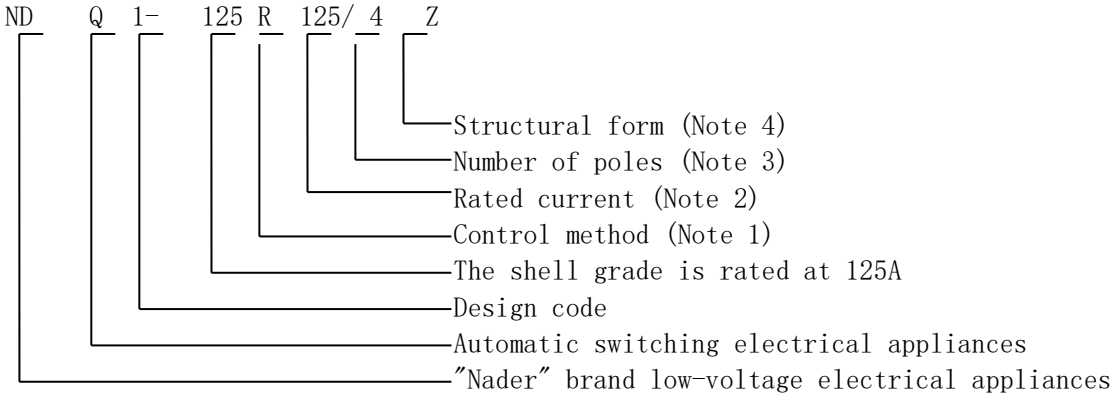
1. Scope of application and use

NDQ1-125 series automatic transfer switching electrical appliances are suitable for switching between two power supplies (common power supply and backup power supply) with working voltage to AC400V, 50Hz, and rated current to 125A, and the actuator is a molded case circuit breaker. This product is suitable for hospitals, malls, banks, hotels, and fire protection and other important occasions where power outages are not allowed.

2. Product pictures (pictures are for reference only, subject to the actual product)

monolithic

3. Description of specifications and models



Note 1.R: self-throwing and self-repetitive; S: self-throwing non-self-repetitive; F: Grid-generator type.

2. Rated current: 16A、20A、25A、32A、40A、50A、63A、80A、100A、125A。

3. The number of poles is divided into 3P and 4P.

4.Z: integral; F: split.

Users can choose different types of protection features or accessories according to the actual situation, as shown in the table below

Optional accessory table

Shell frame	Circuit breaker as standard		Optional protection	Optional accessories
125	3P	4P	Default duplex tripper No trippers Only the momentary tripper Motor protection	Split excitation tripper Single auxiliary contact Dual auxiliary contacts
	NDM2-125L/3300	NDM2-125/4300B		

			type	

Note: If you need to order the optional functions in the table, please let us know in advance

4. Main technical parameters

Electrical characteristics:

- ▲ Rated working voltage Ue: AC 400V
- ▲ Rated insulation voltage Ui: 690V
- ▲ Rated Shock Withstand Voltage Uimp: 8kV
- ▲ Shell grade rated current Inm: 100A
- ▲ Rated short-circuit connection capability Icm (peak): 105kA
- ▲ 额定短路分断能力 Icn：50kA

Operational performance:

- ▲ Power-on: 6000 times
- ▲ No power: 12,000 times
- ▲ Contact Transition Time (S): ≤2
- ▲ Conversion Action Time (S): ≤3

5. Normal working environment

- ▲ Altitude: ≤2000m.
- ▲ Ambient temperature: -25° C~+70° C.
- ▲ The ambient air temperature is 45° C, the relative air humidity is ≤ 95%, and at lower temperatures there can be higher relative humidity, such as 90% at 20° C. Special measures should be taken against occasional condensation due to temperature changes.
- ▲ Pollution level 3.
- ▲ The maximum inclination is 22.5° .
- ▲ In a non-explosive medium where there is no gas or conductive dust sufficient to corrode the metal and damage the insulation.
- ▲ It should be installed in a place where there is no rain or snow.

