

NDB1LE-63GQ Product Specification

Product Name: Leakage Circuit Breaker with Overvoltage/Undervoltage

Product model: NDB1LE-63GQ

Date: 20170703

Prepared by	Ling Yi	Date	20170703
Reviewed by	Zhang Yang	Date	20170703
Countersigned by	Chen Bo	Date	20170703
Approved by	<u>Duan Hui</u>	Date	<u>20170703</u>

Revision History

Version	Revision Reason/Content	Implementati on Date	Prepared by	Reviewed by	Approved by
A0	New addition	20170703	Ling Yi	Zhang Yang	Duan Hui

1、 Application Scope and Purpose

- Short-circuit protection
- Overload protection
- Current leakage
- Isolation
- Overvoltage/undervoltage protection

The NDB1LE-63GQ series of leakage circuit breakers with overvoltage/undervoltage provide the ground leakage, direct or indirect electric shock by human body, overvoltage/undervoltage and other faults protection, which are applicable to the low-voltage terminal distribution in the industry, civil buildings, energy, communication, infrastructure and other fields.

2、 Picture of the Product

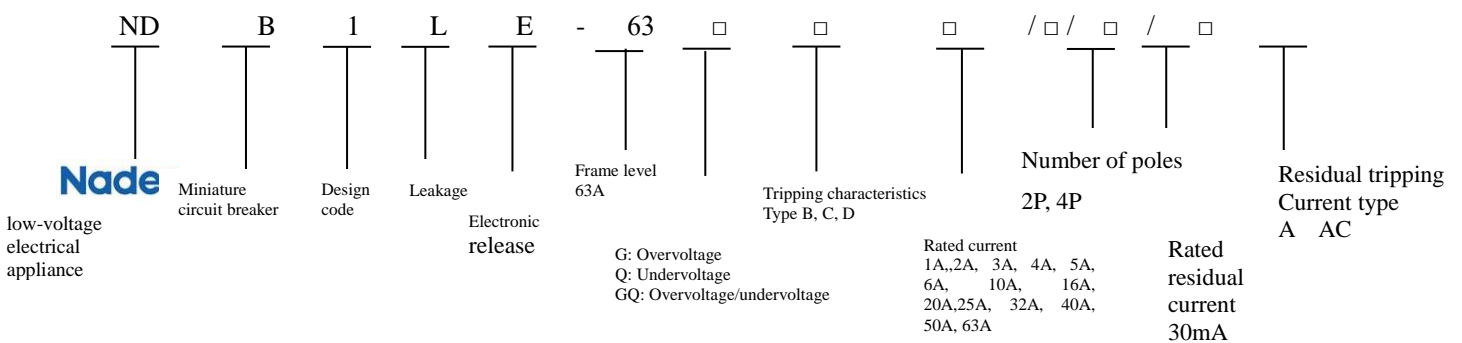


2P



4P

3、 Specifications and Models Description



4、 Main Technical Parameters

- Electrical parameters

- Frequency: 50/60Hz
- Rated working voltage: AC230V/240V(2P), AC400V/415V(4P)
- Rated impulse withstand voltage: 4kV
- Rated insulation voltage: 500V
- Type of the residual tripping current: Type A, Type AC
- Instantaneous tripping characteristics: Type B, C, D
- Rated working current: 1A, 2A, 3A, 4A, 5A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
- Rated breaking capacity: 6kA
- Rated residual operating current: 30mA
- Mechanical life: 20,000 times
- Electrical life: 10,000 times
- Overvoltage action value: $280\pm 12V$
- Undervoltage action value: $170\pm 7V$

- Isolating function

- Leakage visualization

- Wiring

- Tunnel terminal blocks
- Terminal connection area: 1~25mm² conductor
- Maximum torsional moment: 3.0N.m

- Protection class

- Protection class of the circuit breaker body: IP20
- To be installed in the distribution box: IP40

5. Normal Working Environment

- Altitude: $\leq 2000m$, In case of use at the higher altitude, refer to the requirements of the miniature circuit breaker for derating. Refer to GB/T20645 “Specific Environmental Condition - Technical Requirements of Low-voltage Apparatuses for Plateau”.

