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- Scope of application  6-2
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  NDB2LE-25 outline dimension 7-12
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<table>
<thead>
<tr>
<th>Product models</th>
<th>NDB2-40</th>
<th>NDB2-63</th>
<th>NDB2T-63</th>
<th>NDB2T-63 (UL489)</th>
<th>NDB2-63K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational voltage (V)</td>
<td>AC230/240</td>
<td>AC230/240 (1P) AC400/415 (2P/3P/4P) DC80 (1P/2P)</td>
<td>AC230/240 (1P) AC400/415 (2P/3P/4P) DC60/80 (1P) DC80/125 (2P)</td>
<td>AC120/240 AC277/480 DC60 (1P/2P) DC125 (2P)</td>
<td>AC230/240</td>
</tr>
<tr>
<td>Rated operating current (A)</td>
<td>2 ~ 40A</td>
<td>1 ~ 63A</td>
<td>1 ~ 63A</td>
<td>1 ~ 63A</td>
<td>1 ~ 63A</td>
</tr>
<tr>
<td>Number of poles</td>
<td>1P+N</td>
<td>1P, 2P, 3P, 4P</td>
<td>1P, 2P, 3P, 4P</td>
<td>1P, 2P, 3P</td>
<td>1P+N</td>
</tr>
<tr>
<td>Product certification</td>
<td>CCC, CE, TUV, UL1077</td>
<td>CCC, CE, TUV, UL1077</td>
<td>CCC, CE, TUV, UL1077</td>
<td>UL489</td>
<td>CCC</td>
</tr>
</tbody>
</table>

2. Product Features

● Scope of application and purpose

NDB2 series circuit breakers provide short circuit protection, overload protection, control, isolation, etc. They are applicable to low-voltage terminal power distribution in such fields as industry, civil construction, energy, communications and infrastructure.

● Design features

◆ Quick closure: ensures reliable operation of impact load and prolongs the service life of circuit breaker
◆ The product structure provides short-circuit current limitation and improves short-circuit breaking capacity
◆ Frame wiring structure: Reliable wiring
◆ Supporting a variety of accessories: Simple and convenient function extension
◆ Modulization and modularization: Arbitrary combination
1. **Structural features**
   - Structures and features of NDB2 product
   
   ![Diagram](image)
   
   - 1: Product model
   - 2: Handle
   - 3: Incoming and outgoing line ends
   - 4: Opening/closing indication

2. **Meeting the following standards**
   - GB10963.1 Circuit breakers with overcurrent protection for household and similar places - Part 1: Circuit breakers for AC.
   - GB14048.2 Low-voltage switchgear and controlgear Part 2: Circuit breaker.
   - IEC 60898-1 Electrical accessories-Circuit-breakers for overcurrent protection for household and similar installation-Part 1.
   - IEC 60947-2 Low-voltage switchgear and controlgear-Part 2.
3. Application Scope

- **Electrical symbols**

- **Applicable environment**
  - Temperature of the working environment/storage temperature
    - Temperature of the working environment: -35°C~+70°C, the average value in 24h is not more than +35°C
    - Storage temperature: -35°C~+70°C
  - Altitude
    - Installation site altitude ≤ 2,000m.
  - Relative humidity for operation/Relative humidity for storage
    - The relative humidity of atmosphere is not more than 50% at the ambient air temperature of +40°C; at a lower temperature, a higher relative humidity is allowed, for example, 90% at 20°C. Special measures should be taken to deal with occasional condensation due to temperature change.

- **Pollution grade**
  - 2 poles

- **Protection grade**
  - Product protection grade: IP20

- **Installation category**
  - Class II (load level), Class III (power distribution and control level), Class IV (power level)

- **Installation mode**
  - Installed on the TH35mm × 7.5 (EN50022) standard rails

- **Installation direction**
  - Installed in any direction

- **Environmental protection requirements**
  - Products meet the RoHS standard
# 4. Technical Characteristics of the Product

## 4.1 Description of Specifications and Models

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Serial No. name</th>
<th>Code explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enterprise code</td>
<td>ND: Nader brand low-voltage apparatus</td>
</tr>
<tr>
<td>2</td>
<td>Model</td>
<td>B: Miniature Circuit Breakers</td>
</tr>
<tr>
<td>3</td>
<td>Design serial No.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Meeting the following standards</td>
<td>None: GB 10963.1</td>
</tr>
<tr>
<td>5</td>
<td>Frame grade</td>
<td>40 63 63 63 63</td>
</tr>
<tr>
<td>6</td>
<td>Tripping characteristic</td>
<td>B、C B、C、D B、C、D B、C、D B、C、D</td>
</tr>
<tr>
<td>7</td>
<td>Rated current</td>
<td>2, 4, 6, 10, 16, 20, 25, 32, 40 1, 2, 3, 4, 5, 6, 8, 10, 12, 13, 16, 20, 25, 32, 40, 50, 63 1, 1.2, 1.5, 1.6, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40, 50, 60, 63 1, 1.2, 1.5, 1.6, 2, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40, 50, 60, 63 1, 1.2, 1.5, 1.6, 2, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40, 50, 60, 63</td>
</tr>
<tr>
<td>9</td>
<td>None: CC, CE, TUV, UL1077</td>
<td>None: CCC, CE, TUV, UL1077 None: CCC, CE, TUV, UL1077 None: CCC, CE, TUV, UL1077 None: UL489</td>
</tr>
</tbody>
</table>
### 4.2 Description of Specifications and Models of NDB2-63K

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Serial No. name</th>
<th>Code explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enterprise code</td>
<td>ND: <strong>Nader</strong> brand low-voltage apparatus</td>
</tr>
<tr>
<td>2</td>
<td>Model</td>
<td>B: Miniature Circuit Breakers</td>
</tr>
<tr>
<td>3</td>
<td>Design serial No.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Frame grade</td>
<td>63</td>
</tr>
<tr>
<td>5</td>
<td>Phase line + neutral line</td>
<td>K</td>
</tr>
<tr>
<td>6</td>
<td>Tripping characteristic</td>
<td>C</td>
</tr>
<tr>
<td>7</td>
<td>Rated current</td>
<td>1, 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63</td>
</tr>
</tbody>
</table>
## 4.3 Technical Parameters

<table>
<thead>
<tr>
<th>Model</th>
<th>NDB2-40</th>
<th>NDB2-63</th>
<th>NDB2T-63</th>
<th>NDB2T-63 (UL489)</th>
<th>NDB2-63K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage</td>
<td>AC230/240</td>
<td>AC230/240 (1P)</td>
<td>AC230/240 (1P)</td>
<td>AC120/240 (1P)</td>
<td>AC230</td>
</tr>
<tr>
<td></td>
<td>AC400/415 (2P/3P/4P)</td>
<td>DC80 (1P/2P)</td>
<td>AC400/415 (2P/3P/4P)</td>
<td>AC480Y/277 (2P/3P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DC60/80 (1P)</td>
<td></td>
<td>DC60/80 (1P)</td>
<td>DC60 (1P/2P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DC60/80 (2P)</td>
<td>DC125 (2P)</td>
<td></td>
</tr>
<tr>
<td>Rated insulation voltage</td>
<td>400V</td>
<td>1000V</td>
<td>1000V</td>
<td>1000V</td>
<td>230V</td>
</tr>
<tr>
<td>Rated impulse withstand voltage</td>
<td>4kV</td>
<td>6kV</td>
<td>6kV</td>
<td>6kV</td>
<td>6kV</td>
</tr>
<tr>
<td>Rated short-circuit breaking capacity</td>
<td>6kA</td>
<td>10kA</td>
<td>/</td>
<td>AC120/240 10kA</td>
<td>6kA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC240 10kA</td>
<td></td>
</tr>
<tr>
<td>Rated ultimate short-circuit breaking capacity</td>
<td>/</td>
<td>/</td>
<td>10kA</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Rated running short-circuit breaking capacity</td>
<td>6kA</td>
<td>7.5kA</td>
<td>7.5kA</td>
<td>/</td>
<td>6kA</td>
</tr>
<tr>
<td>Instantaneous tripping characteristic</td>
<td>B : 3 ~ 5In C : 5 ~ 10ln D : 10 ~ 14ln</td>
<td>B : 3 ~ 5In C : 8In ± 20% D : 12In ± 20%</td>
<td>B : 4In ± 20% C : 8In ± 20% D : 12In ± 20%</td>
<td>C : 5 ~ 10ln</td>
<td></td>
</tr>
<tr>
<td>Mechanical/Electrical life</td>
<td>10000/10000</td>
<td>20000/10000</td>
<td>20000/10000</td>
<td>10000/10000</td>
<td>20000/10000</td>
</tr>
<tr>
<td>Number of poles</td>
<td>1PN</td>
<td>1P/2P/3P/4P</td>
<td>1P/2P/3P/4P</td>
<td>1P/2P/3P</td>
<td>1PN</td>
</tr>
<tr>
<td>Meeting the following standards</td>
<td>GB 10963.1 IEC 60898-1 UL1077</td>
<td>GB 10963.1 IEC 60898-1 UL1077</td>
<td>GB 14048.2 IEC 60947-2 UL1077</td>
<td>UL489</td>
<td>GB 10963.1 IEC 60898-1</td>
</tr>
</tbody>
</table>
4.4 Tripping Characteristic Curve