5.1 Temperature change volume reduction coefficient

Table of temperature change volume reduction coefficient

Model	The temperature corresponds to the volume reduction coefficient of							
NDQ1-125	Temperatur	40	45	50	55	60	65	70
	Volume	1	0.977	0.954	0.931	0.907	0.883	0.858

5.2. Altitude reduction coefficient

Altitude degradation volume coefficient table

Altitude (m)	2000	2500	3000	3500	4000	4500	5000
Operating current	1	1	0.98	0.97	0.95	0.94	0.93

correction factor							
Power Frequency Withstand Voltage (V)	2000	2000	1800	1800	1500	1500	1200
Insulation Voltage (V)	690	690	620	610	550	540	414

6. Instructions for controller operation

6.1 Controller panel (see Figure 1)

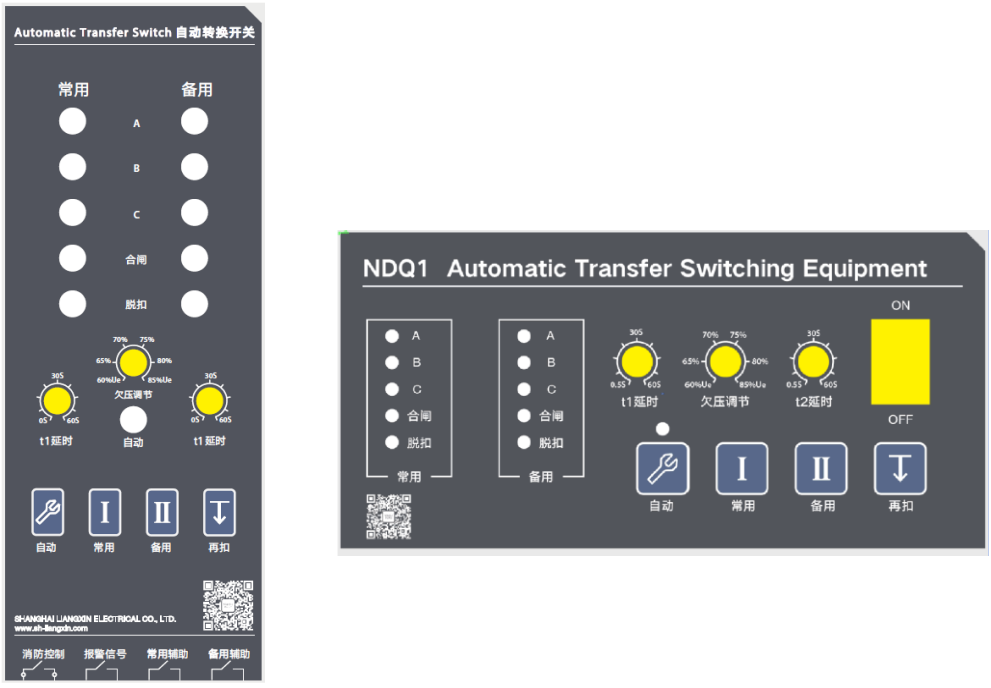


Figure 1

6.1.1 Controller output terminal wiring instructions

A	B	1	2	3	4	5	6	7	8

1: A-B is the 485 communication interface, only the split controller has communication function, and the integral controller only has 1-8 terminals, no communication function

2: 1 . 2 is the fire control terminal, short connection signal, when restoring, it is necessary to confirm that the fire signal is released, and the manual continuous press of the hand/automatic key is restored.

3: 3 . 4 is an alarm signal, the backup power supply is closed when the power supply fails,

R S type is effective, F type is invalid
4: 5 . 6. In R S type, it is a commonly used auxiliary terminal, and F type is a power generation control (starting generator) terminal, a passive node.
5: 7 . 8 In R S type, it is a backup auxiliary terminal, and F type is an unloading command terminal, and it is a passive node.
6.1.2 Indicator Light Function Description (See Table 1)