- Pollution level: 3

- Ambient temperature: $-25^{\circ}C \sim +60^{\circ}C$

- Wet heat resistance: Capable of withstanding the effects of wet air (the humidity is 90%-96% at $55^{\circ}C$; the humidity is 95%-100% at $25^{\circ}C$)

- Storage ambient temperature: $-40^{\circ}C \sim +80^{\circ}C$

- The product can withstand the effects of salt mist and oil mist
- 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. Tripping Characteristics

• Type B curve

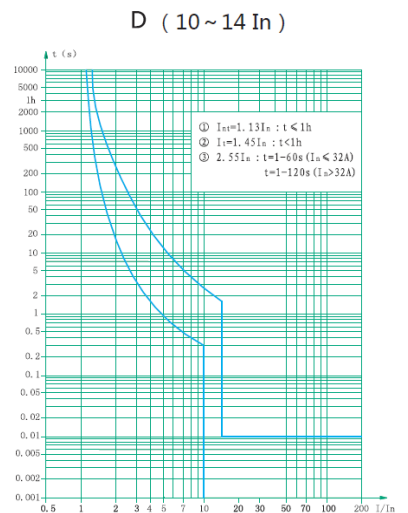
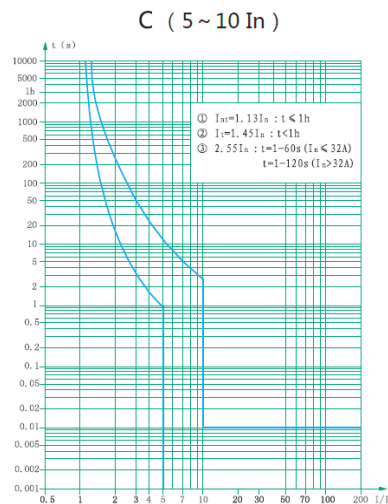
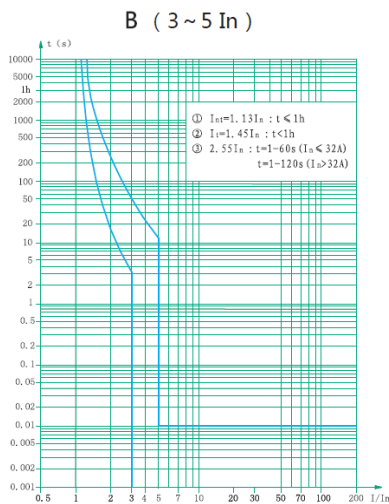
- Protect the non-inductive or micro-inductive circuit
- Rated current: 1A~63A
- Tripping characteristics: Range of instantaneous tripping $3I_n \sim 5I_n$

• Type C curve

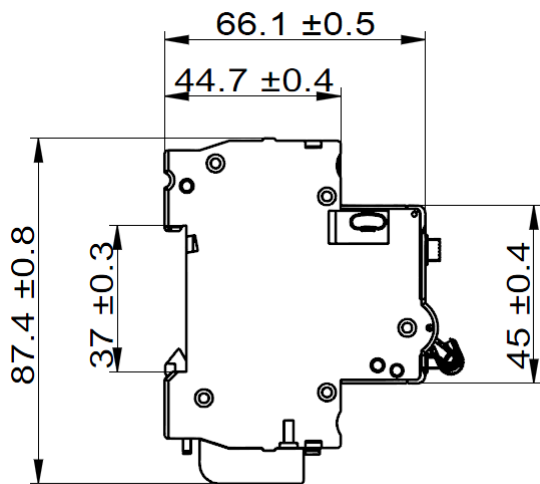
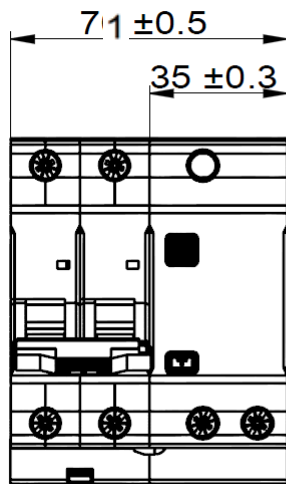
- Protect the conventional load and distribution cable
- Rated current: 1A~63A
- Tripping characteristics: Range of instantaneous tripping $5I_n \sim 10I_n$