- NDB2-40

Type B (3~5 ln)

- NDB2-63

Type B (3~5 ln)
NDB2 Series
Miniature Circuit Breakers

- **NDB2T-63/ NDB2T-63 UL489**

Type B 4 In (± 20%)

Type C 8 In (± 20%)

Type D 12 In (± 20%)

- **NDB2-63K**

Type C (5 ~ 10 In)
5. Accessories

- List of accessories

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name</th>
<th>Accessory code</th>
<th>Function and number of loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auxiliary contact</td>
<td>OF2</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the On/Off state of the circuit breaker; 3 can be loaded at most</td>
</tr>
<tr>
<td>2</td>
<td>Alarm contact</td>
<td>SD2</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the fault trip state of the circuit breaker; 3 can be loaded at most</td>
</tr>
<tr>
<td>3</td>
<td>Shunt tripper</td>
<td>MX+OF2</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the fault tripping state and remote breaking control of the circuit breaker;</td>
</tr>
</tbody>
</table>

Note: For details of accessory parameters, see “OF2, SD2 and MX+OF2” samples
6. Outline and Installation Dimension

6.1 NDB2-40 Outline Dimension

6.2 NDB2-63/NDB2T-63 Outline Dimension
### 6.3 NDB2T-63UL489 Outline Dimension

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>3P</td>
<td>52.9 ±0.4</td>
</tr>
<tr>
<td>2P</td>
<td>35.3 ±0.4</td>
</tr>
<tr>
<td>1P</td>
<td>17.7 ±0.4</td>
</tr>
<tr>
<td>Width</td>
<td>74 max</td>
</tr>
<tr>
<td>Height</td>
<td>115.4 ±0.6</td>
</tr>
<tr>
<td>Depth</td>
<td>45 ±0.4</td>
</tr>
<tr>
<td>Height</td>
<td>5.5 ±0.3</td>
</tr>
</tbody>
</table>

### 6.4 NDB2-63K Outline Dimension

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>60.2 ±0.3</td>
</tr>
<tr>
<td>Height</td>
<td>49.8 ±0.3</td>
</tr>
<tr>
<td>Depth</td>
<td>45 ±0.3</td>
</tr>
<tr>
<td>Height</td>
<td>5.6 ±0.3</td>
</tr>
</tbody>
</table>
7. Electric Circuit Diagram

- **NDB2-40 / NDB2-63K**

- **NDB2-63/NDB2T-63/NB2T-63 UL489**
8. Specifications for Ordering and Selection (Tick ✓ in □)

<table>
<thead>
<tr>
<th>User unit</th>
<th>Number of units ordered:</th>
<th>Date of order:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>□ NDB2-40</td>
<td>□ NDB2-63</td>
</tr>
<tr>
<td>Rated operating current</td>
<td>2, 4, 6, 10, 16, 20, 25, 32, 40</td>
<td>1, 2, 3, 4, 5, 6, 8, 10, 12, 13, 16, 20, 25, 32, 40, 50, 63</td>
</tr>
<tr>
<td>Number of poles</td>
<td>□ 1PN</td>
<td>□ 1P, □ 2P</td>
</tr>
</tbody>
</table>
NDB2Z Series
Miniature Circuit Breakers
Edition 2016
1. Product Overview

![Product models](image)

<table>
<thead>
<tr>
<th>Product models</th>
<th>NDB2Z-63</th>
<th>NDB2Z-63 (PV)</th>
<th>NDB2ZB-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational voltage (V)</td>
<td>DC250V(1P)/DC500V(2P)</td>
<td>DC750V(3P)/DC1000V(4P)</td>
<td>DC250V</td>
</tr>
<tr>
<td>Rated operating current (A)</td>
<td>1~63A</td>
<td>1~63A</td>
<td>10~40A</td>
</tr>
<tr>
<td>Number of poles</td>
<td>1P, 2P</td>
<td>3P, 4P</td>
<td>1PN</td>
</tr>
<tr>
<td>Product certification</td>
<td></td>
<td>CCC</td>
<td></td>
</tr>
</tbody>
</table>

2. Product Features

**Scope of application and purpose**

NDB2Z series circuit breakers are applicable to low-voltage terminal power distribution in such fields as industry, civil construction, energy, communication and infrastructure.

**Design features**

- Quick closure: ensures reliable operation of impact load and prolongs the service life of circuit breaker
- Frame wiring structure: Reliable wiring
- Supporting a variety of accessories: Simple and convenient function extension
- Modulization and modularization: Arbitrary combination
● Structural features
  ◆ NDB2-63 External structural drawing

1. Product model
2. Handle
3. Closing indication
4. Outgoing line terminal
5. Incoming line terminal

● Meeting the following standards
  ◆ GB14048.2 Low-voltage switchgear and controlgear - Part 2: Circuit breaker.
  ◆ IEC 60947-2 Low-voltage switchgear and controlgear-Part 2.
3. Application scope

● **Electrical symbols**

![Electrical symbols](image)

● **Applicable environment**
  ◆ Temperature of the working environment/storage temperature
  Use temperature: -35°C ~ +70°C, the average value in 24h is not more than +35°C
  Storage temperature: -35°C ~ +70°C
  ◆ Altitude
  Installation site altitude ≤ 2,000m.
  ◆ Relative humidity for operation/Relative humidity for storage
  The relative humidity of atmosphere is not more than 50% at the ambient air temperature of +40°C; at a lower temperature, a higher relative humidity is allowed, for example, 90% at 20°C. Special measures should be taken to deal with occasional condensation due to temperature change.

● **Pollution grade**
  ◆ 3 poles

● **Protection grade**
  ◆ Product protection grade: IP20

● **Installation category**
  ◆ II Class II (load level) and Class III (power distribution and control level)

● **Installation way**
  ◆ Installed on the TH35mm × 7.5 standard guard rail

● **Installation direction**
  ◆ Vertical installation, with the gradient between the installation plane and the vertical plane ≤ ± 5°
  ◆ Horizontal installation

● **Environmental protection requirements**
  ◆ Products meet the RoHS standard
## 4. Technical Characteristics of the Product

### 4.1 Description of Specifications and Models of NDB2Z-63

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Serial No. name</th>
<th>Code explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enterprise code</td>
<td>ND: Nader brand low-voltage apparatus</td>
</tr>
<tr>
<td>2</td>
<td>Model</td>
<td>B: Disconnecting switch</td>
</tr>
<tr>
<td>3</td>
<td>Design serial No.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Z: DC</td>
</tr>
<tr>
<td>5</td>
<td>Frame grade</td>
<td>63</td>
</tr>
<tr>
<td>6</td>
<td>Tripping characteristic</td>
<td>B, C</td>
</tr>
<tr>
<td>7</td>
<td>Rated current</td>
<td>1, 1.2, 1.5, 1.6, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40, 50, 60, 63</td>
</tr>
<tr>
<td>8</td>
<td>Grade number</td>
<td>Conventional products: 1: 1P, 2: 2P</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PV: 3: 3P, 4: 4P</td>
</tr>
<tr>
<td>9</td>
<td>PV code</td>
<td>None: Conventional product</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PV: Indicates PV use</td>
</tr>
</tbody>
</table>
4.2 Description of Specifications and Models of NDB2ZB-40

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Serial No. name</th>
<th>Code explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enterprise code</td>
<td>ND: <strong>Nader</strong> brand low-voltage apparatus</td>
</tr>
<tr>
<td>2</td>
<td>Model</td>
<td>B: Miniature Circuit Breakers</td>
</tr>
<tr>
<td>3</td>
<td>Design serial No.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>DC</td>
<td>Z: DC</td>
</tr>
<tr>
<td>5</td>
<td>Function code</td>
<td>B: Three-section protection</td>
</tr>
<tr>
<td>6</td>
<td>Frame grade</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>Rated current</td>
<td>10, 16, 20, 25, 32, 40</td>
</tr>
</tbody>
</table>