Table 1 Controller indicator function description

name	illustrate	function
Power indication	The commonly used power supply ABC is three phases	Normal: Solid light Missing phase: Permanent extinction Overvoltage: Flicker frequency 10Hz Undervoltage: 2Hz flashing frequency
	Backup power ABC 3 phase	
Closing instructions	Commonly used power closing indicator	Closing: Solid light Split: Always extinguished When the switch has a conversion fault or position feedback error, the common and standby closing lights flash at 10Hz at the same time
	Backup power closing indicator	
Trip	Circuit breaker trip status indicator	Trip: Solid light Closing/splitting: Always off
automatic	Auto/manual indicators	Automatic mode: flashing frequency 1Hz Manual method: Constant extinguishing

6.1.3 Description of key functions (see Table 2)

Table 2 Controller button functions

name	illustrate	function
Automatic/manual	Automatic/manual selection	In automatic mode, press this button to change to manual mode, and the "Auto/Manual" indicator light will always turn off In manual mode, press this key to change to automatic mode, and the "Auto/Manual" indicator flashes at 1Hz
commonly used	Common power input	In the manual state, press this button to switch the switch to the commonly used power closing position Auto status, this button is not valid
spare	Backup power input	In the manual state, press this button to switch the switch to the backup power closing position Auto status, this button is not valid
Buckle again	The circuit breaker is tripped and then buckled	In the manual state, press this button, the equipment will cut off the load power, and can also realize the re-buckling after the circuit breaker fault tripping Auto status, this button is not valid

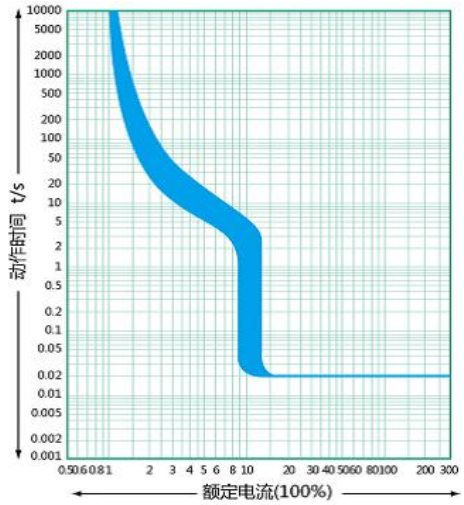
6.1.4 Knob function description (see Table 3)

Table 3 Controller knob function description

name	illustrate	function
Undervoltage regulation	Regulation of undervoltage Set value	The adjustment range is 60%Ue-85%Ue, continuously adjustable, and the factory default value is 85%Ue
t1 delay	Adjust the gate Delay time	The adjustment range is 0s-60s, continuously adjustable, and the factory default value is 0s
T2 delay	Adjust the closing Delay time	

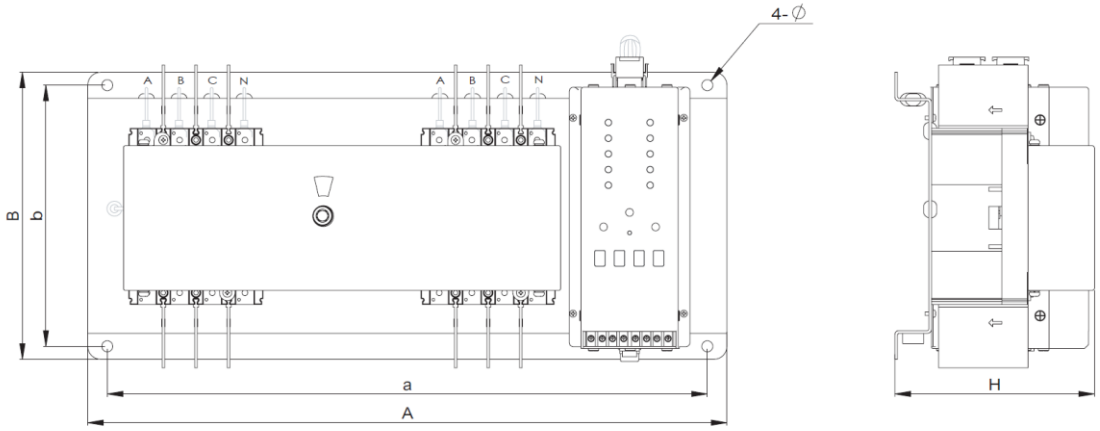
Concentrate:
Switching from a common power supply or standby power supply to a power-off position is defined as a shut-off action (T1 shut-off delay), and switching from a power-off position to a common power supply or standby power supply is defined as a closing action (T2 closing delay).