• Type D curve

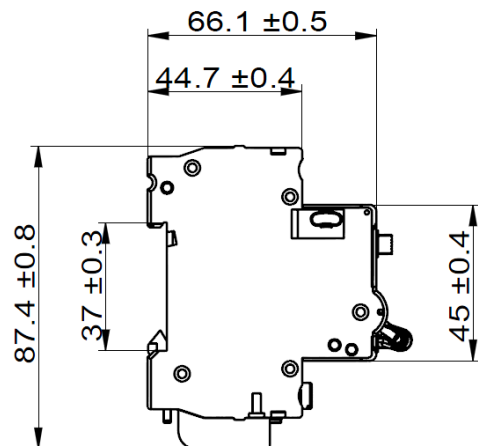
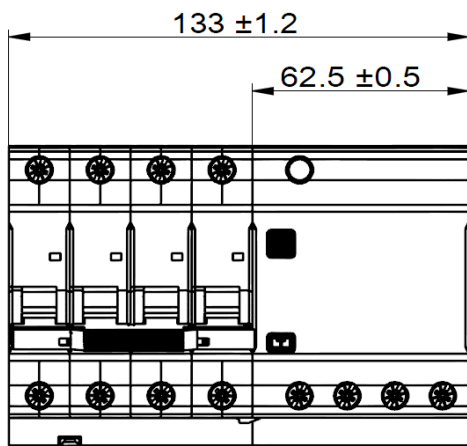
- Protect the industrial power distribution system
- Rated current: 1A~63A
- Tripping characteristics: Range of instantaneous tripping $10I_n \sim 14I_n$



7. Product Outline and Installation Dimensions



2P



4P

8. Installation Mode

It can be easily installed on the TH35mm×7.5 standard guide

9. Packaging and Storage

Maximum packaging quantity: (2P product: 3 pieces/box, 4P product: 1 piece/box). The packaged products should be stored in a warehouse with the air ventilation and the relative humidity no more than 80% and the temperature between -40°C and $+80^{\circ}\text{C}$.. No acidic alkaline or other corrosive gas exists in the ambient air in the

warehouse. Under the conditions above, the storage period shall be no more than three years since the manufacturing date.

10. Environmental Protection Requirements

Comply with the requirements of RoHS directives.

11. Precautions

- A user must be responsible for addressing a product issue that occurs because the user disassembles the product without approval;
 - It fails to provide protection for the electric shock caused due to two phases of the contacted lines to be protected;
 - Do not test the insulation resistance of the product or carry out power frequency withstand voltage tests directly or indirectly with a megger or similar devices on the product so as to avoid damage to the product. If required by users, our company can provide an effective proof of the conformance test;
 - In case of insulation resistance test on the project line, do not connect the product so as to avoid misunderstanding of the product quality or damage to the circuit board;
 - Wiring of the leakage circuit breaker with overvoltage/undervoltage shall be done according to the up-in and down-out principle. Do not wire it wrongly. Otherwise, it may damage the product by pressing the test button again or in case of current leakage in the line;
 - Wiring must be reliable to prevent the malfunction of the leakage circuit breaker or terminal burning damage due to the abnormal heat generation on the terminal;
 - Carry out a monthly stimulated test on the current leakage. Namely, press the test button to make the circuit breaker act so as to test proper operation of the circuit breaker, and replace the abnormal products in a timely manner;
 - For automatic disconnection of the leakage circuit breaker with overvoltage/undervoltage, analyze fault reasons for the line or equipment.
-