4.3 Technical Parameters

<table>
<thead>
<tr>
<th>Specifications</th>
<th>NDB2Z-63</th>
<th>NDB2Z-63 (PV)</th>
<th>NDB2ZB-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational voltage</td>
<td>DC250V(1P)/DC250V(2P)</td>
<td>DC750V(3P)/DC1000V(4P)</td>
<td>DC250V</td>
</tr>
<tr>
<td>Rated insulation voltage</td>
<td>1000V</td>
<td>1000V</td>
<td>1000V</td>
</tr>
<tr>
<td>Rated impulse withstand voltage</td>
<td>6kV</td>
<td>6kV</td>
<td>4kV</td>
</tr>
<tr>
<td>Rated ultimate short-circuit breaking capacity</td>
<td>10kA</td>
<td>10kA</td>
<td>10kA</td>
</tr>
<tr>
<td>Rated running short-circuit breaking capacity</td>
<td>7.5kA</td>
<td>7.5kA</td>
<td>10kA</td>
</tr>
</tbody>
</table>
| Instantaneous tripping characteristic | B: 6In±20%  
  C: 12In±20% | B: 6In±20%  
  C: 12In±20% | 8In: No tripping within 200ms  
  10In: Tripping within 10~30ms  
  1680A: Tripping within 6ms |
| Number of poles                  | 1P/2P    | 3P/4P        | 1PN       |
| Mechanical life                  | 20000    | 20000        | 10000     |
4.4 Tripping Characteristic Curve

- **NDB2Z-63/NDB2Z-63 (PV)**

**Type B** 6 In (1 ± 20%)
- $I_t = 0.65I_{c}: t < 10\mu s$
- $I_t = 3I_{c}: t < 10\mu s$
- $2.55I_{c}: t = 0.39s (I_{c} < 30A)$
- $< 1.21s (I_{c} > 30A)$

**Type C** 12In (1 ± 20%)
- $I_t = 1.95I_{c}: t < 1s$
- $I_t = 3I_{c}: t > 1s$
- $I_t = 5.5I_{c}: t < 60s (I_{c} < 30A)$
- $t < 120s (I_{c} > 30A)$

- **NDB2ZB-40**
5. Accessories

OF2 auxiliary contact

SD2 alarm contact

MX + OF2 shunt tripper

### NDB2Z-63/NDB2Z-63(PV) accessories forms

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name</th>
<th>Accessory code</th>
<th>Function and number of loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auxiliary contact</td>
<td>OF2</td>
<td>Loaded on the left side of a circuit breaker to indicate the On/Off state of the circuit breaker; 3 can be loaded at most</td>
</tr>
<tr>
<td>2</td>
<td>Alarm contact</td>
<td>SD2</td>
<td>Loaded on the left side of a circuit breaker to indicate the fault tripping state of the circuit breaker; 3 can be loaded at most</td>
</tr>
<tr>
<td>3</td>
<td>Shunt tripper</td>
<td>MX+OF2</td>
<td>Loaded on the left side of a circuit breaker to indicate the fault tripping state and remote breaking control of the circuit breaker;</td>
</tr>
</tbody>
</table>

Note: For details of accessory parameters, see “OF2, SD2 and MX+OF2” samples
6. Outline and Installation Dimension

6.1 NDB2Z-63 Outline Dimension

6.2 NDB2Z-63 (PV) Outline Dimension
6.3 NDB2ZB-40 Outline Dimension
7. Electric Circuit Diagram

- **NDB2Z-63**

  **1P (A)**
  ![Electric Circuit Diagram 1P (A)](image1.png)

  **2P (B)**
  ![Electric Circuit Diagram 2P (B)](image2.png)

  **2P (C)**
  ![Electric Circuit Diagram 2P (C)](image3.png)

  **2P (D)**
  ![Electric Circuit Diagram 2P (D)](image4.png)

  **Remarks:**
  1. L+ Positive electrode of power supply, L- Negative electrode of power supply.
  2. Positive and negative electrodes of circuit breaker.
  3. DC power is generally “L-” grounded, and the neutral pole “M” of positive and negative power system is grounded.

- **NDB2Z-63(PV)**

  **3P**
  ![Electric Circuit Diagram 3P](image5.png)

  **4P**
  ![Electric Circuit Diagram 4P](image6.png)
8. Specifications for Ordering and Selection (Tick √ in □)

<table>
<thead>
<tr>
<th>User unit</th>
<th>Number of units ordered:</th>
<th>Date of order:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifications</td>
<td>□NDB2Z-63</td>
<td>□NDB2ZB-63(PV)</td>
</tr>
<tr>
<td>Tripping type</td>
<td>□B, □C</td>
<td>□B, □C</td>
</tr>
<tr>
<td>Number of poles</td>
<td>□1P, □2P, □3P, □4P</td>
<td>□3P, □4P</td>
</tr>
</tbody>
</table>

Note: The accessories must be ordered separately. For details, see “Configuration of standard accessories”.
OF2、SD2、NFS2、MX+OF2、NGQ2A、ATM、TM2
Accessories

Edition 2016
1. Product Overview

<table>
<thead>
<tr>
<th>Specifications</th>
<th>OF2 auxiliary contact</th>
<th>SD2 alarm contact</th>
<th>NFS2 auxiliary and alarm contact group</th>
<th>MX + OF2 shunt tripper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material number</td>
<td>30000354</td>
<td>30000503</td>
<td>3001722</td>
<td>30000367</td>
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</table>

<table>
<thead>
<tr>
<th>Adaptation</th>
<th>NDB2-63</th>
<th>NDB2Z-63</th>
<th>NDB2ZB-40</th>
<th>NDB2T-63</th>
<th>NDB2LE-63</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDB2-63</td>
<td>NDB2-63</td>
<td>NDB2Z-63</td>
<td>NDB2ZB-40</td>
<td>NDB2T-63</td>
<td>NDB2LE-63</td>
</tr>
<tr>
<td>NDB2Z-63</td>
<td>NDB2Z-63</td>
<td>NDB2ZB-40</td>
<td>NDB2ZB-40</td>
<td>NDB2T-63</td>
<td>NDB2LE-63</td>
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<tr>
<td>NDB2ZB-40</td>
<td>NDB2ZB-40</td>
<td>NDB2ZB-40</td>
<td>NDB2ZB-40</td>
<td>NDB2T-63</td>
<td>NDB2LE-63</td>
</tr>
<tr>
<td>NDB2T-63</td>
<td>NDB2T-63</td>
<td>NDB2T-63</td>
<td>NDB2T-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
</tr>
<tr>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
<th>NGQ2A overvoltage and under-voltage accessories</th>
<th>ATm reclosing control accessories</th>
<th>Tm2 remote control accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material number</td>
<td>30001743</td>
<td>30000501</td>
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</tr>
</tbody>
</table>

<table>
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<th>NDB2Z-63</th>
<th>NDB2T-63</th>
<th>NDB2LE-63</th>
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</thead>
<tbody>
<tr>
<td>NDB2-63</td>
<td>NDB2-63</td>
<td>NDB2Z-63</td>
<td>NDB2T-63</td>
<td>NDB2LE-63</td>
</tr>
<tr>
<td>NDB2Z-63</td>
<td>NDB2Z-63</td>
<td>NDB2T-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
</tr>
<tr>
<td>NDB2ZB-40</td>
<td>NDB2ZB-40</td>
<td>NDB2T-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
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<tr>
<td>NDB2T-63</td>
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<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
</tr>
<tr>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
<td>NDB2LE-63</td>
</tr>
</tbody>
</table>
2. Scope of Application

This series of accessories can be assembled in the terminal NDB2 products, and are used for the circuits with AC 50Hz, rated voltage of AC415V and below and DC130V and below. They have a wide range of applications in the low-voltage terminal power distribution equipment in such fields as industry, civil construction, energy, communication and infrastructure.

● Installation way
  TH35mm standard installation rail for installation.

● Installation direction
  ◆ Horizontal installation
  ◆ Vertical installation

● Environmental protection requirements
  Products meet the RoHS standard.
3. Technical Characteristics of the Product

3.1 OF2 Auxiliary Contact

- **Purpose**
  Installed on the left side of NDB2 miniature circuit breaker to indicate the On/Off state of the circuit breaker.