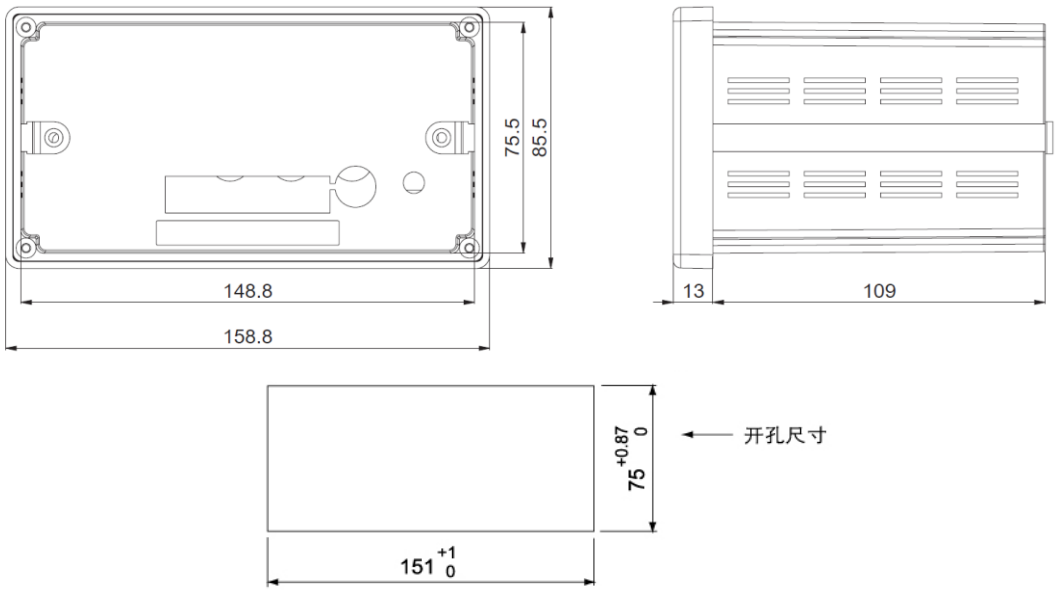
7. Perform the circuit breaker short circuit overload protection characteristic curve



Time/current characteristic curves

8. Product shape and installation size





Split controller

Model	Dimensions					Mounting dimensions			
	A		B	H		a		b	F
	Three poles	Four poles		Three poles	Four poles	Three poles	Four poles		
NDQ1-125	460	490	220	160	160	430	460	200	8.5

Note: The limit deviation of the unspecified tolerance dimension is in accordance with GB/T 1804-v.

8.1 Screw tightening torque torque

Terminal screw tightening torque torque

Model	Thread diameter (mm)	Torque torque (N·m).
NDQ1-125	Connection screw M8	12
	Controller secondary	1

8.2. Cross-sectional area selection for connecting busbars or cables:

Cross-sectional area selection for connecting busbars or cables

Rated Current (A)	16、20	25	32	40、50	63	80	100	125
Cross-sectional area of the wire (mm^2)	2.5	4.0	6.0	10	16	25	35	50

9. Installation method

Can be installed horizontally or vertically

10. Packaging and storage

The packaging volume is 1 piece/box, and the products packaged in boxes should be stored in a warehouse with an ambient temperature of -55° C~85° C, a relative humidity of 55° C corresponding to less than 80%, and no acidic, alkaline or other corrosive gases in the

surrounding air, under the above conditions, the storage period shall not exceed 18 months from the date of production.

11. **This product has been insulated before leaving the factory, and the wrong dielectric test will destroy the control system, and it is strictly forbidden to do dielectric test with ATS.**

12. Accessory list and installation

serial number	name	specification	Quantity/unit
1	Hexagonal turn handle	——	1