- **Technical parameters**
  Rated working parameters

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current</th>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>415V</td>
<td>AC</td>
<td>240V</td>
</tr>
<tr>
<td></td>
<td>3A</td>
<td></td>
<td>6A</td>
</tr>
<tr>
<td>DC</td>
<td>250V</td>
<td>DC</td>
<td>220V</td>
</tr>
<tr>
<td></td>
<td>0.4A</td>
<td></td>
<td>1A</td>
</tr>
<tr>
<td>DC</td>
<td>130V</td>
<td>DC</td>
<td>110V</td>
</tr>
<tr>
<td></td>
<td>1A</td>
<td></td>
<td>1A</td>
</tr>
<tr>
<td>DC</td>
<td>48V</td>
<td>DC</td>
<td>24V</td>
</tr>
<tr>
<td></td>
<td>6A</td>
<td></td>
<td>6A</td>
</tr>
</tbody>
</table>

Density (mm): 9.

Note:
After assembled with the NDB2 circuit breaker, terminals 11 and 14 are connected at the time of closing.
At the time of opening, terminals 11 and 12 are connected.
3 OF2 can be assembled at most.
3.2 SD2 Alarm Contact

- **Purpose**
  Installed on the left side of NDB2 miniature circuit breaker to indicate the fault state of the circuit breaker.

- **Technical parameters**
  Rated working parameters

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current</th>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 415V</td>
<td>3A</td>
<td>AC 240V</td>
<td>6A</td>
</tr>
<tr>
<td>DC 250V</td>
<td>0.4A</td>
<td>DC 220V</td>
<td>1A</td>
</tr>
<tr>
<td>DC 130V</td>
<td>1A</td>
<td>DC 110V</td>
<td>1A</td>
</tr>
<tr>
<td>DC 48V</td>
<td>6A</td>
<td>DC 24V</td>
<td>6A</td>
</tr>
</tbody>
</table>

Density (mm): 9.

Note:
- After assembled with the NDB2 circuit breaker, terminals 91 and 92 are connected at the time of closing.
- At the time of fault opening, 91 and 94 are connected.
- At the time of manual opening, 91 and 92 are connected, but 91 and 94 are not.
- 3 SD2 can be assembled at most.

- **Purpose**
  - Single line: 2.5mm²; Double line: 1.5mm².
  - NDB2 series miniature circuit breaker accessories can be supplied separately, but are not recommended to be used in conjunction with the miniature circuit breakers of other companies.
### 3.3 NFS2 Auxiliary and Alarm Contact Group

#### Rated current of the auxiliary contact

<table>
<thead>
<tr>
<th>Rated operational voltage</th>
<th>Rated operating current</th>
<th>Use class</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 240V</td>
<td>6A</td>
<td>AC 12</td>
</tr>
<tr>
<td>AC 415V</td>
<td>3A</td>
<td>AC 12</td>
</tr>
<tr>
<td>DC 24V</td>
<td>6A</td>
<td>DC 12</td>
</tr>
<tr>
<td>DC 48V</td>
<td>2A</td>
<td>DC 12</td>
</tr>
<tr>
<td>DC130V</td>
<td>1A</td>
<td>DC 12</td>
</tr>
</tbody>
</table>

#### Purpose

- NFS2 auxiliary and alarm contact group is assembled on the left side of NDB2-63 series products, and the secondary products can be switched between OF2+SD2 and OF2+OF2 mainly by use of a selective switch.
- Highlight: The functions of OF2 and SD2 are integrated as one, with the width as a module.

#### Two switching contacts may indicate

- “On” or “Off” state of the circuit breaker can be indicated by use of OF2-OF2;
- “Fault tripping” of circuit breaker.

#### Two return circuits

- Upper: OF2-OF2;
- Lower: SD2 or OF2;
- Rotary switch on the right is used to rotate.

#### Wiring

- Thread lug terminal may be connected with 1 or 2 wires with the maximum cross-section of 2.5mm²;
- There is an obvious mark next to the terminal.
3.4 MX+OF2 Shunt Tripper

- **Purpose**
  - Installed on the left side of NDB2-63 miniature circuit breaker;
  - Remote control of circuit breaker tripping.

- **Technical parameters**
  - Control power supply AC230V/400V DC24V/48V;
  - Width (mm): 18

Note: The changeover contact is an active contact and is not allowed to connect other weak current modules as a passive contact.

Note: In case of DC24V power supply for control circuit, the shunt control circuit is recommended to be designed according to the figure above.

ZJ: DC24V intermediate relay, with the contact current capacity of 1A.

- **Wiring capacity**
  - Single line: 2.5mm²
  - Double line: 1.5mm²
  - This accessory can be supplied separately, but is not recommended to be used in conjunction with the miniature circuit breakers of other companies.

- **Technical parameters**
  - Control power supply AC230V/400V DC24V/48V;
  - Width (mm): 18
3.5 NGQ2A Overvoltage and Under-voltage Tripper

- **Purpose**
  - Installed on the left side of NDB2-63 miniature circuit breaker to provide single-phase overvoltage, under-voltage, overvoltage and under-voltage protection.

- **Technical parameters**
  - Rated overvoltage operating value $U_{over}$: AC280V ± 12V, maximum breaking time: 0.2s;
  - Rated under-voltage operating value $U_{over}$: AC170V ± 7V, maximum breaking time: 1s.
  - Density (mm): 18.

  *Note:*
  - The user may only choose overvoltage tripper (NG2A) or under-voltage tripper (NQ2A) as needed.
  - Each circuit breaker can only be assembled with one under-voltage tripper to provide single-circuit protection.

3.6 ATm Reclosing Control Accessory

- **Application scope and purpose**
  - ATm reclosing control accessory (ATm for short) is installed on the left side of Tm2 remote control accessory, and assembled with SD2 for use in return circuit with voltage of AC230V (-15%+10%) and frequency of 50~60Hz to
provide reclosing of circuit breaker after fault action. It is particularly suitable for the equipment and systems that are difficult to monitor and access and have high power supply continuity requirements.

**Technical parameters**

- Operating voltage: AC230V
- Normally open output contact: 2A (maximum), load of Class AC1
- ATm must be used in combination with Tm remote control accessories through SD2 alarm contacts, and SD2 is used to send “fault tripping” signal to ATm.
- ATm operation is associated with fault type (temporary fault/permanent fault). When a temporary fault occurs and is eliminated, ATm allows the circuit breaker to be automatically closed. In case of a permanent fault, ATm will lock Tm2 remote control accessories to avoid re-closing of the circuit breaker.
- The front panel of ATm has a transparent cover, and the front panel includes:
  - A selective switch
  - It is marked with the allowable times of reclosing of circuit breaker (0, 1, 2, 5 or 10) and ATm off/reset
  - Rotary knob T1 is used to set the maximum duration to complete the given times of reclosing (12~120min)
  - Rotary knob T2 is used to set the delay time of automatic reclosing (30~300s)
  - ATm status indicator lamp (Yellow)
    - Not on: Not energized or at the off/reset state
    - Quick flash: Normal operation
    - Slow flash: Reclosing state
    - Normally on: Locked state
- ATm can also achieve the following functions:
  - Inputting remote control signal to ATm by connecting a selective switch or changeover contact so that ATm is at the safe mode state, i.e., the same as the “0” state of selective switch on the front panel
  - Remote indication that Tm2 is locked.
- At the time of manual control of Tm2 (namely, no fault signal), ATm setting will not work
- During the reclosing process, if the remote control accessory Tm2 fails to close the circuit breaker in place within 3 seconds, there may be the risk of short circuit in the secondary circuit, which will be deemed as permanent fault, lock Tm2, and prohibit reclosing.
- Wiring: Flexible cable (2X1.5mm² or 1X2.5mm²) hard cable (2X2.5mm²)
3.7 Tm2

1. Power supply control input terminal
2. Alarm accessory interface
3. Power indication lamp
4. Manual and automatic switching button
5. Auxiliary accessory interface
6. Buckle
7. Handle
8. Opening padlock
9. Snap spring

Legend

Auto Remote close-open circuit breaker
Manu Local close-open circuit breaker

Legend

Alarm accessory Assembly model SD2
interface Auxiliary accessory Assembly model OF2
interface

Legend

Padlock Disconnect all remote operations, padlock size Φ ≤ 4mm

Legend

Socket type Maximum wiring capacity of ports 1~4 is 2.5mm² (24-14AWG) and wiring terminal capacity 0.56N•m

Remarks:
1. After the assembly of Tm2 and circuit breaker body, assemble other accessories;
2. The left side of Tm2 can be assembled with 2 SD2 or 2 OF2 or 1 SD2, 1 OF2

Technical parameters

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Description of specific parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of poles</td>
<td>1P/2P</td>
</tr>
<tr>
<td></td>
<td>3P/4P</td>
</tr>
<tr>
<td>Width (mm)</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>27</td>
</tr>
<tr>
<td>Control voltage (V)</td>
<td>AC230/DC220</td>
</tr>
<tr>
<td></td>
<td>AC110/DC110</td>
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<tr>
<td></td>
<td>DC48</td>
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<td></td>
<td>DC24</td>
</tr>
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<td></td>
<td>DC12</td>
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<td>AC110/DC110</td>
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<td>DC48</td>
</tr>
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<td>DC24</td>
</tr>
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<td></td>
<td>DC12</td>
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<tr>
<td>Start power consumption (W)</td>
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<tr>
<td></td>
<td>48</td>
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<td>20000</td>
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<tr>
<td>Protection grade</td>
<td>IP20</td>
</tr>
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<td>IP20</td>
</tr>
<tr>
<td>Models which can be assembled</td>
<td>NDB2-63/1P, NDB2Z-63/1P, NDB2LE-63/1PN</td>
</tr>
<tr>
<td></td>
<td>NDB2-63/3P, NDB2Z-63/3P, NDB2LE-63/3P</td>
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<td>NDB2-63/2P, NDB2Z-63/2P, NDB2LE-63/2P</td>
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<td>NDB2-63/4P, NDB2Z-63/4P, NDB2LE-63/3PN /4P</td>
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<tr>
<td>Weight (g)</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>123</td>
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</table>
4. Outline and Installation Dimension

4.1 OF2, SD2 Outline Dimension

4.2 NFS2 Outline Dimension
4.3 MX+OF2, NGQ2A Outline Dimension

4.4 ATm Outline Dimension
4.5 Tm2 Outline Dimension

1P/2P

3P/4P

1/2/3/4P Side view
5. Product Wiring Diagram

OF2

SD2

NFS2

DC24V

MX+OF2

NGQ2A
Note: When the power supply is DC, the negative and positive electrodes cannot be reversed; When the power supply is AC, the positive and negative electrodes may be freely wired.
6. Specifications for Ordering or Selection

Warranty period of product: Prepare normative selection table according to the provided selection data.

<table>
<thead>
<tr>
<th>User unit</th>
<th>Number of units ordered:</th>
<th>Date of order:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OF2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFS2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX+OF2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tm2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage AC/DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OF2: 01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD2: 02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NFS2: 03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX+OF2: 04 (AC48V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05 (AC240V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06 (AC415V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07 (DC24V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>08 (DC48V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATm: 09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tm2: 11 (AC110)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 (AC230)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 (DC12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 (DC24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 (DC48)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATm normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATm for communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation mode</td>
<td>Guide rail installation</td>
<td></td>
</tr>
<tr>
<td>Number of poles</td>
<td>Tm2: 1P</td>
<td>2P</td>
</tr>
<tr>
<td></td>
<td>3P</td>
<td>4P</td>
</tr>
</tbody>
</table>
Tm2 Series
Electric Operating Mechanism
Edition 2016
1. Product Overview

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Tm2/1P</th>
<th>Tm2/2P</th>
<th>Tm2/3P</th>
<th>Tm2/4P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptation</td>
<td>NDB2-63/1P</td>
<td>NDB2Z-63/1P</td>
<td>NDB2T-63/1P</td>
<td>NDB2LE-63/1PN</td>
</tr>
<tr>
<td></td>
<td>NDB2Z-63/2P</td>
<td>NDB2T-63/2P</td>
<td>NDB2LE-63/2P</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NDB2-63/3P</td>
<td>NDB2T-63/3P</td>
<td>NDB2LE-63/3P</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NDB2-63/4P</td>
<td>NDB2Z-63/4P</td>
<td>NDB2T-63/4P</td>
<td>NDB2LE-63/3PN/4P</td>
</tr>
</tbody>
</table>

2. Scope of Application

- Accessories of NDB2-63, NDB2Z-63, NDB2T-63 and NDB2LE-63 series products
- Mainly used for communication, transportation, new energy, intelligent control and other fields requiring remote control
3. Application Scope

3.1 Installation way
Install with TH35mm standard installation rail, tunnel type wiring terminal used for wiring

3.2 Installation direction
360° installation, flexible installation direction

3.3 Environmental protection requirements
Products meet the RoHS standard

3.4 Altitude requirements
≤4000m

3.5 Humidity and heat resistance
Alternating hot and humid (At the temperature of +55℃, the relative humidity is 95%)

3.6 Working environment
-25 ~ +70℃

3.7 Pollution class
3

3.8 Other extensions (Legend)

- Power supply control input terminal
- Buckle
- Alarm accessory interface
- Power indication lamp
- Handle
- Manual and automatic conversion dial button
- Auxiliary accessory interface
- Opening padlock
- Snap spring

Legend

Auto  Remote close-open circuit breaker
Manu  Local close-open circuit breaker

Legend

Padlock  Disconnect all remote operations, padlock size Φ≤4mm

Legend

Alarm accessory interface  Assembly model SD2
Auxiliary accessory interface  Assembly model OF2

Remarks:
1. After the assembly of Tm2 and circuit breaker body, assemble other accessories;
2. The left side of Tm2 can be assembled with 2 SD2 or 2 OF2 or 1 SD2, 1 OF2
3. Tm2 can be assembled with SD2 and Atm to reclose the circuit breaker after fault

Legend

Socket type terminal  Maximum wiring capacity of ports 1~4 is 2.5mm² (24~14AWG) and wiring capacity 0.56N•m
4. Technical Characteristics of the Product

4.1 Purpose

◆ For return circuits with control voltages of DC12V, DC24V, DC48V, DC110V, DC220V, AC110V and AC230V, provide remote closing/breaking control of circuit breakers
◆ Handle can be used to provide local control of circuit breakers
◆ Padlock accessory can be used to lock the opening of circuit breaker, thus ensuring safe operation on the site

4.2 Technical parameters

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Description of specific parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of poles</td>
<td>1P/2P</td>
</tr>
<tr>
<td></td>
<td>3P/4P</td>
</tr>
<tr>
<td>Width (mm)</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>27</td>
</tr>
<tr>
<td>Control voltage (V)</td>
<td>AC230/DC220</td>
</tr>
<tr>
<td></td>
<td>AC110/DC110</td>
</tr>
<tr>
<td></td>
<td>DC48</td>
</tr>
<tr>
<td></td>
<td>DC24</td>
</tr>
<tr>
<td></td>
<td>DC12</td>
</tr>
<tr>
<td></td>
<td>AC230/DC220</td>
</tr>
<tr>
<td></td>
<td>AC110/DC110</td>
</tr>
<tr>
<td></td>
<td>DC48</td>
</tr>
<tr>
<td></td>
<td>DC24</td>
</tr>
<tr>
<td></td>
<td>DC12</td>
</tr>
<tr>
<td>Start power consumption (W)</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Operating current (A)</td>
<td>( \leq 0.2 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 0.3 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 1 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 1.5 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 3 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 0.2 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 0.3 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 1 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 1.5 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 3 )</td>
</tr>
<tr>
<td>Insulation voltage (V)</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>500</td>
</tr>
<tr>
<td>Closing or opening time (s)</td>
<td>( \leq 0.5 )</td>
</tr>
<tr>
<td></td>
<td>( \leq 0.5 )</td>
</tr>
<tr>
<td>Operating life (Times)</td>
<td>20000</td>
</tr>
<tr>
<td></td>
<td>20000</td>
</tr>
<tr>
<td>Protection grade</td>
<td>IP20</td>
</tr>
<tr>
<td></td>
<td>IP20</td>
</tr>
<tr>
<td>Models which can be assembled</td>
<td>NDB2-63/1P, NDB2Z-63/1P, NDB2T-63/1P, NDB2LE-63/1PN</td>
</tr>
<tr>
<td></td>
<td>NDB2-63/3P, NDB2Z-63/3P, NDB2T-63/3P, NDB2LE-63/3P</td>
</tr>
<tr>
<td></td>
<td>NDB2-63/2P, NDB2Z-63/2P, NDB2T-63/2P, NDB2LE-63/2P</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>123</td>
</tr>
<tr>
<td>Mechanical shock resistance</td>
<td>Half-wave sine pulse peak acceleration: 300m/s²; shock pulse period: 11ms; 3 shocks</td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>Frequency range: 10~150Hz; acceleration: 3g</td>
</tr>
</tbody>
</table>
5. Outline and Installation Dimension

![1P/2P Dimensions](image1)
![3P/4P Dimensions](image2)
![1/2/3/4P Side View](image3)

6. Product Wiring Diagram

![Wiring Diagram](image4)

Note: When the power supply is DC, the negative and positive electrodes cannot be reversed;

When the power supply is AC, the positive and negative electrodes may be freely wired.
7. Package and Storage

The existing NDB2LE-63 packaging crates, boxes and plastic bags of our company are used for packaging. The products in packaging boxes should be stored in the warehouse where air circulation and relative humidity are less than 80% and temperature is neither higher than 60°C nor lower than −25°C. And the warehouse should be free from acidic, alkaline or other corrosive gases in the ambient air. Under the above-mentioned conditions, the storage period is not more than three years from the date of production.

8. Matters Needing Attention

◆ The product must be installed by the personnel with professional qualification. The body of the product may not be disassembled without the permission of the manufacturer. Quality problems caused by unauthorized disassembly of the product should be at your own risk.
◆ Do not touch the product when it is powered on to avoid any possible electric shock event.
◆ In case of tripping of circuit breaker due to possible fault of protection circuit (overload or short circuit), it is a must to switch the electric operating mechanism to the manual status, find out the causes, eliminate the fault and restore to the automatic status.
◆ In case of normal maintenance or troubleshooting of load side line, the electric operating mechanism must also be returned to the manual status first.
◆ Please do not debug the product without permission. Any product quality problems incurred therefrom will not be the responsibility of the manufacturer.
Tm2GQ Overvoltage and Under-voltage Auto-reclosure Accessory
Edition 2016
1. Product Overview

<table>
<thead>
<tr>
<th>Picture</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Tm2GQ/2P</th>
<th>Tm2GQ/4P</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Description of serial number</th>
<th>Code explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Product code</td>
<td>Remote control</td>
</tr>
<tr>
<td>2</td>
<td>Design serial No.</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Product code</td>
<td>Overvoltage and under-voltage protection</td>
</tr>
<tr>
<td>4</td>
<td>Number of poles</td>
<td>2, 4</td>
</tr>
</tbody>
</table>

2. Scope of Application

- NDB2−63, NDB2Z−63, NDB2T−63, NDB2LE−63 series product accessories
- Mainly applicable to low−voltage power distribution lines for household and similar uses with AC rated frequency of 50/60Hz and rated voltage of 230V and 400V (the voltage relative to neutral line is 230V)
3. Application Scope

3.1 Installation way
Install with TH35mm standard installation rail, tunnel type wiring terminal used for wiring

3.2 Installation direction
360° installation, flexible installation direction

3.3 Environmental protection requirements
Products meet the RoHS standard

3.4 Altitude requirements
≤ 2000m

3.5 Relative humidity for operation
When the temperature is above +40°C and the relative humidity of the air is not more than 50%, a higher relative humidity is allowed at a lower temperature. For example, the relative humidity can reach 90% at 20°C. Special measures should be taken to deal with occasional condensation due to temperature change

3.6 Working environment
-25~+60 ℃, without impact vibration or rain and snow invasion

3.7 Pollution class
3

3.8 Other extensions (Legend)

Legend

Auto
- Automatically detect the line voltage; in case of overvoltage or under-voltage, the product will open; when the voltage returns to normal, the product will close after delay of 60s; if the product opening is due to the circuit breaker’s protective tripping, the product will not automatically reclose and manual closing is required.

Manu
- Manual opening/closing products. When line voltage anomalies appear, the product will not operate.

Padlock
- At the state of opening, it may be locked; after locking, the product will not be closed. Padlock size Φ≤4mm.

Alarm accessory interface
- Assembly model SD2

Auxiliary accessory interface
- Assembly model OF2

Remarks:
1. Only after the assembly of Tm2GQ and circuit breaker body will other accessories be assembled;
2. The left side of Tm2GQ can be assembled with 2 SD2 or 2 OF2 or 1 SD2, 1 OF2
4. Technical Characteristics of the Product

4.1 Purpose
- For low-voltage power distribution lines for household and similar uses with control voltages of AC230V and AC400V (the voltage relative to neutral line is 230V), it is used to automatically detect the line voltage, automatically disconnect the faulty line in case of line overvoltage and under-voltage, and automatically close when the line voltage returns to normal range to ensure the safe operation of load equipment under normal voltage.
- Handle can be used to realize manual operation of circuit breaker.
- Padlock accessory can be used to lock the opening of circuit breaker, thus ensuring safe operation on the site.

4.2 Technical parameters

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Description of specific parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of poles</td>
<td>2P</td>
</tr>
<tr>
<td></td>
<td>4P</td>
</tr>
<tr>
<td>Width (mm)</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>27</td>
</tr>
<tr>
<td>Rated voltage (V)</td>
<td>AC230V</td>
</tr>
<tr>
<td></td>
<td>AC400V</td>
</tr>
<tr>
<td>Assemblable circuit breaker model</td>
<td>NDB2-63/2P、NDB2T-63/2P、NDB2LE-63/2P</td>
</tr>
<tr>
<td></td>
<td>NDB2-63/4P、NDB2T-63/4P、NDB2LE-63/4P</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>146</td>
</tr>
<tr>
<td>Rated impulse withstand voltage (kV)</td>
<td>4</td>
</tr>
<tr>
<td>Under-voltage protection value (V)</td>
<td>170 ± 5 (phase voltage)</td>
</tr>
<tr>
<td>Overvoltage protection value (V)</td>
<td>270 ± 5 (phase voltage)</td>
</tr>
<tr>
<td>Under-voltage recovery value (V)</td>
<td>190 ± 5 (phase voltage)</td>
</tr>
<tr>
<td>Overvoltage recovery value (V)</td>
<td>250 ± 5 (phase voltage)</td>
</tr>
<tr>
<td>Self-recovery closing delay (s)</td>
<td>60 ± 5</td>
</tr>
<tr>
<td>Closing or opening time (s)</td>
<td>≤0.5</td>
</tr>
<tr>
<td>Operating life (times)</td>
<td>10000</td>
</tr>
<tr>
<td>Protection grade</td>
<td>IP20</td>
</tr>
</tbody>
</table>
5. Outline and Installation Dimension

![2P Diagram](image1)

![4P Diagram](image2)

![1/2/3/4P Side View](image3)

6. Product Wiring Diagram

![Tm2GQ/2P Wiring](image4)

![Tm2GQ/4P Wiring](image5)

Note: L and N wiring cannot be reversed
7. Package and Storage

The existing NDB2LE-63 packaging crates, boxes and plastic bags of our company are used for packaging. Products in packaging boxes should be stored in the warehouse where air circulation and relative humidity are less than 80% and temperature is neither higher than +60℃ nor lower than -25℃. And the warehouse should be free from acidic, alkaline or other corrosive gases in the ambient air. Under the above-mentioned conditions, the storage period is not more than three years from the date of production.

8. Matters Needing Attention

◆ The product must be installed by the personnel with professional qualification. The body of the product may not be disassembled without the permission of the manufacturer. Quality problems caused by unauthorized disassembly of the product should be at your own risk.

◆ Do not touch the product when it is powered on. Do not operate the device with wet hands to avoid any possible electric shock event.

◆ In case the product is at the automatic mode, it will not automatically reclose if the circuit breaker opens manually or the fault switch trips due to load, except for automatic action due to voltage fault; it is a must to manually/automatically switch the rotary knob of overvoltage and under–voltage auto-reclosure accessory to the manual mode first, and then find out the causes, eliminate the faults, close manually to reset, and manually/automatically switch the rotary knob to the automatic mode.

◆ During normal maintenance or troubleshooting of load side line, it is required to make sure that the overvoltage and under–voltage auto-reclosure accessory returns to the manual mode first.

◆ Please do not debug the product without permission. Any product quality problems incurred therefrom will not be the responsibility of the manufacturer.
JS1-11Y/B2-63
Mechanical Interlock
Edition 2016
1. Product Overview

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Description of serial number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Product code</td>
<td>Mechanical interlock</td>
</tr>
<tr>
<td>2</td>
<td>Design serial No.</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Opening/closing state</td>
<td>One closing and one opening</td>
</tr>
<tr>
<td>4</td>
<td>Connection category</td>
<td>Hard wiring</td>
</tr>
<tr>
<td>5</td>
<td>Body model</td>
<td>Without ND</td>
</tr>
</tbody>
</table>

Instructions on No. 5: In order to meet the Company’s model naming rules, it is required to add the body model to the end.

For specific applicable product model, see the table above.

2. Scope of Application

- NDB2–63, NDM1–63, and NDM1–125 series product accessories
- Mainly applicable to the fields where two circuit breakers are required for mechanical interlock control
3. Application Scope

3.1 Installation way

The product is assembled with the circuit breaker for use. The circuit breaker is installed by use of the standard installation rail TH35mm, and the mechanical interlock is fixed with M5 screws for installation (by the customer).

3.2 Installation direction

The product is installed according to the installation direction of the circuit breaker.

3.3 Environmental protection requirements

Products meet the RoHS standard.

3.4 Humidity and heat resistance

When the temperature is 55℃, relative air humidity ≤95%.

3.5 Salt mist grade

72h

3.6 Other extensions (legend)

4. Technical Characteristics of the Product

4.1 Purpose

- Mainly used for mechanical interlock control of two circuit breakers to prevent them from simultaneous closing, that is, when a circuit breaker is closed, the other cannot be closed.
- The assembly method of circuit breaker (2P/3P/4P) is the same as the mechanical interlock device.
4.2 Technical parameters

<table>
<thead>
<tr>
<th>Parameter name</th>
<th>Description of specific parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (mm)</td>
<td>36</td>
</tr>
<tr>
<td>Assemblable circuit breaker model</td>
<td>NDB2-63, NDM1-63, NDM1-125</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>147</td>
</tr>
</tbody>
</table>

5. Outline and Installation Dimension

![Diagram]

6. Package and Storage

The existing 104–CX09/18 packaging crates (16 sets/crate), boxes (1 set/box) and plastic bags of our company are used for packaging. The products in packaging boxes should be stored in the warehouse where air circulation and relative humidity are less than 80% and temperature is neither higher than +60°C nor lower than –25°C. And the warehouse should be free from acidic, alkaline or other corrosive gases in the ambient air. Under the above-mentioned conditions, the storage period is not more than 3 years from the date of production.

7. Matters Needing Attention

The circuit breaker is required to be assembled with the product without power on and the circuit breaker must be open.
1. Product Overview

<table>
<thead>
<tr>
<th>Product models</th>
<th>NDB2LE-2S</th>
<th>NDB2LE-63</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage</td>
<td>AC230/240V</td>
<td>AC230/240V(1PN, 2P), AC380/400/415V(3PN, 3P, 4P)</td>
</tr>
<tr>
<td>Rated residual operating current</td>
<td>30mA</td>
<td>30mA, 50mA, 100mA, 300mA</td>
</tr>
<tr>
<td>Product certification</td>
<td>CCC</td>
<td>CCC</td>
</tr>
</tbody>
</table>

2. Product Features

- **Scope of application and purpose**
  NDB2LE series residual current operated circuit breakers prevent earth leakage, direct or indirect contact electric shock and other faults, and are applicable to low-voltage terminal power distribution in such fields as industry, civil construction, energy, communication and infrastructure. They provide short-circuit protection, overload protection, leakage protection and isolation protection.

- **Design features**
  - Design of visual window: Making the product opening/closing state clearly visible
  - Auxiliary linkage mechanism: Signal output, opening and closing indication
● Structural features
  ◆ NDB2LE-2S external structural drawing

1: Input terminal
2: Status indication window
3: Test button
4: Operating handle
5: Outgoing line terminal

◆ NDB2(UL489) Structures and features of the product

1: Input terminal
2: Status indication window
3: Test button
4: Operating handle
5: Outgoing line terminal

● Meeting the following standards
  ◆ GB16917.1 Residual current operated circuit breakers (RCBO) with overcurrent protection for household and similar uses - Part 1: General rules
  ◆ IEC 61009-1 Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) - Part 1: General rules
3. Application Scope

- **Applicable environment**
  - Temperature of the working environment/storage temperature
    - ★ The temperature of the working environment of NDB2LE-25 products is -25°C~+55°C, the benchmark setting temperature is 0°C, and for different temperature correction coefficients, see Table (1).
    - ★ The temperature of the working environment of NDB2LE-63 products is -25°C~+55°C, the benchmark setting temperature is 0°C, and for different temperature correction coefficients, see Table (2).
  - ★ Storage temperature: -30°C ~ +70°C.
  - ◆ Altitude
    - Installation site altitude ≤ 2,000m.
  - ◆ Relative humidity for operation/Relative humidity for storage
    - The relative humidity of atmosphere is not more than 50% at the ambient air temperature of +40°C; at a lower temperature, a higher relative humidity is allowed, for example, 90% at 20°C. Special measures should be taken to deal with occasional condensation due to temperature change.

- **Pollution grade**
  - 2poles.

- **Protection grade**
  - Product protection grade: IP20.

- **Installation way**
  - Installed on the TH35mm × 7.5 standard guide rail

- **Installation direction**
  - ◆ Vertical installation, with the gradient between the installation plane and the vertical plane ≤ ± 5°
  - ◆ Horizontal installation.

- **Environmental protection requirements**
  - Products meet the RoHS standard.
4. Technical Characteristics of the Product

### 4.1 Description of specifications and models

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Serial No. name</th>
<th>Code explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enterprise code</td>
<td>ND: Nader brand low-voltage apparatus</td>
</tr>
<tr>
<td>2</td>
<td>Model</td>
<td>B: Miniature Circuit Breakers</td>
</tr>
<tr>
<td>3</td>
<td>Design serial No.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Electric leakage</td>
<td>L: Leakage function code (30mA)</td>
</tr>
<tr>
<td>5</td>
<td>Tripper type</td>
<td>E: Electronic tripper</td>
</tr>
<tr>
<td>6</td>
<td>Frame grade</td>
<td>25A</td>
</tr>
<tr>
<td>7</td>
<td>Tripping type</td>
<td>C: Instantaneous tripping range 5In~10In;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B: Instantaneous tripping range 3In~5In;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: Instantaneous tripping range 10In~14In;</td>
</tr>
<tr>
<td>8</td>
<td>Rated current</td>
<td>6A, 10A, 16A, 20A, 25A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1A, 2A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A</td>
</tr>
<tr>
<td>9</td>
<td>Number of poles</td>
<td>1PN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1PN, 2P, 3PN, 3P, 4P</td>
</tr>
</tbody>
</table>
### 4.2 Technical Parameters

<table>
<thead>
<tr>
<th>Model</th>
<th>NDB2LE-25</th>
<th>NDB2LE-63</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage $U_e$</td>
<td>AC230/240V</td>
<td>AC230/240V(1PN、2P), AC380/400/415V(3PN、3P、4P)</td>
</tr>
<tr>
<td>Residual current tripper type</td>
<td>Type AC, electronic type</td>
<td>Type AC, electronic type</td>
</tr>
<tr>
<td>Rated residual operating current $I_{\Delta n}$ (mA)</td>
<td>30</td>
<td>30, 50, 100, 300</td>
</tr>
<tr>
<td>Rated insulation voltage $U_i$</td>
<td>AC500V</td>
<td>AC500V</td>
</tr>
<tr>
<td>Rated ultimate short-circuit breaking capacity $I_{cn}$</td>
<td>6kA</td>
<td>10kA</td>
</tr>
<tr>
<td>Rated running short-circuit breaking capacity $I_{cs}$</td>
<td>6kA</td>
<td>10kA</td>
</tr>
<tr>
<td>Rated residual making and breaking capacity $I_{\Delta m}$</td>
<td>500A</td>
<td>630A</td>
</tr>
<tr>
<td>Rated operating frequency (Hz)</td>
<td>50/60</td>
<td>50/60</td>
</tr>
<tr>
<td>Electromechanical life</td>
<td>10000次</td>
<td>10000次</td>
</tr>
<tr>
<td>Wiring mode and wiring capacity</td>
<td>★ Tunnel type wiring terminal</td>
<td>★ Tunnel type wiring terminal</td>
</tr>
<tr>
<td></td>
<td>★ Terminal wiring area: Applicable to (1~16) mm² wires</td>
<td>★ Terminal wiring area: Applicable to (1~35) mm² wires</td>
</tr>
<tr>
<td></td>
<td>★ Terminal screw is M4, with torsional torque of 1.2N.m</td>
<td>★ Terminal screw is M5, with torsional torque of 2.5N.m</td>
</tr>
</tbody>
</table>

#### Temperature correction coefficient table (1)

<table>
<thead>
<tr>
<th>Ambient temperature correction current</th>
<th>-35</th>
<th>-30</th>
<th>-25</th>
<th>-20</th>
<th>-15</th>
<th>-10</th>
<th>-5</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current (A)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10</td>
<td>12.25</td>
<td>12.08</td>
<td>11.91</td>
<td>11.73</td>
<td>11.55</td>
<td>11.37</td>
<td>11.18</td>
<td>11.00</td>
<td>10.80</td>
<td>10.61</td>
<td>1.06</td>
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<td>16</td>
<td>19.42</td>
<td>19.15</td>
<td>18.89</td>
<td>18.62</td>
<td>18.35</td>
<td>18.07</td>
<td>17.79</td>
<td>17.50</td>
<td>17.21</td>
<td>16.92</td>
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<tr>
<td>20</td>
<td>24.33</td>
<td>24.00</td>
<td>23.67</td>
<td>23.33</td>
<td>22.98</td>
<td>22.63</td>
<td>22.27</td>
<td>21.91</td>
<td>21.54</td>
<td>21.17</td>
<td>6.42</td>
</tr>
<tr>
<td>25</td>
<td>30.42</td>
<td>30.00</td>
<td>29.58</td>
<td>29.16</td>
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<td>27.84</td>
<td>27.37</td>
<td>26.93</td>
<td>26.46</td>
<td>11.01</td>
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</tbody>
</table>
## NDB2LE series
Residual Current Operated Circuit Breakers

### Residual Current Operated Circuit Breakers

<table>
<thead>
<tr>
<th>Temperature correction coefficient table (2)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ambient temperature</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
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</thead>
<tbody>
<tr>
<td>Temperature correction coefficient table (2)</td>
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<td></td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Ambient temperature</th>
<th>-35</th>
<th>-30</th>
<th>-25</th>
<th>-20</th>
<th>-15</th>
<th>-10</th>
<th>-5</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correction current</td>
<td>1.27</td>
<td>1.25</td>
<td>1.23</td>
<td>1.21</td>
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<td>1.15</td>
<td>1.13</td>
<td>1.10</td>
<td>1.08</td>
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<tr>
<td>Rated current</td>
<td>3.89</td>
<td>3.83</td>
<td>3.76</td>
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<td>3.44</td>
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<tr>
<td>Temperature correction coefficient table (2)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambient temperature</th>
<th>1</th>
<th>3</th>
<th>6</th>
<th>10</th>
<th>16</th>
<th>20</th>
<th>25</th>
<th>32</th>
<th>40</th>
<th>50</th>
<th>63</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correction current</td>
<td>7.70</td>
<td>7.58</td>
<td>7.46</td>
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<td>7.09</td>
<td>6.96</td>
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<td>6.70</td>
<td>6.56</td>
<td>6.42</td>
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<tr>
<td>Temperature correction coefficient table (2)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambient temperature</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
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<td>25.50</td>
<td>25</td>
<td>24.49</td>
<td>23.98</td>
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<td>22.36</td>
<td>21.79</td>
<td>21.21</td>
<td>20.61</td>
</tr>
</tbody>
</table>

**Notes:**

- The table provides ambient temperature correction coefficients for residual current operated circuit breakers.
- The coefficients are applicable across different current ratings and temperatures to ensure accurate trip settings.

---

**Product Profile:**

- NDB2LE series
- Residual Current Operated Circuit Breakers

---

**Contact Information:**

For more information, visit [www.nexenpower.com](http://www.nexenpower.com).

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**Technical Support:**

For technical support, contact [support@nexenpower.com](mailto:support@nexenpower.com).

---

**Disclaimer:**

All information is subject to change without notice. Please consult the latest product specifications for the most accurate information.
<table>
<thead>
<tr>
<th>Ambient Temperature</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
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<tbody>
<tr>
<td>Correction current</td>
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<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>1</td>
<td>1.05</td>
<td>1.02</td>
<td>1.00</td>
<td>0.97</td>
<td>0.94</td>
<td>0.91</td>
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</tr>
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<td>3</td>
<td>3.14</td>
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<td>4.64</td>
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<td>26.22</td>
<td>25.61</td>
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<td>24.33</td>
<td>23.67</td>
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<td>22.28</td>
<td>21.56</td>
<td>20.80</td>
<td>20.02</td>
<td>19.21</td>
</tr>
<tr>
<td>32</td>
<td>33.54</td>
<td>32.77</td>
<td>32.00</td>
<td>31.17</td>
<td>30.34</td>
<td>29.45</td>
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<td>52.03</td>
<td>49.81</td>
<td>47.50</td>
<td>43.05</td>
</tr>
</tbody>
</table>

### 4.3 Product Tripping Curve

- **NDB2LE-25 tripping curve**
  - **C-type curve**
    - ★ Protection of conventional load and power distribution cable
    - ★ Rated current: 10A~25A
    - ★ Tripping characteristic: Instantaneous tripping range 5In~10In
**NDB2LE-63 tripping curve**

B-type curve

- Protection of non-inductive or micro-inductive circuit
- Rated current: 1A ~ 63A
- Tripping characteristic: Instantaneous tripping range 3In~5In

![B-type Curve Diagram](image)

C-type curve

- Protection of conventional load and power distribution cable
- Rated current: 1A ~ 63A
- Tripping characteristic: Instantaneous tripping range 5In~10In

![C-type Curve Diagram](image)
D-type curve

- Protection of industrial power distribution system
- Rated current: 1A ~ 63A
- Tripping characteristic: Instantaneous tripping range 10In~14In
5. Accessories

- List of accessories

- Auxiliary contact OF2
- Auxiliary alarm contact NFS2
- Alarm contact SD2
- Overvoltage and under-voltage tripper NGQ2A
- Shunt tripper MX+OF2
6. Outline and Installation Dimension

6.1 NDB2LE-25 Outline Dimension

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name</th>
<th>Model and specification</th>
<th>Function and number of loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auxiliary contact</td>
<td>OF2</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the On/Off state of the circuit breaker; 3 can be loaded at most</td>
</tr>
<tr>
<td>2</td>
<td>Alarm contact</td>
<td>SD2</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the fault trip state of the circuit breaker; 3 can be loaded at most</td>
</tr>
<tr>
<td>3</td>
<td>Shunt tripper</td>
<td>MX+OF2</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the On/Off state of the circuit breaker; 1 can be loaded at most</td>
</tr>
<tr>
<td>4</td>
<td>Auxiliary alarm contact</td>
<td>NFS2</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the On/Off and fault tripping state of the circuit breaker; 3 can be loaded at most</td>
</tr>
<tr>
<td>5</td>
<td>Overvoltage and under-voltage tripper</td>
<td>NGQ2A</td>
<td>Loaded on the left side of a miniature circuit breaker to indicate the On/Off and fault tripping state of the circuit breaker; 2 can be loaded at most</td>
</tr>
</tbody>
</table>

Note: For details of accessory parameters, see “OF2, SD2, MX+OF2, NFS2 and NGQ2A” samples
6.2 NDB2LE-63 Outline Dimension

1PN

2P
7. Electric Circuit Diagram

- N NDB2LE-25 electric circuit diagram

- NDB2LE-63 electric circuit diagram

1PN electric wiring diagram

2P electric wiring diagram

3P electric wiring diagram

3PN electric wiring diagram

4P electric wiring diagram
## 8. Specifications for Ordering and Selection (Tick ✓ in □)

<table>
<thead>
<tr>
<th>User unit</th>
<th>Number of units ordered:</th>
<th>Date of order:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame grade</td>
<td>NDB2LE-25 ✔ NDB2LE-63</td>
<td></td>
</tr>
<tr>
<td>Number of poles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NDB2LE-25: 1PN</td>
<td>NDB2LE-63: 1PN 2P 3P 3PN 4P</td>
<td></td>
</tr>
<tr>
<td>Rated operational voltage (V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated operating current (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NDB2LE-25: 6, 10, 16, 20, 25</td>
<td>NDB2LE-63: 1, 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63</td>
<td></td>
</tr>
<tr>
<td>Rated residual operating current $I_{Δn}$ (mA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NDB2LE-25: 30</td>
<td>NDB2LE-63: 30 50 100 300</td>
<td></td>
</tr>
<tr>
<td>Tripping type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NDB2LE-25: □C: The instantaneous tripping range is 5In–10In to protect conventional load and power distribution cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NDB2LE-63: □B: The instantaneous tripping range is 3In–5In to protect non-inductive or micro-inductive circuit □C: The instantaneous tripping range is 5In–10In to protect conventional load and power distribution cable □D: The instantaneous tripping range is 10In–14In to protect the industrial power distribution system</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>